December 28, 2007

Mr. Dale E. Young, Vice President
Crystal River Nuclear Plant (NA1B)
ATTN: Supervisor, Licensing & Regulatory Programs
15760 W. Power Line Street
Crystal River, Florida 34428-6708

SUBJECT: CRYSTAL RIVER UNIT 3 - GENERIC LETTER 2004-02, "POTENTIAL IMPACT OF DEBRIS BLOCKAGE ON EMERGENCY RECIRCULATION DURING DESIGN BASIS ACCIDENTS AT PRESSURIZED WATER REACTORS," EXTENSION REQUEST APPROVAL (TAC NO. MC4678)

Dear Mr. Young:

By letter dated December 10, 2007, supplemented by letter dated December 18, 2007, Florida Power Corporation (the licensee) submitted a request for an extension of the corrective action due date for Generic Letter 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized Water Reactors," at the Crystal River Unit 3 Power Plant.

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the licensee's request and concludes that it is acceptable to extend the due date for completion of (1) steam generator fibrous insulation replacement activities by the end of the refueling outage beginning on September 26, 2009, and (2) in-vessel downstream effects and ex-vessel downstream effects evaluations by February 29, 2008.

Further details on the bases for the NRC staff's conclusions are contained in the enclosed evaluation. If you have any questions regarding this issue, please feel free to contact Stewart Bailey at (301) 415-1321.

Sincerely,

/RA by SBailey for/

Thomas H. Boyce, Chief
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-302

Enclosure: Evaluation

cc w/enclosures: See next page

Mr. Dale E. Young, Vice President
Crystal River Nuclear Plant (NA1B)
ATTN: Supervisor, Licensing & Regulatory Programs
15760 W. Power Line Street
Crystal River, Florida 34428-6708

SUBJECT: CRYSTAL RIVER UNIT 3 - GENERIC LETTER 2004-02, "POTENTIAL IMPACT OF DEBRIS BLOCKAGE ON EMERGENCY RECIRCULATION DURING DESIGN BASIS ACCIDENTS AT PRESSURIZED WATER REACTORS," EXTENSION REQUEST APPROVAL (TAC NO. MC4678)

Dear Mr. Young:

By letter dated December 10, 2007, supplemented by letter dated December 18, 2007, Florida Power Corporation (the licensee) submitted a request for an extension of the corrective action due date for Generic Letter 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized Water Reactors," at the Crystal River Unit 3 Power Plant.

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the licensee's request and concludes that it is acceptable to extend the due date for completion of (1) steam generator fibrous insulation replacement activities by the end of the refueling outage beginning on September 26, 2009, and (2) in-vessel downstream effects and ex-vessel downstream effects evaluations by February 29, 2008.

Further details on the bases for the NRC staff's conclusions are contained in the enclosed evaluation. If you have any questions regarding this issue, please feel free to contact Stewart Bailey at (301) 415-1321.

Sincerely,

/RA by S. Bailey for/

Thomas H. Boyce, Chief
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-302

Enclosure: Evaluation

cc w/enclosures: See next page

Distribution:
PUBLIC
LPL2-2 R/F
RidsNrrDorlLpl2-2
RidsNrrPMSBailey
RidsOgcRp
RidsNrrLABClayton (Hard Copy)
RidsAcrsAcnwMailCenter
RidsRgn2MailCenter
LWhitney
RidsNrrDssSsib

ADAMS ACCESSION NO.: ML073610575 NRR-106`

OFFICE	LPL2-2/PM	LPL2-2/LA	SSIB/BC	LPL2-2/BC
NAME	MVaaler for SBailey	BClayton	MScott	SBailey for TBoyce
DATE	12/28/07	12/28/07	12/20/07	12/28/07

* by memo **OFFICIAL RECORD**

EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

GENERIC LETTER 2004-02 EXTENSION REQUEST

FLORIDA POWER CORPORATION, ET AL.

CRYSTAL RIVER UNIT 3 NUCLEAR GENERATING PLANT

DOCKET NO. 50-302

1.0 INTRODUCTION

By letter dated December 10, 2007, Florida Power Corporation (the licensee) requested an extension to the corrective action due date of December 31, 2007, stated in Nuclear Regulatory Commission (NRC) Generic Letter (GL) 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized Water Reactors," for Crystal River Unit 3 (CR-3). The licensee stated that it has taken actions toward bringing CR-3 into compliance with GL 2004-02, including replacing the sump strainers with substantially larger strainers sized for the bounding debris load after a loss-of-coolant accident (LOCA), removing fibrous insulation from various components, and installing or modifying the sump strainer trash rack, debris interceptors, flow distributors, and other equipment to reduce the ability of debris to reach the sump strainer. The licensee also developed methods to backflush the sump strainer if it becomes clogged. However, the licensee stated that some necessary corrective actions, such as replacement of fibrous insulation on the steam generators (SGs) and evaluations of the downstream effects on components, systems, and fuel, would not be completed by the compliance due date of December 31, 2007. Therefore, the licensee requested an extension to allow time for completion of these activities.

In a letter dated December 18, 2007, the licensee augmented the information in its December 10, 2007, letter to (1) explain how its backflush testing results had shown that the technique was effective, (2) explain how core flow is not interrupted during backflushing operations, and (3) to state that, by February 9, 2008, for the remainder of the requested extension period, the licensee would establish CR-3 administrative limits that will increase the minimum inventory of the Borated Water Storage Tank (BWST) within the allowable Technical Specification range, thereby adding water inventory for the injection phase. The administrative limit would delay onset of the recirculation phase and increase debris settling time before the post-LOCA recirculation phase.

2.0 REGULATORY EVALUATION

As stated in SECY-06-0078, proposed extensions to permit changes at the next outage of opportunity after December 2007, may be granted if, based on the licensee's request, the staff determines that:

1. the licensee has a plant-specific technical/experimental plan with milestones and schedules to address outstanding technical issues with enough margin to account for uncertainties, and

ENCLOSURE

2. the licensee identifies mitigative measures to be put in place prior to December 31, 2007, and adequately describes how these mitigative measures will minimize the risk of degraded emergency core cooling system (ECCS) and containment spray system (CSS) functions during the extension period.

The SECY also states that for proposed extensions beyond several months, a licensee's request will more likely be accepted if the proposed mitigative measures include temporary physical improvements to the ECCS sump or materials inside containment to better ensure a high level of ECCS sump performance.

3.0 TECHNICAL EVALUATION

In regard to the first criterion for approving an extension, the licensee has a plant-specific plan, with milestones and schedules, to complete the CR-3 required corrective actions and modifications by the end of the refueling outage planned to commence on September 26, 2009. Specifically, the licensee plans to complete downstream effects evaluations for components, systems, and fuel prior to February 29, 2008. The licensee also plans to complete replacement of SG fibrous insulation with reflective metal insulation when the SGs are replaced during the fall 2009 refueling outage.

In regard to the second criterion for approving an extension, the licensee stated that various modifications, mitigating measures, compensatory measures, and/or favorable conditions are in effect at CR-3, minimizing the risk of degraded ECCS and CSS functions during the extension period. These measures include a replacement sump strainer with a total of 1139 sq ft of surface area, multiple and diverse means of backflushing the sump strainers should blockage occur, an installed/modified sump strainer trash rack, debris interceptors, and flow distributors, a reduction of aluminum in containment, the elimination of fibrous debris on the pressurizer, removal of degraded coatings, establishment of aggressive containment cleaning and foreign material controls, and modifications to the reactor building floor drain strainers.

In regard to the third criterion for approving an extension, the licensee noted that a number of permanent changes have already been made to reduce the likelihood of ECCS sump blockage, some of which are discussed in the previous paragraph. In addition, the licensee plans to implement temporary administrative limits on BWST level to increase the minimum water inventory.

The licensee also provided a risk discussion that concluded that the increase in risk for CR-3 for the proposed extension period is acceptably small. The NRC staff recognizes that the increase in risk for the proposed extension period is small, given the previously completed physical and program-related modifications to improve sump performance.

4.0 CONCLUSION

The NRC believes that the licensee has a reasonable plan that will result in acceptable strainer function with adequate margin for uncertainties. Further, the NRC has concluded that the licensee has put mitigation measures in place to adequately reduce risk for an approximate 21-month extension period. Therefore, the staff finds that it is acceptable for the licensee to complete the CR-3 corrective actions of (1) SG fibrous insulation replacement activities by the end of the refueling outage beginning on September 26, 2009, and (2) in-vessel downstream

effects and ex-vessel downstream effects evaluations by February 29, 2008. Should the licensee not commence the CR-3 fall 2009 refueling outage within 30 days after September 26, 2009, the licensee will need to provide the NRC additional justification for further delay in completing corrective actions for GL 2004-02.

cc:

Mr. R. Alexander Glenn
Associate General Counsel (MAC-BT15A)
Florida Power Corporation
P.O. Box 14042
St. Petersburg, Florida 33733-4042

Mr. Michael J. Annacone
Plant General Manager
Crystal River Nuclear Plant (NA2C)
15760 W. Power Line Street
Crystal River, Florida 34428-6708

Mr. Jim Mallay
Framatome ANP
1911 North Ft. Myer Drive, Suite 705
Rosslyn, Virginia 22209

Mr. William A. Passetti, Chief
Department of Health
Bureau of Radiation Control
2020 Capital Circle, SE, Bin #C21
Tallahassee, Florida 32399-1741

Attorney General
Department of Legal Affairs
The Capitol
Tallahassee, Florida 32304

Mr. Craig Fugate, Director
Division of Emergency Preparedness
Department of Community Affairs
2740 Centerview Drive
Tallahassee, Florida 32399-2100

Chairman
Board of County Commissioners
Citrus County
110 North Apopka Avenue
Inverness, Florida 34450-4245

Mr. Stephen J. Cahill
Engineering Manager
Crystal River Nuclear Plant (NA2C)
15760 W. Power Line Street
Crystal River, Florida 34428-6708

Mr. Jon A. Franke
Director Site Operations
Crystal River Nuclear Plant (NA2C)
15760 W. Power Line Street
Crystal River, Florida 34428-6708

Senior Resident Inspector
Crystal River Unit 3
U.S. Nuclear Regulatory Commission
6745 N. Tallahassee Road
Crystal River, Florida 34428

Ms. Phyllis Dixon
Manager, Nuclear Assessment
Crystal River Nuclear Plant (NA2C)
15760 W. Power Line Street
Crystal River, Florida 34428-6708

David T. Conley
Associate General Counsel II - Legal Dept.
Progress Energy Service Company, LLC
Post Office Box 1551
Raleigh, North Carolina 27602-1551

Mr. Daniel L. Roderick
Vice President, Nuclear Projects & Construction
Crystal River Nuclear Plant (SA2C)
15760 W. Power Line Street
Crystal River, Florida 34428-6708

Mr. David Varner
Manager, Support Services - Nuclear
Crystal River Nuclear Plant (SA2C)
15760 W. Power Line Street
Crystal River, Florida 34428-6708