Progress Energy

Crystal River Nuclear Plant
Docket No. 50-302
Operating License No. DPR-72

January 24, 2008
3F0108-08

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

Subject: Crystal River Unit 3 - Summary of Alloy 600/82/182 Pressurizer Butt Weld Mitigation and Closure of Confirmatory Action Letter No. NRR-07-016

References:
1. CR-3 to NRC letter dated January 29, 2007, "Inspection and Mitigation of Alloy 600/82/182 Pressurizer Butt Welds"
2. CR-3 to NRC letter, dated February 22, 2007, "Pressurizer Dissimilar Welds and Reactor Coolant System Leakage Monitoring"
3. NRC to CR-3, Corrective Action Letter No. NRR-07-016, dated March 27, 2007, "Confirmatory Action Letter, Crystal River Unit 3 (TAC NO. MD4145)"
4. CR-3 to NRC letter, dated January 23, 2008, "Crystal River Unit 3 – Summary of Ultrasonic Examination Results of Structural Weld Overlays"

Dear Sir:

By Reference 1 and Reference 2, Florida Power Corporation (FPC), doing business as Progress Energy Florida Inc., Crystal River Unit 3 (CR-3), described actions that would be performed related to the inspection and mitigation of Alloy 600/82/182 pressurizer butt welds. Regulatory commitments were made addressing: 1) completion schedules for inspection/mitigation of the welds; 2) Reactor Coolant System (RCS) leak monitoring frequency, action levels and actions prior to mitigation; and 3) reporting requirements. On March 27, 2007, FPC received Nuclear Regulatory Commission (NRC) Confirmatory Action Letter (CAL) No. NRR-07-016 (Reference 3), confirming those regulatory commitments.

During Refueling Outage 15 (R15), Alloy 600/82/182 pressurizer butt welds were mitigated with structural weld overlay techniques. By Reference 4, a summary of examination results for the weld overlays was submitted to the NRC. A summary of the results is also shown in the Attachment to this letter. CR-3 returned to operation on December 7, 2007. This letter satisfies the 60 day reporting commitment made in References 1 and 2 and confirmed in Reference 3.

This submittal contains no new regulatory commitments.

**Progress Energy Florida, Inc.**
Crystal River Nuclear Plant
15760 W. Powerline Street
Crystal River, FL 34428

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NRR

If you have any questions regarding this submittal, please contact Mr. Dennis Herrin, Acting Supervisor, Licensing and Regulatory Programs at (352) 563-4633.

Sincerely,

/B.J. Foster (acting)

Stephen J. Cahill
Engineering Manager

SJC/seb

Attachment

xc: NRC Project Manager
NRC Regional Office
NRC Resident Inspector

**PROGRESS ENERGY FLORIDA, INC.**

**CRYSTAL RIVER - UNIT 3**

**DOCKET NUMBER 50 - 302 / LICENSE NUMBER DPR - 72**

**Attachment**

# Inspection and Mitigation Summary for Alloy 600/82/182 Pressurizer Butt Welds During R15

**Inspection and Mitigation Summary for Alloy 600/82/182 Pressurizer Butt Welds During R15**

| Nozzle Function / Designation | Susceptible Material Description | PDI Qualified Inspection | Mitigation Completed | Comments |
|---|---|---|---|---|
| 4 inch Spray Line Nozzle Safe End | Nozzle-to Safe end weld, A600 safe end and safe end to pipe weld | Yes | Yes | A preemptive full structural reinforcement weld overlay of the pressurizer spray nozzle was performed during Refueling Outage 15 (R15). Several nondestructive examinations (NDE) were performed as required by the examination procedures for this component. Liquid Penetrant (PT) and Magnetic Particle (MT) surface examinations resulted in no recordable indications and no exam limitations.<br><br>Ultrasonic (UT) examinations of the applied overlay and adjacent base material were accomplished utilizing personnel and procedures qualified in accordance with ASME Code Section XI, 1995 Edition including Addenda through 1996, Appendix VIII, Supplement 11, with alternatives used to comply with the Performance Demonstrative Initiative (PDI) Program. These examinations resulted in no reportable indications and 100% coverage of both the preservice inspection (PSI) and inservice inspection (ISI) examination volumes were obtained. |
| 2.5 inch Pressure Relief Nozzle (RCV-8) | Nozzle-to safe end weld only | Yes | Yes | A preemptive full structural reinforcement weld overlay of the pressurizer relief nozzle was performed during R15. Several NDE examinations were performed as required by the examination |

| Nozzle Function / Designation | Susceptible Material Description | PDI Qualified Inspection | Mitigation Completed | Comments |
|---|---|---|---|---|
| | | | | procedures for this component. PT surface examinations resulted in no recordable indications and no exam limitations.<br><br>UT examinations of the applied overlay and adjacent base material were accomplished utilizing personnel and procedures qualified in accordance with ASME Code Section XI, 1995 Edition including Addenda through 1996, Appendix VIII, Supplement 11, with alternatives used to comply with the PDI Program. These examinations resulted in no reportable indications and 100% coverage of both the PSI and ISI examinations volumes were obtained. |
| 2.5 inch Pressure Relief Nozzle (RCV-9) | Nozzle-to safe end weld only | Yes | Yes | A preemptive full structural reinforcement weld overlay of the pressurizer relief nozzle was performed during R15. Several NDE examinations were performed as required by the examination procedures for this component. PT surface examinations resulted in no recordable indications and no exam limitations.<br><br>UT examinations of the applied overlay and adjacent base material were accomplished utilizing personnel and procedures qualified in accordance with ASME Code Section XI, 1995 Edition including Addenda through 1996, Appendix VIII, Supplement 11, with alternatives used to comply with the PDI |

| Nozzle Function / Designation | Susceptible Material Description | PDI Qualified Inspection | Mitigation Completed | Comments |
|---|---|---|---|---|
| | | | | Program. These examinations resulted in no reportable indications and 100% coverage of both the PSI and ISI examinations volumes were obtained. |
| 2.5 inch Pressure Relief Nozzle (RCV-11) | Nozzle-to safe end weld only | Yes | Yes | A preemptive full structural reinforcement weld overlay of the pressurizer relief nozzle was performed during R15. Several NDE examinations were performed as required by the examination procedures for this component. PT surface examinations resulted in no recordable indications and no exam limitations.<br><br>UT examinations of the applied overlay and adjacent base material were accomplished utilizing personnel and procedures qualified in accordance with ASME Code Section XI, 1995 Edition including Addenda through 1996, Appendix VIII, Supplement 11, with alternatives used to comply with the PDI Program. These examinations resulted in no reportable indications and 100% coverage of both the PSI and ISI examinations volumes were obtained. |
| 10 inch Surge Nozzle | Nozzle-to safe end weld only | Yes | Yes | A preemptive full structural reinforcement weld overlay of the pressurizer surge nozzle was performed during R15. Several NDE examinations were performed as required by the examination procedures for this component. PT surface |

| Nozzle Function / Designation | Susceptible Material Description | PDI Qualified Inspection | Mitigation Completed | Comments |
|---|---|---|---|---|
| | | | | examinations resulted in no recordable indications and no exam limitations.<br><br>UT examinations of the applied overlay and adjacent base material were accomplished utilizing personnel and procedures qualified in accordance with ASME Code Section XI, 1995 Edition including Addenda through 1996, Appendix VIII, Supplement 11, with alternatives used to comply with the PDI Program. These examinations resulted in no reportable indications and 100% coverage of both the PSI and ISI examinations volumes were obtained. |