



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

July 17, 2012  
3F0712-03

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

Subject: Crystal River Unit 3 – Supplement to the Extended Power Uprate License Amendment Request #309 (TAC No. ME6527)

- References:
1. FPC to NRC letter dated June 15, 2011, "Crystal River Unit 3 – License Amendment Request #309, Revision 0, Extended Power Uprate" (ADAMS Accession No. ML112070659)
  2. FPC to NRC letter dated March 19, 2012, "Crystal River Unit 3 – 10 CFR 50.46 Notification of Change in Peak Cladding Temperature for Large Break Loss of Coolant Accident Analysis" (ADAMS Accession No. ML12081A278)
  3. FPC to NRC letter dated June 18, 2012, "Crystal River Unit 3 – Response to Request for Additional Information to Support NRC Nuclear Performance and Code Review Branch (SNPB) Technical Review of the CR-3 Extended Power Uprate LAR (TAC No. ME6527)" (ADAMS Accession No. ML12173A391)
  4. FPC to NRC letter dated October 25, 2011, "Crystal River Unit 3 – Feedwater Line Break Overpressure Protection Analysis to Support NRC Reactor Systems Branch Acceptance Review of the CR-3 Extended Power Uprate LAR and LAR Approval Schedule (TAC No. ME6527)" (ADAMS Accession No. ML11300A226)

Dear Sir:

By letter dated June 15, 2011, Florida Power Corporation (FPC) requested a license amendment to increase the rated thermal power level of Crystal River Unit 3 (CR-3) from 2609 megawatts (MWt) to 3014 MWt. (Reference 1) This correspondence provides supplemental information to the CR-3 Extended Power Uprate (EPU) license amendment request (LAR) #309 as a result of discussions between FPC and the NRC staff during an NRC audit of the CR-3 EPU safety analyses at the AREVA NP, Inc. offices in Lynchburg, VA during the week of June 11-15, 2012.

Attachment A, "CR-3 LOCA Summary Report – EPU/ROTSG/Mark-B-HTP, Revision 4," is provided to support the NRC staff review of the EPU LAR. As noted in the FPC to NRC letter dated March, 19, 2012, "Crystal River Unit 3 -10 CFR 50.46 Notification of Change in Peak Cladding Temperature for Large Break Loss of Coolant Accident Analysis," two estimated adjustments in the large break loss of coolant accident analysis result in a net change in the fuel peak cladding temperature (PCT) of zero. (Reference 2) The first PCT adjustment is due to an

ADD  
NRC

error in the blow down model control variable that affected the Emergency Core Cooling System bypass calculation. The second PCT adjustment is due to changes in core cooling when the upper plenum column weldments are modeled. These error adjustments are not explicitly included in the CR-3 EPU LOCA Summary Report contained in Attachment A. Additionally, the CR-3 EPU LOCA Summary Report (Attachment A) does not include a discussion related to thermal conductivity degradation and associated burnup-dependent uncertainties related to the PCT-limited LOCA analyses. This additional discussion is provided in Response SNPB 1-2 in Attachments A and C of the FPC to NRC letter dated June 18, 2012, "Crystal River Unit 3 – Response to Request for Additional Information to Support NRC Nuclear Performance and Code Review Branch (SNPB) Technical Review of the CR-3 Extended Power Uprate LAR (TAC No. ME6527)." (Reference 3)

Attachment B, "Technical Report ANP-3114(P): CR-3 EPU – Feedwater Line Break Analysis Sensitivity Studies, Revision 0 (Proprietary)," provides additional sensitivity studies related to the feedwater line break (FWLB) accident analysis performed for the CR-3 EPU to support the CR-3 license basis change request to revise the Reactor Coolant System pressure acceptance criterion for the FWLB accident consistent with the criterion in NUREG-0800, "Standard Review Plan," Section 15.2.8, "Feedwater System Pipe Break Inside And Outside Containment (PWR)," (Reference 1, Attachment 1).

Attachment B contains information that is considered proprietary. AREVA NP, Inc., as the owner of the proprietary information, has executed the affidavit provided in Attachment C and states that the identified information has been classified as proprietary, is customarily held in confidence, and not made available to the public. AREVA NP, Inc. requests the identified proprietary information be withheld from public disclosure in accordance with the provisions of 10 CFR 2.390(a)(4). Attachment D, "Technical Report ANP-3114(NP): CR-3 EPU – Feedwater Line Break Analysis Sensitivity Studies, Revision 0 (Non-proprietary)," is a non-proprietary copy of the FWLB analysis sensitivity studies with the proprietary information redacted.

Attachment E, "Technical Report ANP-3052: CR-3 EPU Feedwater Line Break Analysis with Failure of First Safety Grade Trip, Revision 2," is provided to support the NRC staff review of the EPU LAR. The updated FWLB analysis with the first safety grade trip failed was re-evaluated to incorporate the model and limiting conditions defined in the FWLB sensitivity studies (Attachments B and D) and supersedes the FWLB report transmitted in the FPC to NRC letter dated October 25, 2011, "Crystal River Unit 3 – Feedwater Line Break Overpressure Protection Analysis to Support NRC Reactor Systems Branch Acceptance Review of the CR-3 Extended Power Uprate LAR and LAR Approval Schedule (TAC No. ME6527)." (Reference 4)

The information provided by this correspondence contains no new regulatory commitments and does not change the intent or the justification for the requested EPU license amendment. FPC has determined that this supplemental information to the CR-3 EPU LAR does not affect the basis for concluding that the proposed license amendment (Reference 1) does not involve a Significant Hazards Consideration. As such, the 10 CFR 50.92 evaluation provided in the June 15, 2011 submittal remains valid.

If you have any questions regarding this submittal, please contact Mr. Dan Westcott, Superintendent, Licensing and Regulatory Programs at (352) 563-4796.

Sincerely,



Jon A. Franke  
Vice President  
Crystal River Nuclear Plant

JAF/gwe

Attachments:

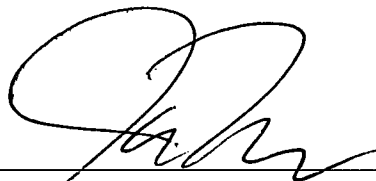
- A. CR-3 LOCA Summary Report – EPU/ROTSG/Mark-B-HTP, Revision 4
- B. Technical Report ANP-3114(P): CR-3 EPU – Feedwater Line Break Analysis Sensitivity Studies, Revision 0 (Proprietary)
- C. AREVA Affidavit for Withholding Proprietary Information from Public Disclosure
- D. Technical Report ANP-3114(NP): CR-3 EPU – Feedwater Line Break Analysis Sensitivity Studies, Revision 0 (Non-proprietary)
- E. Technical Report ANP-3052: CR-3 EPU Feedwater Line Break Analysis with Failure of First Safety Grade Trip, Revision 2

xc: NRR Project Manager  
Regional Administrator, Region II  
Senior Resident Inspector  
State Contact

**STATE OF FLORIDA**

**COUNTY OF CITRUS**

Jon A. Franke states that he is the Vice President, Crystal River Nuclear Plant for Florida Power Corporation; 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 17 day of July, 2012, by Jon A. Franke.



Signature of Notary Public  
State of Florida



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

Personally ☒ Produced  
Known \_\_\_\_\_ -OR- Identification \_\_\_\_\_

**FLORIDA POWER CORPORATION**

**CRYSTAL RIVER UNIT 3**

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

**ATTACHMENT C**

**AREVA AFFIDAVIT FOR WITHHOLDING PROPRIETARY  
INFORMATION FROM PUBLIC DISCLOSURE**

## AFFIDAVIT

COMMONWEALTH OF VIRGINIA    )  
  ) ss.  
CITY OF LYNCHBURG            )

1. My name is Gayle F. Elliott. I am Manager, Product Licensing, for AREVA NP Inc. (AREVA NP) and as such I am authorized to execute this Affidavit.

2. I am familiar with the criteria applied by AREVA NP to determine whether certain AREVA NP information is proprietary. I am familiar with the policies established by AREVA NP to ensure the proper application of these criteria.

3. I am familiar with the AREVA NP information contained in the report ANP-3114(P), Revision 0, entitled "CR-3 EPU – Feedwater Line Break Analysis Sensitivity Studies," dated May 2012 and referred to herein as "Document." Information contained in this Document has been classified by AREVA NP as proprietary in accordance with the policies established by AREVA NP for the control and protection of proprietary and confidential information.

4. This Document contains information of a proprietary and confidential nature and is of the type customarily held in confidence by AREVA NP and not made available to the public. Based on my experience, I am aware that other companies regard information of the kind contained in this Document as proprietary and confidential.

5. This Document has been made available to the U.S. Nuclear Regulatory Commission in confidence with the request that the information contained in this Document be withheld from public disclosure. The request for withholding of proprietary information is made in accordance with 10 CFR 2.390. The information for which withholding from disclosure is

requested qualifies under 10 CFR 2.390(a)(4) "Trade secret and commercial or financial information."

6. The following criteria are customarily applied by AREVA NP to determine whether information should be classified as proprietary:

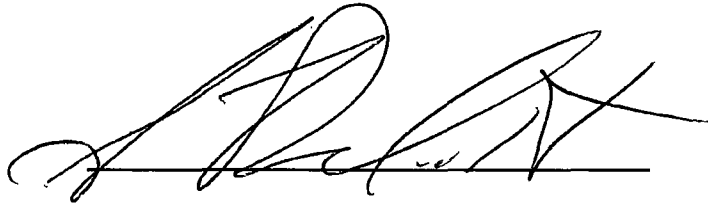
- (a) The information reveals details of AREVA NP's research and development plans and programs or their results.
- (b) Use of the information by a competitor would permit the competitor to significantly reduce its expenditures, in time or resources, to design, produce, or market a similar product or service.
- (c) The information includes test data or analytical techniques concerning a process, methodology, or component, the application of which results in a competitive advantage for AREVA NP.
- (d) The information reveals certain distinguishing aspects of a process, methodology, or component, the exclusive use of which provides a competitive advantage for AREVA NP in product optimization or marketability.
- (e) The information is vital to a competitive advantage held by AREVA NP, would be helpful to competitors to AREVA NP, and would likely cause substantial harm to the competitive position of AREVA NP.

The information in the Document is considered proprietary for the reasons set forth in paragraphs 6(b) and 6(c) above.

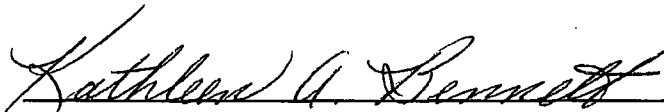
7. In accordance with AREVA NP's policies governing the protection and control of information, proprietary information contained in this Document have been made available, on a limited basis, to others outside AREVA NP only as required and under suitable agreement providing for nondisclosure and limited use of the information.

8. AREVA NP policy requires that proprietary information be kept in a secured file or area and distributed on a need-to-know basis.

9. The foregoing statements are true and correct to the best of my knowledge,  
information, and belief.

A large, stylized handwritten signature in black ink, appearing to be 'J. R. Smith', written over a horizontal line.

SUBSCRIBED before me this 20<sup>th</sup>  
day of June 2012.

A handwritten signature in black ink that reads 'Kathleen A. Bennett', written over a horizontal line.

Kathleen Ann Bennett  
NOTARY PUBLIC, COMMONWEALTH OF VIRGINIA  
MY COMMISSION EXPIRES: 8/31/15  
Reg. # 110864

