



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

August 3, 2012

Mr. Jon A. Franke  
Vice President  
Crystal River Nuclear Plant (NA2C)  
ATTN: Supervisor, Licensing and  
Regulatory Programs (NA1B)  
15760 W. Power Line Street  
Crystal River, FL 34428-6708

SUBJECT: CRYSTAL RIVER UNIT 3 NUCLEAR GENERATING PLANT – REQUEST FOR  
ADDITIONAL INFORMATION FOR EXTENDED POWER UPRATE LICENSE  
AMENDMENT REQUEST (TAC NO. ME6527)

Dear Mr. Franke:

By letter dated June 15, 2011, as supplemented by letters dated July 5, 2011; August 11, 2011 (two letters); August 18 and 25, 2011; October 11 and 25, 2011; December 15, 2011 (two letters); December 21, 2011; January 5, 2012 (two letters); January 19, 2012 (two letters); January 31, 2012; March 19, 2012; March 22, 2012; April 4, 2012 (two letters); April 12, 2012; April 16, 2012; April 26, 2012; June 18, 2012; June 29, 2012, and July 17, 2012 (two letters); Florida Power Corporation, doing business as Progress Energy Florida, Inc., submitted a license amendment request for an extended power uprate to increase thermal power level from 2609 megawatts thermal (MWt) to 3014 MWt for Crystal River Unit 3 Nuclear Generating Plant.

The U.S. Nuclear Regulatory Commission staff is reviewing the submittal and has determined that additional information is required to complete its evaluation. This request was discussed with Mr. Dan Westcott of your staff on July 26, 2012, and it was agreed that a response to the enclosed request for additional information would be provided within 45 days from the date of this letter.

If you have any questions regarding this matter, I can be reached at 301-415-1564.

Sincerely,

A handwritten signature in black ink, appearing to read "Siva P. Lingam", is positioned above the typed name.

Siva P. Lingam, Project Manager  
Plant Licensing Branch II-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-302

Enclosure:  
Request for Additional Information

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION  
REGARDING EXTENDED POWER UPRATE TO INCREASE THERMAL POWER LEVEL  
FROM 2609 MEGAWATTS THERMAL TO 3014 MEGAWATTS THERMAL  
CRYSTAL RIVER UNIT 3 NUCLEAR GENERATING PLANT  
DOCKET NO. 50-302

By letter dated June 15, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML112070659), as supplemented by letters dated July 5, 2011; August 11, 2011 (two letters); August 18 and 25, 2011; October 11 and 25, 2011; December 15, 2011 (two letters); December 21, 2011; January 5, 2012 (two letters); January 19, 2012 (two letters); January 31, 2012; March 19, 2012; March 22, 2012; April 4, 2012 (two letters); April 12, 2012; April 16, 2012; April 26, 2012; June 18, 2012; June 29, 2012; and July 17, 2012 (two letters); (ADAMS Accession Nos. ML112010674, ML11228A032, ML11234A051, ML11234A427, ML11242A140, ML112860156, ML113040176, ML11354A232, ML11354A233, ML11361A460, ML12011A035, ML12030A209, ML12024A300, ML12024A301, ML120330114, ML12081A293, ML12086A107, ML12097A183, ML12097A246, ML12107A216, ML12114A002, ML12118A498, ML121730557, ML122060421, ML12205A268, and ML12205A356, respectively), Florida Power Corporation (the licensee), doing business as Progress Energy Florida, Inc., submitted a license amendment request (LAR) for an extended power uprate (EPU) to increase thermal power level from 2609 megawatts thermal (MWt) to 3014 MWt for Crystal River Unit 3 Nuclear Generating Plant (CR-3). In order to complete its review of the above documents, the U.S. Nuclear Regulatory Commission (NRC) staff requests additional information originating from our Reactor Systems Branch (SRXB) related to spent fuel storage:

**SRXB REQUEST FOR ADDITIONAL INFORMATION (RAI)**

- 1) Section 2.8.6.2.2 of the technical report of the original EPU LAR dated June 15, 2011, states:

Studies performed in support of the evaluation discussed above demonstrate that continued use of a uniform axial burnup profile remains conservative for EPU conditions.

For burnup credit applications, uniform axial profile becomes non-limiting after accumulating some amount of depletion. Explain what is meant by this statement and provide the "studies" used to demonstrate that the uniform profile remains conservative for EPU.

- 2) Provide the spent fuel pool boron dilution analysis supporting the revised CR-3 Technical Specification 4.3.1.

Enclosure

- 3) Pool A racks contain Carborundum neutron absorber panels. Provide a detailed assessment of the current and future conditions of the Carborundum neutron absorber panel in terms of the following:
  - a. uniform Boron-10 loss from the absorber panels, and
  - b. local degradation such as gapping, cracking and/or scalloping.
- 4) Provide a quantitative assessment of the impact of panel degradation mechanisms noted in RAI 3 on the criticality analysis of record. Estimate the date on which the worst panel will exceed the assumed condition in the criticality analysis or record.

August 3, 2012

Mr. Jon A. Franke  
Vice President  
Crystal River Nuclear Plant (NA2C)  
ATTN: Supervisor, Licensing and  
Regulatory Programs (NA1B)  
15760 W. Power Line Street  
Crystal River, FL 34428-6708

SUBJECT: CRYSTAL RIVER UNIT 3 NUCLEAR GENERATING PLANT – REQUEST FOR  
ADDITIONAL INFORMATION FOR EXTENDED POWER UPRATE LICENSE  
AMENDMENT REQUEST (TAC NO. ME6527)

Dear Mr. Franke:

By letter dated June 15, 2011, as supplemented by letters dated July 5, 2011; August 11, 2011 (two letters); August 18 and 25, 2011; October 11 and 25, 2011; December 15, 2011 (two letters); December 21, 2011; January 5, 2012 (two letters); January 19, 2012 (two letters); January 31, 2012; March 19, 2012; March 22, 2012; April 4, 2012 (two letters); April 12, 2012; April 16, 2012; April 26, 2012; June 18, 2012; June 29, 2012, and July 17, 2012 (two letters); Florida Power Corporation, doing business as Progress Energy Florida, Inc., submitted a license amendment request for an extended power uprate to increase thermal power level from 2609 megawatts thermal (MWt) to 3014 MWt for Crystal River Unit 3 Nuclear Generating Plant.

The U.S. Nuclear Regulatory Commission staff is reviewing the submittal and has determined that additional information is required to complete its evaluation. This request was discussed with Mr. Dan Westcott of your staff on July 26, 2012, and it was agreed that a response to the enclosed request for additional information would be provided within 45 days from the date of this letter.

If you have any questions regarding this matter, I can be reached at 301-415-1564.

Sincerely,

/RA/

Siva P. Lingam, Project Manager  
Plant Licensing Branch II-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-302

Enclosure:

Request for Additional Information  
cc w/encl: Distribution via Listserv

DISTRIBUTION:

PUBLIC LPL2-2 R/F  
RidsNrrLABTully RidsOgcMailCenter  
S. Lingam, NRR RidsRgn2MailCenter

RidsNrrDorLpl2-2  
RidsNrrDorDpr  
RidsNrrDssSrx

RidsNrrPMCrystalRiver  
RidsAcrcAcnw\_MailCTR  
A. Nakanishi, NRR

K. Wood, NRR  
B. Parks, NRR

ADAMS Accession No: ML12213A303

\* By e-mail

| OFFICE | DORL/LPL2-2/PM | DORL/LPL2-2/LAit            | DORL/LPL2-2/LA             | DSS/SRXB/BC (A) | DORL/LPL2-2/BC (A) | DORL/LPL2-2/PM |
|--------|----------------|-----------------------------|----------------------------|-----------------|--------------------|----------------|
| NAME   | SLingam        | CDorsey<br>(JBurkhardt for) | BTully<br>(JBurkhardt for) | SMiranda*       | JQuichocho         | SLingam        |
| DATE   | 08/03/12       | 08/03/12                    | 08/03/12                   | 07/23/12*       | 08/03/12           | 08/03/12       |

OFFICIAL RECORD COPY