

**From:** Brown, Eva  
**Sent:** Thursday, April 9, 2020 9:53 AM  
**To:** Hanek, Olga; Hess, Robert  
**Cc:** Mack, Jarrett  
**Subject:** RE: ACTION: Turkey Point Unit 3 - Request for Additional Information Concerning Deferral of Steam Generator Inservice Inspections (EPID L-2020-LLA-0067)  
**Attachments:** 053 Final SG Deferral RAI.docx

Resend with editorial changes.

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**From:** Brown, Eva  
**Sent:** Wednesday, April 08, 2020 4:00 PM  
**To:** Hanek, Olga ; Hess, Robert  
**Cc:** Mack, Jarrett  
**Subject:** ACTION: Turkey Point Unit 3 - Request for Additional Information Concerning Deferral of Steam Generator Inservice Inspections (EPID L-2020-LLA-0067)  
**Importance:** High

Olga,

By letter dated application dated April 4, 2020, as supplemented by a letter dated April 7, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML20095J926 and ML20098F341, respectively), from Florida Power & Light Company (the licensee) for an exigent amendment to the Subsequent Renewed Facility Operating License for Turkey Point Nuclear Generating Unit No. 3 (Turkey Point Unit 3. The proposed amendment would revise the Turkey Point Unit 3 Technical Specifications to allow a one-time extension to the requirement to inspect each steam generator every other refueling outage to the fall of 2021, when the next Unit 3 refueling outage is scheduled.

On Wednesday, April 8 2020, it was agreed that a response by April 9, 2020 would be acceptable. Should this change, such that more time is needed, please contact me prior to exceeding the agreed upon time.

Thanks.

**Hearing Identifier:** NRR\_DRMA  
**Email Number:** 525

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**Subject:** RE: ACTION: Turkey Point Unit 3 - Request for Additional Information  
Concerning Deferral of Steam Generator Inservice Inspections (EPID L-2020-LLA-0067)  
**Sent Date:** 4/9/2020 9:52:47 AM  
**Received Date:** 4/9/2020 9:52:00 AM  
**From:** Brown, Eva

**Created By:** Eva.Brown@nrc.gov

**Recipients:**  
"Mack, Jarrett" <Jarrett.Mack@fpl.com>  
Tracking Status: None  
"Hanek, Olga" <Olga.Hanek@fpl.com>  
Tracking Status: None  
"Hess, Robert" <Robert.Hess@fpl.com>  
Tracking Status: None

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**Sensitivity:** Normal  
**Expiration Date:**

REQUEST FOR ADDITIONAL INFORMATION  
CONCERNING DEFERRAL OF STEAM GENERATOR INSERVICE INSPECTION  
FLORIDA POWER & LIGHT COMPANY  
TURKEY POINT NUCLEAR PLANT, UNIT 3  
DOCKET NO. 50-250

Section 6.8.4.j of the Turkey Point Nuclear Plant, Unit 3 Technical Specifications require that a Steam Generator (SG) Program be established and implemented to ensure that SG tube integrity is maintained. In addition, under the SG Program the licensee is required to inspect each SG at least every 48 effective full power months or at least every other refueling outage (whichever results in more frequent inspections).

The requirements for the reactor coolant pressure boundary (RCPB) with respect to structural integrity and leakage integrity are found in the 1967 NRC Proposed General Design Criteria (GDC) 1, 2, 5, 9, 16, 33, 34, 36 and 40 define requirements as discussed in Section 1.3 of the Turkey Point Updated Final Safety Analyses Report (UFSAR). Additionally, the requirements involving the leakage or burst of SG tubing that may represent a challenge to the habitability of the control room are found in 1967 NRC Proposed GDC 70. Based on the NRC staff's review, a response to the following items is requested.

1. Enclosure 2 of the supplement (operational assessment or OA) dated April 7, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20098F341) describes the SG OA for the additional requested cycle before SG inspection. Page 25 of the OA outlines the probabilistic model used to evaluate potential mechanisms such as stress corrosion cracking. The OA states:

A time-to-flaw-initiation (Weibull) function is applied. The physical processes of flaw initiation, flaw growth and simulated inspections (via use of a POD [probability of detection] function) are modeled for several past and future cycles. Benchmarking of results to the observed information obtained from past inspections provides assurance of the accuracy of predictions over the operating interval to the next inspection.

and

...it is conservative ~~assume~~[sic] to assume for the BOC [beginning of cycle] distribution of flaws following the last inspection that at least one SCC [stress corrosion cracking] indication had initiation sometime in the previous operating period and that the initiated indication(s) were not reported. As a general figure of merit, the size of the missed indications will be on the order of the no smaller than 5% POD value for the ECT [eddy current testing] technique used in the previous inspection. This assures a reasonable conservative starting population for the simulation.

For the cracking mechanisms analyzed in the OA, please clarify:

- a. the details of how the missed indication size distribution is selected from the appropriate POD curve including any limits placed on the missed indication size; and
  - b. how the assumed initiated flaws were benchmarked to missed or detected cracks from plant operating experience.
2. In Section 6.6 of the OA, which discusses axial outside diameter stress corrosion cracking at tube support plates, there is a discussion regarding how the analysis conservatively adjusted the POD curve. The discussion states:

[d]ue to the manner in which the models were constructed, the POD curve has little impact on the probability of burst, only the number of indications detected at EOC-31 [end of cycle 31].

Discuss how the POD affects the size of the assumed missed indications during the EOC-28 inspection and why the POD has little impact on probability of burst.

3. Address whether the discrepancies identified in Reference 6.3 of the submittal discussed below result in any impacts on the analysis results:
  - a. Page 53 – The third paragraph under Section 6.4 refers to four crack initiations at EOC-25 and four crack initiations at EOC-26; however, the table immediately below this paragraph shows one and two initiates for EOC-25 and EOC-26, respectively; and,
  - b. Page 53 – The last paragraph on the page refers to an average of two crack initiations at EOC-28; however, the table immediately below (top of page 54) shows one crack initiation for EOC-28.