

**From:** Mahoney, Michael  
**Sent:** Monday, March 21, 2022 6:31 PM  
**To:** Hess, Robert  
**Cc:** Mihalakea, Stavroula; Mack, Jarrett  
**Subject:** Turkey Point Nuclear Generating Unit No. 3 - Request for Additional Information - ICW Alternative  
**Attachments:** RAIs - ICW Repair Alternative \_Redacted.pdf

Dear Mr. Hess,

By application dated March 10, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML22069B128), pursuant to Title 10 Code of Federal Regulations (10 CFR), Section 50.55a(z)(2), Florida Power and Light Company (FPL) requested relief from the applicable American Society of Mechanical Engineers Section XI Code (ASME Code) requirements to repair a section of the degraded Unit 3 Intake Cooling Water (ICW) pipe spool by installing a proprietary repair device, with new pressure boundary material without removing the sections of degraded piping.

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing your submittal and has identified areas where additional information is needed to complete its review.

A draft request for additional information (RAI) was previously transmitted to you via NRC's BOX – Enterprise File Synchronization and Sharing service (EFSS - Box) due to the proprietary nature of some of the requests. A clarification call was held on March 21, 2022, to clarify the NRC staff's requests. The redacted, non-proprietary (public) version of the RAI is attached. The version containing proprietary information has been transmitted to Stavy Mihalakea of your staff via the EFSS – Box.

As discussed during the March 21, 2022 clarification call, response to the attached RAI (non-proprietary) is requested no later than 6 business days from today's date (March 29, 2022).

The NRC staff considers that timely responses to RAIs help ensure sufficient time is available for staff review and contribute toward the NRC's goal of efficient and effective use of staff resources. If circumstances result in the need to revise the requested response date, please contact me.

Thanks

**Mike Mahoney**  
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**Sent Date:** 3/21/2022 6:31:25 PM  
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**From:** Mahoney, Michael

**Created By:** Michael.Mahoney@nrc.gov

**Recipients:**  
"Mihalakea, Stavroula" <Stavroula.Mihalakea@fpl.com>  
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Tracking Status: None  
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REQUEST FOR ADDITIONAL INFORMATION

FLORIDA POWER AND LIGHT COMPANY

TURKEY POINT NUCLEAR GENERATING UNIT NO. 3

DOCKET NO. 50-250

FIFTH TEN-YEAR INSERVICE INSPECTION INTERVAL RELIEF REQUEST NO. 10 PART-11

By application dated March 10, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML22069B128), pursuant to Title 10 *Code of Federal Regulations* (10 CFR), Section 50.55a(z)(2), Florida Power and Light Company (FPL) requested relief from the applicable American Society of Mechanical Engineers Section XI Code (ASME Code) requirements to repair a section of the degraded Unit 3 Intake Cooling Water (ICW) pipe spool by installing a proprietary repair device, with new pressure boundary material without removing the sections of degraded piping.

The U.S. Nuclear Regulatory Commission (NRC) staff requests the following additional information.

Note that proprietary information is shown in **[[bolded brackets]]**.

1. Relief Request No. 10 Part II (RR10-II) states “The welded attachment on the installed clips to gussets to the new Restoration Hardware Assembly (RHA) shall be visually examined per ASME Section XI, Class 3, VT-1 requirements (Ref. ASME XI, Table IWD-2500 (D-A).”
  - a. Please clarify whether the notes in Table IWD-2500 (D-A) of ASME Code, Section XI allowing sampling during inservice inspection (ISI) will be used, or whether all attachment welds will be inspected.
  - b. There is no ISI specified in RR10-II for the full penetration weld (cylinder plates 101a and 101b to flange welds) that will be pressure boundary. Provide the proposed ISI for these welds, including the type of inspection, frequency, and acceptance criteria.
2. RR10-II states that “Regarding provision (I), a system pressure test in accordance with IWA-5000 cannot be performed on the installed RHA. The RHA will be hydrostatically tested at the vendor shop prior to shipment to Turkey Point. Following the installation of the RHA, in lieu of system leakage test, for this open ended portion of the discharge line beyond the last shutoff valve, confirmation of adequate flow during system operation (full flow test) with no leakage observed by a VT-2 qualified examiner at the welded and mechanical connections of the modification shall be an acceptable alternative. Similarly, future periodic tests will be conducted by subjecting the RHA to a full flow test with no acceptable leakage observed by a VT-2 qualified examiner at the welded and mechanical connections of the modification.”

The RHA drawing in Enclosure 2 of RR10-II also states that [[  
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- a. For ISI leak testing, please specify the frequency of this inspection and be consistent with question 1b above.
  - b. Pressure test for installation:
    - i. Discuss how upon sealing the leak with Belzona, that a leak test with flow through the system (with the leak stopped by Belzona) provides any assurance of the leak tightness of the installed RHA. Also, since there are threaded plugs in the RHA that were used for shop hydrostatic testing, discuss whether a pneumatic pressure test using the threaded plugs of the RHA (upon installation - after welding parts 701 and 702) would provide adequate assurance of leak tightness of the installed RHA.
    - ii. Clarify whether this leakage test will also be performed after welding of the attachment welds (parts 701 and 702) to the RHA since welding of the attachment gussets could move the cylinder plates of the RHA and effect its leak tightness.
3. RR10-II made reference to ADAMS Accession Number ML20287A551, as precedence. However, the RHA in ML20287A551 is a welded RHA, while the RHA for RR10-II is a mechanical gasketed RHA with some welds. However, the information for weld requirements could be used as precedence for the welds in the RR10-II RHA. It is noted that the ML20287A551 safety evaluation stated that "Because the welds will receive visual and surface examinations of the root pass and final pass for all fabrication and installation groove welds, the NRC staff finds the licensee's proposed installation plans acceptable."
- a. Currently, there is no specified construction/installation inspection of the attachment welds and the full penetration welds for the RR10-II RHA. Based on this precedent in ML20287A551, clarify whether the attachment welds and the cylinder plates 101a and 101b to flange welds for the RR10-II RHA will also receive this type of examination. Please specify the type of examinations for each of the welds and acceptance criteria in RR10-II.
  - b. Enclosure 2 of RR10-II specifies that [[

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4. RR10-II states "Instead, the RHA replaces the pipe portion of the defective spool piece with a new corrosion resistant, gasketed pressure boundary that distributes all applied loads within the piping system by use of structural attachments, welds, and high-strength bolting." RR10-II also states "Styrene Butadiene Rubber (SBR), will be installed at circumferential and longitudinal locations on the RHA." However, RHA drawing in enclosure 2 states [

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5. RR10-II stated that "validation of the projected flaw growth into the flange during future outage is not practicable by examination without removal of the RHA. In lieu of the inspections specified in IWA-4340(g) and (i) Turkey Point performed an analysis to determine a conservative corrosion rate of the pipe spool flange and determined that the structural integrity will not be impacted for the proposed life of the modification." Enclosure 1 to RR10-II provides the corrosion assessment for the cast iron piping to have a conservative corrosion rate of 10 Mills per year. This was based on numerous assumptions from tests with carbon steel. However, it is noted that the subject piping had an average corrosion rate of 15 mils per year during its 48 years of operation until the leak in 2020.
  - a. Therefore, explain why 15 mils per year, at a minimum, would not be a more reasonable corrosion assumption and why it could not be higher based on the new configuration.
  - b. Since the corrosion evaluation includes numerous assumptions and there is no specified gasket life/degradation, clarify whether a monitoring program should be specified for ensuring the evaluation/analysis is still applicable.
  - c. Discuss if a best effort ultrasonic thickness measurement of the flange be performed to validate the flange material thickness is adequate.

6. Enclosure 2 states [[

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7. RR10-II states "ASTM A193/194 fasteners are applied on external portions of the RHA. High grade corrosive resistant fasteners are applied on the internal/inaccessible portion of the RHA. The Inservice Inspection program will continue with inspections for the externally applied fasteners." Please specify the type of inspection, frequency, and acceptance criteria for the ISI of the bolting in RR10-II.
8. RR10-II states "The licensee requests approval of the proposed alternative for the remaining life of the plant, as supported by the RHA design documentation, or until such time that further repair/replacement activities are required for the affected portions of the ICW system piping, whichever occurs first." Please specify the criteria for requiring the performance of a repair/replacement for the affected portion.
9. Enclosure 2, [

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