IPRenewal NPEmails

From: Green, Kimberly
Sent: Wednesday, June 19, 2013 7:23 AM
To: rwater1@entergy.com
Cc: IPRenewal NPEmails
Subject: RAI Set 2013-02
Attachments: RAI Set 2013-2 Buried Piping and Misc AMRs.pdf

Roger,

Attached is the RAI letter containing the requests on cathodic protection of buried piping and other miscellaneous AMR items. You'll notice that the letter was signed and dated on June 12. Unfortunately, the administrative assistant had issues with ADAMS and adding the final document to ADAMS up until yesterday. The letter states that you have 30 days to respond. Due to the delay in getting the letter to Entergy on June 12 or shortly thereafter, if you require additional time to respond, please let me know—it will not be a problem.

Kim

Hearing Identifier: IndianPointUnits2and3NonPublic_EX
Email Number: 4245

Mail Envelope Properties (F5A4366DF596BF458646C9D433EA37D7FF26B32AAF)

Subject: RAI Set 2013-02
Sent Date: 6/19/2013 7:22:38 AM
Received Date: 6/19/2013 7:22:41 AM
From: Green, Kimberly

Created By: Kimberly.Green@nrc.gov

Recipients:
"IPRenewal NPEmails" <IPRenewal.NPEmails@nrc.gov>
Tracking Status: None
"rwater1@entergy.com" <rwater1@entergy.com>
Tracking Status: None

Post Office: HQCLSTR01.nrc.gov

Files	Size	Date & Time
MESSAGE	572	6/19/2013 7:22:41 AM
RAI Set 2013-2 Buried Piping and Misc AMRs.pdf	355650	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

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

June 12, 2013

Vice President, Operations
Entergy Nuclear Operations, Inc.
Indian Point Energy Center
450 Broadway, GSB
P.O. Box 249
Buchanan, NY 10511-0249

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE INDIAN POINT NUCLEAR GENERATING UNIT NOS. 2 AND 3, LICENSE RENEWAL APPLICATION, SET 2013-02 (TAC NOS. MD5407 AND MD5408)

Dear Sir or Madam:

By letter dated April 23, 2007, as supplemented by letters dated May 3, 2007, and June 21, 2007, Entergy Nuclear Operations, Inc. (Entergy), 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 documented its findings in the Safety Evaluation Report (SER) related to the license renewal of Indian Point Nuclear Generating Unit Nos. 2 and 3, which was issued August 2009 and supplemented August 30, 2011 (SER Supplement 1).

Since the issuance of the SER Supplement 1, Entergy has submitted annual updates to its license renewal application (LRA), has responded to requests for additional information (RAI), and has amended its LRA. The staff has reviewed these various correspondences and has identified the need for additional information. Enclosed is the RAI.

This RAI was discussed with Mr. Roger Waters, and a mutually agreeable date for Entergy's response is within 30 days from the date of this letter. If you have any questions, please contact me at 301-415-8064, or by e-mail at Yoira.Diaz.Sanabria@nrc.gov

Sincerely,

Yoira Diaz-Sanabria, Chief
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket Nos. 50-247 and 50-286

Enclosure:
As stated

cc: Listserv

June 12, 2013

Vice President, Operations
Entergy Nuclear Operations, Inc.
Indian Point Energy Center
450 Broadway, GSB
P.O. Box 249
Buchanan, NY 10511-0249

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Sincerely,

/RA/
Yoira Diaz-Sanabria, Chief
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket Nos. 50-247 and 50-286

Enclosure:
As stated

cc: Listserv
DISTRIBUTION: See next page

ADAMS Accession No.: ML13162A606 *concurred via email

OFFICE	LA:DLR/RPB1*	APM: DLR/RAPB	BC:DLR/RPB1	APM: DLR/RAPB
NAME	YEdmonds	KGreen	YDiaz-Sanabria	KGreen
DATE	06/11/13	06/11/13	06/12/13	06/11/13

OFFICIAL RECORD COPY

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE INDIAN POINT NUCLEAR GENERATING UNIT NOS. 2 AND 3, LICENSE RENEWAL APPLICATION, SET 2013-02 (TAC NOS. MD5407 AND MD5408)

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EDacus, OCA	SStewart, RI
NSheehan, RI OPA	APatel, RI

REQUESTS FOR ADDITIONAL INFORMATION, SET 2013-02
RELATED TO INDIAN POINT NUCLEAR GENERATING UNIT NOS 2 AND 3
LICENSE RENEWAL APPLICATION

ANNUAL UPDATES, AMENDMENTS, AND RAI RESPONSES
DOCKET NOS. 50-247 AND 50-286

RAI 3.0.3.1.2-4

Background

The response to RAI 3.0.3.1.2-1 stated that the only cathodically protected, in-scope buried piping is the city water line in the vicinity of the Algonquin gas pipelines. However, the staff understands that cathodic protection (CP) has been recently installed on portions of the auxiliary feedwater system and is being considered for installation on the service water system.

As stated in letter NL-09-106 dated July 27, 2009, the Indian Point 2 auxiliary feedwater return line to the condensate storage tank developed a leak due to deleterious materials in the backfill. Subsequent inspections of excavated buried pipe did not reveal debris in the backfill. However, several recent inspections conducted in December 2012 (i.e., 6-inch fire protection, 1.5-inch weld channel line, 2-inch city water, 24-inch service water lines) revealed that rocks were present in the backfill, although not in contact with the pipe. In one of the three service water lines excavations, debris was found in the backfill.

Issue

1. Because safety-related systems, such as auxiliary feedwater and service water, have been included into the scope of systems that are or will be protected by CP, the staff seeks to understand the parameters to be monitored and the acceptance criteria that will be used to evaluate the effectiveness and availability of the CP system, and the applicant's plans to credit the CP system in the risk ranking process for buried piping inspections.

   CP is an effective means to prevent corrosion of buried piping where coatings may be degraded or have been damaged. However, additional information is needed for the staff to understand how this preventive action will be incorporated into the Buried Piping and Tanks Inspection Program. The staff reviewed EN-DC-343, Underground Piping and Tanks Inspection and Monitoring Program, CEP-UPT-0100, Underground Piping and Tanks Inspection and Monitoring, and SEP-UIP-IPEC, Underground Components Inspection Plan. The only reference to performance monitoring of the CP system is in SEP-UIP-IPEC, Section H, Inspection Strategy and Methodologies, Strategy for Cathodic Protection, which states, "[o]nce the system modifications are implemented, the system will be maintained via recurring PMs [preventive maintenance activities] based on vendor recommendations." In the absence of further information, the staff notes that the following monitoring parameters and acceptance criteria have been employed at various other facilities:

   a) CP systems are typically surveyed on an annual basis to determine the level of protection being provided by the system.
   b) Pipe-to-soil and CP currents are typically monitored during CP surveys to determine the effectiveness of the CP system.

ENCLOSURE

c) In order for the CP system to protect the buried pipe system, it must be available for the majority of the time.
d) In order for the CP system to protect the buried pipe system, it must provide effective protection for the majority of the time. This can be accomplished by determining the percentage of survey points that met acceptance criteria during annual surveys or by other means.
e) NACE SP0169-2007, Standard Practice Control of External Corrosion on Underground or Submerged Metallic Piping System, Section 6, Criteria and Other Considerations for CP, states three acceptance criteria for determining the effectiveness of the CP system. Two of these methods, instant on negative 850 mV relative to a copper/copper sulfate reference electrode and the 100 mV polarization criteria, have limitations. The staff believes that the instant off negative 850 mV criterion relative to a copper/copper sulfate reference electrode is the most effective acceptance criterion for evaluating the effectiveness of a CP system.
f) Excessive levels of CP can result in coating disbondment, which can be addressed by setting an upper level of CP voltage acceptance (i.e., no more negative than) criterion.
g) Parameters such as potential differences and current measurements are trended to detect a change in the protection provided to buried in-scope piping.
h) If the CP system is credited in an applicant's buried piping inspection program or the risk ranking of buried piping segments to be inspected, the Updated Final Safety Analysis Report supplement should reflect that CP is a preventive measure for the program.

2. Recent excavated direct visual inspections of buried piping at the site found rocks in the backfill (a non-conforming condition) at a number of inspection sites. Although no damage to piping or pipe coatings was found to be associated with these conditions, the multiple instances in which rocks were found in the backfill suggests that an extent of condition evaluation may be warranted if future buried piping inspections detect deleterious materials in the backfill that have damaged the coating.

Request

1. Respond to the following related to CP:

a) State how often CP surveys will be conducted.
b) State what parameters will be monitored during CP surveys.
c) State how the availability of the CP system will be monitored and state the associated availability acceptance criterion that will be used in order to credit the CP system during the risk ranking process.
d) State how the effectiveness of the CP system will be monitored and state the associated effectiveness acceptance criterion that will be used in order to credit the CP system during the risk ranking process.
e) State the following:
    - Whether an instant on negative 850 mV relative to a copper/copper sulfate reference electrode, instant off negative 850 mV relative to a copper/copper sulfate reference electrode, 100 mV minimum polarization, or alternative acceptance criteria will be used to demonstrate the effectiveness of the CP system.

- If the instant on negative 850 mV relative to a copper/copper sulfate reference electrode criterion is used, state how voltage drops other than those across the structure-to-electrolyte boundary will be determined.
- If the 100 mV minimum polarization criterion is used, state how it is known that the effects of mixed potentials (e.g., presence of a copper grounding grid) are minimal and why the most anodic metal in the system is adequately protected.
- If an alternative means of demonstrating the effectiveness of the CP system is used, state the alternative acceptance criteria.

f) State the upper level voltage acceptance criterion (i.e., no more negative than) for CP and the basis for the value.
g) State what CP system parameters will be trended.
h) Appropriately revise License Renewal Application Sections A.2.1.5 and A.3.1.5 to reflect crediting the CP system as a preventive measure for portions of the buried in-scope piping.

2. State what criteria will be used to conduct an extent of condition evaluation if non-conforming backfill is found to cause damage to buried piping coatings.

RAI 3.0.3.1.13-1

Background

By letter dated March 18, 2013, Entergy revised LRA Section B.1.33, "Selective Leaching," to state that the inspection sample size will be at least 20 percent of each material-environment population or a maximum of 25 components, consistent with NUREG-1801, "Generic Aging Lessons Learned (GALL) Report," Revision 2, Aging Management Program (AMP) XI.M33, "Selective Leaching." Previously, the sample size in the Selective Leaching Program was based on a method that demonstrates a 90 percent confidence that 90 percent of the population does not experience degradation.

GALL Report, Revision 2, AMP XI.M33 states that the representative sample population focuses on the bounding or lead components most susceptible to aging due to time in service, severity of operating conditions, and lowest design margin.

Issue

The revision to the sampling criterion in the Selective Leaching Program incorporated the recommended sample size from the GALL Report, Revision 2; however, the recommendation to focus on components most susceptible to aging was not included. The staff considers the focus on most-susceptible locations as the most effective means to demonstrate the absence of selective leaching.

Request

State the criteria that will be used to select the inspection locations within the Selective Leaching Program. If the selected locations will not be those most susceptible to selective leaching, provide the technical justification for the alternative sampling methodology.

RAI 3.4A.2.3.5-1

Background

As amended by letter dated September 26, 2012, LRA Table 3.4.2-5-7-IP2 states that plastic tube sheets exposed to treated water and condensation have no aging effect and no recommended AMP.

Issue

Plastic materials have different material properties that vary depending on chemical composition. Therefore, aging effects might be applicable to the specific type of plastic due to the impact of factors such as ultraviolet light, ozone, high temperatures, chemicals, or radiation. It is not clear where these components are located. Therefore, the staff cannot evaluate the potential environmental impacts on these materials.

Request

Provide the specific type of plastic material used for the components referenced above, state any applicable aging effects for their given environment including potential radiation effects, and state the basis for why these specific components do not require aging management.

RAI 3.4.2.1.9-1

Background

As amended by letter dated September 26, 2012, LRA Table 3.4.2-5-13-IP2 states that gray cast iron compressor and strainer housings exposed to condensation (internal) will be managed for loss of material using the Periodic Surveillance and Preventative Maintenance Program.

Issue

Sufficient information is not available to determine whether selective leaching could occur because of the potential accumulation of condensation in the gray cast iron compressor and strainer housing.

Request

Could sufficient condensation accumulate in any portions of the gray cast iron compressor and strainer housings such that selective leaching could occur? If selective leaching could occur in these components, how will the aging effect be managed?