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To: <dtynr@entergy.com>
Date: 10/29/2007 12:21:18 PM
Subject: RAIs on Fire Protection and Electrical
cc: "MICHAEL D STROUD"
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Donna,

Attached for your use is the Word version of the RAI letter dated 10/24/07. If you have any questions, please let me know.

Thanks,
Kim

Hearing Identifier: IndianPointUnits2and3NonPublic
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Subject: RAIs on Fire Protection and Electrical
Creation Date: 10/29/2007 12:21:18 PM
From: Kimberly Green

Created By: KJG1@nrc.gov

Recipients

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Security: Standard

October 24, 2007

Mr. Michael A. Balduzzi
Sr. Vice President and COO
Entergy Nuclear Operations, Inc.
Regional Operations, NE
440 Hamilton Avenue
White Plains, NY 10601

SUBJECT: REQUESTS FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE
INDIAN POINT NUCLEAR GENERATING UNIT NOS. 2 AND 3, LICENSE
RENEWAL APPLICATION

Dear Mr. Balduzzi:

By letter dated April 23, 2007, as supplemented by letters dated May 3, 2007 and June 21, 2007, Entergy Nuclear Operations, Inc. submitted an application pursuant to Title 10 of the *Code of Federal Regulations* Part 54, to renew the operating licenses for Indian Point Nuclear Generating Unit Nos. 2 and 3, for review by the U.S. Nuclear Regulatory Commission (NRC or the staff). The staff is reviewing the information contained in the license renewal application and has identified, in the enclosure, areas where additional information is needed to complete the review.

These requests for additional information were discussed with Mr. Robert Walpole, and a mutually agreeable date for the response is within 30 days from the date of this letter. If you have any questions, please contact me at 301-415-1627 or e-mail KJG1@nrc.gov.

Sincerely,

/RA Bo Pham for/

Kimberly Green, Safety Project Manager
License Renewal Branch B
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket Nos. 50-247 and 50-286

Enclosure:
Requests for Additional Information

cc w/encl: See next page

October 24, 2007

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| NAME | BPham for KGreen | SFiguroa | RAuluck |
| DATE | 10/23/07 | 10/19/07 | 10/24/07 |

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INDIAN POINT NUCLEAR GENERATING UNIT NOS. 2 AND 3
LICENSE RENEWAL APPLICATION
REQUESTS FOR ADDITIONAL INFORMATION

The staff reviewed the Indian Point Nuclear Generating Unit Nos. 2 and 3 (IP2 and IP3) license renewal application (LRA), updated final safety analysis report (UFSAR), Section 9.5.1, "Fire Protection System," and the following fire protection current licensing basis documents listed in the IP2 and IP3 Operating License Conditions 2.K. and 2.H, respectively:

U.S. Nuclear Regulatory Commission (NRC) Fire Protection Safety Evaluation Reports (SERs) - IP2:

November 30, 1977, February 3, 1978, January 31, 1979, October 31, 1980, August 22, 1983, March 30, 1984, October 16, 1984, September 16, 1985, November 13, 1985, March 4, 1987, January 12, 1989, and March 26, 1996.

NRC Fire Protection SERs - IP3:

September 21, 1973, March 6, 1979, May 2, 1980, November 18, 1982, December 30, 1982, February 2, 1984, April 16, 1984, January 7, 1987, September 9, 1988, October 21, 1991, April 20, 1994, January 5, 1995, and supplements.

The staff has identified that fire protection systems and components discussed in the following sections have been excluded from the scope of license renewal and an aging management review (AMR). These systems and components were not included in the license renewal boundaries and appear to have fire protection intended functions required for compliance with Title 10 of the *Code of Federal Regulations* (CFR) 50.48, "Fire protection," as stated in 10 CFR 54.4. Therefore, in order to complete our review, the staff requires responses to the following requests for additional information (RAIs):

RAI 2.3A.3.11-1

The following LRA drawings show fire protection system components as not within the scope of license renewal:

LRA drawing LRA-227551-0 shows the following fire protection system components as not within the scope of license renewal (i.e., not highlighted in green):

- Maintenance and Outage Building
- Primary Auxiliary Building and Boric Acid Building Charcoal Filter Deluge System

LRA drawing LRA-227552-0 shows the following fire protection system components as not within the scope of license renewal (i.e., not highlighted in green):

- #11 Fire Pump Room
- Fuel Oil Tank/Water Meter House
- Ignition Oil Tank and Pump Room Deluge System
- Main and Auxiliary Transformer Deluge System

Enclosure

LRA drawing LRA-227553-0 shows the following fire protection system components as not within the scope of license renewal (i.e., not highlighted in green):

- Staircase No. 2, 3, 4, 5 and 6
- Turbine Oil Piping System

LRA drawing LRA-227554-0 shows the following fire protection system components as not within the scope of license renewal (i.e., not highlighted in green):

- Staircase No. 1, 8, and 9

LRA drawing LRA-9321-4006-0 shows following fire protection system components as not within the scope of license renewal (i.e., not highlighted in green):

- Fire Hydrants
- Fire Hose Connections
- Fire Hose Stations

The staff requests that the applicant verify whether the above components are within the scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If these components are excluded from the scope of license renewal and are not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

RAI 2.3A.3.11-2

LRA Tables 2.3.3-11-IP2 and 2.3.3-11-IP3 exclude several types of fire protection components that are discussed in the SERs and/or UFSAR, and which also appear on the LRA drawings as within the scope of license renewal (i.e., highlighted in green). These components are listed below:

- hose connections
- hose racks
- yard hose houses
- interior fire hose stations
- pipe fittings
- pipe supports
- couplings
- threaded connections
- restricting orifices
- interface flanges
- chamber housings
- heat-actuated devices
- tank heaters
- thermowells

- water motor alarms
- expansion joint
- filter housing
- gear box housing
- heat exchanger (bonnet)
- heat exchanger (shell)
- heat exchanger (tube)
- heater housing
- diesel driven fire pump engine's muffler
- orifice
- sight glass
- strainer housing
- turbocharger housing
- flexible hose
- latch door pull box
- pneumatic actuators
- actuator housing
- dikes for oil spill confinement
- buried underground fuel oil tanks for emergency diesel generators
- expansion tank
- fire water main loop valves
- post indicator valves
- jacket cooling water keepwarm pump and heater
- lubricating oil collection system components for each reactor coolant pump
- lubricating oil cooler
- auxiliary lubricating oil makeup tank
- rocker lubricating oil pump
- floor drains and curbs for fire-fighting water
- backflow prevention devices
- flame retardant coating for cables
- fire retardant coating for structural steel supporting walls and ceilings

For each, determine whether the component should be included in Tables 2.3.3-11-IP2 and 2.3.3-11-IP3 as component types subject to an AMR, and if not, justify the exclusion.

RAI 2.3B.3.11-1

The following LRA drawings show fire protection system components as not within the scope of license renewal:

LRA drawing LRA-9321-40903-0 shows the following fire protection system components as not within the scope of license renewal (i.e., not highlighted in green):

- FP-T-4 Pneumatic Tank and Components

LRA drawing LRA-9321-40913-001-0 shows following fire protection system components as not within the scope of license renewal (i.e., not highlighted in green):

- Turbine Generator Building Foam System
- Turbine Building Wall Spray System No. 3
- Yard Transformer Separation
- Main Transformer No. 31
- Main Transformer No. 32
- Unit Auxiliary Transformer
- Station Auxiliary Transformer
- North Half Sprinkler No. 6
- Boiler Room Sprinkler System
- Sprinkler System for Auxiliary Feed Water Pump Room
- Lube Oil Storage Tank
- Lube Oil Reservoir
- Manual/Spray System No. 2, Boiler Feed Pump
- H2 Seal Oil Unit
- Manual Boiler Feed Pump Oil Accumulators No. 31 and 32
- Boiler Feed Console Pump

The staff requests that the applicant verify whether the above components are within the scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If these components are excluded from the scope of license renewal and are not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

RAI 2.3B.3.11-2

Section 3.1.8 of the IP3 SER dated March 6, 1979, discusses dry-pipe pre-action sprinkler systems for all cable trays in the electrical tunnels, electrical penetration areas, and cable trays in the motor control center areas. The dry-pipe pre-action sprinkler systems do not appear in LRA Section 2.3.3.11 as being within the scope of the license renewal and subject to an AMR. The staff requests that the applicant verify whether the dry-pipe pre-action sprinkler systems for all cable trays in the electrical tunnels, electrical penetration areas, and cable trays in the motor control center areas are within the scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If they are excluded from the scope of license renewal and are not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

RAI 2.3B.3.11-3

Section 5.9.1 of the IP3 SER dated March 6, 1979, discusses automatic deluge foam suppression systems for various areas in turbine building. The foam suppression systems do not appear in LRA Section 2.3.3.11 as being within the scope of the license renewal and subject to an AMR. The staff requests that the applicant verify whether the foam suppression systems for various areas in the turbine building are within the scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If the systems are excluded from the scope of license renewal and is not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

RAI 2.3B.3.11-4

Section 5.11.1 of the IP3 SER dated March 6, 1979, discusses wet pipe automatic sprinklers in the diesel generator building sump area beneath each diesel engine and on the diesel day tank. On license renewal drawing LRA-9321-40913-0 at location E3, the wet pipe automatic sprinkler system does not appear to be within the scope of the license renewal and subject to an AMR, i.e., the box surrounding the sprinklers in question are not highlighted. The staff requests that the applicant verify whether the wet pipe sprinkler system to protect the diesel generator building sump area and diesel day tank is within the scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If the system is excluded from the scope of license renewal and is not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

RAI 2.3B.3.11-5

Section 5.13.1 of the IP3 SER dated March 6, 1979, discusses the charcoal filter manual water spray system. The manual water spray system and its associated components do not appear in LRA Section 2.3.3.11 as being within the scope of the license renewal and subject to an AMR. The staff requests that the applicant verify whether the charcoal filter manual water spray system and its associated components are within the scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If the system is excluded from the scope of license renewal and is not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

RAI 2.3B.3.11-6

Section 5.15.1 of the IP3 SER dated March 6, 1979, discusses automatic water spray systems for oil-filled transformers located adjacent to the control building. The automatic water spray systems and their associated components do not appear in LRA Section 2.3.3.11 as being in the scope of the license renewal and subject to an AMR. The staff requests that the applicant verify whether the automatic water spray systems for oil-filled transformers are in the scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If the systems are excluded from the scope of license renewal and are not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

RAI 2.3A.3.12-1

LRA Tables 2.3.3-12-IP2 and 2.3.3-12-IP3 exclude several types of CO2 and Halon 1301 fire suppression system components that are discussed in the SERs and/or UFSAR, and which also appear in the LRA drawings as within the scope of license renewal (i.e., highlighted in brown). These components are listed below:

- strainer housings
- pipe fittings
- pipe supports
- couplings
- odorizer
- threaded connections

- flexible hose
- latch door pull box
- pneumatic actuators

For each component type, determine whether the component should be included in LRA Tables 2.3.3-12-IP2 and 2.3.3-12-IP3 as component types subject to an AMR, and if not, justify the exclusion.

RAI 2.3B.3.12-1

LRA drawing LRA-9321-24403-0 shows following fire protection system components as not within the scope of license renewal (i.e., not highlighted in brown):

- Appendix R Diesel Generator Halon 1301 System
- TSC/Plant Computer Halon System
- Record Room Vault Halon 1301 System for Unit 3

The staff requests that the applicant verify whether the above components are within the scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If these components are excluded from the scope of license renewal and are not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

RAI 2.5-1

General Design Criterion 17 of 10 CFR Part 50, Appendix A, requires that electric power from the transmission network to the onsite electric distribution system be supplied by two physically independent circuits to minimize the likelihood of their simultaneous failure. In addition, the guidance provided by letter dated April 1, 2002, "Staff Guidance on Scoping of Equipment Relied on to Meet the Requirements of the Station Blackout (SBO) Rule (10 CFR 50.63) for License Renewal (10 CFR 54.4(a)(3))," states:

For purposes of the license renewal rule, the staff has determined that the plant system portion of the offsite power system that is used to connect the plant to the offsite power source should be included within the scope of the rule. This path typically includes switchyard circuit breakers that connect to the offsite system power transformers (startup transformers), the transformers themselves, the intervening overhead or underground circuits between circuit breaker and transformer and transformer and onsite electrical system, and the associated control circuits and structures. Ensuring that the appropriate offsite power system long-lived passive structures and components that are part of this circuit path are subject to an AMR will assure that the bases underlying the SBO requirements are maintained over the period of extended license.

According to the above, both paths from the safety-related 480 Volt (V) buses to the first circuit breaker from the offsite line, used to control the offsite circuits to the plant, should be age

managed. The guidance does not specify that the switchyard is not part of the plant system nor that the switchyard does not need to be included in the scope of license renewal. Explain in detail which high voltage breakers and other components in the switchyard will be connected from the startup transformers up to the offsite power system for the purpose of SBO recovery.

RAI 2.5-2

Nuclear Energy Institute (NEI) 95-10, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 - The License Renewal Rule," Appendix B indicates that elements, resistance temperature detectors (RTDs), sensors, thermocouples and transducers should be included in the list of components/commodity groups subject to an AMR if a pressure boundary is applicable. Explain why these components are not included in Section 2.5 of the LRA.

RAI 2.5-3

NEI 95-10, Appendix B indicates that electrical splices, terminal blocks, control cables and isolated-phase bus should be included in the commodity group of "cables & connections, bus, electrical portions of electrical and I&C penetration assemblies." Explain why these components are not included in Section 2.5 of the LR

Letter to M. Balduzzi from K. Green, dated October 24, 2007

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