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

June 30, 2009

Mr. Larry Meyer
Site Vice President
NextEra Point Beach, LLC
6610 Nuclear Road
Two Rivers, WI 54241

SUBJECT: POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 - GSI-191/GL 2004-02 ADDITIONAL EXTENSION REQUEST APPROVAL (TAC NOS. MC4705 AND MC4706)

Dear Mr. Meyer:

The U.S. Nuclear Regulatory Commission (NRC) staff has evaluated the information provided in FPL Energy's (the licensee) letter dated June 12, 2009 (Agencywide Document Access and Management System (ADAMS) Accession No. ML091660326), supporting a request for an extension of the Point Beach Nuclear Plant (PBNP), Units 1 and 2, sump clogging corrective actions due date of June 30, 2009, for PBNP Units 1 and 2, as approved by the NRC by letter dated October 6, 2008 (ADAMS Accession No. ML082740151).

The NRC has determined that for PBNP Units 1 and 2, it is acceptable to extend the due date for completion of Generic Letter 2004-02 "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors," corrective actions as described in the enclosed NRC staff evaluation of the extension request, until June 30, 2010, for PBNP Unit 1, and to June 30, 2011, for PBNP Unit 2. Enclosed is the NRC staff evaluation.

If you have any questions, please contact me at (301) 415-2048.

Sincerely,

Justin Poole, Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-266 and 50-301

Enclosure:
As stated

cc w/encl: Distribution via ListServ

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

EVALUATION OF EXTENSION REQUEST FOR CONTAINMENT SUMP

CORRECTIVE ACTIONS ASSOCIATED WITH

GENERIC LETTER 2004-02

POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

DOCKET NOS. 50-266 AND 50-301

By letter dated June 12, 2009 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML091660326), FPL Energy Point Beach, LLC (the licensee), requested an extension to the 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," corrective action due date for the Point Beach Nuclear Plant (PBNP), Units 1 and 2. The stated intent of this extension is to allow additional time to complete fibrous insulation removal for both units. In addition, the GL 2004-02 related debris generation and transport analysis will be completed by December 18, 2009. The licensee requested an extension for the remaining corrective actions to June 30, 2010, for PBNP Unit 1, and June 30, 2011, for PBNP Unit 2. This is, in effect, one additional operating cycle than previous requests.

The licensee previously requested an extension to the corrective action due date until June 30, 2009, for PBNP Unit 1, and December 31, 2009, for PBNP Unit 2 (FPL Energy Point Beach letter dated September 8, 2008, ADAMS Accession No. ML082530196), and the NRC granted an extension to June 30, 2009, for both units (NRC letter dated October 6, 2008, ADAMS Accession No. ML082740151), to support the licensee's plans to modify the plant such that it would be bounded by the then-current testing. The licensee performed initial head loss testing in May 2006, prior to the establishment of an accepted industry test protocol. In July 2008, the licensee conducted additional testing using revised test methodologies that reflect current guidance. During this testing, the licensee determined that the containment sump strainer configuration of 11 strainer modules per train, which had already been installed in PBNP, did not meet test acceptance criteria. The licensee planned to add three strainer modules per train, for a total of 14 strainer modules, add debris interceptors, and remove fibrous insulation. The licensee completed the additional modifications, described above, in the fall 2008, refueling outage for Unit 1, and planned similar modifications for the fall 2009, refueling outage for Unit 2.

Subsequently, the licensee conducted prototypical testing of the debris interceptors in January 2009. This testing indicated that debris interceptors are effective in reducing the transport of fibrous material; however, the efficiency of debris removal was not as high as required. In addition, the licensee noted that the NRC staff recently raised concerns regarding the destruction zone of influence (ZOI) for jacketed Nukon fibrous insulation assumed by the licensee, and the NRC has not yet issued a safety evaluation for the current industry methodology for evaluating incore downstream effects. The licensee plans to address these issues by removing additional fibrous insulation and revising the debris generation and transport analyses accordingly, using the July 2008, tests to determine the fiber load at the strainer. The

ENCLOSURE

extension request considers the lead time for fabricating and installing the replacement insulation.

The licensee's June 12, 2009, letter, revises the previous commitment, as follows:

> NextEra [FPL] Energy Point Beach will complete modifications to resolve GSI-191 at PBNP by June 30, 2010, for Unit 1, and by June 30, 2011, for Unit 2.

The NRC staff uses the criteria stated in SECY-06-007 to evaluate request for extending the due date for completion of GL 2004-02 corrective actions. Specifically, an extension may be granted if:

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

- 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 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.

With regard to the first extension criterion, the licensee's June 12, 2009, letter, provides the licensee's plans for addressing a plant-specific technical/experimental plan, with milestones and schedules, to complete the GL 2004-02 corrective actions. For Unit 1, the licensee plans to further reduce the fibrous insulation to ensure that the calculated fiber load on the strainer is bounded by the test results. The affected components include the steam generator channel heads and reactor coolant pump bowls. Additionally, insulation will be replaced on portions of the chemical and volume control system (CVCS) letdown line, steam generator blowdown lines, containment spray lines, resistance temperature detector (RTD) bypass lines, safety injection lines, and residual heat removal (RHR) system suction lines. These modifications will be completed in the BPNP Unit 1 spring 2010 refueling outage.

The June 12, 2009, letter, also discusses the licensee's plans for addressing the NRC staff's questions on the testing and analyses that formed the basis for the ZOI used at PBNP. The current PBNP debris generation and transport evaluations are based on a ZOI of 5D (5 times the pipe diameter) for jacketed Nukon insulation. The licensee is following the industry efforts to respond to the pending questions on this matter. In its June 12, 2009, letter, the licensee stated that if resolution of this matter results in expanding the ZOI for Nukon, the licensee will take the appropriate actions to ensure that the plant configuration meets the design analysis. The licensee plans to make a determination based on the status of the resolution of the ZOI issues in time to ensure that the necessary actions are completed during the PBNP Unit 1 spring 2010, refueling outage.

For PBNP Unit 2, the licensee stated that, during the fall 2009, outage, it will further increase the size of existing strainers, structurally reinforce the strainer assemblies to accommodate an increased differential pressure, and begin implementation of the fiber reduction effort. The licensee will conduct the fiber reduction effort in two phases. The scope of the first phase includes replacement of the insulation on the steam generator channel heads and the reactor coolant pump bowls, and reactor coolant system (RCS) loops as necessary to ensure no Nukon insulation on these components remains within the ZOI. In addition, the licensee stated that if the ZOI for Nukon is expanded, it will take the appropriate actions to ensure the plant configuration meets the design analysis. The licensee will make a determination, based on the status of the resolution of the ZOI issues, in time to ensure that the necessary actions on the steam generators, as described in its June 12, 2009, letter, are completed during the Unit 2 fall 2009, refueling outage, and any remaining actions are completed during the PBNP Unit 2 spring 2011, refueling outage. As part of the overall plant modification effort, the licensee will conduct detailed walkdowns of applicable sections of the pressurizer, as well as the CVCS letdown line, steam generator blowdown lines, RTD bypass lines, safety injection lines, and RHR system suction lines during in the fall 2009 refueling outage. This outage is the first practical opportunity to conduct walkdowns in preparation for replacing the insulation. The licensee will complete replacement of fibrous insulation in the next refueling outage, spring 2011.

With regard to the second extension criterion, the licensee provided information on mitigative measures in its letter dated June 12, 2009. For PBNP, Unit 1, a new strainer was installed during the spring 2007, refueling outage. This design increased the available flow area from approximately 21 sq. ft. to approximately 1,500 sq. ft. for each of two redundant strainers. This design also reduced the size of the flow openings from 0.125" to 0.066" diameter and greatly reduced the approach velocity of the openings to allow for increased settling of particulates and fiber. In the fall of 2008, the licensee installed an additional three strainer modules to increase the surface area to approximately 1900 sq. ft, installed debris interceptors designed to reduce the quantity of suspended debris that could be transported to the screen surface, and rerouted the refueling cavity drain piping to direct debris suspended in containment spray water from these areas to upstream of the debris interceptors.

For PBNP Unit 2, during the fall 2006, refueling outage, a new strainer was installed increasing the available flow area from approximately 21 sq. ft. to approximately 1,500 sq. ft. for each of two redundant strainers. This design also reduced the size of the flow openings from 0.125" to 0.066" diameter and greatly reduced the approach velocity of the openings to allow for increased settling of particulates and fiber. During the fall 2009, refueling outage, the licensee will install three additional strainer modules to increase each strainer train area from approximately 1,500 sq. ft. to approximately 1,900 sq. ft., structurally reinforce the strainer assemblies to accommodate an increased differential pressure, and initiate the fibrous insulation reduction effort.

With regard to the third extension criterion, the licensee discussed the significant plant modifications that have been completed and programs that have been implemented. These include the installation of strainers with substantially increased surface area, improved monitoring of containment coatings condition, improved monitoring and control of containment cleanliness, and procedural action in the unlikely event of sump screen blockage. Additionally, the licensee's June 12, 2009, letter, provides plant risk evaluations for PBNP Units 1 and 2. The staff has not reviewed the risk analysis in detail; but agrees with the licensee's conclusion that there is no significant risk impact of the requested extension.

The June 12, 2009, letter, also discussed the structural integrity of the piping that is subject to the extension request. The licensee examines the RCS piping in accordance with PBNP's American Society of Mechanical Engineers Boiler and Pressure Vessel Code (Code), Section XI, inservice inspection (ISI) program. The licensee ultrasonically examined 100 percent of the RCS welds during the third inspection interval ending in 2002, and subsequently performed examinations following the NRC-approved risk-informed ISI program during the 4th inspection interval. The licensee has not detected any rejectable indications. The licensee also performs the Code-required visual examinations for thru-wall leakage at the end of each refueling outage, and has not detected any leakage. The licensee discussed primary water stress corrosion cracking of Alloy 600/82/182 welds adequately for the purpose of the extension. The staff has reviewed the PBNP RCS piping materials and concluded that there is a low probability of rapidly-propagating fractures in the large and medium bore piping. The plant also has sufficient leakage detection systems to allow the plant to be shut down before a rupture occurs. For the smaller piping (2 inch to 8 inch lines), the licensee stated that the smaller lines were constructed with compatible materials and have design pressures, temperatures, and nondestructive examination requirements similar to the larger piping. The staff finds that the small lines should also have a low probability of pipe rupture during the extension period. On the basis of the above, the staff finds no structural integrity issues with the RCS piping near the pipe insulation subject to the GL 2004-02 extension request.

Based on the licensee having satisfactorily addressed the NRC GL 2004-02 due date extension criteria as discussed above, the NRC staff finds that extending the completion date for GL 2004-02 corrective actions to June 30, 2010, for PBNP Unit 1, and June 30, 2011, for PBNP Unit 2, is acceptable. The staff considers the granted extension period to be of be of low safety concern given the mitigation measures and plant improvements already in place, and expects the licensee to follow the corrective action plan as described in the licensee's letter dated June 12, 2009. The NRC expects PBNP Units 1 and 2 to place a high priority on completing remaining actions and updating the plants' licensing bases as soon as possible.

Principal Contributor: Roberto L. Torres, NRR
Joseph A. Golla, NRR

Date: June 30, 2009

June 30, 2009

Mr. Larry Meyer
Site Vice President
NextEra Point Beach, LLC
6610 Nuclear Road
Two Rivers, WI 54241

SUBJECT: POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 - GSI-191/GL 2004-02 ADDITIONAL EXTENSION REQUEST APPROVAL (TAC NOS. MC4705 AND MC4706)

Dear Mr. Meyer:

The U.S. Nuclear Regulatory Commission (NRC) staff has evaluated the information provided in FPL Energy's (the licensee) letter dated June 12, 2009 (Agencywide Document Access and Management System (ADAMS) Accession No. ML091660326), supporting a request for an extension of the Point Beach Nuclear Plant (PBNP), Units 1 and 2, sump clogging corrective actions due date of June 30, 2009, for PBNP Units 1 and 2, as approved by the NRC by letter dated October 6, 2008 (ADAMS Accession No. ML082740151).

The NRC has determined that for PBNP Units 1 and 2, it is acceptable to extend the due date for completion of Generic Letter 2004-02 "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors," corrective actions as described in the enclosed NRC staff evaluation of the extension request, until June 30, 2010, for PBNP Unit 1, and to June 30, 2011, for PBNP Unit 2. Enclosed is the NRC staff evaluation.

If you have any questions, please contact me at (301) 415-2048.

Sincerely,

/RA/

Justin Poole, Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-266 and 50-301

Enclosure:
As stated
cc w/encl: Distribution via ListServ

DISTRIBUTION:

PUBLIC	LPL3-1 R/F	RidsNrrDorlLpl3-1
RidsNrrPMPointBeach	RidsNrrLABTully	RidsAcrsAcnw&mMailCenter
RidsOgcRp	RidsRgn3MailCenter	RidsNrrDorlDpr
RTorres, NRR	MScott, NRR	RidsNrrDssSsib

ADAMS Accession No.: ML091800430 *per memo dated June 29, 2009

OFFICE	LPL3-1/PM	LPL3-1/LA	DSS/SSIB/BC	LPL3-1/BC
NAME	JPoole	BTully /*THarris for*	MScott*	LJames /*PTam for*
DATE	06/30/09	06/30/09	06/29/09	06/30/09

OFFICIAL RECORD COPY