August 3, 2009

Mr. Jon Franke, Vice President
Crystal River Nuclear Plant (NA1B)
ATTN: Supervisor, Licensing & Regulatory Programs
15760 W. Power Line Street
Crystal River, FL 34428-6708

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE CRYSTAL RIVER UNIT 3 NUCLEAR GENERATING PLANT, LICENSE RENEWAL APPLICATION (TAC NO. ME0274)

Dear Mr. Franke:

By letter dated December 16, 2008, Florida Power Corporation submitted an application pursuant to Title 10 of the *Code of Federal Regulations* Part 54, to renew the operating license for Crystal River Unit 3 Nuclear Generating Plant, for review by the U.S. Nuclear Regulatory Commission (NRC or the staff). The staff is reviewing the information contained in the license renewal application and has identified, in the enclosure, areas where additional information is needed to complete the review. Further requests for additional information may be issued in the future.

Items in the enclosure were discussed with Mr. Michael Heath, and a mutually agreeable date for the response is within 45 days from the date of this letter. If you have any questions, please contact me at 301-415-3733 or by e-mail robert.kuntz@nrc.gov.

Sincerely,

/RA/

Robert F. Kuntz, Senior Project Manager
Projects Branch 2
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket No. 50-302

Enclosure:
As stated

cc w/encl: See next page

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cc w/encl: See next page

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ADAMS Accession No (s): ML091740070

OFFICE	PM:RPB2:DLR	LA:DLR	BC:CVIB:DCI	BC:RPB2:DLR	PM:RPB2:DLR
NAME	RKuntz	IKing	MMitchell	DWrona	RKuntz (Signature)
DATE	07/23/09	08/03/09	07/30/09	07/31/09	08/03/09

OFFICIAL RECORD COPY

Letter to J. Franke from R. Kuntz, dated August 03, 2009

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Crystal River Generating Plant,
Unit 3

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CRYSTAL RIVER UNIT 3 NUCLEAR GENERATING PLANT
LICENSE RENEWAL APPLICATION
REQUEST FOR ADDITIONAL INFORMATION

Background:

By letter dated December 18, 2008, Florida Power Corporation, doing business as Progress Energy Florida, Inc., a subsidiary of Progress Energy, Inc., submitted a license renewal application (LRA) to extend the operating license for Crystal River Unit 3 Nuclear Generating Plant (CR-3), for an additional 20 year period.

Requests for Information

RAI 4.2.6-1

Background

The CR-3 LRA states that:

> The ART at the inside surface of CR-3 Lower Nozzle Belt Forging AZJ 94 is 3.0 ^{o}F higher than the ART evaluated for the previously limiting forging [from BAW-2247A, Fracture Mechanics Analysis of Postulated Underclad Cracks in B&W Designed Reactor Vessels for the Period Of Extended Operation].

Request

Demonstrate that the reanalysis of the CR-3 Lower Nozzle Belt Forging AXJ 94 is consistent with the methodology used in BAW-2247A. Provide information, including input data, intermediate calculations, etc., as necessary, to support that the analyses performed for CR-3 are consistent with those in BAW-2274A.

RAI 4.2.2-1

Background

Section 4.2.2, Upper Shelf Energy Analysis, states that, "the methodology used to evaluate CR-3 beltline welds at 60 years is consistent with the equivalent margins analysis (EMA) methods reported in BAW-2192PA, "Low Upper-Shelf Toughness Fracture Mechanics Analysis of Reactor Vessels of B&W Owners Reactor Vessel Working Group for Level A & B Service Loads;" BAW-2178PA, "Low Upper-Shelf Toughness Fracture Mechanics Analysis of Reactor Vessels of B&W Owners Reactor Vessel Working Group for Level C & D Service Loads;" and BAW-2275A, "Low Upper-Shelf Toughness Fracture Mechanics Analysis of B&W Designed Reactor Vessels for 48 EFPY."

Topical Report BAW-2275A addresses the issue of low upper-shelf toughness for Linde 80 welds in Babcock and Wilcox (B&W) reactor pressure vessels (RPVs), for an extended license period of 48 effective full-power years (EFPY). The BAW-2275A evaluation involved 5 plants of the 16 plants covered by BAW-2178PA and BAW-2192PA. CR-3 did not participate in the evaluation contained in BAW-2275A. The staff's safety evaluation of BAW-2275A concluded

that the Linde 80 welds have margins equivalent to those of Appendix G of Section XI of the ASME Code for the 5 RPVs analyzed in the report.

Request

a. Provide a technical basis for the application of BAW-2275A to: (1) include CR-3 vessel materials, which were not included in the BAW-2275A analysis, and (2) an extended license period of 54 EFPY, as opposed to the 48 EFPY of the BAW-2275A topical report.

b. Upper-shelf energy analyses contained Topical Reports BAW-2178PA and BAW-2192PA for CR-3 are bounded by 32 EFPY fluence predictions for the CR-3 beltline welds. The CR-3 fluence values for the extended license period of 54 EFPY exceed these fluence values. Therefore, provide a technical basis for the application of BAW-2178PA and BAW-2192PA using the CR-3 54 EFPY fluence values.