Progress Energy

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

Ref: 10 CFR 54

March 15, 2011
3F0311-01

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

Subject: Crystal River Unit 3 – Response to Request for Additional Information for the Review of the Crystal River Unit 3, Nuclear Generating Plant, License Renewal Application (TAC NO. ME0274) and Amendment #19

References:
(1) CR-3 to NRC letter, dated December 16, 2008, "Crystal River Unit 3 – Application for Renewal of Operating License"

(2) NRC to CR-3 letter, dated November 30, 2010, "Request for Additional Information for the Review of the Crystal River Unit 3 Nuclear Generating Plant, License Renewal Application (TAC NO. ME0274)"

(3) CR-3 to NRC letter, dated December 29, 2010, "Response to Request for Additional Information for the Review of the Crystal River Unit 3 Nuclear Generating Plant, License Renewal Application (TAC NO. ME0274) and Amendment #17"

(4) NRC to CR-3 letter, dated December 14, 2010, "Safety Evaluation Report with Open Items Related to the License Renewal of Crystal River Unit 3 Nuclear Generating Plant (TAC NO. ME0274)"

Dear Sir:

On December 16, 2008, Florida Power Corporation (FPC), doing business as Progress Energy Florida, Inc. (PEF), requested renewal of the operating license for Crystal River Unit 3 (CR-3) to extend the term of its operating license an additional 20 years beyond the current expiration date (Reference 1). Subsequently, the Nuclear Regulatory Commission (NRC), by letter dated November 30, 2010, provided a request for additional information (RAI) concerning the CR-3 License Renewal Application (Reference 2). Enclosure 1 to this letter provides a revised response to the previously-submitted RAI 4.3.3-6 response (Reference 3). The response was revised based on recent discussions with the NRC staff. Enclosure 2 to this letter contains Amendment #19 to the License Renewal Application and includes a new CR-3 License Renewal Commitment.

The NRC Safety Evaluation Report with Open Items Related to the License Renewal of CR-3 (Reference 4) has identified the resolution of RAI 4.3.3-6 as Open Item (OI)-4.3.3-1. Therefore, this revised response to RAI 4.3.3-6 is intended to close that Open Item.

If you have any questions regarding this submittal, please contact Mr. Mike Heath, Supervisor, License Renewal, at (910) 457-3487, e-mail at mike.heath@pgnmail.com.

Sincerely,

Jon A. Franke
Vice President
Crystal River Unit 3

JAF/dwh

A140
LIRR

Progress Energy Florida, Inc.
Crystal River Nuclear Plant
15760 W. Power Line Street
Crystal River, FL 34428

Enclosures: 1. Revised Response to Request for Additional Information
2. Amendment #19 Changes to the License Renewal Application

xc: NRC CR-3 Project Manager
NRC License Renewal Project Manager
NRC Regional Administrator, Region II
Senior Resident Inspector

STATE OF FLORIDA

COUNTY OF CITRUS

Jon A. Franke 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.

Jon A. Franke
Vice President
Crystal River Nuclear Plant

The foregoing document was acknowledged before me this 15 day of March, 2011, by Jon A. Franke.

Carolyn E. Portmann

Signature of Notary Public
State of Florida

CAROLYN E. PORTMANN
Commission # DD 937553
Expires March 1, 2014
Bonded Thru Troy Fain Insurance 800-385-7019

(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

ENCLOSURE 1

REVISED RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

REVISED RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

RAI 4.3.3-6

Background

In LRA Section 4.3.3, the applicant discussed the methodology to determine the locations that require environmentally assisted fatigue analyses consistent with NUREG/CR-6260 "Application of NUREG/CR-5999 Interim Fatigue Curves to Selected Nuclear power Plant Components." The staff noted that, in LRA Table 4.3-3, there are ten plant-specific locations listed based on the six generic components identified in NUREG/CR-6260.

Issue

GALL Report AMP X.M1, "Metal Fatigue of Reactor Coolant Pressure Boundary," states that the impact of the reactor coolant environment on a sample of critical components should include the locations identified in NUREG/CR-6260 as a minimum, and that additional locations may be needed. The LRA is unclear whether the applicant verified that the plant-specific locations listed in the LRA Table 4.3-3 per NUREG/CR-6260 were bounding for the generic NUREG/CR-6260 components. Furthermore, the staff noted that the applicant's plant-specific configuration may contain locations that should be analyzed for the effects of the reactor coolant environment other than those identified in NUREG/CR-6260. This may include locations that are limiting or bounding for a particular plant-specific configuration, or that have calculated cumulative usage factor (CUF) values that are greater when compared to the locations identified in NUREG/CR-6260.

Request

a) Confirm and justify that the plant-specific locations listed in LRA Table 4.3-3 are bounding for the generic NUREG/CR-6260 components.

b) Confirm and justify that the locations selected for environmentally-assisted fatigue analyses in LRA Table 4.3-3 consists of the most limiting locations for Crystal River Unit 3 Nuclear Generating Plant (beyond the generic components identified in the NUREG/CR-6260 guidance). If these locations are not bounding, clarify the locations that require an environmentally-assisted fatigue analysis and the actions that will be taken for these additional locations. If the limiting location identified consists of nickel alloy, state whether the methodology used to perform the environmentally-assisted fatigue calculation for nickel alloy is consistent with NUREG/CR-6909. If not, justify the method chosen.

Revised Response:

The following response replaces the response to this Request for Additional Information (RAI) provided in Crystal River Unit 3 (CR-3) to NRC letter, 3F1210-09, dated December 29, 2010, "Response to Request for Additional Information for the Review of the Crystal River Unit 3 Nuclear Generating Plant, License Renewal Application (TAC NO. ME0274) and Amendment #17" (NRC Accession No. ML110030015).

CR-3 will perform a review of design basis ASME Code Class 1 fatigue evaluations to determine whether the NUREG/CR-6260 based locations that have been evaluated for the effects of the reactor coolant environment on fatigue usage are the limiting locations for the CR-3 plant configuration. If more limiting locations are identified, the most limiting location will be evaluated for the effects of the reactor coolant environment on fatigue usage. If any of the limiting locations consist of nickel alloy, NUREG/CR-6909 methodology for nickel alloy will be used in the evaluation.

This response has resulted in the changes to the LRA and development of a new License Renewal Commitment #31. These are documented in Enclosure 2.

PROGRESS ENERGY FLORIDA, INC.

CRYSTAL RIVER UNIT 3

DOCKET NUMBER 50 - 302 / LICENSE NUMBER DPR - 72

ENCLOSURE 2

AMENDMENT #19 CHANGES TO THE LICENSE RENEWAL APPLICATION

Amendment #19 Changes to the License Renewal Application

<table>
<tr><th>Source of Change</th><th>License Renewal Application Amendment 19 Changes</th></tr>
<tr><td>RAI
4.3.3-6</td><td>
Revise Section 4.3.3 of the LRA as follows. On page 4.3-12, insert the following paragraph prior to the last paragraph in the section:

CR-3 will perform a review of design basis ASME Code Class 1 fatigue evaluations to determine whether the NUREG/CR-6260 based locations that have been evaluated for the effects of the reactor coolant environment on fatigue usage are the limiting locations for the CR-3 plant configuration. If more limiting locations are identified, the most limiting location will be evaluated for the effects of the reactor coolant environment on fatigue usage. If any of the limiting locations consist of nickel alloy, NUREG/CR-6909 methodology for nickel alloy will be used in the evaluation.

On page 4.3-13, revise the last paragraph in the section as follows:

Based on the results of this evaluation, the commitment to perform a review to determine whether the NUREG/CR-6260 based locations are limiting, and in accordance with 10 CFR 54.21(c)(1)(iii), the effects of aging on the intended function(s) will be adequately managed for the period of extended operation using the CR-3 RCPB Fatigue Monitoring Program.

Revise Section A.1.2.2.10 of the LRA as follows. On page A-35, insert the following paragraph prior to the last paragraph in the section:

CR-3 will perform a review of design basis ASME Code Class 1 fatigue evaluations to determine whether the NUREG/CR-6260 based locations that have been evaluated for the effects of the reactor coolant environment on fatigue usage are the limiting locations for the CR-3 plant configuration. If more limiting locations are identified, the most limiting location will be evaluated for the effects of the reactor coolant environment on fatigue usage. If any of the limiting locations consist of nickel alloy, NUREG/CR-6909 methodology for nickel alloy will be used in the evaluation.

The above change requires a revision to the CR-3 License Renewal Commitments to add new Commitment #31 as follows:

<table>
<tr><td>31</td><td>CR-3 will perform a review of design basis ASME Code Class 1 fatigue evaluations to determine whether the NUREG/CR-6260 based locations that have been evaluated for the effects of the reactor coolant environment on fatigue usage are the limiting locations for the CR-3 plant configuration. If more limiting locations are identified, the most limiting location will be evaluated for the effects of the reactor coolant environment on fatigue usage. If any of the limiting locations consist of nickel alloy, NUREG/CR-6909 methodology for nickel alloy will be used in the evaluation.</td><td>A.1.2.2.10</td><td>Prior to the period of extended operation</td><td>Environmentally -Assisted Fatigue Review

RAI 4.3.3-6</td></tr>
</table>

(continued)
</td></tr>
</table>

Source of Change	License Renewal Application Amendment 19 Changes
RAI 4.3.3-6 (continued)	*On page A-35, revise the last paragraph as follows:* *Based on the results of this evaluation and the commitment to perform a review to determine whether the NUREG/CR-6260 based locations are limiting, the effects of aging on the intended function(s) will be adequately managed for the period of extended operation using the CR-3 RCPB Fatigue Monitoring Program in accordance with 10 CFR 54.21(c)(1)(iii).*