

# UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

December 5, 2023

Jean A. Fleming
Vice President, Licensing,
Regulatory Affairs, and PSA
Holtec International, LLC
Krishna P. Singh Technology Campus
1 Holtec Boulevard
Camden, NJ 08104

SUBJECT: INDIAN POINT NUCLEAR GENERATING UNITS 1, 2, AND 3 – ISSUANCE OF

AMENDMENT NO. 67, 300 AND 276 TO IMPLEMENT THE INDEPENDENT SPENT FUEL STORAGE INSTALLATION ONLY EMERGENCY PLAN

(EPID L-2022-LLA-0195)

#### Dear Jean Fleming:

The U.S. Nuclear Regulatory Commission (NRC, the Commission) has issued the enclosed Amendment No. 67 to Provisional Operating License No. DPR-5 for Indian Point, Unit 1 (IP1), Amendment No. 300 to Renewed Facility License No. DPR-26 for Indian Point, Unit 2 (IP2), and Amendment No. 276 to Renewed Facility License No. DPR-64 for Indian Point, Unit 3 (IP3). The amendments issued are in response to your application dated November 17, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML22321A148). The Notice of Application for Amendment was published in the Federal Register on September 5, 2023 (88 FR 60714).

The amendment revises the Indian Point Energy Center (IPEC) Emergency Plan to reflect the requirements associated with emergency preparedness necessary for the independent spent fuel storage installation (ISFSI) only configuration, consistent with the permanent removal of all spent fuel from the IPEC spent fuel pool. Specifically, the amendment implements a revision to the IPEC Emergency Plan and an associated Emergency Action Level scheme to implement the IPEC ISFSI-Only Emergency Plan (IOEP), which reflects the movement of all spent fuel into dry storage within the onsite ISFSI, an action that was completed on October 16, 2023 (ML23289A158).

As discussed in the enclosed safety evaluation, the NRC staff has reviewed the proposed changes to the IPEC IOEP, and concluded that the proposed changes meet the standards of Title 10 of the Code of Federal Regulations (10 CFR) Section 50.47, "Emergency plans," and the requirements of Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," to 10 CFR Part 50, as exempted, and continue to provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the IPEC site. Therefore, the proposed changes, as outlined in the letters referenced above, are considered acceptable. The basis for the NRC staff's conclusion is contained in the attached safety evaluation.

The amendments are provided as Enclosures 1, 2 and 3. The license amendments are effective upon issuance and shall be implemented within 60 days of the effective date. A copy of the related safety evaluation is also enclosed as Enclosure 4. A Notice of Issuance will be included in the Commission's monthly *Federal Register* notice.

Pursuant to paragraph (c)(10) of 10 CFR 51.22, "Criterion for categorical exclusion; identification of licensing and regulatory actions eligible for categorical exclusion or otherwise not requiring environmental review," the Commission has determined that the issuance of this amendment is categorically excluded and pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared.

In accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public inspections, exemptions, requests for withholding," of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's ADAMS is accessible from the NRC website at https://www.nrc.gov/reading-rm/adams.html.

If you have any questions concerning the above, please contact me at 301-415-8534 or via email at <a href="mailto:Karl.Sturzebecher@nrc.gov">Karl.Sturzebecher@nrc.gov</a>.

Sincerely,

#### /RA/

Karl J. Sturzebecher, Project Manager Reactor Decommissioning Branch Division of Decommissioning, Uranium Recovery, and Waste Programs Office of Nuclear Material Safety and Safeguards

Docket Nos. 50-003, 50-247, 50-286

#### Enclosures:

- 1. Amendment No. 67 to DPR-5
- 2. Amendment No. 300 to DPR-26
- 3. Amendment No. 276 to DPR-64
- 4. Safety Evaluation

cc w/enclosures: Indian Point ListServ

J. Fleming - 3 -

SUBJECT: INDIAN POINT NUCLEAR GENERATING UNITS 1, 2, AND 3 – ISSUANCE OF

AMENDMENT NO. 67, 300 AND 276 TO IMPLEMENT THE INDEPENDENT SPENT FUEL STORAGE INSTALLATION ONLY EMERGENCY PLAN

(EPID L-2022-LLA-0195). Date: December 5, 2023.

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# UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

# HOLTEC INDIAN POINT 2, LLC

# INDIAN POINT NUCLEAR GENERATING STATION, UNIT NO. 1

# **DOCKET NO. 50-003**

#### AMENDMENT TO PROVISIONAL OPERATING LICENSE

Amendment No. 67 License No. DPR-5

- 1. The U.S. Nuclear Regulatory Commission (NRC, the Commission) has found that:
  - A. The application for amendment by Holtec Decommissioning International, LLC (HDI) and Holtec Indian Point 2, LLC (IP1 & IP2) for Indian Point Nuclear Generating Station, Unit No. 1 at the Indian Point Energy Center complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in Title 10 of the Code of Federal Regulations (10 CFR), Chapter I, "Nuclear Regulatory Commission;"
  - B. The facility will be maintained in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the rules and regulations of the Commission;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public;
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," of the Commission's regulations and all applicable requirements have been satisfied.
- 2. Accordingly, by Amendment No. 67, Facility Operating License No. DPR-5 is hereby amended to authorize the revision to the Indian Point Energy Center Emergency Plan to implement an Independent Spent Fuel Storage Installation (ISFSI)-Only Emergency

Plan, as set forth in the application dated November 17, 2022, as evaluated in the NRC staff's safety evaluation issued with this amendment.

3. The license amendment is effective as of its date of issuance and shall be implemented within 60 days.

# FOR THE NUCLEAR REGULATORY COMMISSION

#### /RA/

Shaun Anderson, Chief Reactor Decommissioning Branch Division of Decommissioning, Uranium Recovery, and Waste Programs Office of Nuclear Material Safety and Safeguards

Attachment: Change to Provisional Operating License No. DPR-5

Date of Issuance: December 5, 2023



# UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D.C. 20555-0001

# HOLTEC DECOMMISSIONING INTERNATIONAL, LLC AND

#### HOLTEC INDIAN POINT 2, LLC

#### INDIAN POINT NUCLEAR GENERATING UNIT NO. 2

#### **DOCKET NO. 50-247**

#### AMENDMENT TO RENEWED FACILITY LICENSE

Amendment No. 300 Renewed License No. DPR-26

- 1. The U.S. Nuclear Regulatory Commission (NRC, the Commission) has found that:
  - A. The application for amendment by Holtec Decommissioning International, LLC (HDI) and Holtec Indian Point 2, LLC (IP1 & IP2) for Indian Point Nuclear Generating Station, Unit No. 2 at the Indian Point Energy Center complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in Title 10 of the Code of Federal Regulations (10 CFR), Chapter I, "Nuclear Regulatory Commission;"
  - B. The facility will be maintained in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the rules and regulations of the Commission;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public;
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," of the Commission's regulations and all applicable requirements have been satisfied.
- 2. Accordingly, by Amendment No. 300, Renewed Facility License No. DPR-26 is hereby amended to authorize the revision to the Indian Point Energy Center Emergency Plan to implement an Independent Spent Fuel Storage Installation (ISFSI)-Only Emergency

Plan, as set forth in the application dated November 17, 2022, as evaluated in the NRC staff's safety evaluation issued with this amendment.

3. The license amendment is effective as of its date of issuance and shall be implemented within 60 days.

# FOR THE NUCLEAR REGULATORY COMMISSION

# /RA/

Shaun Anderson, Chief Reactor Decommissioning Branch Division of Decommissioning, Uranium Recovery, and Waste Programs Office of Nuclear Material Safety and Safeguards

Attachment: Change to Renewed Facility License No. DPR-26

Date of Issuance: December 5, 2023



# UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D.C. 20555-0001

# HOLTEC DECOMMISSIONING INTERNATIONAL, LLC AND

#### HOLTEC INDIAN POINT 3, LLC

#### INDIAN POINT NUCLEAR GENERATING UNIT NO. 3

**DOCKET NO. 50-286** 

#### AMENDMENT TO RENEWED FACILITY LICENSE

Amendment No. 276 Renewed License No. DPR-64

- 1. The U.S. Nuclear Regulatory Commission (NRC, the Commission) has found that:
  - A. The application for amendment by Holtec Decommissioning International, LLC (HDI) and Holtec Indian Point 3, LLC (IP3) for Indian Point Nuclear Generating Station, Unit No. 3 at the Indian Point Energy Center complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in Title 10 of the *Code of Federal Regulations* (10 CFR), Chapter I, "Nuclear Regulatory Commission;"
  - B. The facility will be maintained in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the rules and regulations of the Commission;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public;
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," of the Commission's regulations and all applicable requirements have been satisfied.

- 2. Accordingly, by Amendment No. 276, Renewed Facility License No. DPR-64 is hereby amended to authorize the revision to the Indian Point Energy Center Emergency Plan to implement an Independent Spent Fuel Storage Installation (ISFSI)-Only Emergency Plan, as set forth in the application dated November 17, 2022, as evaluated in the NRC staff's safety evaluation issued with this amendment.
- 3. The license amendment is effective as of its date of issuance and shall be implemented within 60 days.

#### FOR THE NUCLEAR REGULATORY COMMISSION

# /RA/

Shaun Anderson, Chief Reactor Decommissioning Branch Division of Decommissioning, Uranium Recovery, and Waste Programs Office of Nuclear Material Safety and Safeguards

Attachment: Change to Renewed Facility License No. DPR-64

Date of Issuance: December 5, 2023



# UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

#### SAFETY EVALUATION BY

#### THE OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

RELATED TO AMENDMENT NOS. 67, 300, AND 276

TO PROVISIONAL OPERATING LICENSE NO. DPR-5

RENEWED FACILITY OPERATING LICENSES NOS. DPR-26 AND DPR-64

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

AND HOLTEC INDIAN POINT 3, LLC

INDIAN POINT NUCLEAR GENERATING UNITS 1, 2 AND 3

DOCKET NOS. 50-003, 50-247, and 50-286

# 1.0 INTRODUCTION

The Indian Point Energy Center (IPEC) facility consists of approximately 239 acres located at Indian Point in the Village of Buchanan of upper Westchester County in New York State. IPEC is located approximately 24 miles north of the New York City boundary line. Rockland County is located west of IPEC, across the Hudson River.

Indian Point Unit 1 (IP1) permanently ceased operations on October 31, 1974, and all fuel was removed from the IP1 reactor vessel by January 1976. In 1996, the NRC issued an Order approving the safe-storage condition of IP1. In 2003, the NRC issued Amendment No. 52 to IP1's provisional operating license that changed the license's expiration date to be consistent with that of the Indian Point Unit 2 (IP2) license at that time (Reference 1). On December 11, 2008 (Reference 2), Entergy Nuclear Operations, Inc. (Entergy), the licensee at the time, notified the NRC that all spent fuel assemblies had been removed from the IP1 spent fuel pool (SFP). IP1 spent fuel has been removed from the site or placed in the existing IPEC Independent Spent Fuel Storage Installation (ISFSI). Holtec Decommissioning International, LLC (HDI, the licensee), on behalf of Holtec Indian Point 2, LLC and Holtec Indian Point 3, LLC, which became the IPEC licensee on May 28, 2021 (Reference 3), states that there is no IP1 spent fuel in wet storage at the IPEC site; IP1 spent fuel is stored onsite in dry cask storage in an ISFSI.

By letter dated February 8, 2017 (Reference 4), in accordance with sections 50.4(b)(8), "Certification of permanent cessation of operations," and 50.82(a)(1)(i) "Termination of license – For power reactor licensees," to Title 10 of the Code of Federal Regulations (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," Entergy Nuclear Operations, Inc., Entergy Nuclear Indian Point 2, LLC, and Entergy Nuclear Indian Point 3, LLC (collectively, "Entergy") certified to the NRC that it had decided to permanently cease power operations at

IPEC, Units 2 and 3, by April 30, 2020 and April 30, 2021, respectively, subject to operating extensions through, but not beyond, 2024 and 2025, respectively.

Pursuant to 10 CFR 50.82(a)(1)(ii), by letters dated May 12, 2020, and May 11, 2021 (References 5 and 6, respectively), Entergy certified to the NRC that the fuel had been permanently removed from the IP2 and Indian Point Unit 3 (IP3) reactor vessels and placed in the SFP. Upon the docketing of these certifications, under 10 CFR 50.82(a)(2), the IP2 and IP3 licenses no longer authorize operation of the reactors or emplacement or retention of fuel into the reactor vessels.

By application dated November 17, 2022 (Reference 7), as supplemented by letter dated July 11, 2023 (Reference 8), HDI requested prior approval by the NRC of the proposed IPEC ISFSI-Only Emergency Plan (IOEP) and associated emergency action level (EAL) Scheme Technical Bases Document, to support the transfer of the spent fuel from the IP2 and IP3 SFPs to dry cask storage within a site controlled ISFSI, which has now been completed. The supplement provided additional information that clarified the application but did not expand the scope of the application as originally noticed and did not change the NRC staff's original proposed no significant hazards consideration determination as published in the *Federal Register* (FR) on September 5, 2023 (88 FR 60714).

# 2.0 REGULATORY EVALUATION

This safety evaluation addresses the acceptability of the proposed IPEC IOEP and associated EAL scheme. This plan would replace the existing IPEC Permanently Defueled Emergency Plan (PDEP) and associated permanently defueled EALs after all spent fuel has been transferred from the SFPs to dry cask storage within a site controlled ISFSI.

HDI states that the proposed IPEC IOEP addresses the applicable regulations stipulated in 10 CFR 50.47, "Emergency Plans" and 10 CFR 50, Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities" (as previously exempted by the NRC in letter dated November 1, 2023 (Reference 9), and is consistent with regulations in 10 CFR 72.32 "Conditions of licenses" and applicable guidelines established in NUREG-0654/FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (Reference 10).

The major changes of the proposed IPEC IOEP and associated EAL scheme from the PDEP and associated permanently defueled EALs were reviewed to meet the following regulations, as exempted:

- 10 CFR 50.47(b)(1), as exempted, states, in part: "... each principal response organization has staff to respond and to augment its initial response on a continuous basis."
- 10 CFR 50.47(b)(2) states, in part: "... adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available...."
- 10 CFR 50.47(b)(4), as exempted, states, in part: "A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee...."

- 10 CFR Part 50, Appendix E, Section IV.A, as applicable, states, in part: "The
  organization for coping with radiological emergencies shall be described,
  including definition of authorities, responsibilities, and duties of individuals
  assigned to the licensee's emergency organization...."
- 10 CFR Part 50, Appendix E, Section IV.C.1, as exempted, states, in part: "...the emergency classes defined shall include: (1) Notification of unusual events, [and] (2) alert...."

The associated guidance documents on which the NRC based its evaluation and acceptance of the proposed IPEC IOEP and associated EAL scheme are as follows:

- Revision 1 to NUREG-0654/FEMA-REP-1, which provides a common reference and guidance source for nuclear facility operators to develop radiological emergency response plans.
- Office of Nuclear Security and Incident Response / Division of Preparedness and Response (NSIR/DPR) Interim Staff Guidance (ISG) – 2, "Emergency Planning Exemption Requests for Decommissioning Nuclear Power Plants" (Reference 11), which provides guidance for the review of permanently defueled emergency plans for power reactor sites undergoing decommissioning.
- NUREG-2215, "Standard Review Plan for Spent Fuel Dry Storage Systems and Facilities" (Reference 12), which provides emergency plan review guidance applicable to facilities licensed pursuant to the regulatory requirements found in 10 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."
- Nuclear Energy Institute (NEI) document NEI 99-01, Revision 6, "Development of Emergency Action Levels for Non-Passive Reactors" (Reference 13), which was endorsed by the NRC in a letter dated March 28, 2013 (Reference 14), as generic (non-plant specific) EAL scheme development guidance.

# 3.0 <u>TECHNICAL EVALUATION</u>

NRC staff has reviewed HDI's regulatory and technical analyses in support of its proposed emergency plan changes, as described in the application dated November 17, 2022, as supplemented by letter dated July 11, 2023. The technical evaluation is detailed below.

#### 3.1 Background

By letter dated December 22, 2021 (Reference 15), as supplemented by letters dated February 1, 2022, February 2, 2022, and May 12, 2022 (References 16, 17 and 18, respectively), HDI requested exemptions for IPEC from certain emergency plan requirements. By letter dated November 1, 2023 (Reference 19), the NRC approved the requested exemptions. By letter dated November 13, 2023 (Reference 20), the NRC approved the IPEC PDEP and associated Permanently Defueled EAL scheme.

# 3.2 Proposed Changes

In its application dated November 17, 2022, as supplemented by letter dated July 11, 2023, HDI requested that the NRC review and approve a proposed IPEC IOEP, which included an ISFSI-Only EAL scheme based on the applicable guidance in NEI 99-01, Revision 6. The proposed amendment would replace the existing PDEP and associated Permanently Defueled EAL scheme.

By letter dated February 15, 2023 (Reference 21), HDI notified the NRC that all IP2 spent nuclear fuel assemblies have been placed in dry storage within the ISFSI. And by October 16, 2023 (Reference 22), HDI completed the transfer of the spent fuel from the IP3 SFP to dry storage within the ISFSI. Specifically, the proposed changes would modify the scope of onsite emergency preparedness measures to reflect the reduced potential for radiological accidents with all spent fuel in dry cask storage within the onsite ISFSI. The off-normal events and accidents addressed in the IPEC IOEP are related to the dry cask storage of spent nuclear fuel at the ISFSI and include only off-normal, accident, natural phenomena, and hypothetical events and consequences affecting the IPEC ISFSI.

The major changes that HDI is requesting are:

- 1) Removal of the various actions related to an emergency involving the SFPs;
- 2) Removal of non-ISFSI-related emergency event types;
- 3) Clarifying definitions for security EALs;
- 4) Revision of the IPEC Emergency Response Organization (ERO); and
- 5) Identification of the "ISFSI Shift Supervisor" title as the position that assumes the Emergency Director responsibilities following an emergency declaration.

Under the IPEC PDEP with spent fuel stored within the SFPs, the most severe postulated beyond-design-basis accident involved a highly unlikely sequence of events that causes a heat-up of the spent fuel, postulated to occur without heat transfer, such that the zirconium alloy fuel cladding reaches ignition temperature. While this scenario was shown to be highly improbable, based on IPEC's calculations in support of the PDEP, as verified by the NRC staff, the resultant zirconium alloy fire could potentially lead to the release of fission products to the atmosphere. However, after removal of the spent fuel from the IPEC SFPs, the accident scenarios and analyses demonstrate that the age and configuration of spent fuel stored in dry cask storage precludes the possibility of such a zirconium alloy fire scenario. As such, with all the spent fuel transferred to dry cask storage within the onsite IPEC ISFSI, the number and severity of potential radiological accidents is significantly less than when spent fuel was stored in the SFPs. For these reasons, the potential radiological consequences of accidents possible at IPEC with all spent fuel transferred to the ISFSI are further reduced.

There continues to be no need for formal offsite radiological emergency preparedness plans under 44 CFR Part 350, "Review and Approval of State and Local Radiological Emergency Plans and Preparedness," at IPEC because no design-basis accident or reasonably credible beyond-design-basis accident can result in radioactive releases that exceed the U.S. Environmental Protection Agency (EPA) early phase protective action guides (PAGs) (Reference 23) beyond the exclusion area boundary.

# 3.3 Evaluation

The NRC staff reviewed the changes from the current IPEC PDEP and associated Permanently Defueled EAL scheme to the proposed IPEC IOEP and EAL scheme, including HDI's evaluation of the changes, to verify that the proposed IPEC IOEP and EAL scheme continue to meet the standards contained in 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR Part 50, as exempted, for the long-term defueled conditions at IPEC. The NRC staff also performed a review to ensure that the proposed IPEC IOEP would be consistent with the requirements of 10 CFR 72.32(a). Although the requirements of 10 CFR 72.32(a) do not apply to a 10 CFR Part 50 licensee, such as IPEC, the NRC examined these regulations to promote consistency in the emergency planning requirements between specifically licensed (Part 72) and generally licensed (Part 50) ISFSIs. These requirements, and their applicability to facilities licensed under 10 CFR Part 72, are further described in NUREG-2215.

#### 3.3.1 Elimination of Spent Fuel Pool (SPF) Initiating Conditions and EAL's

Because all fuel is removed from the SFPs, there is no longer any potential for the accidents previously described in the PDEP associated with SFP operation that would increase risk to the health and safety of the public. These accidents included events specifically related to the storage of the spent fuel in the SFPs. HDI provided that the off-normal events and accidents addressed in the IPEC IOEP are related to the dry storage of irradiated nuclear fuel within the IPEC ISFSI and include only the off-normal, accident, natural phenomena, and hypothetical events and consequences presented in the Holtec International (Holtec) Final Safety Analysis Report (FSAR) for the HI-STORM 100 Cask System Holtec Certificate of Compliance (CoC) No. 1014. HDI states that the IPEC ISFSI contains casks loaded under Amendments 2, 4, 6, 9, and 15 of CoC No. 1014. The remaining spent fuel has been loaded under Amendment 15 of CoC No. 1014, issued on May 13, 2021 (Reference 24). Now that the transfer of the spent fuel from the SFPs to dry cask storage has been completed, the spent fuel storage and handling systems associated with the SFPs will be removed from operation. Therefore, accident conditions associated with the SFPs will no longer be applicable.

The initiating conditions (ICs) and EALs associated with the emergency classification levels in the current PDEP are based on Appendix C, "Permanently Defueled Station ICs/EALs," to NEI 99-01, Revision 6, which addresses a nuclear power reactor that has permanently ceased operations and transferred spent fuel from the reactor vessel to the SFPs (permanently defueled). Because all spent fuel has been removed from the SFPs and placed in dry cask storage within the ISFSI, the ICs and EALs in Appendix C to NEI 99-01, which are associated with the SFPs at a decommissioning facility, are no longer required. Additionally, certain ICs and EALs, whose primary function is not associated with the SFPs, are no longer required when administrative controls are established to limit source term accumulation and the offsite consequences of uncontrolled effluent releases.

Examples of administrative controls for radiological source term accumulation limits and methods to control the accidental dispersal of the radiological source are:

- limits on radioactive materials collected on filter media and resins (dose rate limit);
- limits on contaminated materials collected in shipping containers (dose rate limit);
- limits on surface or fixed contamination on work areas that may create airborne radioactive material (activity limits), and

 limits on contaminated materials collected in radioactive liquid storage tanks (activity concentration limits).

Examples of potential methods to control accidental dispersal of the radiological source term include limits on dispersal mechanisms that may cause a fire (e.g., limits on combustible material loading, use of a fire watch to preclude fires, etc.), placement of a berm around a radioactive liquid storage tank, and packaging radioactive materials within confined boundaries with ventilation controls established.

Other ICs proposed for deletion include those associated with the SFP mitigative strategies contained in certain IPEC license conditions, as well as response procedures for potential or actual aircraft attacks. The NRC staff has previously maintained EALs for potential or actual aircraft threats for facilities transitioning into decommissioning with spent fuel stored in an SFPs, as well as maintaining the mitigative strategies license conditions. These can be eliminated now that the spent fuel is removed from the SFPs and is in dry cask storage within the onsite ISFSI.

The proposed deletions of ICs from the proposed EAL scheme for IPEC are shown in strikeout in the table below. The deletions are appropriate because either (1) the ICs are associated solely with IPEC SFP operations, or (2) for those ICs whose primary function is not associated with the SFPs, sufficient administrative controls to limit possible effluent releases have been established. The ICs and EALs being deleted in their entirety include all ICs and EALs associated with the categories of abnormal radioactivity release and system malfunction, as these two categories apply only to SFP operation.

# **Emergency Plan Initiating Conditions Being Deleted**

ALERT	UNUSUAL EVENT
PD-AA1 Release of gaseous or liquid	PD-AU1 Release of gaseous or liquid
radioactivity resulting in offsite dose greater	radioactivity greater than 2 times the Offsite
than 10 mRem TEDE or 50 mRem thyroid	Dose Calculation Manual (ODCM) limits for
CDE.	60 minutes or longer.
PD-AA2 UNPLANNED rise in facility	PD-AU2 UNPLANNED rise in facility
radiation levels that impedes facility access	radiation levels.
required to maintain spent fuel integrity.	
PD-HA1 HOSTILE ACTION within the	PD-HU1 Confirmed SECURITY CONDITION
OWNER CONTROLLED AREA or airborne	or threat at the Independent Spent Fuel
attack threat within 30 minutes is occurring	Storage Installation (ISFSI).
or has occurred.	
	EMERGENCY ACTION LEVEL (EALs): (1
EMERGENCY ACTION LEVEL (EALs): (1	<u>or 2 <del>or 3</del>)</u>
<del>or 2)</del>	1. A SECURITY CONDITION that
1. A HOSTILE ACTION is occurring or	does not involve a HOSTILE
has occurred within the ISFSI as	ACTION as reported by the
reported by the Security Shift	Security Shift Supervisor.
Supervisor.	OR
2. A validated notification from NRC of an	Notification of a credible security threat
1. aircraft attack threat within 30 minutes	directed at the site.
of the site	<del>OR</del>
	3. A validated notification from the NRC
	providing information of an aircraft threat.

	PD-HU2 Hazardous Event affecting
	equipment necessary for spent fuel cooling.
PD-HA3 Other conditions exist which in the	PD-HU3 Other conditions exist which in the
judgment of the Emergency Director warrant	judgment of the Emergency Director warrant
declaration of an ALERT.	declaration of an UNUSUAL EVENT.
	PD-SU1 UNPLANNED spent fuel pool
	temperature rise.
	E-HU1 Damage to a loaded cask
	CONFINEMENT BOUNDARY
	EMERGENCY ACTION LEVEL (EAL):
	Damage to a loaded cask CONFINEMENT
	BOUNDARY as indicated by an on-contact
	radiation reading greater than EITHER of the
	following:
	<ul> <li>40 mRem/hr (gamma + neutron) on</li> </ul>
	the top of the OVERPACK
	<ul> <li>220 mRem/hr (gamma + neutron) on</li> </ul>
	the side of the OVERPACK, excluding
	inlet and outlet ducts.

For a facility in which all spent fuel is stored in the ISFSI, the conditions addressed in PD-HU2 remain fully addressed by IC E-HU1.

The ICs listed in the table below are to be retained since they remain appropriate to address an event related to an ISFSI-only facility (i.e., no spent fuel stored in the SFPs).

# **ISFSI Emergency Plan Initiating Conditions**

ALERT	UNUSUAL EVENT			
Independent Spent Fuel Storage Installation				
	<b>E-HU1</b> Damage to a loaded cask CONFINEMENT BOUNDARY.			
Hazards and Other Conditions				
has occurred.	PD-HU1 Confirmed SECURITY CONDITION or threat at the Independent Spent Fuel Storage Installation (ISFSI).			
<b>PD-HA3</b> Other conditions exist which in the judgment of the Emergency Director warrant declaration of an ALERT.	<b>PD-HU3</b> Other conditions exist which in the judgment of the Emergency Director warrant declaration of an UNUSUAL EVENT.			

The most severe beyond-design-basis accident postulated for IPEC with spent fuel stored within the SFPs involved a highly unlikely sequence of events that causes heat-up of the spent fuel, postulated to occur without heat transfer, such that the zirconium alloy fuel cladding reaches ignition temperature. Because this limiting, beyond-design-basis scenario is no longer possible due to the transfer of spent fuel from the SFPs to dry cask storage in the onsite ISFSI, HDI's assessment focused on the following design-basis accidents associated with the performance of decommissioning activities with all irradiated fuel stored in the IPEC ISFSI: (1) cask drop event

(fuel related event); (2) radioactive material handling accident (non-fuel related event); and (3) accidents initiated by external events.

As previously discussed in the letter dated November 1, 2023 (Reference 19), exemptions from certain emergency planning requirements for IPEC, an analysis of the potential radiological impact of a design-basis accident at IPEC in a permanently defueled condition indicated that any releases beyond the exclusion area boundary were below the EPA early phase PAGs. The basis for these exemptions has not changed and remains in effect for the proposed emergency plan changes.

For design-basis accidents (1) and (2) cited in the paragraph above, the results of HDI's assessment indicate that the projected radiological doses at the exclusion area boundary continue to be less than the EPA early phase PAGs. The effects of accidents initiated by external events, (3) cited above, such as aircraft impacts, fires, flood, wind (including tornadoes), earthquakes, lightning, and physical security breaches on the IPEC ISFSI that could affect the confinement boundary of the ISFSI, remain unchanged from the effects that were considered under the PDEP. The NRC staff examined the assumptions used in HDI's analyses and verified that inputs were more conservative than those used in the approved PDEP, and therefore, determined that the associated accident analyses are sufficient to conclude that any releases beyond the exclusion area boundary will be below EPA early phase PAGs.

Because of the very low risk of consequences to public health and safety resulting from the postulated accidents related to the IPEC ISFSI, potential emergencies continue to be classified no higher than the Alert level in accordance with the requirements of Section IV.C.1 to Appendix E of 10 CFR Part 50, as exempted. Classification of emergencies at no higher than an alert level also maintains consistency with the regulations in 10 CFR 72.32(a)(3), "Classification of accidents."

Based on the NRC staff's review of the proposed IPEC IOEP and associated EAL scheme, as described above, the NRC staff concludes that planning standard 10 CFR 50.47(b)(4) and requirement of 10 CFR Part 50, Appendix E, Section IV.C.1, as exempted, pertaining to a standard emergency classification and action level scheme, are addressed in an acceptable manner in the IPEC IOEP and associated EAL scheme, considering the permanently shut down and defueled status of the facility, and the completed transfer of all remaining spent fuel from the SFPs to dry cask storage within the onsite ISFSI.

# 3.3.2 Emergency Response Organization Revision

The existing IPEC PDEP provides for two ERO augmented positions, a Technical Coordinator and a Radiation Protection Coordinator. The proposed IPEC IOEP would replace these positions with two other positions: a Resource Manager, and an individual trained in radiological monitoring and assessment. The Resource Manager will assist in assessing the event and coordinating needed resources, including public information interface. The Resource Manager will be in contact with the Emergency Director within two hours of declaration of an Unusual Event or an Alert classification level. The Resource Manager does not need to physically report to the IPEC ISFSI to perform their responsibilities. The Resource Manager augments the Emergency Director by assisting in assessing the emergency condition and coordinating the required resources, including serving as the public information interface. Services provided to the Emergency Director by the Resource Manager can be provided remotely and do not necessitate an onsite response by the Resource Manager. By responding remotely, the actual response time is decreased (as compared to the ERO response required by the PDEP as

described above) with no negative impact to services and functional responsibilities provided by the Resource Manager. The Resource Manager's functional responsibilities could be performed in a timely manner either by reporting to the site or performing the function remotely in the specified timeframe.

In addition, HDI proposes that a minimum of one person trained in radiological monitoring and assessment will report to the IPEC ISFSI within four hours of a declared emergency involving radiological consequences.

In its evaluation of the proposed changes to the ERO, the NRC staff considered the accident analysis referenced above, related to the deletion of EALs, either partially or in their entirety, as indicated, as they relate to SFP operation. Specifically, the NRC staff considered the postulated accidents that could occur with all the spent fuel moved into dry cask storage within the onsite ISFSI, which pose a very low risk to public health and safety. The NRC staff notes that HDI also continues to commit to maintain the appropriate level of augmented response to an emergency, to include an event involving radiological consequences.

In the Statement of Considerations for the Final Rule for Emergency Planning Licensing Requirements for Independent Spent Fuel Storage Facilities and Monitored Retrievable Storage Facilities (MRS) (60 FR 32430; June 22, 1995), the Commission stated, in part:

For there to be a significant environmental impact resulting from an accident involving the dry storage of spent nuclear fuel, a significant amount of the radioactive material contained within a cask must escape its packaging and enter the biosphere. There are two primary factors that protect the public health and safety from this event. The first is the design requirements for the cask that are imposed by regulation.

These general design criteria place an upper bound on the energy a cask can absorb before the fuel is damaged. No credible dynamic events have been identified that could impart such significant amounts of energy to a storage cask after that cask is placed at the ISFSI.

Additionally, there is a second factor which does not rely upon the cask itself but considers the age of the spent fuel and the lack of dispersal mechanisms. There exists no significant dispersal mechanism for the radioactive material contained within a storage cask.

Based on the design limitations, the majority of spent fuel is cooled greater than 5 years. At this age, spent fuel has a heat generation rate that is too low to cause significant particulate dispersal in the unlikely event of a cask confinement boundary failure.

Although the IPEC spent fuel analysis has not been able to identify any design-basis accident that would result in a failure of the confinement barrier for the dry storage casks or the irradiated fuel itself, the IPEC IOEP nonetheless requires augmentation of one person trained in radiological monitoring and assessment, who will report to the station within four hours of the emergency declaration for an event involving radiological consequences.

The proposed IPEC IOEP also provides that additional personnel resources may be directed to report to IPEC ISFSI to provide support, as needed, to assess radiological conditions, support

maintenance and repair activities, develop and implement corrective action plans, and assist with recovery actions. The augmentation personnel are available from IPEC staff and can be requested from various contractors.

Based on the NRC staff's review of the proposed IPEC IOEP and associated EAL scheme, as described above, the NRC staff concludes that planning standards 10 CFR 50.47(b)(1) and (b)(2), and the requirements of Section IV.A of Appendix E to 10 CFR Part 50, as exempted, pertaining to timely augmentation of response capabilities and coping with radiological emergencies, are addressed in an acceptable manner in the IPEC IOEP, considering the permanently shut down and defueled status of the facility, and the proposed transfer of all remaining spent fuel from the SFP to dry cask storage within the onsite ISFSI.

# 3.3.3 Replacement of the "Shift Manager" with the "ISFSI Shift Supervisor"

In Section 1.1, "On-Shift Positions," of the proposed IPEC IOEP, HDI reassigned the following Emergency Director responsibilities from the Shift Manager to the ISFSI Shift Supervisor. The ISFSI Shift Supervisor will be at IPEC ISFSI on a continuous, 24 hours per day basis, and will be the senior management position during off-hours. This position is responsible for monitoring ISFSI conditions and managing the activities at the IPEC ISFSI. This position assumes overall command and control of the response as the Emergency Director and is responsible for monitoring conditions and approving all onsite activities.

The non-delegable responsibilities of the ISFSI Shift Supervisor/Emergency Director include the following:

- Classification of an event;
- Approval of emergency notifications to the State of New York;
   Westchester and Rockland Counties, and the NRC (although the task of making notifications may be delegated); and
- Authorization of radiation exposures in excess of 10 CFR Part 20 limits.

Key delegable responsibilities of the ISFSI Shift Supervisor/Emergency Director include the following:

- Notification of the emergency classification to the State of New York, Westchester and Rockland Counties, and the NRC;
- Management of available station resources;
- Initiation of mitigative, corrective, and onsite protective actions;
- Decision to call for law enforcement, fire, or ambulance assistance;
- Augmentation of the emergency staff, as deemed necessary;
- Coordination of security activities;
- Performance of initial radiological assessment;
- Maintaining a record of event activities;
- Suspending security measures; and
- Termination of the emergency condition when appropriate.

Section O, "Emergency Response Training," of the proposed IPEC IOEP provides the requirements for emergency preparedness training and identifies the level and the depth to which individuals are to be trained. The personnel assigned to the ISFSI Shift

Supervisor/Emergency Director and Resource Manager positions shall have training conducted on an annual basis such that proficiency is maintained on the topics listed below:

- EAL Classification,
- Offsite Notification Procedures,
- ERO Activation,
- Dose Rate Meter Operation,
- Radioactive Release Assessment,
- Emergency Exposure Control,
- Protective Actions for Onsite Personnel,
- ISFSI DBAs, and
- Review of Applicable Drill/Exercise-Identified Deficiencies.

The NRC staff's evaluation verified the retitled position of ISFSI Shift Supervisor is on-shift at the IPEC ISFSI 24 hours a day and serves as the senior management position during off-hours. This position assumes overall command and control of the event response as the Emergency Director and is responsible for monitoring conditions and approving all onsite activities and has the requisite authority, management ability, technical knowledge, and staff to manage the site, emergency response, and recovery organizations. The IPEC IOEP clearly identifies non-delegable responsibilities, along with other designated tasks, for the ISFSI Shift Supervisor. The NRC staff considers this retitling activity to be an administrative change that will not impact the timing or performance of existing emergency response duties.

Based on the NRC staff's review of the proposed IPEC IOEP and associated EAL scheme, as described above, the NRC staff concludes that planning standard 10 CFR 50.47(b)(1), and 10 CFR 50.47(b)(2) pertaining to the adequate staffing to provide initial facility accident response, are addressed in an acceptable manner in the IOEP. In addition, the requirements of 10 CFR Part 50, Appendix E, Section IV.A, as exempted, pertaining to the organization for coping with radiological emergencies is described, including definition of authorities, responsibilities, and duties of individuals assigned to HDI's emergency organization, are addressed in an acceptable manner in the IPEC IOEP, considering the permanently shut down and defueled status of the facility, and the completed transfer of all remaining spent fuel from the SFP to dry cask storage within the onsite ISFSI.

# 4.0 <u>ENVIRONMENTAL CONSIDERATION</u>

The amendment changes a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes administrative procedures or requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding, which was published in the *Federal Register* on September 5, 2023 (88 FR 60714). Accordingly, the amendment meets the eligibility criteria for categorical exclusions set forth in 10 CFR 51.22(c)(10)(ii). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

# 5.0 STATE CONSULTATION

In accordance with the Commission's regulations, a New York State official was notified of the proposed issuance of the amendment on October 31, 2023. By letter dated November 8, 2023, (Reference 25) the New York State official had no comments.

#### 6.0 CONCLUSION

Based on review of the proposed IPEC IOEP and associated EAL scheme, the NRC staff finds that the proposed changes would continue to meet the applicable emergency planning standards in 10 CFR 50.47(b) and the requirements in Appendix E of 10 CFR Part 50, as exempted. The NRC staff finds continued reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the IPEC facility. In addition, the NRC staff concludes that the IPEC IOEP will be consistent with the emergency planning requirements for a specific licensed ISFSI under 10 CFR Part 72. Therefore, the NRC staff concludes that HDI's proposed IPEC IOEP and associated EAL scheme in its letter dated November 17, 2022, as supplemented by letter dated July 11, 2023, are acceptable.

The NRC staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there continues to be reasonable assurance that 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.

# 7.0 REFERENCES

- 1. Minns, J., U.S. Nuclear Regulatory Commission, letter to Entergy Nuclear Operations, Inc., "Indian Point Nuclear Generating Station, Unit 1 Issuance of Amendment Re: Changes to Effectively Coordinate Indian Point Nuclear Generating Station, Units 1 and 2, Programs," dated August 11, 2003 (ML032240282).
- 2. Pollock, J.E., Entergy Nuclear Operations, Inc., letter to U.S. Nuclear Regulatory Commission, "Notification of Unit 1 Transfer of 160 Spent Fuel Assemblies from the Spent Fuel Pool to the Indian Point Independent Spent Fuel Storage Installation," dated December 11, 2008 (ML091130457).
- 3. Guzman, R., U.S. Nuclear Regulatory Commission, letter to Holtec International and Holtec Decommissioning International, LLC, "Indian Point Nuclear Generating Station, Unit Nos. 1, 2, and–3 Issuance of Amendment Nos. 64, 295, and 271 Re: Order Approving Transfer of Licenses and Conforming License Amendments (EPID L-2019-LLM-0003)," dated May 28, 2021 (ML21126A005).
- 4. Vitale, Anthony J., Entergy Nuclear Operations, Inc., letter to U.S. Nuclear Regulatory Commission, "Notification of Permanent Cessation of Power Operations Indian Point Nuclear Generating Unit Nos. 2 and 3 Docket Nos. 50-247 and 50-286 License Nos. DPR-26 and DPR-64," dated February 8, 2017 (ML17044A004).
- 5. Vitale, Anthony J., Entergy Nuclear Operations, Inc., letter to U.S. Nuclear Regulatory Commission, "Certifications of Permanent Cessation of Power Operations and

- Permanent Removal of Fuel from the Reactor Vessel Indian Point Nuclear Generating Unit No. 2 NRC Docket No. 50-247 Renewed Facility Operating License No. DPR-26," dated May 12, 2020 (ML20133J902).
- Vitale, Anthony J., Entergy Nuclear Operations, Inc., letter to U.S. Nuclear Regulatory Commission, "Certifications of Permanent Cessation of Power Operations and Permanent Removal of Fuel from the Reactor Vessel Indian Point Nuclear Generating Unit No. 3 NRC Docket No. 50-286 Renewed Facility Operating License No. DPR-64," dated May 11, 2021 (ML21131A157).
- 7. Fleming, Jean A., Holtec Decommissioning International, LLC, letter to U.S. Nuclear Regulatory Commission, "License Amendment Request to Approve the Independent Spent Fuel Storage Installation-Only Emergency Plan," dated November 17, 2022 (ML22321A148).
- 8. Fleming, Jean A., Holtec Decommissioning International, LLC, letter to U.S. Nuclear Regulatory Commission, "Response to Request for Additional Information Regarding License Amendment Request to Revise the Emergency Plan and Emergency Action Level Scheme," dated July 11, 2023 (ML23192A100).
- Sturzebecher, K., U.S. Nuclear Regulatory Commission, letter to Jean Fleming, Holtec Decommissioning International, LLC, "Indian Point Energy Center – Exemptions from Certain Emergency Planning Requirements and Related Safety Evaluation (EPID L-2021-LLE-0057)," dated November 1, 2023, (ML23063A143).
- 10. U.S. Nuclear Regulatory Commission and Federal Emergency Management Agency, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," NUREG-0654/FEMA-REP-1, Revision 1, dated November 1980 (ML040420012).
- 11. NSIR/DRP-ISG-2, "Emergency Planning Exemption Requests for Decommissioning Nuclear Power Plants," dated May 11, 2015 (ML14106A057).
- 12. NUREG-2215, "Standard Review Plan for Spent Fuel Dry Storage Systems and Facilities," dated April 2020 (ML20121A190).
- 13. Nuclear Energy Institute (NEI) 99-01, Revision 6, "Development of Emergency Action Levels for Non-Passive Reactors," dated November 2012 (ML12326A805).
- 14. Mark Thaggard, U.S. Nuclear Regulatory Commission letter to Susan Perkins-Grew (NEI), "Technical Evaluation for the Endorsement of NEI 99-01, Revision 6," dated March 28, 2013 (ML12346A463).
- 15. Fleming, Jean A., Holtec Decommissioning International, LLC, letter to U.S. Nuclear Regulatory Commission, "Request for Exemptions from Certain Emergency Planning Requirements of 10 CFR 50.47 and 10 CFR Part 50, Appendix E," dated December 22, 2021 (ML21356B693).
- 16. Fleming, Jean A., Holtec Decommissioning International, LLC, letter to U.S. Nuclear Regulatory Commission, "Supplement to Holtec Decommissioning International, LLC (HDI) Request for Exemptions from Certain Emergency Planning Requirements of

- 10 CFR 50.47 and 10 CFR Part 50, Appendix E for Indian Point Unit Nos. 1, 2, and 3 Including Site-Specific Calculations," dated February 1, 2022 (ML22032A017).
- 17. Fleming, Jean A., Holtec Decommissioning International, LLC, letter to U.S. Nuclear Regulatory Commission, "Revision to Holtec Decommissioning International, LLC (HDI) Request for Exemptions from Certain Emergency Planning Requirements of 10 CFR 50.47 and 10 CFR Part 50, Appendix E for Indian Point Unit Nos. 1, 2, and 3," dated February 2, 2022 (ML22033A348).
- 18. Fleming, Jean A., Holtec Decommissioning International, LLC, letter to U.S. Nuclear Regulatory Commission, "Response to Requests for Additional Information related to Exemption Request and License Amendment Request to Revise the Facility's Emergency Plan," dated May 12, 2022 (ML22132A169).
- Sturzebecher, K., U.S. Nuclear Regulatory Commission, letter to Jean Fleming, Holtec Decommissioning International, LLC, "Indian Point Energy Center – Exemptions from Certain Emergency Planning Requirements and Related Safety Evaluation," dated November 1, 2023 (ML23063A143)
- Sturzebecher, K., U.S. Nuclear Regulatory Commission, letter to Jean Fleming, Holtec Decommissioning International, LLC, "NRC Issuance of Indian Point Energy Center Amendments Regarding Changes to the Emergency Planning and Emergency Action Level Scheme to Address the Permanently Defueled Condition," dated November 13, 2023 (ML23064A000).
- 21. Fleming, Jean A., Holtec Decommissioning International, LLC, letter to U.S. Nuclear Regulatory Commission, "Registration of Spent Fuel Casks and Notification of Permanent Removal of All Indian Point Unit 2 Spent Fuel Assemblies from the Spent Fuel Pit," dated February 15, 2023 (ML23046A102).
- 22. Letter from Bill Noval (Holtec Decommissioning International, LLC) to U.S. NRC, "Registration of Spent Fuel Casks and Notification of Permanent Removal of All Indian Point Unit 3 Spent Fuel Assemblies from the Spent Fuel Pit," dated October 16, 2023 (ML23289A158).
- 23. U.S. Environmental Protection Agency, EPA 400-R-92-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents," dated October 1991 (Reprinted May 1992).
- 24. McKirgan, John B., U.S. Nuclear Regulatory Commission, letter to Holtec International, "Issuance of Certificate of Compliance No. 1014, Amendment No. 15 for the HI-STORM 100 Multipurpose Canister Storage System (Docket No. 72-1014, CAC No. 001028, EPID: L-2019-LLA-0059," dated May 13, 2021 (ML21118A863).
- 25. Email from Alyse Peterson (New York State Energy Research and Development Authority), to U.S. NRC, "Comments State of New York Comments on the Revised License Amendment for Indian Point Energy Center ISFSI-Only Emergency Plan," dated November 8, 2023 (ML23332A080).

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