



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

February 21, 2012

Mr. Robert J. Duncan II
Vice President
Carolina Power & Light Company
H.B. Robinson Steam Electric Plant
Unit No. 2
3581 West Entrance Road
Hartsville, South Carolina 29550

SUBJECT: H.B. ROBINSON STEAM ELECTRIC PLANT, UNIT 2 – REVIEW OF THE
STEAM GENERATOR TUBE INSERVICE INSPECTIONS REPORT FOR
REFUELING OUTAGE 26 (TAC NO. ME5411)

Dear Mr. Duncan:

By letter to the Nuclear Regulatory Commission (NRC) dated January 13, 2011 (Agencywide Documents Access and Management System Accession No. ML110190222), as supplemented by letter dated October 26, 2011 (ML11305A077), Carolina Power & Light Company, doing business as Progress Energy Carolinas, Inc. submitted information summarizing the results of the Steam Generator (SG) tube inspections performed at H.B. Robinson Steam Electric Plant, Unit 2 during the fall 2010 refueling outage 26.

The NRC staff has completed its review of this report and concludes that the licensee provided the information required by the technical specifications and that no additional follow-up actions are required.

If you have any questions regarding this matter, please contact me at (301) 415-3302.

Sincerely,

Araceli T. Billoch Colón

Araceli T. Billoch Colón, Project Manager
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-261

Enclosure:
Summary of the SG Inservice Inspection Report

cc: Distribution via Listserv



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UNITED STATES NUCLEAR REGULATORY COMMISSION
REVIEW OF 2010 STEAM GENERATOR TUBE INSPECTION REPORT
H.B. ROBINSON STEAM ELECTRIC PLANT, UNIT 2
DOCKET NO. 50-261

1.0 INTRODUCTION

By letter to the U.S. Nuclear Regulatory Commission (NRC) dated January 13, 2011 (Agencywide Documents Access Management System Accession No. ML110190222), as supplemented by letter dated October 26, 2011 (ML11305A077), Carolina Power & Light Company, the licensee, doing business as Progress Energy Carolinas, Inc., submitted the results of their 2010 Steam Generator (SG) tube inspections performed during Refueling Outage (RO) 26 at H.B. Robinson Steam Electric Plant (HBRSEP), Unit 2 in accordance with Technical Specification (TS) 5.6.8 "Steam Generator Tube Inspection Report."

2.0 BACKGROUND

HBRSEP has three Westinghouse model 44F SGs, which were installed in 1984. Each SG contains 3214 thermally-treated Alloy 600 tubes. Each tube has an outside diameter of 0.875 inch and a wall thickness of 0.050 inch. The tubes are supported by stainless steel tube support plates with quatrefoil-shaped holes and V-shaped Alloy 600 anti-vibration bars.

3.0 EVALUATION

The licensee provided the scope, extent, methods, and results of their SG tube inspections in the documents referenced above. In addition, the licensee described corrective actions (i.e., tube plugging) taken in response to the inspection findings.

Based on its review of the information submitted in the licensee reports, the NRC staff has the following observations and comments:

- The licensee identified pin-holes in the moisture separator structure referred to as a PAGODA in SGs A, B, and C. Similar holes were identified in SG B during RO 24. The licensee performed ultrasonic testing on the pinhole in SG B and determined that it has not changed since RO 24. It was stated that the holes may have originated from pre-existing holes drilled through the pipe wall during original installation. The original equipment manufacturer evaluated the holes and determined that they do not adversely affect structural integrity and, therefore, are acceptable.

Enclosure

- The licensee stated that visual inspections of steam drums in SGs A and B were performed. This activity included visually inspecting all accessible areas of the primary and secondary separators, mid deck, feedring, feedring support structures and J-nozzles. In addition, an Ultrasonic Testing (UT) inspection was performed on accessible areas of the feedwater ring in SG B. It was reported that no anomalous conditions were identified and all UT dimensions taken were within acceptable limits of the Steam Drum Inspection procedure.
- It was reported that HBRSEP has two tubes that are not completely expanded and do not have a determined bottom of transition expansion (row 1, column 47 and row 25, column 10). Furthermore, the licensee stated that 14 additional tubes have a bottom of expansion transition (BET) below 0.5 inch from the top of the tubesheet, including two tubes with a BET greater than 1 inch below the top of the tubesheet. All tubes that have a BET below 0.5 inch were inspected with a rotating pancake coil from the tubesheet to the tube end. The licensee reported that no degradation was detected in any of these tubes.
- The licensee initially identified indications in the tube at row 1, column 67 in SG B during RO 21 in 2002. Each outage since then, the indications were re-examined to check for growth. The licensee inspected the indications during RO 26 and determined that they are false indications due to the fact that the indications did not behave as a flaw. The licensee classified the indications as Indication Not Recordable.

4.0 CONCLUSION

Based on a review of the information provided, the NRC staff concludes that the licensee provided the information required by the HBRSEP TS. In addition, the staff concludes that there are no technical issues that warrant followup 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: Aloysius O. Obodoako

Date: February 21, 2012

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/RA/

Araceli T. Billoch Colón, Project Manager
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