Progress Energy

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

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT NO. 1
DOCKET NO. 50-400/LICENSE NO. NPF-63
INSPECTION AND MITIGATION OF ALLOY 82/182 PRESSURIZER BUTT WELDS

Ladies and Gentlemen:

By letter dated January 31, 2007, Carolina Power and Light Company (CP&L) doing business as Progress Energy Carolinas, Inc., notified the NRC of actions taken or planned at the Harris Nuclear Plant (HNP) for inspecting or mitigating Alloy 82/182 butt welds on the pressurizer spray, surge and relief lines. By a phone call with the NRC on February 20, 2007, HNP discussed the previous letter and the NRC's expectations for mitigation of the pressurizer Alloy 82/182 butt welds and enhanced unidentified RCS leakage monitoring.

During this phone call, HNP confirmed its previous commitment to mitigate the subject welds by installing full structural weld overlays by the end of refueling outage 14 (RFO-14) scheduled in the fall 2007, and to continue performing daily unidentified RCS leakage monitoring. By a follow-up phone call with the NRC on February 22, 2007, HNP committed to implement enhanced unidentified RCS leakage monitoring in Modes 1-3 until the subject welds are mitigated in the fall 2007. The enhanced unidentified RCS leakage monitoring will be in effect by March 6, 2007.

Attachment 1 provides HNP's response to the NRC's expectations for mitigation of the pressurizer Alloy 82/182 butt welds and enhanced unidentified RCS leakage monitoring, which supersedes the HNP response contained in the letter dated January 31, 2007.

Attachment 2 provides the commitments to this letter, which includes the original commitment as documented in the letter dated January 31, 2007, as well as new or revised regulatory commitments.

HNP will notify the NRC prior to any revisions to the commitments contained in this letter.

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Our staff is available to meet with the NRC to discuss any of the information in this letter. Please refer any questions regarding this submittal to Dave Corlett at (919) 362-3137.

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Vice President
Harris Nuclear Plant

RJD/jpy

Attachments:

1. HNP's Response to the NRC's Expectations for Mitigation of Pressurizer Alloy 82/182 Butt Welds and Enhanced RCS Leakage Monitoring
2. Commitments

c:
Mr. P. B. O'Bryan, NRC Senior Resident Inspector
Mr. C. P. Patel, NRC Project Manager
Dr. W. D. Travers, NRC Regional Administrator

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HNP'S RESPONSE TO THE NRC EXPECTATIONS FOR MITIGATION OF PRESSURIZER ALLOY 82/182 BUTT WELDS AND ENHANCED REACTOR COOLANT SYSTEM LEAKAGE MONITORING

Expectation 1: Mitigation Date

The licensee should confirm its commitment to mitigate the pressurizer Alloy 82/182 butt welds in 2007.

Response 1:

HNP will comply with Expectation 1.

The Harris Nuclear Plant (HNP) confirms its commitment, as discussed in the letter dated January 31, 2007, to mitigate the pressurizer Alloy 82/182 butt welds by installing full structural weld overlays on these welds and to inspect post-overlay during refueling outage 14 (RFO-14) in the fall 2007.

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Expectation 2: RCS Leakage Monitoring Frequency

The licensee should confirm its commitment to monitor RCS leakage daily while the plant is in Modes 1-3.

Response 2:

HNP will comply with Expectation 2.

HNP confirms its commitment, as discussed in the letter dated January 31, 2007, to continue monitoring unidentified RCS leakage daily while the plant is in Modes 1-3 during stable plant conditions until mitigation of the pressurizer Alloy 82/182 butt welds scheduled in RFO-14 (fall 2007).

As discussed during the phone call on February 20, 2007, HNP may extend the monitoring frequency within the 25% allowance for daily surveillance intervals provided by the Technical Specifications (TS) at HNP. In addition, HNP may extend the monitoring frequency during transient plant conditions such as power ascension.

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Expectation 3: RCS Leakage Monitoring Action Levels

The action levels for RCS leakage monitoring should include the following two parts:

1. *A 0.1 gpm change from one day to the next sustained for 72 hours with at least 0.1 gpm not confirmed from sources other than the pressurizer nozzle welds.*

2. *A 0.25 gpm above the baseline sustained for 72 hours with at least 0.25 gpm not confirmed from sources other than the pressurizer nozzle welds.*

For Part 2, the baseline is established using unidentified RCS leakrate information collected during the first seven (7) days of Mode 1 full power operations after the most recent bare metal visual inspection of the pressurizer nozzle welds.

Response 3:

HNP will comply with Expectation 3.

As discussed during the phone call on February 20, 2007, HNP will implement the two unidentified RCS leakage monitoring actions levels as follows:

1. A 0.1 gpm increase in the daily measurement to the mean, sustained for 72 hours with at least 0.1 gpm not confirmed from sources other than the pressurizer nozzle welds.

2. A 0.25 gpm above the baseline, sustained for 72 hours with at least 0.25 gpm not confirmed from sources other than the pressurizer nozzle welds.

For Part 1, the mean has been established in accordance with standard statistical analysis methodologies and is updated periodically.

For Part 2, the baseline was established using unidentified RCS leakrate information collected during the first seven (7) days of Mode 1 full power operations after the most recent bare metal visual inspection of the pressurizer nozzle welds.

For both Parts 1 and 2, any leakage that is confirmed to be from sources other than the pressurizer nozzle welds is not required to meet the Technical Specifications' definition of identified leakage.

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Expectation 4: RCS Leakage Monitoring Actions

Once the 72-hour sustained period is complete and the leak rate is still elevated, place the unit in Mode 3 within six (6) hours and Mode 5 within the next 36 hours and perform bare metal visual inspection of the unmitigated pressurizer surge, spray, safety, and relief nozzle butt welds and safe end butt welds containing Alloy 82/182 material.

Response 4:

HNP will comply with Expectation 4.

This monitoring action applies to both Parts 1 and 2 of the RCS Leakage Monitoring Action Levels discussed in Response 3 above, and these actions will be implemented by HNP procedure, OPT-9002T, Temporary Test for Pressurizer Dissimilar Weld Enhanced Leakage Monitoring, Daily Interval, Modes 1, 2, 3, Expires 10/30/07, which will be in effect by March 6, 2007.

As discussed during the phone call on February 20, 2007, a positive determination that the unidentified RCS leakage came from a source other than the pressurizer Alloy 82/182 butt welds will terminate the required actions, conditioned upon finding the source and quantifying the leak. In addition, whenever unidentified RCS leakage is reduced to less than the action levels in Response 3 above, then the actions may be terminated.

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Expectation 5: Reporting

1. *Report details of any corrective or mitigative actions taken within 60 days of unit restart.*

2. *Report bare metal visual inspection results within 60 days of unit restart.*

Response 5:

HNP will comply with Expectation 5.

As discussed during the phone call on February 20, 2007, HNP will implement the reporting as follows:

1. HNP will report information of any corrective or mitigative actions taken within 60 days of unit restart.

2. If HNP shuts down due to unidentified RCS leakage (i.e., the action of Response 4 above), then HNP will report bare metal visual inspection results within 60 days of unit restart.

For Report 1, the details of the mitigation actions will be contained in the associated relief request, so this report will provide information confirming completion of the mitigation actions and post-mitigation inspection results.

For Report 2, this reporting is conditioned upon a shutdown due to the action of Response 4 above for unidentified RCS leakage, and it does not add a requirement to perform a pre-mitigation inspection.

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COMMITMENTS

Commitment(s)	Scheduled Completion Date
1. HNP will mitigate the pressurizer Alloy 82/182 butt welds by installing full structural weld overlays on these welds and will inspect post-overlay during refueling outage 14 (RFO-14) in the fall 2007.	End of RFO-14 (fall 2007)
2. HNP will monitor unidentified RCS leakage daily while the plant is in Modes 1-3 during stable plant conditions until mitigation of the pressurizer Alloy 82/182 butt welds scheduled in RFO-14 (fall 2007).	Beginning on March 6, 2007 until mitigation of the pressurizer Alloy 82/182 butt welds
3. If unidentified RCS leakage should increase by 0.1 gpm in the daily measurement to the mean, sustained for 72 hours with at least 0.1 gpm not confirmed from sources other than the pressurizer nozzle welds, then the unit will be placed in Mode 3 within six (6) hours and Mode 5 within the next 36 hours, and a bare metal visual inspection of the unmitigated pressurizer surge, spray, safety, and relief nozzle butt welds and safe end butt welds containing Alloy 82/182 material will be performed.	Beginning on March 6, 2007 until mitigation of the pressurizer Alloy 82/182 butt welds
4. If unidentified RCS leakage should increase by 0.25 gpm above the baseline, sustained for 72 hours with at least 0.25 gpm not confirmed from sources other than the pressurizer nozzle welds, then the unit will be placed in Mode 3 within six (6) hours and Mode 5 within the next 36 hours, and a bare metal visual inspection of the unmitigated pressurizer surge, spray, safety, and relief nozzle butt welds and safe end butt welds containing Alloy 82/182 material will be performed.	Beginning on March 6, 2007 until mitigation of the pressurizer Alloy 82/182 butt welds
5. HNP will report information of any corrective or mitigative actions taken, and if HNP shuts down due to unidentified RCS leakage (i.e., the action of Response 4 of this letter), then HNP will report bare metal visual inspection results.	Within 60 days of unit restart