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Harris Nuclear Plant
5413 Shearon Harris Rd
New Hill NC 27562-9300

919-362-3137

10 CFR 50.55a

September 5, 2012
Serial: HNP-12-091

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

Shearon Harris Nuclear Power Plant, Unit 1
Docket No. 50-400

Subject: 90-Day Inservice Inspection Summary Report

Ladies and Gentlemen:

In accordance with 10 CFR 50.55a, Carolina Power & Light Company submits the attached Inservice Inspection Summary Report for the Harris Nuclear Plant. This report has been prepared in accordance with Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, 2001 Edition with addenda through 2003 as amended by ASME Code Case N-532-4, Section XI, Division 1. This report is for Harris Nuclear Plant's Cycle 17 Operations and Refueling Outage 17 of the third 10-year Inservice Inspection interval.

This document contains no regulatory commitments.

Please refer any questions regarding this submittal to me at (919) 362-3137.

Sincerely,

A handwritten signature in black ink, appearing to read 'David H. Corlett', written over a light blue horizontal line.

Enclosure

cc: Mr. J. D. Austin, NRC Sr. Resident Inspector, HNP
Ms. A. T. Billoch Colón, NRC Project Manager, HNP
Mr. J. M. Given, Jr., NC Department of Labor, Boiler Safety Bureau
Mr. V. M. McCree, NRC Regional Administrator, Region II

**Carolina Power & Light Company
Shearon Harris Nuclear Power Plant, Unit 1
Docket No. 50-400**

**HNP-12-091 Enclosure
Inservice Inspection Summary Report for
Refueling Outage 17
(5 pages plus cover)**

**Harris Nuclear Plant
5413 Shearon Harris Rd
New Hill NC 27562-9300**

Date of Commercial Service: May 2, 1987

Contents

Summary	1
Form OAR-1 Owner's Activity Report	2
Table 1	3
Table 2	4

Summary

The Shearon Harris Nuclear Power Plant, Unit 1, Third Ten Year Inservice Inspection (ISI) Plan complies with 10CFR50.55a (g), which implements, by reference, the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, 2001 Edition with 2003 Addenda.

This summary report is being submitted pursuant to the reporting requirements of ASME Section XI as amended by ASME Code Case N-532-4 Repair/Replacement Activity Documentation Requirements and Inservice Summary Report Preparation and Submission Section XI, Division 1.

Contained within this summary report are the form OAR-1 (Owner's Activity Report) and Tables 1 and 2 of Code Case N-532-4 for Harris Nuclear Plant during cycle 17 and Refueling Outage 17 (RFO-17). RFO-17 is the second outage of the second period in the third inspection interval and includes the Repair/Replacement activities from February 4, 2011 through August 28, 2012.

During inspection of the Reactor Pressure Vessel Head (RPVH) Control Rod Drive Mechanism (CRDM) nozzle penetrations, flaws were discovered in four nozzles and were subsequently repaired. Refer to Table 1 of this report for a list of items with flaws or relevant conditions that required evaluation for continued service. Refer to Table 2 of this report for an abstract of repair/replacement activities required for continued service.

CASES OF ASME BOILER AND PRESSURE VESSEL CODE

FORM OAR-1 OWNER'S ACTIVITY REPORT

Report Number: HNP-12-091 Plant: Harris Nuclear Plant, 5413 Shearon Harris Road, New Hill, NC 27562

Unit No.: 1 Commercial Service Date: May 2, 1987 Refueling Outage No.: RFO-17

Current Inspection Interval: Third Interval Current Inspection Period: Second Period

Edition and Addenda of Section XI Applicable to the Inspection Plans: 2001 Edition with 2003 Addenda

Date and Revision of Inspection Plans: November 8, 2011/Revision 0

Edition and Addenda of Section XI Applicable to Repair/Replacement Activities, if Different than the Inspection Plans: N/A

Code Cases Used: N-460, N-532-4, N-533-1, N-685, N-686, N-722-1, N-729-1, N-770-1

Certificate of Conformance ISI Inspections

I certify that (a) the statements made in this report are correct; and (b) the examinations and tests meet the Inspection Plan as required by the ASME Code, Section XI; and the completion of RFO-17 conform to the requirements of Section XI.

Signed Angela Staller Angela Staller, ISI Program Manager Date 8/28/2012

Certificate of Conformance ISI Repair/Replacement

I certify that (a) the statements made in this report are correct; and (b) the repair/replacement activities and evaluations supporting the completion of RFO-17 conform to the requirements of Section XI.

Signed Wayne Holley Wayne Holley, Repair/Replacement PM Date 8/28/2012

Certificate of Inservice Inspection

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of North Carolina and employed by HSBCT of Hartford, CT have inspected the items described in this Owner's Activity Report, and state that, to the best of my knowledge and belief, the Owner has performed all activities represented by this report in accordance with the requirements of Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the repair/replacement activities and evaluation described in this report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Robert Winegardner Commissions NB 12442 A N1 NC 1580
Inspector's Signature National Board, State, Province, and Endorsements

Date 8/28/12

Table 1

Items with Flaws or Relevant Conditions That Required Evaluation For Continued Service

Examination Category and Item Number	Item Description	Evaluation Description
Augment E-3	RPVH CRDM Nozzle 5 (II-RV-001CRD-05)	A volumetric exam was performed resulting in the detection of 1 PWSCC flaw. The nozzle was repaired.
Augment E-3	RPVH CRDM Nozzle 17 (II-RV-001CRD-17)	A volumetric exam was performed resulting in the detection of 3 PWSCC flaws. The nozzle was repaired.
Augment E-3	RPVH CRDM Nozzle 38 (II-RV-001CRD-38)	A volumetric exam was performed resulting in the detection of 2 PWSCC flaws. The nozzle was repaired.
Augment E-3	RPVH CRDM Nozzle 63 (II-RV-001CRD-63)	A volumetric exam was performed resulting in the detection of 2 PWSCC flaws. The nozzle was repaired.

Table 2**Abstract of Repair/Replacement Activities Required for Continued Service**

Code Class	Item Description/Component ID	Description of Work	Date Completed	Repair/Replacement Plan Number
Class 2	1CS-748	Replace valve due to leakby	4/19/2011	WO 1461983-03
Class 2	1CS-207	Replace valve disc due to leakby	4/19/2011	WO 1834256-01
Class 1	1RC-E001 Reactor Vessel Head, CRDM Housing, Partial Penetration Weld in accordance with Code Case N-729-1, Nozzle 5	CRDM Inside Diameter Temper Bead Weld Repair of Nozzle 5 (Ref. RR I3R-09)	5/25/12	WO 1091074 -11
Class 1	1RC-E001 Reactor Vessel Head, CRDM Housing, Partial Penetration Weld in accordance with Code Case N-729-1, Nozzle 17	CRDM Inside Diameter Temper Bead Weld Repair of Nozzle 17 (Ref. RR I3R-09)	5/25/12	WO 1091074 -11
Class 1	1RC-E001 Reactor Vessel Head, CRDM Housing, Partial Penetration Weld in accordance with Code Case N-729-1, Nozzle 38	CRDM Inside Diameter Temper Bead Weld Repair of Nozzle 38 (Ref. RR I3R-09)	5/25/12	WO 1091074 -11
Class 1	1RC-E001 Reactor Vessel Head, CRDM Housing, Partial Penetration Weld in accordance with Code Case N-729-1, Nozzle 63	CRDM Inside Diameter Temper Bead Weld Repair of Nozzle 63 (Ref. RR I3R-09)	5/25/12	WO 1091074 -11
Class 2	1CS-750	Replace disk to repair seat leak	5/28/2012	WO 1841770-01
Class 2	1MS-51	Replace leaking relief valve and inlet nuts	7/17/2012	WO 01893435-01
Class 2	1CS-227	Replace valve plug due to poor seating	7/17/2012	WO 02007787-01
Class 2	1MS-82	Replace bonnet studs and nuts	7/23/2012	WO 2074702-09
Class 2	1MS-80	Replace bonnet studs and nuts	7/23/2012	WO 02077265-06
Class 2	1MS-84	Replace bonnet nuts and studs	7/23/2012	WO 01832703-11
Class 1	1RC-E001	Repair threads on reactor vessel stud	7/24/2012	WO 2077023-01
Class 2	1CT-68	Replace valve due to leakby	7/30/2012	WO 0676149-13

Code Class	Item Description/Component ID	Description of Work	Date Completed	Repair/Replacement Plan Number
Class 2	1FP-349	Replace valve due to LLRT leakage; replace pipe from valve to penetration due to corrosion	7/30/2012	WO 1857906-01
Class 2	1CS-748	Replace valve due to seat damage	7/30/2012	WO 01986798-05
Class 2	1MS-230	Replace valve due to seat leakage	7/30/2012	WO 01852124-08
Class 2	1MS-229	Replace valve due to seat leakage	7/30/2012	WO 01852124-07
Class 2	1CT-81	Replace valve due to leakage	7/30/2012	WO 676150-11
Class 2	1CV-E004	Replace leaking AH-3 cooling coil	7/31/2012	WO 01888117-01
Class 2	1CS-344	Replace check valve due to LLRT failure	7/31/2012	WO 1876405-01
Class 2	1RH-HXA	Replace Main Flange Bolting	7/31/2012	WO 02040559-01
Class 2	1MS-60	Replace disc/stem assembly	8/1/2012	WO 858184-01