Entergy

Indian Point Energy Center
450 Broadway, GSB
P.O. Box 249
Buchanan, N.Y. 10511-0249
Tel (914) 734-6700

J.E. Pollock
Site Vice President
Administration

June 26, 2008

Indian Point Unit 1
Docket No. 50-003
License No. DPR-5
NL-08-052

U.S Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Stop O-P1-17
Washington D.C.20555-0001

Subject: **License Amendment Request Regarding Removal of Spent Fuel from Unit 1 and Drain Down of the Spent Fuel Pool (LAR for Amendment 54)**

Reference:

1. NRC letter "Indian Point Nuclear Generating Station, Units 2 and 3 - Administrative Change to Facility Operating Licenses in Conjunction with the Commission Order EA-03-086 Regarding Revised Design Basis Threat (DBT); and Revisions to Physical Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan (TAC Nos. MC2929 and MC2930) r dated October 14, 2004.

2. Entergy Letter NL-04-130 regarding "Resubmitted Indian Point Units 1, 2 and 3 Physical Security, Training and Qualification, and Safeguards Contingency Plan (TAC Nos. MC2929 and MC2930)" dated October 14, 2004.

3. Entergy Letter NL-06-057 regarding "Indian Point Response to March 20, 2006, Order Requiring Compliance with Updated Adversary Characteristics (Effective Immediately) EA-06-037" for Indian Point Units 1, 2, and 3 dated May 18, 2006.

Dear Sir or Madam:

Pursuant to 10 CFR 50.90, Entergy Nuclear Operations, Inc. (Entergy) requests an amendment to the Operating License (OL) and the Technical Specifications (TS) for Indian Point Unit 1 (IP1). IP1 is permanently shut down and is being maintained in the SAFESTOR mode. There are 160 spent fuel assemblies currently stored in the IP1 Spent Fuel Pool (SFP).

Entergy expects to transfer all 160 spent fuel assemblies stored in the IP1 SFP into dry cask storage and to place these stored assemblies in the existing Independent Spent Fuel Storage Installation (ISFSI), Docket No. 72-51, located on the Indian Point Energy Center (IPEC) site. The ISFSI is licensed under the general license provisions of 10 CFR 72 Sub Part K and

currently houses spent fuel from Indian Point Unit 2 (IP2). The ISFSI design and license anticipated the storage of spent fuel from IP1 and Indian Point Unit 3 (IP3), as well as IP2.

The removal of the IP1 spent fuel assemblies from, and subsequent drain down of, the IP1 SFP will preclude any leakage from the spent fuel pool and eliminate a known release pathway from the spent fuel pool to the environment.

The proposed amendment would delete OL and TS requirements associated with the storage of spent fuel in the IP1 SFP. These requirements are not reflective of the drained down condition of the spent fuel pool or necessary after stored spent fuel is transferred to the ISFSI.

Attachment No. I provides a description of the proposed changes and an evaluation in accordance with 10 CFR 50.91(a)(1) using the criteria of 10 CFR 50.92 to demonstrate that the proposed changes involve no significant hazards considerations.

Attachment No. II provides the existing OL and TS pages marked to show the proposed changes.

Additionally, the Unit 1 License condition 3.d) currently references the "Indian Point Station, Units 1 and 2 Physical Security Plan" which was replaced by the Indian Point Energy Center "Physical Security, Training and Qualification, and Safeguards Contingency Plan" when approved by the NRC in a safety evaluation (Reference 1). Entergy requests that the NRC revise the Unit 1 License to include the same license condition as added to Indian Point Unit 2 (the letters referred to are References 2 and 3) which reads as follows:

> "ENO shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822), and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans[1] for the Indian Point Energy Center, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Physical Security, Training and Qualification, and Safeguards Contingency Plan, Revision 0," and was submitted by letter dated October 14, 2004, as supplemented by letter dated May 18, 2006.
>
> ---
>
> 1 The Training and Qualification Plan and Safeguards Contingency Plan are Appendices to the Security Plan."

Entergy requests that this proposed change become effective upon written notification to the Nuclear Regulatory Commission (NRC) by Entergy that all 160 spent fuel assemblies have been removed from the IP1 SFP and placed in the ISFSI. Entergy anticipates the final transfer of the spent fuel will occur during the third quarter of 2008.

In accordance with 10 CFR 50.91, a copy of this application and the attachments are being submitted to the designated New York State official.

There are no new commitments identified in this submittal. If you have any questions or require additional information, please contact Mr. Robert W. Walpole, Manager, Licensing, Indian Point Energy Center at (914) 734-6710.

I declare under penalty of perjury that the forgoing is true and correct.
Executed on June 26, 2008.

Sincerely yours,

J.E Pollock
Site Vice President
Indian Point Energy Center

Attachments:

I. Analysis of Proposed License Amendment and Technical Specification Change Request Regarding Removal of Spent Fuel from Indian Point Unit No. 1 and Drain Down of the Spent Fuel Pool.

II. Proposed License and Technical Specification Changes-Markup Pages.

cc: NRC Resident Inspector's Office
Mr. John Boska, Senior Project Manager, NRC NRR DORL
Mr. Theodore Smith, Project Manager, NRC FSME DWMEP DURLD
Mr. Samuel Collins, Regional Administrator, NRC Region 1
Mr. Paul D. Tonko, President, NYSERDA
Mr. Paul Eddy, New York State Dept. of Public Service
Mr. John White, Branch Chief, NRC Region 1
Mr. Tim Rice, New York State DEC

ATTACHMENT I TO NL-08-052

ANALYSIS OF PROPOSED LICENSE AMENDMENT AND TECHNICAL SPECIFICATION CHANGE REQUEST REGARDING REMOVAL OF SPENT FUEL FROM INDIAN POINT UNIT NO. 1 AND DRAIN DOWN OF THE SPENT FUEL POOL

ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT UNIT NO. 1
DOCKET NO. 50-003
DPR-5

1.0 DESCRIPTION

This is a request to amend Operating License (OL) DPR-5, Docket No. 50-003, for Indian Point Unit 1 (IP1). The proposed amendment deletes license conditions and Technical Specification (TS) requirements which relate to the storage of spent nuclear fuel in the IP1 Fuel Handling Building Spent Fuel Pool. The spent fuel is to be transferred to, and stored at, the existing Indian Point Independent Spent Fuel Storage Installation (ISFSI), Docket No. 72-51. The removal of the stored spent fuel and drain down of the spent fuel pools renders many of the OL conditions and TS requirements unnecessary and burdensome.

2.0 Proposed Changes

Remove or insert the following from the indicated sections of the IP1 license conditions:

2. c) Add "Deleted" and remove "ENO, pursuant to the Act and Title 10, CFR, Chapter 1, Part 70, "Special Nuclear Material," to receive, possess and use six (6) grams of uranium-235 in fission counters;"

2. d) Add "Deleted" and remove "ENO, pursuant to the Act and Title 10, CFR, Chapter 1, Part 30, "Licensing of Byproduct Material," to receive, possess and use six hundred (600) curies of Plutonium-210 encapsulated as Po-Be neutron start-up sources;"

2. f) Add "Deleted" and remove "ENO, pursuant to the Act and Title 10, CFR, Parts 30 and 70, to possess and store the 1140.46 kilograms of special nuclear material and the byproduct materials contained in Core A."

3. b) The referenced Amendment 52 is deleted and 54 is inserted.

3. d) Delete the wording:
...physical security, guard training and qualification, and safeguards contingency plans previously approved by the Commission and all amendments and revisions to such plans made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "Indian Point Station, Units 1 and 2 Physical Security Plan," with revisions submitted through July 25, 1989; "Indian Point Station, Units 1 and 2, Security Guard Training and Qualification Plan," with revisions submitted through December 8, 1986; and "Indian Point Station, Units 1 and 2, Safeguards Contingency Plan," with revisions submitted through November 7, 1986.

Insert: ...Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822), and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans[1] for the Indian Point Energy Center, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Physical Security, Training and Qualification, and Safeguards Contingency Plan, Revision 0," and was submitted by letter dated October 14, 2004, as supplemented by letter dated May 18, 2006.

[1] The Training and Qualification Plan and Safeguards Contingency Plan are Appendices to the Security Plan.

3. The words "Paragraph 3.E and 3.F are hereby deleted." are removed.

Remove or insert the following from the indicated sections of the Technical Specifications:

Table of Contents: Editorial changes to reflect deletion of section 4.6 and 5.3 and page changes.

Sections 1.1 and I.2 Delete the Definition and Exclusion Distance section numbering at the 3 digit level and insert the numbers "1.1" prior to the word "definitions" for consistency with the Table of Contents.

Section 2.1 Delete the last sentence; "If power is lost to the spent fuel storage area radiation monitor, a portable monitor will be promptly set up in the spent fuel storage area."

Section 2.2.1 Delete the number "2.2.1" and delete "...fuel other than..." and "...from Indian Point Unit No.1..."

Delete entire subsections Sections 2.2.2, 2.2.3, 2.2.4, 2.2.5 and 2.2.6, including the footnote "*licensed Operator for IP2"

Section 3.2.a Delete: "All fuel handling shall be under the direct supervision of a licensed operator." Remove lettering for 3.2.b. Delete footnote: "*Licensed operator for IP-2".

Section 4.2 Delete: "The concentration of radioactive materials released in liquid or gaseous form to unrestricted areas shall not exceed the limits of 10 CFR Part 20."

Insert: "The concentrations of radioactive material released in liquid effluents to unrestricted areas shall not exceed ten times the concentration values in Appendix B, Table 2, Column 2 to 10 CFR 20.1001 – 20.2402."

Section 4.4 Delete: "Radiation monitoring systems shall be maintained operable for: (1) sphere foundation sump, (2) secondary purification blowdown cooling water, and (3) area radiation monitors. If monitoring systems are not operable, effluent sampling and/or local monitoring shall be accomplished to replace the non-operating system. In addition,"....

Section 4.6 Delete entire Section 4.6 and revise the Table of Contents to reflect this by substituting "Deleted" for the title.

Section 5.2.1 Delete: "Functional radiation monitoring systems (only for the following: sphere foundation sump and secondary purification blowdown cooling water) and area radiation monitoring systems. shall be:

a. qualitatively checked daily to verify acceptable operability of instrument channel behavior during operation, and

b. tested quarterly by injection of a simulated signal into the instrument channel to verify that it is operable, including alarm and/or trip initiating action. The quarterly interval is defined as quarterly plus or minus 25% of the quarter.

And remove the numbering "5.2.1" and "5.2.2".

Section 5.3 Delete Section 5.3 and revise the Table of Contents to reflect this by substituting "Deleted" for the title.

3.0 TECHNICAL ANALYSIS

Removal / Change of License Conditions

The purpose of the deletion of License Condition 2.c) is to remove extraneous and unnecessary license authorizations. The fission counters identified in the license have been disposed of and are no longer Special Nuclear Material (SNM) in the possession of IP1.

The purpose of the deletion of license condition 2.d) is to remove extraneous and unnecessary license authorizations. The neutron startup sources identified in the license were contained in the initial Core B fuel load (Regions 1, 2, and 3). This spent fuel and the startup sources were transferred to an offsite reprocessing facility and are no longer SNM in the possession of IP1.

The purpose of the deletion of license condition 2.f) is to remove extraneous and unnecessary license authorizations. The SNM and byproduct material contained in Core A were transferred to an offsite reprocessing facility and are not longer SNM or byproduct material in the possession of IP1.

The change to license condition No. 3.b) is administrative to reflect the latest License Amendment Revision.

The change to license condition No. 3.d) is to incorporate the appropriate license condition to reflect the existing security plan. The NRC approved, NRC letter of October 28, 2004, the security plan change which was written to include Units 1, 2, and 3. This security plan, when approved, replaced the security plan for Units 1 and 2 currently referenced in license condition 2.d). The license conditions of Units 2 and 3 were revised to reflect the October 28, 2004 approval as well as a latter order accepted in Entergy letter dated May 18, 2006. This request is administrative in nature and revises the Unit 1 license condition for consistency.

Deletion of the reference to previously deleted license conditions 3. E and 3.F and is editorial.

Change to or Removal of Technical Specification Requirements

The Table of Contents page has been modified to reflect the proposed changes discussed below. These changes are editorial.

The numbering of subsections in Section 1 has been changed to establish a consistent format. These changes are editorial.

The Technical Specification (TS) 2.1 requirement for a backup portable radiation monitor in the spent fuel pool area to be energized upon a loss of power to the installed area radiation monitor was deleted. The purpose of the area radiation monitor was to alert plant personnel of high radiation due to the loss or reduction of shielding above the stored spent fuel. Upon removal of the spent fuel to the ISFSI, this potential source term no longer is present. The pools will be drained. Therefore the area radiation monitor no longer serves a purpose and a backup portable monitor is also unnecessary.

TS 2.2 has been modified to prohibit the storage of any irradiated or fresh fuel in IP1. With the removal of spent fuel from IP1 to the ISFSI and the prohibition of any additional fuel, the remaining requirements in TS 2.2.2 to 2.2.6 regarding storage, fuel handling, monitoring, and heavy loads over stored fuel become unnecessary. Should the circumstance occur which would require the unloading of a stored Spent Fuel Storage Cask, Entergy anticipates the circumstance would entail a significant engineering and regulatory effort and require several regulatory actions to insure the safe unloading and handling of the spent fuel. Considering the low probability of such an event, the prohibition against returning spent fuel into IP1 is not considered a significant risk.

TS 3.2 has been modified to delete the requirement for fuel handling under the direct supervision of a licensed (IP2) operator. Since no fuel is to be stored or handled, this requirement is no longer necessary. The deletion of this requirement also relaxes the training burden on IP2 licensed operators with regard to IP1.

TS 4.2 has been modified to reflect the current requirements of 10 CFR Part 20. This is administrative to make the TS consistent with the regulations

TS 4.4 has been modified to delete requirements relating to radiation monitoring. With regard to effluent monitoring, requirements are captured in the Offsite Dose Calculation Manual (ODCM) which is consistent with the standard Technical Specification requirements of Part 50 licensees. The radiation monitoring system no longer serves a purpose with the removal of the spent fuel to the ISFSI and the subsequent draining of the Spent Fuel Pools (SFP).

TS 4.6 is being deleted since the removal of the spent fuel and draining of the spent fuel pool and the prohibition on any additional fuel eliminates the source term for which the pool water provided shielding. Any residual radioactivity which may be present after drain down will be controlled in accordance with the Entergy Radiation Protection program and the requirements of 10 CFR 20. Chemistry requirements for the SFP water are no longer applicable after removal of the fuel. Ventilation requirements addressing fuel movement or potential damage to fuel are no longer necessary after the removal of the stored fuel to the ISFSI.

TS 5.2.1 is being deleted to remove the specifics for daily and quarterly testing of installed effluent monitors. The Surveillance Requirements for effluent monitors are captured in the ODCM and the operation of the area radiation monitor is no longer necessary upon removal of the spent fuel and the draining of the SFPs.

The numbering in TS 5.2.1 and 5.2.2 is being deleted. This is editorial.

TS 5.3 for the sampling of SFP water containing spent fuel is being deleted because the spent fuel will be transferred to the ISFSI and the pools will be drained. This requirement no longer has any applicability to IP1 SFP storage.

4.0 REGULATORY ANALYSIS

4.1 No Significant Hazards Consideration Determination

Entergy has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by assessing the change using the three criteria of 10 CFR 50.92 as discussed below:

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

   Response-No

   The proposed changes are all contingent on the prior removal of the stored spent fuel from the IP1 SFP to the IPEC ISFSI. The accidents previously evaluated in the IP1 FSAR, which consists of the IP1 Decommission Plan and Supplemental Environmental Information, are stored fuel related accidents. The removal of the stored fuel from the IP1 facility to the IPEC ISFSI precludes the possibility of these accidents. Consequently, the proposed changes to the license do not involve a significant increase in the probability or the consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response-No

   The proposed changes are all contingent on the prior removal of the stored spent fuel from the IP1 SFP to the IPEC ISFSI. With the removal of the stored spent fuel from the IP1 facility, and considering the IP1 has been in a SAFESTOR mode for over thirty years, no significant source term remains which could result in any postulated radiological event that would impact the health and safety of the public. The proposed changes to the IP1 license consequently do not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

   Response-No

   The proposed changes are all contingent on the prior removal of the stored spent fuel from the IP1 SFP to the IPEC ISFSI. Upon the removal of spent fuel, the Technical Specifications being deleted no longer are required to protect the health and safety of the public or occupational workers from the potential adverse conditions, hazards or accidents as discussed in the FSAR. There is, therefore, no significant reduction in the margin of safety.

4.2 Applicable Regulatory Requirements / Criteria

The proposed TS changes have no effect on the compliance with regulations applicable to Unit 1. The deletion of regulatory licenses pursuant to 10 "CFR parts 30 and 70 for six grams of Uranium 235, 600 curies of plutonium encapsulated as start up sources, and 1140.46 kg of Core A material have no regulatory effect due to removal of this material from Unit 1. The revision to the license requirement for a security plan has no effect on the compliance with 10 CFR 73 since the upgraded plan was previously approved. Compliance with the requirements of 10 CFR 20 are maintained by several changes. The removal of the spent fuel from the spent fuel storage pool removes the primary source of groundwater contamination with the removal of water from the pool. The elimination of pathway monitoring is consistent with this since the ODCM remains a requirement. Changes to the release limits for liquids are consistent with code changes.

4.3 Environmental Considerations

The proposed changes to the IP1 License conditions and Technical Specifications do not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

5.0 REFERENCES

1. NRC letter regarding issuance of Order Revoking Authority to Operate Facility and Approving Decommissioning Plan and Authorizing Decommissioning of Facility for Indian Point Nuclear Generating Unit 1, dated June 19, 1980.

ATTACHMENT II TO NL-08-052

PROPOSED OPERATING LICENSE AND TECHNICAL SPECIFICATIONS MARKED-UP PAGES

Changes indicated by lineout for deletion and Bold for additions

ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT UNIT NO. 1
DOCKET NO. 50-003
DPR-5

ENTERGY NUCLEAR OPERATIONS, INC.

DOCKET NO. 50-003

INDIAN POINT NUCLEAR GENERATING STATION, UNIT NO. 1

AMENDMENT TO PROVISIONAL OPERATING LICENSE

Amendment No. 52
License No. DPR-5

The U.S. Nuclear Regulatory Commission (the Commission) has found that:

A. The application for amendment by Entergy Nuclear Operations, Inc. (the licensee), dated May 30,2002, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rues and regulations set forth in 10 CFR Chapter 1;

B. The facility will operate in conformity with the application, 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 Commission's regulations;

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; and

E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations, and all applicable requirements have been satisfied.

Accordingly, License No. DPR-5 is hereby amended as indicated in the attachment to this license amendment, and paragraphs 3.B and 9 of Provisional Operating License No. DPR-5 are hereby amended to read as follows:

1. This license applies to the utilization facility consisting of a pressurized water reactor (hereinafter referred to as 'the reactor), and associated components and equipment hereinafter specified, which is owned by ENIP2, located in Westchester County, New York, and described in the amended and Substituted Application for Licenses dated November 30, 1960, as amended; in the Application for License amendment dated April 6, 1965, as supplemented May 6, 1965; and in the Application for License amendment dated December 3, 1965 (hereinafter referred to as 'the application'), and which is a part of the electric generating plant which has been designated by ENIP2 as the Indian Point Station Unit No.1.

2. Subject to the conditions and requirements incorporated herein, the U.S. Nuclear Regulatory Commission (hereinafter referred to as "the Commission") hereby licenses: Amdt. 45 1-31-96

   a) ENIP2 and ENO, pursuant to Section 104b. of the Act and Title 10CFR Part 50, "Licensing of Production and Utilization Facilities," to possess but not operate the facility at the

designated location in Westchester County, New York, in accordance with the procedures and limitations described in the application and this license;

b) ENO, pursuant to the Act and 10 CFR Part 70, to receive and possess up to 1918 kilograms of contained uranium-235 previously received for reactor operation;

c) **Deleted** ~~ENO, pursuant to the Act and Title 10, CFR, Chapter 1, Part 70, "Special Nuclear Material," to receive, possess and use six (6) grams of uranium-235 in fission counters;~~

d) **Deleted** ~~ENO, pursuant to the Act and Title 10, CFR, Chapter 1, Part 30, "Licensing of Byproduct Material," to receive, possess and use six hundred (600) curies of Plutonium-210 encapsulated as Po-Be neutron star-up sources;~~

e) ENO, pursuant to the Act and 10 CFR Parts 30 and 70, to receive and possess, but not to separate, such byproduct and special materials as were produced by the prior operation of the facility; Arndt. 45 1-31-96

f) **Deleted** ~~ENO, pursuant to the Act and Title 10, CFR, Parts 30 and 70, to possess and store the 1140.46 kilograms of special nuclear material and the byproduct materials contained in Core A.~~

3. This license shall be deemed to contain and is subject to the conditions specified in Sections 50.54 and 50.59 of Part 50, Section 70.32 of Part 70, Section 40.41 of Part 40, and Section 30.32 of Part 30 of the Commission's regulations; is subject to all applicable provisions of the Act and rules, regulations and orders of the Commission now and hereafter in effect; and is subject to the additional conditions specified below:

a) Maximum Power Level

ENO is prohibited from taking the reactor to criticality, and the facility shall not be operated at any power level.

b) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. ~~52~~ **54**, are hereby incorporated in the license. ENO shall maintain the facility in accordance with the Technical Specifications.

c) Records

In addition to those otherwise required under this license and applicable regulations, ENO shall keep the following records:

1. Reactor operating records, including power levels

and period of operation at each power level.

2. Records showing the radioactivity released or discharged into the air or water beyond the effective control of ENO as measured at or prior to the point of such release or discharge.

3. Records of scrams, including reasons therefor.

4. Records of principal maintenance operations involving substitution or replacement of facility equipment or components and the reasons therefor.

5. Records of radioactivity measurements at on-site and off-site monitoring stations.

6. Records of facility tests and measurements performed pursuant to the requirements of the Technical Specifications.

d) ~~ENO shall fully implement and maintain in effect all provisions of the physical security, guard training and qualification, and safeguards contingency plans previously approved by the Commission and all amendments and revisions to such plans made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "Indian Point Station, Units 1 and 2 Physical Security Plan," with revisions submitted through July 25, 1989; "Indian Point Station, Units 1 and 2, Security Guard Training and Qualification Plan, "with revisions submitted through December 8, 1986; and "Indian Point Station, Units 1 and 2, Safeguards Contingency Plan," with revisions submitted through November 7, 1986.~~ **ENO shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822), and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans[1] for the Indian Point Energy Center, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Physical Security, Training and Qualification, and Safeguards Contingency Plan, Revision 0," and was submitted by letter dated October 14, 2004, as supplemented by letter dated May 18, 2006.**

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1 The Training and Qualification Plan and Safeguards Contingency Plan are Appendices to the Security Plan.

~~Paragraphs 3.E and 3.F are hereby deleted.~~

4. Deleted by Amendment No.7, dated 11-14-74.

5. Definitions - As used in this license the term "facility means the following systems and components as described in the application:

   a) The site as designated in Exhibit H-14 (Rev. 2) to the application, excluding: oil and coal storage facilities; the railroad spur; road systems and dock facility; and, to the extent not otherwise covered in this definition, the electrical transmissions lines and the Buchanan substation.

   b) The reactor, including the reactor core, reactor vessel, support structure, instrumentation, and controls.

   c) A primary coolant loop system, including piping, coolant pumps, nuclear boilers, pressurizer, auxiliary systems, instrumentation and controls.

   d) A containment vessel to house the reactor and the primary loop system.

   e) A cooling system for the containment vessel, including a system of pumps, piping, spray nozzles and heat exchangers.

   f) A concrete radiation shield completely enclosing the containment vessel.

   g) A system comprised of isolation valves and necessary operating controls to close penetrations of the containment vessel.

   h) A ventilating system for the containment vessel, nuclear service building, chemical systems building, and fuel handling building.

   i) A boron addition system, including mixing tanks, pumps, and piping.

   j) Biological shielding, including water and concrete shields at the reactor vessel.

   k) A decay heat cooling system, including heat interchangers, pumps and piping.

   l) A closed, fresh-water coolant system, including heat interchangers, pumps and piping to provide cooling for the nuclear facility through heat interchangers where the heat in the fresh water is transferred to river water.

   m) A chemical processing system, including ion exchangers, evaporators, heat interchangers, pumps, piping, and tanks to remove and dispose of gaseous, liquid and solid radioactive products from the primary coolant and waste liquids.

   n) A fuel handling and storage system, including canals, transfer tube, stop valves, and fuel handling devices.

o) An instrument system, including detectors, transmitters, amplifiers, receivers and controllers, panel boards and necessary circuitry to control the reactor and associated systems.

p) A radiation monitoring system, including detectors and measuring devices.

q) Secondary coolant system.

r) Auxiliary steam system.

s) Condensate and make-up water storage facilities.

t) Circulating system.

u) Component drain system.

v) Sampling system.

w) Electrical system excluding transmission lines and the Buchanan substation to the extent that they are not covered in the Technical Specifications.

6. On the closing date of the transfer of the license, Con Edison shall transfer to ENIP2 all of the accumulated decommissioning trust funds for Indian Point Nuclear Generating Unit No.1 (IP1) and such additional funds to be deposited in the decommissioning trusts for IP1 such that the total amount transferred for IP1 and Indian Point Nuclear Generating Unit NO.2 (IP2) is no less than $430,000,000. Furthermore, ENIP2 shall either (a) establish a provisional trust for decommissioning funding assurance for IP1 and IP2 in an amount no less than $25,000,000 (to be updated as required under applicable NRC regulations, unless otherwise approved by the NRC) or (b) obtain a surety bond for an amount no less than $25,000,000 (to be updated as required under applicable NRC regulations, unless otherwise approved by the NRC). The total decommissioning funding assurance provided for IP1 by the combination of the decommissioning trust and the provisional trust or surety bond at the time of transfer of the licenses shall be at a level no less than the amounts calculated pursuant to, and required under, 10 CFR 50.75. The decommissioning trust, provisional trust, and surety bond shall be subject to or be consistent with the following requirements, as applicable:

(a) Decommissioning Trust

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

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

(iii) No contribution to the funds that consists of property other than liquid assets shall be permitted.

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

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

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

(b) Provisional Trust

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

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

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

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

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

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

(c) Surety Bond

(i) The surety bond agreement must be in a form acceptable to the NRC and be in accordance with all applicable NRC regulations.

(ii) The surety company providing any surety bond obtained to comply with the requirements of the Order approving the transfer shall be one of those listed by the U.S. Department of the Treasury in the most recent edition of Circular 570 and shall have a coverage limit sufficient to cover the amount of the surety bond.

(iii) ENIP2 shall establish a standby trust to receive funds from the surety bond, if a surety bond is obtained, in the event that ENIP2 defaults on its funding obligations for the decommissioning of IP1. The standby trust agreement must be in a form acceptable to the NRC, and shall conform with all conditions otherwise applicable to the decommissioning trust agreement, and with all conditions that would be applicable to the provisional trust above, if established.

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

7. ENIP2 shall take all necessary steps to ensure that the decommissioning trusts are maintained in accordance with the application for approval of the transfer of the IP1 and IP2 licenses to ENIP2 and ENO and the requirements of the Order approving the transfer, and consistent with the safety evaluation supporting that Order.

8. ENIP2 and ENO shall take no action to cause Entergy Global Investments, Inc., or Entergy International Ltd. LLC or their parent companies to void, cancel, or modify the $55 million contingency commitment to provide funding for the IP1 and IP2 plants as represented in the application without the prior written consent of the Director of the Office of Nuclear Reactor Regulation.

9. The approved Decommissioning Plan supplements the Final Safety Analysis Report (FSAR) and the licensee may (i) make changes in the facility or procedures as described in the FSAR pr the Decommissioning Plan and (ii) conduct tests, or experiments not described in the FSAR or Decommissioning Plan, without prior Commission approval, provided the requirements of 10 CFR 50.59 and 10 CFR 50.82(a)(6) and (7) are satisfied.

10. The amended license is effective as of the date of issuance, shall be implemented within 30 days, and shall expire at midnight, September 28, 2013 .

FOR THE ATOMIC ENERGY COMMISSION

Original signed by
E. G. Case

R.L. Doan, Director
Division of Reactor Licensing

Date of Issuance: October 29, 1965

TECHNICAL SPECIFICATIONS
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Appendix A to

Provisional Operating License DPR-5

For the

Entergy Nuclear Indian Point 2, LLC
and Entergy Nuclear Operations, Inc.

1.0 GENERAL INFORMATION

The facility, known as the Indian Point Station Unit No.1, is located on a site in the Village of Buchanan, Westchester County, New York. The Indian Point Station Unit No.2 and the Indian Point Station Unit No.3 share this site.

Indian Point Unit No.1 includes a pressurized water reactor, which operated with an authorized maximum steady state power level of 615 thermal megawatts until October 31, 1974. Pursuant to the June 19, 1980 "Commission Order Revoking Authority to Operate Facility" and the "Decommissioning Plan for Indian Point Unit No.1" approved by the NRC in an Order dated January 31, 1996, the reactor remains in a defueled status and the unit continues to operate as a support facility for overall Indian Point Units 1 and 2 operations. Unit No.1 and Unit No.2 are physically contiguous and share a number of systems and facilities as well as a common operating organization. The technical specifications contained herein recognize this commonality as well as the intended use of the Unit No.1 facilities to support Unit No.2 until retirement of that unit, and contain specific references to Appendix A to the Indian Point Unit No.2 Facility Operating License No. DPR-26. Unit No.1 contains radioactive waste processing facilities, which provide waste processing services for both Unit No.1 and Unit No.2. Radiological effluent limits are met on an overall site basis and specific operating limits and surveillance requirements for effluent monitoring instrumentation, including stack noble gas monitoring, are discussed in the Offsite Dose Calculation Manual.

1.1 Definitions

~~1.1.1~~ Final Safety Analysis Report

The final Safety Analysis Report (FSAR) for Indian Point Unit. 1, shall be deemed to refer to , as appropriate, the "Final Hazards Summary Report for the Consolidated Edison Indian Point Reactor Core B" and the following exhibits, which are a part of the original license application for IP1:

- Docket 50-3 Exhibit K-5 (Rev. 1), "Hazards Summary Report Consolidated Edison Thorium Reactor: (January, 1960) Figures 1-2, 1-3,3-14 only.
- Docket 50-3 Exhibit K-5A 11, "Supplementary Information on Plant Design of Consolidated Edison Nuclear Steam Generating Station," (August 1960) Section 3.7.1, pages 171 through 176 only and Section 3.7.2.

~~1.1.2~~ Operable-Operability

A system, subsystem, train, component or device shall be operable or have operability when it is capable of performing its intended safety function(s). Implicit in this definition shall be the assumption that necessary instrumentation, controls, electrical power sources, cooling or seal water, lubrication or other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its safety function(s) are also capable of performing their related support functions.

~~1.1.3~~ Offsite Dose Calculation Manual (ODCM)

The Offsite Dose Calculation Manual contains the current methodology and parameters used in the calculation of offsite doses due to radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring alarm/trip setpoints, and in the conduct of the environmental radiological monitoring program. Requirements for the ODCM are specified in Appendix A to the Indian Point Nuclear Generating Unit NO.2 Facility Operating License No. DPR-26.

~~1.1.4~~ Site Boundary

The Site Boundary is that line beyond which the land is neither owned, leased, nor otherwise controlled by either ENIP2, ENO, or other site licensee.

~~1.1.5~~ Unrestricted Area

An Unrestricted Area is any area at or beyond the Site Boundary, access to which is not controlled by either ENIP2, ENO, or other site licensee for purposes of protection of individuals from radiation and radioactive materials.

1.2 Exclusion Distance

~~1.2.1~~ The minimum distance from the reactor facility to the nearest land boundary of the exclusion area, as defined in 1 OCFR 100 shall be 1400 feet.

~~1.2.2~~ The minimum distance from the reactor center line to the boundary of the site exclusion area and the outer boundary of the low population zone as defined in 1 OCFR 100.3 is 460 meters and 1100 meters, respectively.

1.3 Principal Activities

The principal activities carried on within the Exclusion Area shall be the generation, transmission and distribution of steam and electrical energy (except by gas-fired power plant); associated service activities; activities relating to the controlled conversion of the atomic energy of fuel to heat energy by the process of nuclear fission; and the storage, utilization and production of special nuclear, source and byproduct materials. Transmission and distribution of natural gas shall be through the use of facilities located as described in the application as amended.

2.0 REACTOR FACILITY DESIGN PERFORMANCE REQUIR£MENTS

2.1 Electrical Power Supply

Power for electrical equipment shall normally be supplied by at least two independent transmission feeders from the Consolidated Edison system. ~~If power is lost to the spent fuel storage area radiation monitor, a portable monitor will be promptly set up in the spent fuel storage area.~~

2.2 Fuel Storage

~~2.2.1~~ No ~~fuel other than~~ irradiated fuel ~~from Indian Point Unit No.1~~ shall be stored in the Unit No.1 spent fuel storage area. No fresh fuel shall be stored at Unit No.1.

~~2.2.2 Spent fuel storage shall be provided in the storage pools in the Fuel Handling Building. The Fuel Handling Building and the spent fuel storage pool will contain the spent fuel until such time as offsite spent fuel management facilities are provided for, and the spent fuel is transferred to the Department of Energy, or as authorized by 10 CFR Part 72.~~

~~2.2.3 Spent fuel storage shall be provided with racks that shall limit the effective multiplication factor to less than 0.75.~~

~~2.2.4 Radiation levels in the spent fuel storage area shall be monitored continuously with a high level alarm indication in a location manned by a licensed operator* whenever there is irradiated fuel stored therein. If the monitor is inoperable, a portable monitor may be used. In such cases, provisions shall be made for prompt notification of a licensed operator upon actuation of the portable monitor's high level alarm.~~

~~2.2.5 If a spent fuel pool contains spent fuel, the spent fuel cask shall not be moved over that pool or within a distance of that pool such that the cask could strike the pool if it fell or tipped.~~

~~2.2.6 A dead load test shall be successfully performed on the fuel handling building crane before fuel movement begins. The load assumed by the crane for this test must be equal to or greater than the maximum load to be assumed by the crane during the fuel handling operation. A thorough visual inspection of the crane shall be made after the dead-load test and prior to fuel handling.~~

~~* licensed Operator for IP-2~~

2.3 Fire Protection

Overall site fire protection is provided by a fire protection system, which is common to both Unit NO.1 and Unit No.2. Operation, maintenance and testing are controlled by common procedures.

3.0 ADMINISTRATIVE AND PROCEDURAL SAFEGUARDS

3.1 Responsibility

Responsibilities are as specified in Appendix A to the Indian Point Nuclear Generating Unit No.2 Facility Operating license No. DPR-26.

3.2 Organization

The organization requirements are as specified in Appendix A to the Indian Point Nuclear Generating Unit No.2 Facility Operating License No. DPR-26.

~~a. All fuel handling shall be under the direct supervision of a licensed operator~~

~~b.~~ The Shift Manager is responsible for operations at the Unit No.1 facility.

~~* Licensed operator for IP-2~~

3.3 Operating Instructions and Procedures

3.3.1 No fuel will be loaded into the reactor core or moved into the reactor containment building without prior review and authorization by the Nuclear Regulatory Commission.

3.3.2 Detailed written instruction setting forth procedures used in connection with the operation and maintenance of the nuclear power plant shall conform to the requirements specified in Appendix A to the Indian Point Nuclear Generating Unit No.2 Facility Operating License No. DPR-26.

3.3.3 Operation and maintenance of equipment related to safety when there is no fuel in the reactor shall be in accordance with written instructions.

4.0 OPERATING LIMITATIONS

4.1 General

Whenever any operation is being performed that could result in the release of radioactivity or create a change in radiation levels, supporting facilities shall be maintained and operated as required in these Technical Specifications.

4.2 Release of Radioactive liquids and Gases

~~The concentration of radioactive materials released in liquid or gaseous form to unrestricted areas shall not exceed the limits specified in 10 CFR Part 20.~~ **The concentrations of radioactive material released in liquid effluents to unrestricted areas shall not exceed ten times the concentration values in Appendix B, Table 2, Column 2 to 10 CFR 20.1001 – 20.2402.** Release of radioactive liquids and gases shall also be consistent with the requirements of 10 CFR Part 50, Appendix I, as specified in the ODCM.

4.3 Radioactive Waste

All radioactive waste material shall be handled in accordance with 10 CFR Part 20. In addition, solid radioactive waste shall be controlled as specified in the Process Control Program.

4.4 Radiation Monitoring

~~Radiation monitoring systems shall be maintained operable for: (1) sphere foundation sump, (2) secondary purification blowdown cooling water, and (3) area radiation monitors. If monitoring systems are not operable, effluent sampling and/or local monitoring shall be accomplished to replace the non-operating system. In addition,~~ Unit 1 radioactive effluent monitoring instrumentation shall be operable as specified in the ODCM.

4.5 Radiological Environmental Monitoring

The Indian Point site Radiological Environmental Monitoring Program shall be conducted as specified in the ODCM.

~~4.6 Spent Fuel Storage and Handling~~

~~4.6.1 All irradiated fuel shall be stored in the racks provided in the Fuel Handling Building Storage pools, with sufficient shielding that ensures that the radiation level on the operating deck is s 15 mr/hr. Should the radiation level be found to be above 15 mr/hr, corrective action shall be initiated to restore the level to $\leq$ 15 mr/hr.~~

~~4.6.2 Whenever, spent fuel storage pool water inventory is provided for personnel shielding, the normal water level shall be maintained at or above elevation 48 feet (approximately 6 feet above the top of the spent fuel racks). Any pool in which spent fuel is stored shall be subject to weekly verification of water level. Should the water level be found to be below elevation 48 foot, both pool level and radiation level on the operating deck shall be verified daily. Should the water level be found to be below elevation 47 foot, corrective action shall be initiated to investigate the reason for the reduced level and restore the level to ≥ 48 foot.~~

~~4.6.3 Water chemistry in any spent fuel storage pool containing spent fuel shall be maintained within the following limits:~~

~~Chlorides:~~	~~≤ 1.5 ppm~~
~~pH:~~	~~4.0 - 8.0~~
~~Conductivity~~	~~≤ 20 µs/cm~~

~~Should any of the above parameters be found to deviate from the specified limits an effort shall be promptly initiated to investigate the cause of the deviation and a process to restore the parameter to within the applicable limit shall be established in a timely fashion.~~

~~4.6.4 Ventilation capable of directing all Fuel Handling Building airborne effluents through monitoring pathways shall be available during any fuel movement or other activity that might potentially damage spent fuel assemblies.~~

5.0 MAINTENANCE

5.1 General

Components addressed in these technical specification requirements, which have been repaired, replaced, or otherwise subjected to temporary or permanent modification, shall be tested in accordance with procedures, which are appropriate in view of the nature of the repair, replacement, or modification, and the condition of the system.

5.2 Testing

~~5.2.1 Functional radiation monitoring systems (only for the following: sphere foundation sump and secondary purification blowdown cooling water) and area radiation monitoring systems. shall be:~~

~~a. qualitatively checked daily to verify acceptable operability of instrument channel behavior during operation, and~~

~~b. tested quarterly by injection of a simulated signal into the instrument channel to verify that it is operable, including alann and/or trip initiating action. The quarterly interval is defined as quarterly plus or minus 25% of the quarter.~~

~~5.2.2~~ Unit 1 radioactive effluent monitoring instrumentation shall satisfy the surveillance requirements as specified in the ODCM.

~~5.3 Spent Fuel Storage Pool Sampling~~

~~Any spent fuel storage pool containing spent fuel stored in water shall be sampled monthly for chloride level, pH and Cesium 137 activity. If Cesium 137 activity is found to be elevated above normal levels, an effort shall be promptly initiated to investigate the cause of the elevated level and take subsequent corrective action, as appropriate.~~