



Sharon A. Wheeler
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Electric Plant Unit 2
Manager - Support Services

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Serial: RNP-RA/13-0017

10 CFR 50.90

MAR 06 2013

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261/RENEWED LICENSE NO. DPR-23

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION FOR
REVIEW REGARDING STEAM GENERATOR LICENSE AMENDMENT
REQUEST TO REVISE TECHNICAL SPECIFICATIONS FOR STEAM
GENERATOR PERMANENT ALTERNATE REPAIR CRITERIA

By letter to the U. S. Nuclear Regulatory Commission (NRC) dated August 29, 2012, (Agencywide Documents Access and Management System Accession No. ML12251A363), Carolina Power and Light Company, now doing business as Progress Energy, submitted a license amendment request (LAR) which combined two proposed changes that affect the same Technical Specification (TS) sections. The first part proposes to implement revisions consistent with TS Task Force-510 (TSTF-510), Revision 2, "Revision to Steam Generator Inspection Frequencies and Tube Sample Selection." The second part proposes to exclude portions of the steam generator tube below the top of the steam generator tubesheet from periodic inspections by implementing the permanent alternate repair criteria "H*."

By letter dated February 4, 2013, (ADAMS Accession No. ML13017A288) the NRC staff requested additional information needed to continue its review of the proposed license amendment.

Progress Energy's response to the request for additional information is provided in the enclosure to this letter.

This letter contains the following new Regulatory Commitments:

Submit a revised license amendment request regarding Steam Generator program inspection frequencies and tube sample selection, and application of permanent alternate repair criteria (H*), by April 10, 2013.

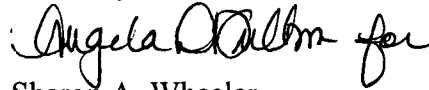
If you have any questions concerning this matter, please contact Mr. Richard Hightower, Supervisor – Licensing/Regulatory Programs at (843) 857-1329.

A001
NRR

I declare under penalty of perjury that the foregoing is true and correct. Executed On:

MAR 06 2013

Sincerely,

A handwritten signature in black ink, appearing to read "Sharon A. Wheeler", written over a horizontal line.

Sharon A. Wheeler

Manager – Support Services – Nuclear

SAW/jk

Enclosure: Response to Request for Additional Information Regarding H. B. Robinson Steam Electric Plant, Unit 2 The Steam Generator License Amendment Request to Revise Technical Specification for Permanent Alternate Repair Criteria

c: Ms. S. E. Jenkins, Manager, Infectious and Radioactive Waste Management Section (SC)
Mr. V. M. McCree, NRC, Region II
Ms. A. T. Billoch-Colon, NRC Project Manager, NRR
NRC Resident Inspector, HBRSEP Unit No. 2
Mr. A. Wilson, Attorney General (SC)

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
REGARDING H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT 2
THE STEAM GENERATOR LICENSE AMENDMENT REQUEST TO REVISE TECHNICAL
SPECIFICATION FOR PERMANENT ALTERNATE REPAIR CRITERIA

NRC REQUEST FOR ADDITIONAL INFORMATION (RAI)

By letter to the U.S. Nuclear Regulatory Commission (NRC) dated August 29, 2012 (Agencywide Documents Access and Management System Accession No. ML 12251A363), Carolina Power & Light Company (the licensee), doing business as Progress Energy Carolinas, submitted a license amendment request (LAR) for H. B. Robinson Steam Electric Plant, Unit 2 (HBRSEP). The proposed LAR combines two changes that affect the same technical specification (TS) sections. The first part proposes to implement revisions consistent with Technical Specification Task Force-510, Revision 2, "Revision to Steam Generator Program Inspection Frequencies and tube Sample Selection." The second part proposes to permanently revise TS 5.5.9 "Steam Generator Program" to exclude portions of the steam generator tube below the top of the steam generator tubesheet from periodic inspections by implementing the permanent alternate repair criteria "H*."

Attachment 6 to the letter dated August 29, 2012, is a Westinghouse letter (LTR-SGMP-12-30 dated May 7, 2012) addressing the applicability of H* and the recommended leakage factor for HBRSEP, given the fact that HBRSEP has implemented a Measurement Uncertainty Recapture Power Uprate.

On pages 2 and 3 of Attachment 6, two tables from the references within Attachment 6 are reproduced. Upon review of the table on page 2, and comparison to Tables 5-1 and 9-5 of WCAP-17091-P (which is Reference 3 of Attachment 6), it is not clear if the hot leg temperature provided in these three tables represents a low T_{avg} , a high T_{avg} , or a nominal T_{avg} condition for HBRSEP. As it appears that hot leg temperature has a significant effect on secondary pressure (e.g., see the large secondary pressure change between high T_{avg} to low T_{avg} at Turkey Point Units 3 and 4 in Table 9-5).

The NRC staff requests the following additional information related to your submittal:

1. Determine the low T_{avg} and high T_{avg} hot leg temperatures for HBRSEP. Then determine if the differential pressure across the tubesheet for HBRSEP continues to be bounded by the H* analysis for Turkey Point Units 3 and 4, when the low T_{avg} hot leg temperature is used in the HBRSEP H* analysis.
2. Provide the results of the above requested analysis.

PROGRESS ENERGY RESPONSE

Engineering Change (EC) 90553, "Input for NRC Request for Additional Information Regarding Alternate Repair Criteria" was performed and yielded results as shown below:

RCS (psia)	RCS Conditions			SG Tubesheet Conditions	
	T _{avg}	T _{cold}	T _{hot}	P _{steam}	RCS-SG
	(°F)	(°F)	(°F)	(psia)	psi
2250					
Low T _{avg}	571.9	543.1	600.7	773.6	1476.4
High T _{avg}	579.9	551.5	608.3	833.9	1416.1

As stated in the NRC Request for Additional Information, the critical parameter for the structural analysis is the normal operating parameters (NOP) condition low T_{avg} secondary pressure because this pressure dictates the largest tube end-cap (pull-out) loads on the tubes.

The following is a comparison of the H. B. Robinson low T_{avg} data with the Turkey Point data, provided on page 3 to attachment 6 of RNP-RA/12-0057, License Amendment Request for Revision to Steam generator Program Inspection frequencies and Tube Selection and Application of Permanent Alternate Repair Criteria (H*).

Parameter and Units		Turkey Point	Robinson
Power - NSSS	MWth	2652	2239
Primary Pressure	psia	2250	2250
Secondary Pressure	psia	701	773.6
SG Hot Leg Temperature	°F	604.5	600.7
SG Primary-to-secondary Pressure Differential (psid) Across Tubesheet	Psid	1549	1476.4

Turkey Point Units 3 and 4 exhibits a lower secondary pressure for the low T_{avg} under NOP condition (701 psia); therefore, it bounds the secondary pressure under the same condition for HBRSEP Unit 2 (773.6 psia). Based upon this, the applicable H* inspection criterion for HBRSEP is 18.11 inches as described in the August 29, 2012 License Amendment Request.

During the development of this response it was determined that the appropriate leakage factor for HBRSEP Unit 2 should be 1.87 rather than 1.82 as previously reported. As a result, it will be necessary to revise our August 29, 2012, License Amendment Request. We expect to provide the revised request by April 10, 2013.