



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

March 30, 2012

Mr. Mano Nazar
Executive Vice President and
Chief Nuclear Officer
Florida Power and Light Company
P.O. Box 14000
Juno Beach, Florida 33408-0420

SUBJECT: ST. LUCIE PLANT, UNIT NOS. 1 AND 2 - ISSUANCE OF AMENDMENTS REGARDING TECHNICAL SPECIFICATION TASK FORCE CHANGE TSTF-513, REVISION 3, "REVISE PRESSURIZED WATER REACTOR OPERABILITY REQUIREMENTS AND ACTIONS FOR REACTOR COOLANT SYSTEM LEAKAGE INSTRUMENTATION" (TAC NOS. ME5900 AND ME5901)

Dear Mr. Nazar:

The Nuclear Regulatory Commission (Commission, NRC) has issued the enclosed Amendment Nos. 212 and 161 to Renewed Facility Operating License Nos. DPR-67 and NPF-16 for the St. Lucie Plant, Unit Nos. 1 and 2, respectively. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated March 11, 2011.

These amendments would revise the TSs to define a new time limit for restoring inoperable reactor coolant system (RCS) leakage detection instrumentation to operable status; establish alternate methods of monitoring RCS leakage when one or more required monitors are inoperable; and make TS Bases changes that reflect the proposed changes and more accurately reflect the contents of the facility design basis related to operability of the RCS leakage detection instrumentation. Insofar as the St. Lucie Plant has custom TSs and TS Bases, to the extent practical, these changes are consistent with the NRC approved Revision 3 to Technical Specification Task Force (TSTF) Standard Technical Specification Change Traveler, TSTF-513, "Revise PWR [pressurized-water reactor] Operability Requirements and Actions for RCS Leakage Instrumentation." The availability of this TS improvement was announced in the *Federal Register* on January 3, 2011 (76 FR 189), as part of the consolidated line item improvement process.

M. Nazar

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A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

A handwritten signature in black ink, appearing to read "Tracy J. Orf". The signature is fluid and cursive, with a large initial "T" and a long, sweeping underline.

Tracy J. Orf, Project Manager
Plant Licensing Branch II-2
Division of Operator Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-335 and 50-389

Enclosures:

1. Amendment No. 212 to DPR-67
2. Amendment No. 161 to NPF-16
3. Safety Evaluation

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

FLORIDA POWER & LIGHT COMPANY

DOCKET NO. 50-335

ST. LUCIE PLANT UNIT NO. 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 212
Renewed License No. DPR-67

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Florida Power & Light Company (the licensee), dated March 11, 2011, 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, Renewed Facility Operating License No. DPR-67 is amended by changes to the Technical Specifications (TSs) as indicated in the attachment to this license amendment, and by amending paragraph 3.B to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 212, are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the TSs.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Douglas A. Broaddus, Chief
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Operating License
and Technical Specifications

Date of Issuance: March 30, 2012

ATTACHMENT TO LICENSE AMENDMENT NO. 212
TO RENEWED FACILITY OPERATING LICENSE NO. DPR-67
DOCKET NO. 50-335

Replace Page 3 of Renewed Operating License DPR-67 with the attached Page 3.

Replace the following page of the Appendix A Technical Specifications with the attached page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove Pages
3/4 4-12

Insert Pages
3/4 4-12

REACTOR COOLANT SYSTEM

3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE

LEAKAGE DETECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.6.1 The following RCS leakage detection systems will be OPERABLE:

- a. The reactor cavity sump inlet flow monitoring system; and
- b. One containment atmosphere radioactivity monitor (gaseous or particulate).

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

- a. With the reactor cavity sump inlet flow monitoring system inoperable with an operable containment particulate radioactivity monitor, perform a RCS water inventory balance at least once per 24* hours and restore the sump inlet flow monitoring system to OPERABLE status within 30 days; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With the reactor cavity sump inlet flow monitoring system inoperable with only the containment gaseous radioactivity monitor operable, perform an RCS water inventory balance at least once per 24* hours and analyze grab samples of the containment atmosphere at least once per 12 hours, and either restore the sump inlet flow monitoring system to OPERABLE status within 7 days or restore the containment particulate radioactivity monitor to OPERABLE status within 7 days and enter action a. above with the time in this action applied against the allowed outage time of action a.; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. With the required radioactivity monitor inoperable, analyze grab samples of the containment atmosphere or perform a RCS water inventory balance at least once per 24* hours, and restore the required radioactivity monitor to OPERABLE status within 30 days; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- d. With all required monitors inoperable, enter LCO 3.0.3 immediately.
- e. The provisions of Specification 3.0.4 are not applicable if at least one of the required monitors is OPERABLE.

SURVEILLANCE REQUIREMENTS

- 4.4.6.1 The RCS leakage detection instruments shall be demonstrated OPERABLE by:
- a. Performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST, and CHANNEL CALIBRATION of the required containment atmosphere radioactivity monitor at the frequencies specified in Table 4.3-3.
 - b. Performance of the CHANNEL CALIBRATION of the reactor cavity sump inlet flow monitoring system at least once per 18 months.

* Not required to be performed until 12 hours after establishment of steady state operation.



**UNITED STATES
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FLORIDA POWER & LIGHT COMPANY

ORLANDO UTILITIES COMMISSION OF

THE CITY OF ORLANDO, FLORIDA

AND

FLORIDA MUNICIPAL POWER AGENCY

DOCKET NO. 50-389

ST. LUCIE PLANT UNIT NO. 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 161
Renewed License No. NPF-16

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Florida Power & Light Company, et al. (the licensee), dated March 11, 2011, 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, Renewed Facility Operating License No. NPF-16 is amended by changes to the Technical Specifications (TSs) as indicated in the attachment to this license amendment, and by amending paragraph 3.B to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 161 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the TSs.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Douglas A. Broaddus, Chief
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Operating License
and Technical Specifications

Date of Issuance: March 30, 2012

ATTACHMENT TO LICENSE AMENDMENT NO. 161
TO RENEWED FACILITY OPERATING LICENSE NO. NPF-16
DOCKET NO. 50-389

Replace Page 3 of Renewed Operating License NPF-16 with the attached Page 3.

Replace the following page of the Appendix A Technical Specifications with the attached page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove Pages
3/4 4-18

Insert Pages
3/4 4-18

REACTOR COOLANT SYSTEM

3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE

LEAKAGE DETECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.6.1 The following RCS leakage detection systems will be OPERABLE:

- a. The reactor cavity sump inlet flow monitoring system; and
- b. One containment atmosphere radioactivity monitor (gaseous or particulate).

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

- a. With the reactor cavity sump inlet flow monitoring system inoperable with an operable containment particulate radioactivity monitor, perform a RCS water inventory balance at least once per 24* hours and restore the sump inlet flow monitoring system to OPERABLE status within 30 days; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With the reactor cavity sump inlet flow monitoring system inoperable with only the containment gaseous radioactivity monitor operable, perform an RCS water inventory balance at least once per 24* hours and analyze grab samples of the containment atmosphere at least once per 12 hours, and either restore the sump inlet flow monitoring system to OPERABLE status within 7 days or restore the containment particulate radioactivity monitor to OPERABLE status within 7 days and enter action a. above with the time in this action applied against the allowed outage time of action a.; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. With the required radioactivity monitor inoperable, analyze grab samples of the containment atmosphere or perform a RCS water inventory balance at least once per 24* hours, and restore the required radioactivity monitor to OPERABLE status within 30 days; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- d. With all required monitors inoperable, enter LCO 3.0.3 immediately.
- e. The provisions of Specification 3.0.4 are not applicable if at least one of the required monitors is OPERABLE.

SURVEILLANCE REQUIREMENTS

4.4.6.1 The RCS leakage detection instruments shall be demonstrated OPERABLE by:

- a. Performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST, and CHANNEL CALIBRATION of the required containment atmosphere radioactivity monitor at the frequencies specified in Table 4.3-3.
- b. Performance of the CHANNEL CALIBRATION of the reactor cavity sump inlet flow monitoring system at least once per 18 months.

* Not required to be performed until 12 hours after establishment of steady state operation.



UNITED STATES
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WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 212 AND 161

TO RENEWED FACILITY OPERATING LICENSES NOS. DPR-67 AND NPF-16

FLORIDA POWER AND LIGHT COMPANY, ET AL.

ST. LUCIE PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-335 AND 50-389

1.0 INTRODUCTION

By letter dated March 11, 2011, Florida Power and Light Company, et al., (the licensee) requested amendments to Renewed Operating Licenses DPR-67 and NPF-16 for St. Lucie Unit Nos. 1 and 2, respectively. The proposed amendments would revise technical specification (TS) 3.4.6.1, "Reactor Coolant System [RCS] System Leakage—Leakage Detection Systems." The licensee also provided TS Bases changes that summarize and clarify the purpose of the TSs and the specified safety function of the leakage detection monitors.

The licensee stated that the license amendment request is consistent with the Nuclear Regulatory Commission (NRC, Commission)-approved Revision 3 to Technical Specification Task Force (TSTF) Standard Technical Specification (STS) Change Traveler, TSTF-513, "Revise PWR [pressurized-water reactor] Operability Requirements and Actions for RCS Leakage Instrumentation." Format changes were necessary to accommodate the Improved STS allowance for simultaneous Condition entry, concurrent required actions, and concurrent completion times. These deviations do not materially affect the NRC staff's model safety evaluation (SE) published in the *Federal Register* on January 3, 2011 (76 FR 189), as part of the consolidated line item improvement process Notice of Availability.

2.0 REGULATORY EVALUATION

The NRC's regulatory requirements related to the content of the TSs are contained in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36. Paragraph (c)(2)(i) of 10 CFR 50.36 states that limiting conditions for operation (LCOs) are the lowest functional capability or performance levels of equipment required for safe operation of the facility. Paragraph (c)(2)(ii) of 10 CFR 50.36 lists four criteria for determining whether particular items are required to be included in the TS LCOs. The first criterion applies to installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the RCPB. As described in the *Federal Register* Notice associated with this regulation (60 FR 36953, July 16, 1995), the scope of TSs includes two general classes of technical matters: (1) those related to prevention of accidents, and (2) those related to mitigation of the consequences of accidents. Criterion 1 addresses systems and process variables that alert the operator to a

situation when accident initiation is more likely, and supports the first of these two general classes of technical matters that are included in TSs. As specified in Paragraph (c)(2)(i) of 10 CFR 50.36, when a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by TSs until the condition can be met.

The NRC's guidance for the format and content of PWR TSs can be found in NUREG-1432, Revision 3.0, "Standard Technical Specifications Combustion Engineering Plants." STS 3.4.15 "RCS Leakage Detection Instrumentation" contains the guidance specific to the RCS leakage detection instrumentation for PWRs. The STS Bases provide a summary statement of the reasons for the STS.

The Bases for STS 3.4.15 contained in NUREG-1432, Revision 3.0, provide background information, the applicable safety analyses, a description of the LCO, the applicability for the RCS leakage detection instrumentation TSs, and describe the Actions and Surveillance Requirements. The TS Bases provide the purpose or reason for the TSs that are derived from the analyses and evaluation included in the safety analysis report, and for these Specifications, the RCS leakage detection instrumentation design assumptions and licensing basis for the plant.

The licensee's TSs are not in the format of NUREG-1432, but the STS changes contained in TSTF-513, Rev 3.0 can be applied to the licensee's TSs by modifying language and formatting conventions.

As stated in NRC Information Notice (IN) 2005-24, "Nonconservatism in Leakage Detection Sensitivity" (Agencywide Documents Access and Management System Accession No. ML051780073), the reactor coolant activity assumptions for containment atmosphere gaseous radioactivity monitors may be nonconservative. This means the monitors may not be able to detect a 1-gallon per minute (gpm) leak within 1 hour under all likely operating conditions.

The issue described in IN 2005-24 has raised questions regarding the operability requirements for containment atmosphere gaseous radioactivity monitors. TSTF-513, Revision 3, revises the TS Bases to reflect the proposed TS changes and more accurately describe the contents of the facility design basis related to operability of the RCS leakage detection instrumentation. Part of the TS Bases changes revise the specified safety function of the RCS leakage detection monitors to specify the required instrument sensitivity level. In addition, TSTF-513, Revision 3, includes revisions to TS Actions for RCS leakage detection instrumentation to establish limits for operation during conditions of reduced monitoring sensitivity because of inoperable RCS leakage detection instrumentation.

Regulatory Guide (RG) 1.45, Revision 0, "Reactor Coolant Pressure Boundary Leakage Detection Systems," May 1973, describes acceptable methods of implementing the 10 CFR Part 50, Appendix A, General Design Criteria (GDC) 30 requirements with regard to the selection of leakage detection systems for the reactor coolant pressure boundary (RCPB).

RG 1.45, Revision 0, Regulatory Position C.2, states that leakage to the primary reactor containment from unidentified sources should be collected and the flow rate monitored with accuracy of one gpm or better.

RG 1.45, Revision 0, Regulatory Position C.3 states:

At least three separate detection methods should be employed and two of these methods should be (1) sump level and flow monitoring and (2) airborne particulate radioactivity monitoring. The third method may be selected from the following: a. monitoring of condensate flow rate from air coolers [or] b. monitoring of airborne gaseous radioactivity. Humidity, temperature, or pressure monitoring of the containment atmosphere should be considered as alarms or indirect indication of leakage to the containment.

RG 1.45, Revision 0, Regulatory Position C.5 states, "The sensitivity and response time of each leakage detection system in regulatory position C.3 above employed for unidentified leakage should be adequate to detect a leakage rate, or its equivalent, of one gpm in less than one hour." RG 1.45, Revision 0, states, "In analyzing the sensitivity of leak detection systems using airborne particulate or gaseous radioactivity, a realistic primary coolant radioactivity concentration assumption should be used. The expected values used in the plant environmental report would be acceptable." The appropriate sensitivity of a plant's containment atmosphere gaseous radioactivity monitors is dependent on the design assumptions and the plant-specific licensing basis as described in the plant's final safety analysis report. The NRC staff's approval of the use of expected primary coolant radioactivity concentration values used in the environmental report creates a potential licensing conflict when a licensee is able to achieve and maintain primary coolant radioactivity concentration values lower than the value assumed in the environmental report.

RG 1.45, Revision 1, "Guidance on Monitoring and Responding to Reactor Coolant System Leakage," was issued in May 2008. RG 1.45, Revision 1, describes methods for implementing GDC 30 requirements that are different from those in RG 1.45, Revision 0, and was developed and issued to support new reactor licensing. Revision 1 allows that having two TS leakage detection methods capable of detecting a 1-gpm leak within 1 hour provides adequate leakage detection capability from a safety perspective. It recommends that other potential indicators (including the gaseous radiation monitors) be maintained even though they may not have the same detection capability. These indicators, in effect, provide additional defense-in-depth.

The regulation in GDC 4 of Appendix A to 10 CFR Part 50, "Environmental and dynamic effects design bases," requires structures, systems, and components important to safety to be designed to accommodate the effects of and to be compatible with the environmental conditions associated with normal operation, maintenance, testing, and postulated accidents, including loss-of-coolant accidents. GDC 4 allows the use of leak before break (LBB) technology to exclude dynamic effects of pipe ruptures in the design bases when analyses reviewed and approved by the Commission demonstrate that the probability of fluid system piping rupture is extremely low under conditions consistent with the design basis for the piping.

In its license amendment request, the licensee stated: "St. Lucie meets General Design Criteria (GDC) 30, 'Quality of Reactor Coolant Pressure Boundary,' leakage detection system requirements."

3.0 TECHNICAL EVALUATION

The purpose of the leakage detection systems required by TS 3.4.6.1 is to monitor and detect leakage from the RCPB. Containment sump instrumentation is used to detect RCS leakage by providing information on sump levels and frequency of sump pump operation. Flow instrumentation indicates and records make-up flow rate and volumes from the primary water system. This instrumentation allows detection of suddenly occurring leaks or those that are gradually increasing. Containment radiation monitors provide an additional means of RCS leakage detection.

The RCPB components are required to be designed, fabricated, erected, and tested in accordance with American Society of Mechanical Engineers (ASME) Code, Section III. RCPB components are classified as Quality Groups A and B. Accordingly, they receive all of the quality measures appropriate to that classification. The system is designed to detect and identify the source of reactor coolant leakage.

In adopting the changes to TSs included in TSTF-513, Revision 3, the licensee proposed to revise TS 3.4.6.1, "Reactor Coolant System Leakage—Leakage Detection Systems." The licensee proposed adding the phrase "with an operable containment particulate radioactivity monitor" to Action a. Action a applies when the reactor cavity sump inlet flow monitoring system is inoperable. By adding the phrase to Action a, the licensee more narrowly described a condition where it is acceptable to continue operating the plant for up to 30 days with a loss of one means of leakage detection, so long as an RCS water inventory balance is performed at least once per 24 hours.

The licensee also proposed adding new Action b to TS 3.4.6.1. Action b would be applicable when the containment atmosphere gaseous radioactivity monitor is the only operable RCS leakage detection monitor. This new Action is necessary because improved fuel integrity and the resulting lower primary coolant radioactivity concentration affects a plant's containment atmosphere gaseous radioactivity monitor to a greater extent than other monitors.

The proposed new Action b requires the licensee to perform an RCS water inventory balance at least once per 24 hours, analyze grab samples of the containment atmosphere once per 12 hours and restore either the reactor cavity sump inlet flow monitor or the containment particulate radioactivity monitor to operable status within 7 days. New Action b also requires the licensee to enter Action a, and apply any time in Action b against the allowed outage time in Action a. If the licensee cannot meet the requirement in Action b, the plant is required to be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The NRC staff determined that the proposed new Action b is more restrictive than the current requirement, because the current Action, that would apply to the situation when the containment atmosphere gaseous radioactivity monitor is the only operable RCS leakage detection monitor, would allow the licensee 30 days to restore the inoperable monitors to operable status. The proposed Actions and Completion Times are adequate because the grab samples combined with the more frequent RCS mass balances will provide an alternate method of monitoring RCS leakage when the containment atmosphere gaseous radioactivity monitor is the only operable RCS leakage detection monitor and the 12-hour interval is sufficient to detect increasing RCS leakage long before a piping flaw could progress to a catastrophic failure of the primary RCPB. Allowing 7 days to restore another RCS leakage monitor to operable status is reasonable given

the diverse methods employed in the Actions to detect an RCS leak and the low probability of a large RCS leak during this period. Proposed new Action b is conservative relative to the current TS, sufficiently alerts the operating staff, provides a comparable ability to detect RCS leakage, and provides time intervals that are reasonable. Therefore, the NRC staff determined that proposed new Action b continues to provide reasonable assurance of safety when judged against current regulatory standards.

Certain ASME Code Class 1 piping systems in St. Lucie Units 1 and 2 have been approved by the NRC for LBB. The basic concept of LBB is that certain piping material has sufficient fracture toughness (i.e., ductility) to resist rapid flaw propagation; thereby minimizing the probability of a pipe rupture. The licensee has evaluated postulated flaws in RCS loop piping and determined the piping has sufficient fracture toughness that the postulated flaw would not lead to pipe rupture and potential damage to adjacent safety related systems, structures and components before the plant could be placed in a safe, shutdown condition. The NRC staff has previously reviewed and approved these plant-specific LBB analyses. Before remotely approaching a pipe rupture, the postulated flaw would lead to limited but detectable leakage, which would be identified by the leak detection systems in time for the operator to take action. The NRC staff previously addressed concerns that LBB depends on erroneous leak rate measurements in the final rule making for use of LBB technology. In addressing the concerns, it was noted that:

One criterion for application of leak-before-break is that postulated flaw sizes be large enough so that the leakage is about ten times the leak detection capability, and that this flaw be stable even if earthquake loads are applied to the pipe in addition to the normal operating loads. This margin of a factor of ten is more than ample to account for uncertainties in both leakage rate calculations and leak detection capabilities. Furthermore, additional sensitivity studies reported by Lawrence Livermore National Laboratory in NUREG/CR-2189, dated September 1981, entitled "Probability of Pipe Fracture in the Primary Coolant Loop of a PWR Plant" indicate that even in the absence of leak detection, the probability of pipe ruptures in PWR primary coolant loop piping is sufficiently low to warrant exclusion of these events from the design basis. (51 FR 12502)

The proposed actions for inoperable RCS leakage detection instrumentation maintain sufficient continuity, redundancy, and diversity of leakage detection capability that an extremely low probability of undetected leakage leading to pipe rupture is maintained. This extremely low probability of pipe rupture continues to satisfy the basis for acceptability of LBB in GDC 4. The licensee proposes minor changes to ensure continuity of the TS format. These changes reletter current Action b which applies when the reactor cavity sump inlet flow monitoring system is the only operable leakage detection instrument, to Action c, and current Action c, which applies when all required monitors are inoperable, to Action d, and current Action d, which states that the provisions of TS 3.04 are not applicable if at least one of the required monitors is OPERABLE, to Action e. The NRC staff determined that these changes are editorial, and therefore acceptable.

The associated TS Bases submitted with the licensee's proposed revision for TS 3.4.6.1 reflect the proposed TS changes and more accurately describe the contents of the facility design basis related to operability of the RCS leakage detection instrumentation and reflect the proposed TS changes. The proposed TS Bases changes related to the operability of the RCS leakage detection instrumentation are acceptable because they provide background information, the

M. Nazar

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A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Tracy J. Orf, Project Manager
Plant Licensing Branch II-2
Division of Operator Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-335 and 50-389

Enclosures:

1. Amendment No. 212 to DPR-67
2. Amendment No. 161 to NPF-16
3. Safety Evaluation

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