Progress Energy

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

Ref: 10 CFR 50.54(f)

December 18, 2007
3F1207-05

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

Subject: Crystal River Unit 3 – Additional Information Regarding "Request for Extension of Completion Date for Corrective Actions and Modifications Required by Generic Letter 2004-02, 'Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized Water Reactors'"

References:

1. CR-3 to NRC letter, "Request for Extension of Completion Date for Corrective Actions and Modifications Required by Generic Letter 2004-02, 'Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized Water Reactors,'" dated December 10, 2007

2. NRC Generic Letter 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors," dated September 13, 2004

3. CR-3 to NRC letter, "Response to Generic Letter 2004-02, 'Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors,'" dated August 30, 2005

Dear Sir:

By letter dated December 10, 2007, (Reference 1) Florida Power Corporation (FPC), doing business as Progress Energy Florida Inc., Crystal River Unit 3 (CR-3) submitted a request for extension of the completion date for corrective actions and modifications required by Generic Letter (GL) 2004–02. During a teleconference between CR-3 and the Nuclear Regulatory Commission (NRC) on December 14, 2007, the content of Reference 1 was discussed and additional information was requested by the NRC specific to three items. This letter provides the requested information as discussed below:

- An explanation of the term "preliminary results" when referring to backflush testing.
- A clarification that the action of stopping and starting Decay Heat (DH) pumps to address high sump screen differential pressure and reactor building sump screen blockage does not interrupt flow to the core.
- The establishment of administrative limits that will temporarily raise the minimum level of the Borated Water Storage Tank (BWST) to increase available inventory during the requested period of extension.

Recent sump strainer head loss testing included backflushing the debris covered strainer to determine the effectiveness of reverse flow in dislodging debris and reducing head loss across the strainer following the re-establishment of sump suction. The extension request (Reference 1) stated that backflushing was successful based on preliminary results. The use of the term "preliminary" pertains to the documentation



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of the test results, which are not due to be issued in final form by the test vendor until First Quarter 2008. The testing, which was witnessed by Progress Energy Engineering personnel, demonstrated that backflushing is an effective means of dislodging debris and reducing head loss across the sump strainer.

The extension request (Reference 1) correctly includes a statement that flow to the core is not interrupted during sump strainer backflush operations. During initial Emergency Core Cooling System injection, the High Pressure Injection (HPI) pumps, as well as the Low Pressure Injection (LPI) and Building Spray pumps, take suction directly from the Borated Water Storage Tank (BWST). Prior to swap over to the sump, HPI pump suction is aligned to the discharge of the LPI pumps ("piggyback" operation). In order to maintain core cooling during backflush, HPI pump suction is re-aligned to the BWST. This is accomplished by opening a valve from the BWST to the HPI pump suction, and closing a valve from the the LPI pump discharge to the HPI pump suction. Existing plant procedures ensure that sufficient inventory exists in the BWST for continued HPI while backflush is performed and sump suction is re-established.

Subsequent to submitting the extension request (Reference 1), CR-3 evaluated increasing BWST inventory as a means of further addressing SECY-06-0078, "Status of Resolution of GSI-191, Assessment of [Effect of] Debris Accumulation on PWR (Pressurized-Water Reactor) Sump Performance," Criterion 3, which calls for establishing temporary physical improvements to better ensure a high level of ECCS sump performance. As a result, by February 9, 2008, CR-3 will establish administrative limits that will increase the minimum inventory of the BWST within the allowed Technical Specification range during the requested period of extension.

This letter contains regulatory commitments as shown in the Attachment.

CR-3 staff is available to meet with the NRC to discuss any of the information in this letter.

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

Sincerely,

Dale E Young

Dale E. Young
Vice President
Crystal River Nuclear Plant

DEY/seb

Attachment: Regulatory Commitment

xc: NRC Project Manager
NRC Regional Office
NRC Resident Inspector
Leon Whitney

**STATE OF FLORIDA**

**COUNTY OF CITRUS**

Dale E. Young states that he is the Vice President, Crystal River Nuclear Plant for Florida Power Corporation, doing business as Progress Energy Florida, Inc.; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission the information attached hereto; and that all such statements made and matters set forth therein are true and correct to the best of his knowledge, information, and belief.

Dale E. Young
Vice President
Crystal River Nuclear Plant

The foregoing document was acknowledged before me this 18th day of December, 2007, by Dale E. Young.

Signature of Notary Public
State of Florida

CAROLYN E. PORTMANN
Notary Public - State of Florida
My Commission Expires Mar 1, 2010
Commission # DD 524380
Bonded By National Notary Assn.

(Print, type, or stamp Commissioned Name of Notary Public)

Personally Known ✓ -OR- Produced Identification _____

**PROGRESS ENERGY FLORIDA, INC.**

**CRYSTAL RIVER - UNIT 3**

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

**Additional Information Regarding, "Request for Extension of Completion Date for Corrective Actions and Modifications Required by Generic Letter 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors"**

**Attachment**

**Regulatory Commitment**

## Regulatory Commitment

The following table identifies those actions committed to by Florida Power Corporation (FPC) in this document. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments. Please direct questions regarding these commitments to Mr. Dennis Herrin, Acting Supervisor, Licensing & Regulatory Programs at (352) 563-4633.

| Regulatory Commitment | Due date/event |
|---|---|
| Crystal River Unit 3 will establish administrative limits that will increase the minimum inventory of the Borated Water Storage Tank (BWST) within the allowed Technical Specification range during the requested period of extension. | February 9, 2008 |