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

December 3, 2013

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

SUBJECT: INDIAN POINT NUCLEAR GENERATING UNIT NO. 3 - REQUEST FOR ADDITIONAL INFORMATION REGARDING RELIEF REQUEST 3-008 TO ALLOW FOR A TEMPORARY NON-CODE REPAIR TO THE SERVICE WATER SYSTEM PIPING (TAC NO. MF3111)

Dear Sir or Madam:

By letter dated November 20, 2013, Entergy Nuclear Operations, Inc., the licensee, submitted Relief Request No. 3-008 from ASME Section XI, Subsection IWA-4422.1 to allow for a temporary non-code repair to an ASME Code Class 3 pipe in the Indian Point Nuclear Generating Unit No. 3 service water system.

The Nuclear Regulatory Commission staff is reviewing the submittal and has determined that additional information is needed to complete its review. The specific questions are found in the enclosed request for additional information (RAI). Based on our discussions we understand that a response to the RAI will be provided within 7 days of the date of this letter.

Please contact me at (301) 415-1364 if you have any questions on this issue.

Sincerely,

Douglas V. Pickett, Senior Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-286

Enclosure:
Request for Additional Information

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION

RELIEF REQUEST NUMBER 3-008

ALTERNATE REPAIR OF SERVICE WATER PIPE

ENTERGY NUCLEAR OPERATIONS, INC.

INDIAN POINT NUCLEAR GENERATING UNIT NO. 3

DOCKET NUMBER 50-286

By letter dated November 20, 2013 (Agencywide Documents and Access Management System Accession No. ML13329A422), Entergy Nuclear Operations, Inc. (the licensee) requested relief from certain requirements of American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, IWA-4422.1 regarding the repair of service water piping at Indian Point Unit 3. The licensee proposed an alternative repair for the degraded service water piping as documented in Relief Request Number 3-008. To complete its review, the Nuclear Regulatory Commission (NRC) requests the following additional information.

1. Page 1 of the relief request states that Line 1093 contains 5 locations with coating degradation and Line 1099 contains 4 locations with coating degradation. The licensee ultrasonically examined these 9 locations. The licensee discussed the degradation in 2 of 9 locations that exceeded the acceptance standards of ASME Code, Section XI, but the licensee was silent on the other 7 locations. (a) Discuss the details of the inspection results of each of the other 7 locations. (b) Discuss whether the coating at all 9 locations will be restored before the pipe is buried underground.

2. Page 2 of the relief request states that two locations in Line 1093 contain defects that exceed the acceptance standards of ASME Code, Section XI. However, these two defect locations are acceptable in accordance with ASME Code Case N-513-3. (a) Provide the acceptance standards of ASME Code, Section XI that these 2 defects exceeded, and (b) Discuss whether a clamp is installed at each of the 2 defect locations. If only one defect location has a clamp installed, identify the location and explain why the other defect location is not installed with a clamp.

3. (a) Page 3 of the relief request states that at Area 1 in Line 1093, all ultrasonic testing (UT) readings are above the minimum wall thickness. The relief request also states that there is weepage at Area 1. Discuss why there is weepage if all the UT readings of Area 1 are above the minimum wall thickness. (b) Page 3 of the relief request does not mention that Area 3 in Line 1093 has any weepage. In Enclosure 3, Calculation IP-Calc-13-00063, page 5, it appears that the leakage calculation was based on the Area 3 defect. Discuss why the leakage calculation focuses on the Area 3 defect, which has no stated weepage, instead of Area 1 defect, which has weepage. (c) Page 3 of the relief request states that the Area 3 degradation area, which resulted in a wall thickness of less than the minimum required wall thickness, was approximately ¾ inches wide by 6 inches long. Page 3 also

states that "...it was conservatively assumed that the entire degraded area of 2 inches by 8.25 inches was 100 percent through wall...". These areas were different from the defect area identified in the calculation IP-CALC-13-00063 page 5 of 0.75 inches by 3 inches. Discuss the discrepancy in the defect area used in the calculation. Discuss why the larger area of 2 inches by 8.25 inches was not used in the calculation.

4. Page 4, Item 4, of the relief request states that a hole of 3/4 inches wide by 6 inches long was postulated in the system hydraulic analysis. (a) Discuss the technical basis for the postulated hole size. (b) Discuss whether this is the allowable defect size for the subject pipe. That is, if the defect exceeds the allowable hole size, discuss whether the pipe would be required to be repaired/replaced in accordance with the ASME Code in mid-cycle.

5. Sections E.5 and F of the relief request state that the pipe will be repaired in accordance with ASME Code, Section XI during the next refueling outage scheduled for March 2015. It is not clear to the NRC staff exactly which pipe line(s) will be repaired/replaced in March 2015 and whether the pipe segments that contain the 9 locations with coating degradation will all be repaired/replaced. Please identify the exact piping that will be repaired in March 2015.

6. Based on the review of Calculation IP-Calc-13-00070 in Enclosure 2 to the November 20, 2013, letter, it appears that the clamp design may minimize some leakage but would not stop all leakage because the design does not include sufficient sealing function (e.g., the ends of the clamp are open and no sealant is applied). (a) Discuss whether the proposed clamp provides structural integrity and leak tightness for the degraded pipe. (b) If the piping is not repaired in the next refueling outage, will the identified areas be re-inspected and ensured to not degrade any further in the future?

7. Page 4, Section E.6, states that the monitoring well in the moat area will be inspected periodically. (a) Discuss the inspection frequency. (b) Discuss the leak rate that will cause the degraded pipe to be excavated for inspection. (c) Discuss the leak rate that will cause the degraded pipe to be repaired/replaced during mid-cycle.

8. (a) Section 6.8 (page 6) of Calculation IP-Calc-13-00062 states that the corrosion rate used in the analysis is 12 mils per year. Discuss how this corrosion rate was derived. (b) Calculation IP-Calc-13-00062 evaluated the defect area as a planar flaw (see Page 4 of Attachment A). The NRC staff understands that the defects in service water piping usually are caused by general corrosion which results in nonplanar flaws. ASME Code Case N-513-3 provides an evaluation method for planar flaws and nonplanar flaws. Discuss whether the subject defect areas were evaluated and accepted based on the nonplanar flaw method in ASME Code Case N-513-3.

9. Attachment B, page 7, shows a block supporting the pipe in the area of the defect area. Discuss if this support block is intended to remain in place until the next refueling outage and how it will affect any repair to the pipe (i.e., how the clamp can be installed if the block is situated underneath the defect area of the pipe?).

10. The NRC staff notes that ASME Code Case N-513-3, paragraph 5(a), requires that the licensee conduct an engineering evaluation to identify the most susceptible locations for degradation in piping systems and that augmented examinations be conducted at those locations. The NRC staff also notes that a discussion of this engineering evaluation, particularly related to the need for inspections outside the moat, is not provided in the relief request. Please indicate whether the required engineering evaluation has been conducted and documented. Additionally, please provide a summary of the evaluation.

11. Discuss the flooding analysis and the results.

12. The November 20, 2013, cover letter identifies the proposed relief request as Number 3-008. However, the top of page 1 of the relief request identifies Relief Request No: IP3-008. Clarify the exact identification of the relief request.

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/ra/
Douglas V. Pickett, Senior Project Manager
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