



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

February 14, 2011

Mr. Paul Freeman
Site Vice President
c/o Michael O'Keefe
Seabrook Station
NextEra Energy Seabrook, LLC
P.O. Box 300
Seabrook, NH 03874

SUBJECT: REVIEW OF STEAM GENERATOR TUBE INSPECTION REPORT FOR FALL
2009 - SEABROOK STATION, UNIT NO. 1 (TAC NO. ME3771)

Dear Mr. Freeman:

By letter dated April 7, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML101030109) NextEra Energy Seabrook, LLC (NextEra) submitted information summarizing the steam generator (SG) tube inspections performed at Seabrook Station, Unit No. 1 (Seabrook) during the fall 2009 refueling outage (OR13). NextEra provided additional information regarding the SG inspections by letter dated November 3, 2010 (ADAMS Accession No. ML103130033).

The Nuclear Regulatory Commission staff has completed its review of your submittals as documented in the enclosed evaluation. The staff concludes that NextEra has provided the information required by the Technical Specifications and that no additional follow-up is required at this time. This completes the NRC staff efforts for TAC No. ME3771.

If you have any questions regarding this matter, I may be reached at 301-415-2481.

Sincerely,

A handwritten signature in black ink, appearing to read "G. Edward Miller".

G. Edward Miller, Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-443

Enclosure:
As stated

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EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

STEAM GENERATOR TUBE INSPECTION REPORT FOR FALL 2009

SEABROOK STATION, UNIT NO. 1

DOCKET NO. 50-443

1.0 INTRODUCTION

By letter dated April 7, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML101030109) NextEra Energy Seabrook, LLC (NextEra) submitted information summarizing the steam generator (SG) tube inspections performed at Seabrook Station, Unit No. 1 (Seabrook) during the fall 2009 refueling outage (OR13). NextEra provided additional information regarding the SG inspections by letter dated November 3, 2010 (ADAMS Accession No. ML103130033).

2.0 BACKGROUND

Seabrook has four Westinghouse Model F SGs, each of which contain 5,626 thermally treated Alloy 600 tubes. Each tube has a nominal outside diameter of 0.688 inches and a nominal wall thickness of 0.040 inches. During SG fabrication, the tubes were hydraulically expanded, at both ends, over the full length of the tubesheet. Type 405 stainless steel support plates, which have broached quatrefoil holes, support the vertical section of the tubes, and anti-vibration bars support the U-bend section of the tubes.

NextEra provided the scope, extent, methods, and results of its SG tube inspections in the documents referenced above. The licensee also described corrective actions in the form of tube plugging and tube stabilization taken in response to the inspection findings.

At the time of the inspection, OR13, the SGs were in the second sequential period of operation, which is 90 effective full-power months in duration. The OR13 inspections were the last scheduled inspections in the second sequential period of operation.

3.0 EVALUATION

Based on the Nuclear Regulatory Commission (NRC) staff's review of the information submitted by NextEra, the NRC staff has the following observations and comments:

- One axial crack indication, attributed to outside diameter stress-corrosion cracking, was detected during this outage (OR13) at the top of the hot-leg tubesheet in SG C. Scope expansion to 100 percent of the tubes revealed no additional cracking indications;

- The upper bundle in bundle (UBIB) inspection of SG C showed that the majority of quatrefoils holes were open and there were no completely blocked quatrefoils at any support plate elevation. Seabrook is planning future UBIB inspections to monitor the condition of the support plate quatrefoils and additional advanced scale conditioning agent applications to ensure that they remain open to flow; and
- A visual inspection verified that a foreign object at the cold-leg flow distribution baffle in SG C, near the tube in row 58 column 55, remained in place. This part resulted in plugging (but not stabilizing) of 14 surrounding tubes during OR11.

4.0 CONCLUSION

Based on a review of the information provided and the considerations above, the NRC staff concludes that the licensee provided the information required by its Technical Specifications. In addition, the NRC staff concludes that there are no technical issues that warrant follow-up action at this time since the inspections appear to be consistent with the objective of detecting potential tube degradation and the inspection results appear to be consistent with industry operating experience at similarly designed and operated units.

Principal Contributor: A. B. Johnson

Date: February 14, 2011

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Site Vice President
c/o Michael O'Keefe
Seabrook Station
FPL Energy Seabrook, LLC
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