

IPRenewal NPEmails

From: Waters, Roger M. [rwater1@entergy.com]
Sent: Friday, August 16, 2013 2:09 PM
To: Green, Kimberly
Subject: IPEC License Renewal - Response to RAI SET 2013-03
Attachments: NL-13-108 Final.pdf

Kim,

Attached is an electronic copy of the subject response – hardcopies are in the mail to the Document Control Desk and distribution.

Roger Waters
IPEC Licensing
914-254-7714

Hearing Identifier: IndianPointUnits2and3NonPublic_EX
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From: Waters, Roger M.

Created By: rwater1@entergy.com

Recipients:
"Green, Kimberly" <Kimberly.Green@nrc.gov>
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Fred Dacimo
Vice President
Operations License Renewal

NL-13-108

August 16, 2013

U.S. Nuclear Regulatory Commission
Document Control Desk
11545 Rockville Pike, TWFN-2 F1
Rockville, MD 20852-2738

SUBJECT: Reply to Request for Additional Information Regarding
the License Renewal Application
Indian Point Nuclear Generating Unit Nos. 2 & 3
Docket Nos. 50-247 and 50-286
License Nos. DPR-26 and DPR-64

REFERENCE: NRC letter, "Request for Additional Information for the Review of the
Indian Point Nuclear Generating Unit Nos. 2 and 3, License Renewal
Application, SET 2013-03" dated July 17, 2013

Dear Sir or Madam:

Entergy Nuclear Operations, Inc is providing, in the attachment, the additional information requested in the referenced letter pertaining to NRC review of the License Renewal Application (LRA) for Indian Point 2 and Indian Point 3.

There are no new regulatory commitments in this submittal.

If you have any questions, or require additional information, please contact Mr. Robert Walpole at 914-254-6710.

I declare under penalty of perjury that the foregoing is true and correct. Executed on
August 16, 2013.

Sincerely,

A handwritten signature in black ink, appearing to be "FD", followed by a period.

FRD/rw

Attachment: Reply to NRC Request for Additional Information Regarding the License
Renewal Application

cc: Mr. William Dean, Regional Administrator, NRC Region I
Mr. Sherwin E. Turk, NRC Office of General Counsel, Special Counsel
Mr. Dave Wrona, NRC Branch Chief, Engineering Review Branch I
Ms. Kimberly Green, NRC Sr. Project Manager, Division of License Renewal
Mr. Douglas Pickett, NRR Senior Project Manager
Ms. Bridget Frymire, New York State Department of Public Service
NRC Resident Inspector's Office
Mr. Francis J. Murray, Jr., President and CEO NYSERDA

ATTACHMENT TO NL-13-108

REPLY TO NRC REQUEST FOR ADDITIONAL INFORMATION

REGARDING THE

LICENSE RENEWAL APPLICATION

**ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT NUCLEAR GENERATING UNIT NOS. 2 & 3
DOCKET NOS. 50-247 AND 50-286**

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

CHANGES TO THE METAL ENCLOSED BUS INSPECTION PROGRAM

RAI 3.0.3.2.11-1

Background:

On April 23, 2007, Entergy Nuclear Operations, Inc. (Entergy or the applicant) applied for renewal of the operating licenses for Indian Point Nuclear Generating Units 2 and 3 (IP2 and IP3). The Metal Enclosed Bus (MEB) Inspection Program is described in license renewal application (LRA) Section B.1.20 and includes an enhancement to revise appropriate procedures to add the 480V MEB associated with Substation A to the scope of the program. This enhancement is also reflected in the LRA Updated Final Safety Evaluation Report (UFSAR) Section A.2.1.19. Entergy considered this MEB to be within the scope of license renewal because it provides ac power to the IP2 diesel fire pump (DFP).

By letter dated May 6, 2013, Entergy stated that it is making a change to the LRA regarding the MEB Inspection Program and the associated regulatory commitments. Specifically, based on a recent evaluation, Entergy determined that the 480V MEB is not used for starting the DFP, but it is used to maintain batteries in a charged state, which in turn provide dc power for starting the DFP and power instrumentation. Entergy stated that any loss of the 480V MEB associated with Substation A would initiate an automatic start of the DFP via the batteries. Therefore, the 480V MEB associated with Substation A does not perform a license renewal intended function and thus, Entergy is removing the 480V MEB from the scope of program.

Issue:

Title 10 of the *Code of Federal Regulations* 10 CFR 54.4(a)(3) requires, in part, that all systems, structures, and components relied on in safety analyses or plant evaluations to perform a function that demonstrates compliance with the Commission's regulation for fire protection (10 CFR 50.48) are within the scope of license renewal. This is iterated in Section 2.1.3.1.3 of NUREG-1800, Revision 1, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants," which includes the following example:

...if an NSR diesel generator is required for safe shutdown under the fire protection plan, the diesel generator and all SSCs specifically relied upon for that generator to comply with NRC regulations shall be included within the scope of license renewal under 10 CFR 54.4(a)(3). Such SSCs may include, but should not be limited to, the cooling water system or systems relied upon for operability, the diesel support pedestal, and any applicable power supply cable specifically relied upon for safe shutdown in the event of a fire.

The DFP is relied upon to demonstrate compliance with the Commission's regulation for fire protection, and therefore, is within the scope of license renewal. The staff considers the MEB

associated with 480V Substation A to be within the scope of license renewal because it provides ac power to the chargers to maintain the DFP batteries at full charge. The fully charged batteries will be able to start the DFP during the fire events. It appears that if the 480V MEB is not part of an aging management program, the batteries which start the DFP may become depleted and unable to perform their intended function.

Request:

Provide a technical justification for why the 480V MEB Substation A is not relied upon for the DFP to demonstrate compliance with NRC regulations. Please refer to any applicable documents or statements in your current licensing basis to support your justification.

Response to RAI 3.0.3.2.11-1

The IP2 diesel fire pump (DFP) serves as backup for the electric fire pumps in the event the electric fire pumps can't provide the pressure required for the water-based fire protection systems. The DFP is designed with a number of features, including auto start capability, to ensure its reliability. The DFP starts automatically upon the following conditions.

1. Water pressure drop in the IPEC fire main water system.
2. Loss of electrical supply to the DFP room or to the DFP auxiliaries.

Alternating current (AC) power to the DFP room is provided by a 480 VAC feed that utilizes cables and metal-enclosed bus (MEB) from Substation A, which is owned and operated by Consolidated Edison Company. The 480 VAC feed connects to a step-down transformer, which, in turn, is connected to a 120 VAC lighting panel. The lighting panel provides 120 VAC power to the dual battery charger located in the DFP controller panel.

Either of two batteries can start the DFP. The batteries are charged from the engine alternator during DFP operation and by the battery charger during standby conditions. The battery charger automatically maintains the charge on the two batteries. A panel located in the central control room alerts the operators if AC power is lost and if the DFP is running. The diesel fire pump will automatically start as sensed by loss of Feeder 13W84, Substation A, or loss of AC power to the charger. (Ref. 1, 2, 3, 4, 8, and 9).

Thus, by design, in its normal alignment, a failure of the power source to the battery charger will not prevent the diesel fire pump (DFP) from performing its intended function. Loss of AC power to the battery charger actuates an automatic start of the DFP using the energy stored in the batteries. Prior to a loss of the power source to the battery charger, the batteries will be in a charged state capable of starting the DFP. They will not be "depleted and unable to perform their intended function."

The components that provide power to the battery charger, including the 480 VAC metal-enclosed bus, are not relied on to demonstrate compliance with the Commission's regulation for fire protection (10 CFR 50.48). Therefore, those components do not perform a license renewal intended function as defined in 10 CFR 54.4. As stated above, the batteries, and not the incoming AC power supply,

are relied upon to provide power to start the diesel fire pump (DFP) engine upon a valid demand for DFP operation in the event of a fire. After the DFP engine starts, its electrical power needs are met by an engine-driven alternator, which also provides power to maintain the charge on the batteries. In short, because the nonsafety-related AC power source (including feeder, substation, electrical breakers and metal-enclosed bus) is not relied upon to start or run the DFP, its failure will not prevent the DFP from performing its license renewal intended function.

Entergy performs routine testing and monitoring associated with the DFP. On a weekly basis, Entergy checks the battery bank voltage and measures the electrolyte levels to ensure that the individual cells are charged. On a monthly basis, Entergy starts the DFP using the batteries and runs it for at least 30 minutes. As part of the monthly test, Entergy confirms that the operators receive an alarm indicating the engine is running. An alternate battery bank is selected for starting the DFP for each monthly test. In addition, Entergy initiates a loss of power to the battery charger once a year to test the auto-start feature of the DFP. This test also confirms that the operators receive the charger failure alarm. IPEC administrative controls regarding fire system impairments specify the required actions, time frames, and compensatory measures to restore non-functional (impaired) fire protection equipment. Any condition that would challenge the ability of the DFP to automatically start from its normal standby condition (i.e., from the fully charged battery bank(s)) would render the DFP non-functional (impaired) and require corrective actions to restore the DFP in seven days. This provides additional assurance that the batteries are always fully charged and available to perform their intended function in supporting the auto start capability of the DFP. (Ref 1, 5, 6, 7)

Summary

The DFP serves as backup for the electric fire pumps in the event the electric fire pumps cannot maintain the pressure in the water-based fire protection system. The DFP, therefore, is relied upon to demonstrate compliance with NRC fire protection regulations. Each of the charged battery banks is capable of providing sufficient current to operate the DFP engine starter. The DFP starts using the energy stored in the batteries. The battery charger is not necessary to start the DFP or capable of starting the DFP. Once the DFP is started, the engine alternator provides the necessary electrical power to operate the engine and to keep the batteries charged. Thus, the nonsafety-related AC power supply to the DFP battery charger, which includes the 480 VAC metal-enclosed bus in Substation A, performs no license renewal intended function. In addition, routine monitoring and alarms provide operators adequate assurance of the DFP availability.

References:

1. Alarm Response Procedure 2-ARP-010
2. Technical Manual 2027
3. Drawing A208655
4. Design Basis Document IP2-DBD-221
5. Diesel Fire Pump Weekly Test Procedure 2-PT-W005
6. Diesel Fire Pump Monthly Test Procedure 2-PT-M040
7. Station Administrative Procedure SAO-703
8. System Operating Procedure 2-SOP-29.6
9. Engineering Report IP-RPT-12-LRD44