February 26, 2008

Mr. James H. McCarthy
Site Vice President
FPL Energy Point Beach, LLC
6610 Nuclear Road
Two Rivers, WI 54241

SUBJECT: POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE: EXTENSION OF APPENDIX J, TYPE A INTEGRATED LEAKAGE RATE TEST INTERVAL AT POINT BEACH UNITS 1 AND 2 (TAC NOS. MD7013 AND MD7014)

Dear Mr. McCarthy:

The Commission has issued the enclosed Amendment No. 232 to Renewed Facility Operating License No. DPR-24 and Amendment No. 237 to Renewed Facility Operating License No. DPR-27 for the Point Beach Nuclear Plant, Units 1 and 2, respectively. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated October 12, 2007, as supplemented by letters dated December 12, and December 21, 2007.

These amendments revise TS 5.5.15, "Containment Leakage Rate Testing Program," for Units 1 and 2.

A copy of our related safety evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

/RA/

Jack Cushing, Senior Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-266 and 50-301

Enclosures:
1. Amendment No. 232 to DPR-24
2. Amendment No. 237 to DPR-27
3. Safety Evaluation

cc w/encls: See next page

Mr. James H. McCarthy
Site Vice President
FPL Energy Point Beach, LLC
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Package Accession Number: ML080380362 Amendment Accession Number: ML080380356
TS Accession Number: ML080430337 *Provided by SE input

OFFICE	LPL3-1/PM	LPL3-1/LA	APLA: BC*	SCVB: BC*	EMCB:BC*	ITSB:BC	OGC	LPL3-1/(A)BC
NAME	JCushing	THarris	MRubin	RDennig	KManoly	GWaig	JRund (NLO)	PMilano
DATE	02/25/08	/ /08	01/10/08	01/11/08	02/08/08	02/11/08	02 / 22/08	02 / 26 /08

OFFICIAL RECORD COPY

cc:

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Two Rivers, WI 54241

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FPL ENERGY POINT BEACH, LLC

DOCKET NO. 50-266

POINT BEACH NUCLEAR PLANT, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 232
License No. DPR-24

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by FPL Energy Point Beach, LLC (the licensee), dated October 12, 2007, as supplemented by letters dated December 12, and December 21, 2007, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 4.B of Renewed Facility Operating License No. DPR-24 is hereby amended to read as follows:

   B. Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 232, are hereby incorporated in the renewed operating license. FPLE Point Beach shall operate the facility in accordance with Technical Specifications.

3. This license amendment is effective as of the date of issuance and shall be implemented within 30 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Patrick D. Milano, Acting Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications
and Facility Operating License

Date of issuance: February 26, 2008

FPL ENERGY POINT BEACH, LLC

DOCKET NO. 50-301

POINT BEACH NUCLEAR PLANT, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 237
License No. DPR-27

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by FPL Energy Point Beach, LLC (the licensee), dated October 12, 2007, as supplemented by letters dated December 12, and December 21, 2007, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 4.B of Renewed Facility Operating License No. DPR-27 is hereby amended to read as follows:

   B. Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 237, are hereby incorporated in the renewed operating license. FPLE Point Beach shall operate the facility in accordance with Technical Specifications.

3. This license amendment is effective as of the date of issuance and shall be implemented within 30 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Patrick D. Milano, Acting Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications
and Facility Operating License

Date of issuance: February 26, 2008

ATTACHMENT TO LICENSE AMENDMENT NO. 232

TO RENEWED FACILITY OPERATING LICENSE NO. DPR-24

AND LICENSE AMENDMENT NO. 237

TO RENEWED FACILITY OPERATING LICENSE NO. DPR-27

DOCKET NOS. 50-266 AND 50-301

Replace the following pages of the Facility Operating Licenses and Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE	INSERT
Unit 1 License Page 3	Unit 1 License Page 3
Unit 2 License Page 3	Unit 2 License Page 3
Unit 1 and 2 TS page 5.5-14	Unit 1 and 2 TS page 5.5-14
Unit 1 and 2 TS page 5.5-15	Unit 1 and 2 TS page 5.5-15

D. Pursuant to the Act and 10 CFR Parts 30, 40 and 70, FPLE Point Beach to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

E. Pursuant to the Act and 10 CFR Parts 30 and 70, FPLE Point Beach to possess such byproduct and special nuclear materials as may be produced by the operation of the facility, but not to separate such materials retained within the fuel cladding.

4. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Sections 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR Part 70; and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:

A. Maximum Power Levels

FPLE Point Beach is authorized to operate the facility at reactor core power levels not in excess of 1540 megawatts thermal.

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 232, are hereby incorporated in the renewed operating license. FPLE Point Beach shall operate the facility in accordance with Technical Specifications.

C. Spent Fuel Pool Modification

The licensee is authorized to modify the spent fuel storage pool to increase its storage capacity from 351 to 1502 assemblies as described in licensee's application dated March 21, 1978, as supplemented and amended. In the event that the on-site verification check for poison material in the poison assemblies discloses any missing boron plates, the NRC shall be notified and an on-site test on every poison assembly shall be performed.

C. Pursuant to the Act and 10 CFR Parts 30, 40 and 70, FPLE Point Beach to receive, possess and use at any time any byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed source for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

D. Pursuant to the Act and 10 CFR Parts 30, 40 and 70, FPLE Point Beach to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

E. Pursuant to the Act and 10 CFR Parts 30 and 70, FPLE Point Beach to possess such byproduct and special nuclear materials as may be produced by the operation of the facility, but not to separate such materials retained within the fuel cladding.

4. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Sections 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR Part 70; and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:

A. Maximum Power Levels

FPLE Point Beach is authorized to operate the facility at reactor core power levels not in excess of 1540 megawatts thermal.

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 237, are hereby incorporated in the renewed operating license. FPLE Point Beach shall operate the facility in accordance with Technical Specifications.

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The licensee is authorized to modify the spent fuel storage pool to increase its storage capacity from 351 to 1502 assemblies as described in licensee's application dated March 21, 1978, as supplemented and amended. In the event that the on-site verification check for poison material in the poison assemblies discloses any missing boron plates, the NRC shall be notified and an on-site test on every poison assembly shall be performed.

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 232 TO RENEWED FACILITY

OPERATING LICENSE NO. DPR-24

AND AMENDMENT NO. 237 TO RENEWED FACILITY

OPERATING LICENSE NO. DPR-27

FPL ENERGY POINT BEACH, LLC

POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

DOCKET NOS. 50-266 AND 50-301

1.0 INTRODUCTION

By application to the U.S. Nuclear Regulatory Commission (NRC, Commission) dated October 12, 2007 (Ref. 7.1), as supplemented by letters dated December 12, (Ref. 7.2) and December 21, 2007 (Ref. 7.3), FPL Energy Point Beach, LLC (the licensee), requested changes to the Technical Specifications (TSs) for the Point Beach Nuclear Plant (PBNP), Units 1 and 2. The proposed changes would revise TS 5.5.15.a "Containment Leakage Rate Testing Program," for Units 1 and 2. Specifically, the proposed change would allow a one-time interval extension of no more than 5 years for the Type A, Integrated Leakage Rate Test (ILRT). The supplements dated December 12, and December 21, 2007, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on December 4, 2007, (72 FR 68217).

2.0 REGULATORY EVALUATION

Pursuant to 10 CFR 50.54(o) and 10 CFR Part 50, Appendix J – Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors, Option B – Performance-Based Requirements, a Type A test must be conducted (1) after a containment system has been completed and is ready for operation, and (2) at a periodic interval based on historical performance of the overall containment system. Section V.B.3 of 10 CFR Part 50, Appendix J, Option B, requires that the regulatory guide or other implementation document used by a licensee to develop a performance-based leakage-testing program must be included by general reference, in the plant TSs. Further, the submittal for TS revisions must contain justification, including supporting analyses, if the licensee chooses to deviate from methods approved by the Commission and endorsed in a regulatory guide.

The licensee's TS 5.5.15.a, "Primary Containment Leakage Rate Testing Program" requires that leakage rate testing of the containment be performed as required by 10 CFR 50.54(o) and 10 CFR Part 50, Appendix J, Option B, as modified by approved exemptions, and in accordance with the guidelines contained in Regulatory Guide (RG) 1.163, "Performance-Based Containment Leak-Test Program," dated September 1995. This RG endorses, with certain exceptions, Nuclear Energy Institute (NEI) Report NEI 94-01, Revision 0, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J," dated July 26, 1995.

The Type A test measures an overall integrated leakage rate of the containment as a barrier against the release of fission products to the outside environment and provides a verification of the integrity of the containment structure. NEI 94-01 specifies an initial test interval of 48 months, but allows an extended interval of 10 years, based upon two consecutive successful tests. The most recent two Type A tests at PBNP Unit 1 (1993,1997) and Unit 2 (1992,1997) have been successful, so the current interval requirement would normally be 10 years. However, by the current application (Ref. 7.1), the licensee requests a one-time extension of the test interval from 10 years to 15 years based on historical performance of its containment, as supported by a risk-informed analysis.

The licensee is requesting a change to TS 5.5.15.a, which would add an exception from the guidelines of RG 1.163 and NEI 94-01, Revision 0, regarding the Type A test interval. Specifically, the exception states that the first Unit 1 Type A test performed after the October 7, 1997, Type A test shall be performed by October 7, 2012, and that the first Unit 2 Type A test performed after the March 31, 1997, Type A test shall be performed by March 31, 2012.

The proposed TS change does not involve any other changes to licensing commitments or acceptance criteria. The licensee submitted the current application (Ref. 7.1) in accordance with 10 CFR Part 50 Appendix J, Option B, Section V.B.3, since the licensee proposes to take exception to its implementing document in the TS with regard to the interval for the performance of the next ILRT.

The local leakage rate tests (Type B and Type C tests), including their schedules, are not affected by this request.

3.0 TECHNICAL EVALUATION

3.1 Containment Inservice Inspection (CISI) Program and Structural/Leak-Tight Integrity Considerations

The PBNP reactor containment system is a right cylinder with a flat base slab and a shallow domed roof. A ¼-inch thick welded steel liner is attached to the inside face of the concrete shell to ensure a high degree of leak-tightness. The base liner is installed on top of the structural slab and is covered with concrete. The structure provides biological shielding for both normal and accident situations. The nominal 3 ½-foot thick cylindrical wall and 3-foot thick dome are pre-stressed and post-tensioned. The nominal 9-foot thick concrete base slab is reinforced with high strength reinforcing steel. There are also penetrations (piping and electrical, equipment hatch and personnel access air-locks) that pass through the containment pressure boundary. The leak-tight integrity of the penetrations and isolation valves are verified through Type B and Type C local leak rate tests (LLRTs) and the overall leak-tight integrity and structural integrity of the primary containment is verified through a Type A ILRT, as required by 10 CFR Part 50, Appendix J. These latest tests are performed at the design-basis accident pressure. Under Option B, both units at PBNP currently have an ILRT interval of 10 years. By the current application (Ref. 7.1), the licensee requests a one-time 5-year extension of the Type A test interval from 10 years to 15 years. The licensee justifies the proposed change based on historical, plant-specific containment leakage testing program results and containment in-service inspection program (CISI) results, supported by a risk-informed analysis.

The leakage rate testing requirements of 10 CFR Part 50 Appendix J Option B (Type A ILRT and Type B and Type C LLRTs) and the CISI requirements mandated by 10 CFR 50.55a together help ensure the continued leak-tight and structural integrity of the containment during its service life. Therefore, the staff requested information regarding the licensee's program for LLRTs, CISI and potential areas of weaknesses in the containment that may not be apparent in the risk assessment. The review of Sections 3.2.2, 3.2.3, and 3.2.6 of the licensee's submittal (Ref. 7.1) warranted certain additional information. The information presented in the licensee's submittal, staff's request for additional information (RAI), and the licensee's responses are discussed and evaluated below.

In Section 3.2.1 of reference 7.1, the licensee indicates that the results of previous PBNP, Units 1 and 2, Type A ILRTs, demonstrate that the containment structure of each unit remains essentially a leak-tight barrier and represents minimal risk to increased leakage. The licensee presented the plant-specific results from several previous Type A ILRTs for Unit 1 (1997, 1993, 1990, 1987, 1984, 1981, 1977, 1974, and 1970) and Unit 2 (1997, 1992, 1989, 1986, 1982, 1978, 1974, and 1971). All Type A tests performed at PBNP have met as-found acceptance criteria with the exception of the Unit 1, April 1987 test. Corrections were made following the Unit 1, April 1987 test for packing leakage, and the as-left results were subsequently acceptable. The most recent of Type A tests indicated a leakage rate of 0.0465 and 0.1087 percent weight per day for Units 1 and 2, respectively. The maximum allowable primary containment leakage rate at peak design containment internal accident pressure is 0.40 percent weight per day.

The licensee stated that industry experience has demonstrated that the Type B and C tests detect a large percentage of containment leakage. In RAI 1, the staff requested the licensee to provide the current test intervals under Option B for the Type B and Type C LLRTs. The staff also requested a schedule for the Type B and Type C tests on containment pressure retaining boundaries that are or will be scheduled to be performed prior to and during the requested 5-year extension period.

In its response dated December 21, 2007 (Ref. 7.3), the licensee provided for each Unit a comprehensive table. The table identified all the penetrations subjected to Type B and C testing and their current test frequencies that were established under Option B based on their performance. The licensee also identified the penetrations with non-metallic seals. The licensee indicated that the test frequencies are re-evaluated after each refueling outage for potential changes. The licensee also provided dates (refueling outages) that these tests are currently planned for between now and the next ILRT. The tabular information provided by the licensee in its response indicates that each Unit has approximately 55 penetrations that are subject to local leak rate tests. Over 40 percent of these penetrations are tested every refueling outage (i.e., 18-month frequency). The remaining are currently tested at frequency of 36 months. The date information in the tables indicates that the implementation of the tests for the penetrations with a 36 month frequency are being staggered approximately every alternate outage. Based on the information in the tables, the staff noted that the penetrations with the 18-month frequency will be tested three times between now and the next proposed ILRT. Of the penetrations with the 36-month frequency, approximately 50 percent will be tested two times and the remaining 50 percent will be tested at least one time between now and the next proposed ILRT. Thus, the response indicates that the performance of each of the containment pressure boundary penetrations will be monitored by a Type B or Type C test at least once and a majority of them two to three times during the requested extension period for the ILRT interval. Based on the information provided in response to the RAI, the staff finds that the licensee is effectively implementing its Type B and Type C LLRT program under Option B in a rational and systematic

manner that is consistent with industry standards and regulatory guidance, and will continue to do so during the requested ILRT interval extension period. Therefore, the response to RAI 1 is acceptable to the staff.

In Section 3.2.3 of the submittal (Ref. 7.1), the licensee discussed its CISI program and recent inspection results. The licensee stated that the second CISI interval for PBNP, Units 1 and 2, began on September 9, 2007, and complies with the 2001 Edition through 2003 Addenda of the American Society of Mechanical Engineers (ASME) Code Section XI, Subsections IWE and IWL. The first CISI interval examinations were performed in accordance of the 1992 Edition with the 1992 addenda of the ASME Code Section XI. The licensee stated,

> even though the proposed amendment will extend the ILRT testing frequency for 5 additional years, the IWE inspections will supplement the requirements of RG 1.163. General visual examinations will be conducted in two refueling outages during the requested ILRT extension period before the next Type A test. These examinations and requirements will continue to provide assurance that degradation of the containment will be detected and corrected before it can result in a leakage path.

In RAI 2, the staff requested the licensee to provide the following information with regard to how the licensee was implementing the inspection requirements of the concrete containment.

> Section 3.2.3 of the LAR…fails to address inspections of the concrete containment. Please provide a discussion of the CISI program at PBNP Units 1 & 2 which fulfills the requirements for inspection of the concrete and post-tensioning portions of containment and the effect, if any, the proposed amendment has on the program. Please include a summary of the two most recent inspections

By letter dated December 21, 2007 (Ref. 7.3), the licensee provided the following response.

> The scope of the IWL portion of the program includes surveillance of all accessible concrete surface areas and the unbonded post-tensioning system, including tendons, tendon wires or strands, anchorage hardware and surrounding concrete, corrosion protection medium and testing for evidence of free water. The first interval and second interval programs were developed and implemented in accordance with the 1992 Edition/1992 Addenda and 2001 Edition/2003 Addenda of the Code respectively. The first 10-year inspection interval was established from September 9, 1996, to September 9, 2006, and was extended to September 9, 2007, as permitted by IWA-2430(d), 1992 Edition/1992 Addenda. The second inspection interval started on September 9, 2007.
>
> A general visual examination of interior and exterior containment vessel surface areas is performed prior to a Type A test in accordance with the PBNP ISI IWE Program. IWL concrete examinations are conducted on a nominal 5-year schedule in accordance with ASME Section XI, IWL-2400. The extension of the integrated leak rate test (ILRT) test interval from 10 to 15 years will have no effect on the performance of these examinations. The next scheduled concrete examination for both Unit 1 and Unit 2 is summer 2008.
>
> Tendon surveillances will continue to be performed on a 5-year frequency as required by IWL-2400. The extension of the ILRT test interval from 10 to 15 years will not affect the

performance of these examinations. The next scheduled tendon examination for both Unit 1 and Unit 2 is summer 2008.

Summary reports of in-service examinations of containment concrete Class CC components of PBNP Units 1 and 2 were also included in the licensee's response to RAI 2. The examinations spanned two distinct time periods (1996-2001 and 2001-2004). Although each summary report contained findings of some variety, the licensee stated that all findings "were evaluated and determined not to be detrimental to either the structural integrity or leak tight integrity of the containment structure." The staff finds that the licensee's implementation of the CISI program provides an acceptable level of quality and safety for the 15-year ILRT interval. Therefore, the response to RAI 2 is acceptable.

Section 3.2.6 of the letter dated October 12, 2007 (Ref. 7.1), discussed areas which were identified for augmented inspections based on previous PBNP Unit 1 and 2 containment inspections. One identified area for augmented inspection (in both Units) was regarding liner plate gouges deeper than 10 percent of the nominal plate thickness.

In RAI 3, the staff requested the licensee to provide the following information with regard to the details of the gouges and the evaluation which determined them to be acceptable.

> With reference to Section 3.2.6 of the LAR, please provide information regarding the extent, depth, location/environment, and the cause of the gouges associated with liner plates 1CP-130 and 2CP-129. Explain how the minimum required wall thickness was evaluated and determined to be acceptable.

By letter dated December 21, 2007 (Ref. 7.3), the licensee provided the following response for Liner Plate 1CP-130.

> The indication engineering evaluation determined that the minimum liner plate thickness in a gouge area was 0.170 inches, exceeding the ASME Section XI, 1992 Edition, IWE-3122.4(a) acceptance criteria of 10 percent for the nominal 0.25-inch liner plate thickness. An engineering evaluation of the gouge concluded that the gouges were acceptable. The basis for this conclusion was based on the IWE-3500 Acceptance Standards in effect at the time. This standard states that conditions that may affect containment structural integrity or leak-tightness shall be accepted by engineering evaluation or corrected by repair or replacement. If a flaw can be shown to not affect structural integrity or leak-tightness, it is acceptable.
>
> 1. The gouges do not affect the structural integrity of the containment structure. As stated in the PBNP Final Safety Analysis Report, Section 7.1 discussion of the containment liner plate, "There are no design conditions under which the liner is relied upon to assist the concrete in maintaining the integrity of the structure even though the liner will at times provide such assistance." Therefore, a gouge in the liner plate does not affect containment structural integrity.
>
> 2. The gouges do not affect the leak tightness of the containment structure. The engineering evaluation discusses the gouges as probable construction defects since the gouges were covered by what appears to be the original coating, and show no signs of inservice degradation. The containment has been tested several times since construction. No excessive leakage has been measured

> during these tests. Therefore, the gouges in the liner plate 1CP-130 have no effect on containment leak tightness.

By letter dated December 21, 2007 (Ref. 7.3), the licensee provided the following response for Liner Plate 2CP-129.

> The original indication engineering evaluation states that the gouge is 0.03125 inches deep measured from the top of the coated surface. The coating was measured at 0.012 inches thick, for a base metal gouge of 0.01925 inches deep. This is less than 10 percent of the nominal 0.25-inch liner plate thickness, and therefore acceptable under the ASME Section XI, 1992 edition, IWE-3122.4(a), acceptance criteria in effect at the time. The cause of the gouge was not documented.
>
> The gouge on liner plate 2CP-129 met acceptance criteria and did not require further evaluation or repair.

The staff finds the licensee's response to RAI 3 acceptable since it adequately addressed the staff's concern related to the liner plate gouges.

Since management of degradation in inaccessible and uninspectable areas of the primary containment is an area of concern, the staff requested the following information in RAI 4.

> Please provide information of instances, if any, during implementation of the IWE/IWL CISI program at PBNP Units 1 & 2 where existence of, or potential for, degradation conditions in inaccessible areas of the primary containment structure and metallic liners were identified and evaluated based on conditions found in accessible areas as required by 10 CFR 50.55a(b)(2)(viii)(E) and 10 CFR 50.55a(b)(2)(ix)(A). If there were any instances of such conditions, please discuss the findings and actions taken.

By letter dated December 21, 2007 (Ref. 7.3), the licensee provided the following response.

> The horizontal liner plate under the concrete floor in the vicinity of containment sump A, for both Unit 1 and Unit 2, is inaccessible due to the presence of the concrete floor. Indications were found during the implementation period for the IWE/IWL programs at PBNP in areas adjacent to the inaccessible liner plate under the floor…Holes were then drilled through the concrete floor to the horizontal liner plate to provide access to a small portion of the inaccessible areas. Examinations of the horizontal liner plate were conducted through the core drilled holes. No significant degradation was found as a result of these examinations.
>
> The core drilled holes were sealed with caulk to allow future examinations. The sump A liner plate areas accessible through the core drilled holes have been selected for augmented examination Category E-C in accordance with IWE-1241(a). The sump A liner plate was last examined during refueling outage U1R29, in the fall of 2005, for Unit 1 and during refueling outage U2R28, in the fall of 2006, for Unit 2. The sump A liner plate is next scheduled for examination during refueling outage U1R31, in the fall of 2008, for Unit 1 and during refueling outage U25R29, in the spring of 2008, for Unit 2.

The licensee's response to RAI 4 established that suspect areas of potential degradation in inaccessible areas of the primary containment have been identified by IWE/IWL examinations of

accessible containment surfaces. These locations of potential degradation have been selected for augmented examination and will continue to be monitored to ensure the continued structural integrity of inaccessible areas. The staff finds that the licensee's implementation of the CISI program, as it relates to inaccessible areas, provides an acceptable level of quality and safety for the 15-year ILRT interval. Therefore, the response to RAI 4 is acceptable.

In summary, the licensee has effectively implemented adequate LLRT, CISI and safety-related coatings inspection programs to periodically examine, monitor and manage age-related and environmental degradations of the PBNP, Units 1 and 2, primary containments. The results of the past ILRTs and the CISI programs demonstrate that the structural and leak-tight integrity of the primary containment structures is sound and adequately managed. The primary containment structures will continue to be periodically monitored by these programs during the requested 5-year extension period for the ILRT interval. Thus, the staff finds that there is reasonable assurance that the containment structural and leak-tight integrity will continue to be maintained without undue risk to safety during the requested 5-year extension period for the ILRT interval. Therefore, the staff finds it acceptable to grant the requested one-time extension of the ILRT interval to 15 years for PBNP, Units 1 and 2. However, the staff notes that the dates for the next ILRT being approved by this TS amendment are not likely to coincide with a future refueling outage date. The staff recommends that the licensee plan well ahead to conduct the next ILRT for PBNP, Units 1 and 2, within the 15-year interval being approved without seeking further extensions.

Based on the staff's review of the licensee's submittal of October 12, 2007 (Ref. 7.1), and the responses to the staff's RAIs dated December 21, 2007 (Ref. 7.3), the staff finds that the condition of structural and leak-tight integrity of the PBNP, Units 1 and 2, primary containments is sound and adequately managed. Further, since the licensee has adequate LLRT and CISI programs in place that will continue to examine, monitor and manage potential degradations of the pressure-retaining components of the containments, there is reasonable assurance that the containment structural and leak-tight integrity will continue to be maintained if the ILRT interval is extended, as proposed, to 15 years. Therefore, it is acceptable to grant the requested one-time extension of the ILRT interval to 15 years for PBNP, Units 1 and 2. However, the staff notes that the dates for the next ILRT being approved by this TS amendment are not likely to coincide with a future refueling outage date. The staff recommends that the licensee plan well ahead to conduct the next ILRT for PBNP, Units 1 and 2, within the 15-year interval being approved without seeking further extensions.

3.2 Probabilistic Safety Assessment

The licensee has performed a risk impact assessment of extending the Type A test interval to 15 years. The risk assessment was provided in the October 12, 2007, application for license amendment. Additional analysis and information was provided by the licensee in its letter dated December 12, 2007 (Ref. 7.2). In performing the risk assessment, the licensee considered the guidelines of NEI 94-01, the methodology used in Electric Power Research Institute (EPRI) TR-104285, "Risk Impact Assessment of Revised Containment Leak Rate Testing," the NEI Interim Guidance for Performing Risk Impact Assessments in Support of One-Time Extensions for Containment Integrated Leakage Rate Surveillance Intervals, and RG 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis."

The basis for the current 10-year test interval is provided in Section 11.0 of NEI 94-01, Revision 0, and was established in 1995 during the development of the performance-based Option B to Appendix J. Section 11.0 of NEI 94-01 states that NUREG-1493, "Performance-Based Containment Leak-Test Program," provided the technical basis to revise leakage rate testing requirements contained in Option B to Appendix J. The basis consisted of qualitative and quantitative assessments of the risk impact (in terms of increased public dose) associated with a range of extended leakage rate test intervals. To supplement this basis, industry undertook a similar study. The results of that study are documented in EPRI Research Project Report TR-104285.

The EPRI study used an analytical approach similar to that presented in NUREG-1493 for evaluating the incremental risk associated with increasing the interval for Type A tests. The Appendix J, Option A, requirements that were in effect for PBNP early in the plant's life required a Type A test frequency of three tests in 10 years. The EPRI study estimated that relaxing the test frequency from three tests in 10 years to one test in 10 years would increase the average time that a leak that was detectable only by a Type A test, goes undetected from 18 to 60 months. Since Type A tests only detect about three percent of leaks (the rest are identified during local leak rate tests based on industry leakage rate data gathered from 1987 to 1993), this results in a 10 percent increase in the overall probability of leakage. The risk contribution of pre-existing leakage for the pressurized-water reactor and boiling-water reactor representative plants in the EPRI study confirmed the NUREG-1493 conclusion that a reduction in the frequency of Type A tests from three tests in 10 years to one test in 20 years leads to an "imperceptible" increase in risk that is on the order of 0.2 percent and a fraction of one person-rem per year in increased public dose.

Building upon the methodology of the EPRI study and the NEI Interim Guidance, the licensee assessed the change in the predicted person-rem per year frequency. The licensee quantified the risk from sequences that have the potential to result in large releases if a pre-existing leak were present. Since the Option B rulemaking was completed in 1995, the staff has issued RG 1.174 on the use of probabilistic risk assessment (PRA) in evaluating risk-informed changes to a plant's licensing basis. The licensee has proposed using RG 1.174 guidance to assess the acceptability of extending the Type A test interval beyond that established during the Option B rulemaking.

RG 1.174 provides risk-acceptance guidelines for assessing the increases in core damage frequency (CDF) and large early release frequency (LERF) for risk-informed license amendment requests. Since the Type A test does not impact CDF, the relevant criterion is the change in LERF. The licensee has estimated the change in LERF for the proposed change based on the cumulative change from the original frequency of three tests in a 10-year interval. RG 1.174 also discusses defense-in-depth and encourages the use of risk analysis techniques to help ensure and show that key principles, such as the defense-in-depth philosophy, are met. The licensee estimated the change in the conditional containment failure probability for the proposed change to demonstrate that the defense-in-depth philosophy is met.

The licensee provided analyses, as discussed below. The following comparisons of risk are based on a change in test frequency from three tests in 10 years (the test frequency under Appendix J, Option A) to one test in 15.5 years. This bounds the impact of extending the test frequency from one test in 10 years to one test in 15 years. The following conclusions can be drawn from the analysis associated with extending the Type A test frequency:

1. Given the change from a three in 10-year test frequency to a one in 15.5-year test frequency, the increase in the total integrated plant risk is estimated to be about 0.2 person-rem per year or less for both units. This increase is comparable to that estimated in NUREG-1493, where it was concluded that a reduction in the frequency of tests from three in 10 years to one in 20 years leads to an "imperceptible" increase in risk. Therefore, the increase in the total integrated plant risk for the proposed change is considered small and supportive of the proposed change.

2. The increase in LERF resulting from a change in the Type A test frequency from the original three in 10 years to one in 15.5 years is estimated to be about 4.1×10^{-7} per year and 3.5×10^{-7} per year for Units 1 and 2 based on the internal events PRA, and 7.0×10^{-7} per year and 6.0×10^{-7} per year for Units 1 and 2 when external events are included. There is some likelihood that the flaws in the containment estimated as part of the Class 3b frequency would be detected as part of the IWE/IWL visual examination of the containment surfaces (as identified in ASME Boiler and Pressure Vessel Code, Section XI, Subsections IWE/IWL). Visual inspections are expected to be effective in detecting large flaws in the visible regions of containment, and this would reduce the impact of the extended test interval on LERF. The licensee's risk analysis considered the potential impact of age-related corrosion/degradation in inaccessible areas of the containment shell on the proposed change. The increase in LERF associated with corrosion events is estimated to be about 1×10^{-8} per year for both units.

   When the calculated increase in LERF is in the range of 10^{-7} per year to 10^{-6} per year, applications are considered if the total LERF is less than 10^{-5} per year. The licensee estimates that the total LERF (including internal and external events, but without the requested change) is about 3.6×10^{-6} and 3.7×10^{-6} per year for Units 1 and 2. Thus, the total LERF including the requested change would remain below 10^{-5} per year. The staff concludes that increasing the Type A interval to 15.5 years results in only a small change in LERF and is consistent with the acceptance guidelines of RG 1.174.

3. RG 1.174 also encourages the use of risk analysis techniques to help ensure and show that the proposed change is consistent with the defense-in-depth philosophy. Consistency with the defense-in-depth philosophy is maintained if a reasonable balance is preserved between prevention of core damage, prevention of containment failure, and consequence mitigation. The licensee estimates the change in the conditional containment failure probability to be an increase of less than one percentage point for both units for the cumulative change of going from a test frequency of three in 10 years to one in 15.5 years. The staff finds that the defense-in-depth philosophy is maintained based on the small magnitude of the change in the conditional containment failure probability for the proposed amendment.

Based on these conclusions, the staff finds that the increase in predicted risk due to the proposed change is within the acceptance guidelines, while maintaining the defense-in-depth philosophy of RG 1.174 and, therefore, is acceptable. Based on the foregoing evaluation, the staff finds that the interval until the next Type A test at PBNP Units 1 and 2 may be extended to 15 years, and that the proposed change to TS 5.5.15 is acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Wisconsin State official was notified of the proposed issuance of the amendments. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

These amendments change a surveillance requirement. The staff has determined that the amendments involve no significant increase in the amounts and no significant change in the types of any effluent that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously published a proposed finding that these amendments involve no significant hazards consideration and there has been no public comment on such finding (72 FR 68217). Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of these amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

7.0 REFERENCES

1. Letter dated October 12, 2007, from James H. McCarthy (FPL Energy Point Beach, LLC) to USNRC with regard to License Amendment Request 256 – One-Time Extension of Containment Integrated Leakage Rate Test Interval, Point Beach Nuclear Plant, Units 1 and 2 (ML072910053).

2. Letter dated December 12, 2007, from James H. McCarthy (FPL Energy Point Beach, LLC) to USNRC with regard to Response to Request for Additional Information, License Amendment Request 256 – One-Time Extension of Containment Integrated Leakage Rate Test Interval, (ML073520396).

3. Letter dated December 21, 2007, from James H. McCarthy (FPL Energy Point Beach, LLC) to USNRC with regard to Response to Request for Additional Information, License Amendment Request 256 – One-Time Extension of Containment Integrated Leakage Rate Test Interval, Point Beach Nuclear Plant, Units 1 and 2 (ML073650181).

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