Florida Power & Light Company, 700 Universe Boulevard, P.O. Box 14000, Juno Beach, FL 33408-0420

FPL

L-2008-125
10 CFR 50.90

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

JUN 3 0 2008

RE: St. Lucie Units 1 and 2
Docket Nos. 50-335 and 50-389
License Amendment Request
Increase in Refueling Water Tank Level

In accordance with the provisions of Section 50.90 of Title 10 of the Code of Federal Regulations (10CFR), Florida Power and Light (FPL) is submitting a request for an amendment to the renewed Facility Operating License DPR-67 for St. Lucie Unit 1 and NPF-16 for St. Lucie Unit 2. The proposed amendment would modify Technical Specifications (TS) requirements related to Refueling Water Tank (RWT) minimum contained volume of borated water.

The proposed changes will make permanent the current administrative RWT minimum level of 32.5 feet for both units. As described in letter L-2003-201 dated August 8, 2003, the administrative RWT minimum contained volume was established to meet commitments related to the resolution of issues raised in NRC Bulletin 2003-01, "Potential Impact of Debris Blockage on Emergency recirculation During Design Basis Accidents."

These proposed TS changes will increase the emergency sump water levels and net positive suction head (NPSH) available for emergency core cooling at the time of switchover to recirculation. These changes also fulfill commitments (FPL letter L-2008-030 dated February 27, 2008) related to the resolution of issues identified in Generic Letter 2004-02. Existing administrative controls for maintaining a higher water level in the RWT will remain in effect until this proposed amendment is approved and implemented.

Attachment 1 provides the proposed changes and the supporting justification including the Determination of No Significant Hazards and Environmental Considerations. Attachment 2 contains marked copies of the proposed Technical Specification pages. Attachment 3 contains the word processed TS pages and Attachment 4 provides information only copies of the marked-up TS Bases page for Unit 1. No Unit 2 TS Bases changes are needed.

FPL requests that the proposed amendments be processed as a normal priority amendment request and that the amendments be effective on the date of issuance with implementation within 60 days.

In accordance with the FPL Quality Assurance Topical Report, the proposed license amendments have been reviewed by the St. Lucie Plant On-Site Review Group.

In accordance with 10 CFR 50.91, a copy of this application is being forwarded to the designated Florida State Official.

A001
NRR

There are no new or revised regulatory commitments in this letter.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on the 30th day of JUNE 2008.

Please, contact Ken Frehafer at 772-467-7748 if there any questions about this submittal.

Sincerely,

Gordon L. Johnston
Site Vice President
St. Lucie Plant

GLJ/KWF

Attachments

cc: Mr. William A. Passetti, Florida Department of Health

ATTACHMENT 1

LICENSE AMENDMENT REQUEST (LAR) TO INCREASE THE MINIMUM CONTAINED VOLUME OF BORATED WATER IN THE REFUELING WATER TANK

EVALUATION OF PROPOSED CHANGES

1.0 INTRODUCTION
2.0 DESCRIPTION OF PROPOSED LICENSE AMENDMENTS
3.0 BACKGROUND
4.0 TECHNICAL ANALYSIS
5.0 REGULATORY ANALYSIS
6.0 NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION
7.0 ENVIRONMENTAL IMPACT CONSIDERATION DETERMINATION
8.0 PRECEDENT
9.0 REFERENCES

1.0 INTRODUCTION

Pursuant to 10 CFR 50.90, Florida Power and Light Company (FPL) requests to amend Facility Operating License DPR-67 for St. Lucie Unit 1 and NPF-16 for St. Lucie Unit 2. These proposed license amendment requests (LAR) revise the requirements of the St. Lucie Units 1 and 2 Technical Specifications (TS) related to Refueling Water Tank (RWT) minimum contained volume of borated water. The proposed changes will make permanent the current administrative RWT minimum level limit of 32.5 feet for both units.

These proposed TS changes will increase the emergency sump water levels and net positive suction (NPSH) available for emergency core cooling at the time of switchover to recirculation. These changes also fulfill commitments (FPL letter L-2008-030 dated February 27, 2008) related to the resolution of issues identified in Generic Letter 2004-02.

2.0 DESCRIPTION OF PROPOSED LICENSE AMENDMENTS

The proposed changes for the St. Lucie Units 1 and 2 TS are as follows:

Revise TS 3/4.1.2.8 "Borated Water Sources - Operating," which identifies the requirements for the minimum RWT volume of water. The minimum value is being raised from 401,800 gallons to 477,360 gallons for Unit 1 and from 417,100 gallons to 477,360 gallons for Unit 2. This volume of 477,360 gallons corresponds to the current administratively implemented RWT minimum level of 32.5 feet.

Revise TS 3/4.5.4 "Refueling Water Tank," which identifies the requirements for the minimum RWT volume of borated water. The minimum value is being raised from 401,800 gallons to 477,360 gallons for Unit 1 and from 417,100 gallons to 477,360 gallons for Unit 2.

For Unit 1, proposed revision to TS Bases 3/4.1.2, "Boration Systems," is also being included with this LAR for information. No revision to TS Bases 3/4.5.4 is required.

For Unit 2, no revision to the TS Bases is required.

3.0 BACKGROUND

On June 9, 2003, the NRC issued Bulletin 2003-01, "Potential Impact of Debris Blockage on Emergency Sump Recirculation at Pressurized Water Reactors" (Reference 1). FPL, the licensee for the St. Lucie Nuclear Plant Units 1 and 2, responded to the Bulletin by letter dated August 8, 2003 (Reference 2). In Attachment 1 of this letter, Interim Compensatory Action 2, Procedure Actions that Delay the Switchover to Containment Sump Recirculation, FPL committed to implement administrative controls for each unit's

RWT level to maximize the volume contained above the Technical Specification minimum limit. Thus, the commitment included maintaining the RWT water level at the upper end of the operating range.

By letter dated March 21, 2005 (Reference 3), the NRC issued a request for additional information (RAI) regarding FPL's response to that Bulletin. Request 4 of the RAI stated:

"Bulletin 2003-01 provides possible interim compensatory measures licensees could consider to reduce risks associated with sump clogging. In addition to those compensatory measures listed in Bulletin 2003-01, licensees may also consider implementing unique or plant-specific compensatory measures as applicable. Please discuss any possible unique or plant-specific compensatory measures you considered for implementation at your plants. Include a basis for rejecting any of these additional considered measures. As an example, the staff noted that FPL has implemented a new unique and plant-specific administrative control of each Unit's refueling water tank level to maximize the volume contained above the Technical Specification minimum limit."

By letter L-2005-124 dated May 20, 2005 (Reference 4), as requested by the NRC, FPL discussed compensatory measures that were implemented including the RWT minimum level which had been administratively set at 32.5 feet on both units to increase the available post loss-of-coolant accident (LOCA) containment water levels.

NRC Generic Letter (GL) 2004-02 (Reference 5) requested that licensees provide information regarding the potential impact of debris blockage on emergency recirculation during design basis accidents. Among the corrective actions taken to respond to the GL was the complete replacement of the original sump screens with new strainer systems for both units. The Unit 1 replacement sump strainer was installed during refueling outage SL1-21, spring 2007. The Unit 2 replacement sump strainer system was installed during refueling outage SL2-17, fall 2007.

As noted in Attachments 2 and 3 to FPL letter L-2008-030 dated February 27, 2008 (Reference 7), sump level calculations were revised to accommodate potential areas for water holdup based on lessons learned from the NRC audit of the Waterford sump program. However, as mentioned above, FPL had administratively increased the RWT minimum level for both units to 32.5 feet (477,360 gallons) as a compensatory action associated with the response to Bulletin 2003-01. For Units 1 and 2 the increased inventory provides adequate emergency sump water levels at the time of switchover to recirculation consistent with the applicable regulatory requirements specified in GL 2004-02. Therefore, FPL is requesting a TS change to make permanent the increased RWT minimum level of borated water.

4.0 TECHNICAL ANALYSIS

The RWT's safety function is to provide a reservoir of borated water for the injection mode of operation of the emergency core cooling system (ECCS) and the containment spray system (CSS). During the injection phase, water is taken from the RWT and injected in the reactor coolant system. The increased volume of borated water delivered ensures that enough borated water has been added to provide enough coolant during the injection phase and to increase the boron concentration of reactor coolant and recirculation water to a point that there is no return to criticality with the reactor at cold shutdown. Insufficient water in the RWT could result in insufficient borated water inventory in the containment recirculation sump when the changeover from the injection mode to the recirculation mode occurs following a design basis LOCA. The minimum required RWT volume for safety injection and recirculation switchover is set by the 20 minute minimum injection time, and the recirculation sump and new strainer system design. This LAR revises the requirements of the St. Lucie Units 1 and 2 TSs related to RWT minimum contained volume of borated water. FPL determined that the proposed increase in the minimum RWT volume would not adversely impact the post LOCA analysis described in the UFSAR.

The containment sump recirculation actuation system (RAS) TS value is not being changed by this LAR. The TS requirements for RWT borated water temperature and boron concentration remain unchanged.

The proposed changes ensure that following a small break and a large break LOCA, there is sufficient inventory in the RWT to submerge the containment sump strainer systems and to provide adequate emergency sump water levels and net positive suction head (NPSH) for the ECCS and CSS pumps at the time of switchover to recirculation.

Post LOCA containment water level has been evaluated in accordance with the NRC Content Guide for Supplemental Responses to GL-2004-02 (Reference 6). For each unit, the water holdup issues and volume changes evaluated included:

- Replacement of containment sump screens with sump strainers in accordance with the Containment Sump Modification
- Volume of water from the RWT using the proposed TS minimum value of 477,360 gallons
- Volume of water required to fill empty containment spray pipe headers
- Volume of water in containment spray droplets
- Volume of water held up as film on containment surfaces

- Volume of water held up in the refueling cavity
- Volume of water vapor in the containment atmosphere
- Volume of water required to re-flood the reactor vessel following a large break LOCA (LBLOCA)(includes verification of appropriate RCS spill volume)
- Minimum containment level during a small break LOCA (SBLOCA)
- Water specific volume changes due to temperature changes from storage tank and RCS temperatures to post LOCA pool temperature.

The evaluations including the listed considerations yielded the following post LOCA incremental containment levels:

UNIT 1

LBLOCA Minimum Containment Level with Current RWT Minimum TS Volume

After a LBLOCA, the minimum level of water in the containment at switchover to recirculation will reach an elevation of 22.93 feet.

Additional LBLOCA Containment Level Due to Proposed RWT Minimum TS Volume

The proposed minimum TS volume of 477,360 gallons corresponds to a RWT tank level of 32.5 feet. Raising the TS minimum RWT level from 27.4 feet to 32.5 feet corresponds to an increase of post LOCA containment level from 22.93 feet to 23.86 feet.

Thus for a LBLOCA, the proposed RWT minimum volume (477,360 gallons) provides an additional 0.93 feet of post-LOCA containment level.

SBLOCA Minimum Containment Flood Level with Current RWT Minimum TS Volume

After a SBLOCA, the minimum level of water in the containment at switchover to recirculation will reach an elevation of 21.99 feet of post LOCA containment level.

Additional SBLOCA Containment Level Due to Proposed RWT Minimum TS Volume

The proposed minimum TS volume of 477,360 gallons corresponds to a RWT tank level of 32.5 feet. Raising the TS minimum RWT level from 27.4 feet to 32.5 feet corresponds to an increase of post LOCA containment level from 21.99 feet to 23.36 feet.

Thus, for a SBLOCA, the proposed RWT minimum volume (477,360 gallons) provides an additional 1.37 feet of post LOCA containment level.

UNIT 2

LBLOCA Minimum Containment Level with Current RWT Minimum TS Volume

After a LBLOCA, the minimum level of water in the containment at switchover to recirculation will reach an elevation of 22.75 feet of post LOCA containment level.

Additional LBLOCA Containment Level Due to Proposed RWT Minimum TS Volume

The proposed minimum TS volume of 477,360 gallons corresponds to a RWT tank level of 32.5 feet. Raising the TS minimum RWT level from 28.4 feet to 32.5 feet corresponds to an increase of post LOCA containment level from 22.75 feet to 23.58 feet.

Thus for a LBLOCA, the proposed RWT minimum volume (477,360 gallons) provides an additional 0.83 feet of post LOCA containment level.

SBLOCA Minimum Containment Flood Level with Current RWT TS Volume

After a SBLOCA, the minimum level of water in the containment at switchover to recirculation will reach an elevation of 21.76 feet.

Additional SBLOCA Containment Level Due to Proposed RWT Minimum TS Volume

The proposed minimum TS volume of 477,360 gallons corresponds to a RWT tank level of 32.5 feet. Raising the TS minimum RWT level from 28.4 feet to 32.5 feet corresponds to an increase of post LOCA containment level from 21.76 feet to 23.06 feet.

Thus, for a SBLOCA, the proposed RWT minimum volume (477,360 gallons) provides an additional 1.30 feet of post LOCA containment level.

The water level gains in submergence and net positive suction head at switchover to recirculation due to the additional water volumes in containment discussed above are

described in the following discussions.

Submergence

Submergence of the new strainer system using the proposed minimum RWT TS volume of water has been evaluated (Topic 3f, Reference 7). The new containment sump strainer systems for Units 1 and 2 are designed and situated to be fully submerged at the initiation of recirculation through the duration of the event to prevent vortexing and air ingestion. The proposed minimum RWT borated water volume ensures that this design requirement is met.

For Unit 1, at the minimum LBLOCA containment water level, the submergence of the highest opening in the strainer system is 14 inches. For a SBLOCA, the submergence of the highest opening in the strainer system is 8 inches. For Unit 2, at the minimum LBLOCA containment water level, the highest strainer plate would be covered by approximately 22 inches. For a SBLOCA, with the RCS re-flooded, the minimum water level would be over 15 inches above the highest strainer plate.

NPSH Margin Summary

FPL Supplemental Response to NRC Generic Letter 2004-02 and NRC Request for Additional Information was sent to the NRC by Reference 7. Attachments 2 and 3, Topic 3g of the response provides a discussion regarding NPSH.

The incremental increase in NPSH margin using the proposed minimum TS volume of 477,360 gallons corresponding to a RWT tank level of 32.5 feet is equal to the incremental increase in post LOCA sump level. For Unit 1, the incremental increase is approximately 0.93 feet for the case of a LBLOCA and 1.37 feet for a SBLOCA.

For Unit 2, for the case of a LBLOCA, an additional post LOCA containment level and NPSH margin of 0.83 feet is realized using the proposed minimum TS volume of 477,360 gallons and 1.30 feet for the case of a SBLOCA.

Vortexing

Attachments 2 and 3, Topic 3.f (Reference 7) discuss head loss and vortexing for Units 1 and 2 respectively. The referenced information for each unit concluded that the strainer system is not susceptible to vortex formation.

Maximum Containment Flood Level

Although the calculation of the maximum containment flood level after a LOCA includes inventory from the RWT, the proposed TS change has no adverse impact on the post LOCA containment analyses or the Equipment Qualification Analysis.

Post LOCA Containment Sump PH

The TS requirements for RWT borated water temperature and boron concentration remain unchanged.

A review of post LOCA containment recirculation spray sump pH calculations shows that the proposed minimum contained RWT volume is bounded by the RWT input volumes considered in those calculations. Therefore, the proposed increase in the minimum RWT volume will have no adverse impact on the sump pH calculations.

Impact of the Proposed Changes on the Safety Analyses

The events for which the RWT provides mitigation and for which the RWT parameters are limiting are LBLOCA, SBLOCA, and Steam Line Breaks. Available RWT volume is not an explicit assumption in analyses for other than LOCA events since the required volume for those events is much less than that required for a LOCA. As mentioned before, the minimum required RWT deliverable volume is set by the 20 minute minimum injection time, and the recirculation sump and new strainer system design.

Instrument Uncertainties

The proposed RWT minimum TS borated water volume of 477,360 gallons does not include allowance for instrument uncertainty. To ensure that the TS requirement is met the RWT level instrument low level alarm setpoint will be established at a level higher than the minimum TS value to account for instrument uncertainty. The level instrumentation provided for the RWT is utilized to provide indication and alarm to verify compliance with the TS requirements.

RWT Seismic Analysis

The proposed RWT minimum TS borated water volume is enveloped by the volume already considered in the seismic analysis of the RWT. Therefore, the proposed change will have no impact on the seismic qualification of the RWT.

Conclusion

The proposed TS change is acceptable based on the above technical evaluation. The potential affects of the proposed TS change on relevant considerations such as submergence, NPSH margins, vortexing, maximum containment flood level, post LOCA containment sump PH, impact on the safety analysis, instrument uncertainties and RWT seismic analysis have been examined. There is no adverse effect caused by the proposed increase to the minimum contained volume of borated water in the RWT. Furthermore, the proposed changes to the St. Lucie Units 1 and 2 TS support meeting the applicable

regulatory requirements specified in GL 2004-02 (Reference 5).

5.0 REGULATORY ANALYSIS

Applicable Regulatory Requirements/Criteria

10 CFR 50.46 requires that the emergency core cooling system (ECCS) have the capability to provide long-term cooling of the reactor core following a LOCA. The changes provided herein to increase the TS minimum RWT volume of borated water will continue to assure that the ECCS will be able to maintain the calculated core temperature at an acceptably low value and decay heat will be removed for the extended period of time required by the long-lived radioactivity remaining in the core

10 CFR 50 Appendix A, GDC Criterion 35, Emergency Core Cooling, requires that a system be provided to assure abundant emergency core cooling. The system safety function shall be to transfer heat from the reactor core following any loss of reactor coolant at a rate such that (1) fuel and clad damage that could interfere with continued effective core cooling is prevented and (2) clad metal-water reaction is limited to negligible amounts. The changes provided herein to increase the TS minimum refueling water tank volume of borated water continue to provide assurance of long-term cooling capability during recirculation and ensures that the design basis emergency core cooling capabilities are maintained.

10 CFR 50, Appendix A, GDC Criterion 38, Containment Heat Removal, requires that a system be provided to remove heat from the reactor containment. The system safety function shall be to reduce rapidly, consistent with the functioning of other associated systems, the containment pressure and temperature following any loss-of-coolant accident and maintain them at acceptably low levels. The changes provided herein to increase the TS minimum RWT volume of borated water continue to provide assurance of long-term cooling capability during recirculation and ensures that the design basis containment heat removal capabilities are maintained.

6.0 NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The Nuclear Regulatory Commission has provided requirements in 10 CFR 50.92 for determining whether a request for amendment involves a no significant hazards consideration. The regulation states that no significant hazards considerations are involved if the operation of the facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in the margin of safety.

Florida Power and Light (FPL) reviewed this proposed license amendment request (LAR) which increases the minimum contained volume of borated water in the RWT. The proposed changes will make permanent the current administrative RWT minimum level limit of 32.5 feet. FPL has determined that its adoption would satisfy the requirements of 10 CFR 50.92(c) and, accordingly, a no significant hazards consideration finding is justified. The conclusions of this determination are justified below:

(1) Operation of the facility in accordance with the proposed amendment would not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed changes do not impact the initiation or probability of occurrence of any accident.

The proposed changes will not impact assumptions or conditions previously used in the radiological consequence evaluations nor affect mitigation of these consequences due to an accident described in the UFSAR. Also, the proposed changes will not impact a plant system such that previously analyzed structures systems, and components (SSCs) could be more likely to fail. The SSCs will continue to perform their intended safety functions. The initiating conditions and assumptions for accidents described in the UFSAR remain as analyzed. The proposed changes do not adversely affect the protective and mitigative capabilities of the plant. The containment sump pH calculations are not adversely impacted by the proposed change to the RWT volume. The offsite and control room doses will continue to meet the requirements of 10 CFR 100 and 10 CFR 50 Appendix A, Design Criterion 19.

Based on the above evaluation, it is reasonable to conclude that the proposed amendment does not significantly increase the probability or consequences of accidents previously evaluated.

(2) *Operation of the facility in accordance with the proposed amendment would not create the possibility of a new or different kind of accident from any accident previously evaluated.*

No new or different components or plant physical changes are involved with the proposed change. The currently installed equipment will not be operated in a new or different manner. No new or different system interactions are created, and no new processes are introduced. The proposed changes will not introduce new failure mechanisms, malfunctions, or accident initiators not already considered in the design and licensing bases. The possibility of a new or different malfunction of safety-related equipment is not created. No new accident scenarios, transient precursors, or limiting single failures are introduced as a result of these changes. There will be no adverse effects or challenges imposed on any safety-related system as a result of the proposed changes.

Therefore, the proposed change does not create the possibility of a new or different accident from any accident previously evaluated.

(3) *Operation of the facility in accordance with the proposed amendment would not involve a significant reduction in a margin of safety.*

The proposed changes raising the minimum RWT contained volume of borated water do not affect the manner in which safety limits, limiting safety system settings or limiting conditions for operation are determined. The change enhances the water available for recirculation therefore, maintaining and enhancing the margin of safety.

The safety analyses acceptance criteria are not affected by these changes. The proposed changes will not result in plant operation outside of the design basis.

Therefore, operation in accordance with the proposed amendment would not involve a significant reduction in a margin of safety.

Summary: Based on the above discussion and the analysis performed, FPL has determined that the amendment request does not (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the possibility of a new or different kind of accident from any accident previously evaluated, (3) involve a significant reduction in a margin of safety; and therefore, does not involve a significant hazards consideration.

7.0 ENVIRONMENTAL IMPACT CONSIDERATION DETERMINATION

10 CFR 51.22(C)(9) provides criteria for identification of licensing and regulatory actions eligible for categorical exclusion from performing an environmental assessment. A proposed amendment to an operating license for a facility requires no environmental assessment if operation of the facility in accordance with the proposed amendment would not:

(i) involve a significant hazards consideration,

(ii) result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, and

(iii) result in a significant increase in individual or cumulative occupational radiation exposure.

FPL has reviewed the proposed amendment to raise the Technical Specification requirement for the refueling water tank minimum volume of borated water and concluded that it involves no significant increase in the amounts and no significant change in the types of any effluents that may be released offsite, and no significant increase in individual or cumulative occupational radiation exposure. The proposed amendment also involves no significant hazards consideration and meet the criteria for categorical exclusion set forth in 10 CFR 51.22(b), an environmental impact statement or environmental assessment need not be prepared in connection with issuance of the amendments.

8.0 PRECEDENT

Pacific Gas and Electric letter DCL-07-093 dated October 2, 2007, Diablo Canyon Power Plant (DCPP) Units 1 and 2 submitted License Amendment Request 07-02, Revision to Technical Specification (TS) 3.5.4 "Refueling Water Storage Tank (RWST)." The DCPP LAR objective was to change TS 3.5.4, RWST Surveillance Requirement (SR) 3.5.4.2, to increase the minimum required borated water volume from ≥ 400,000 gallons (81.5 % indicated level) to ≥ 455,300 gallons (93.6% level). Similarly to the FPL proposed LAR, the DCPP LAR was required to meet commitments related to the resolution of issues raised in NRC GL 2004-02 (Reference 5). The scope of the LAR was focused to the increase in RWT inventory needed to submerge the new sump screens and what effects, if any, it would have on the containment and ECCS analyses. In response to this DCPP LAR, the NRC has recently issued License Amendment Nos. 199 and 200 dated March 26, 2008 (TAC Nos. MD6895 and MD6896).

9.0 REFERENCES

1. NRC Bulletin 2003-01, "Potential Impact of Debris Blockage on Emergency Sump Recirculation at Pressurized-Water Reactors," June 9, 2003.

2 FPL letter L-2003-201, "NRC Bulletin 2003-01, Potential Impact of Debris Blockage on Emergency Sump Recirculation at Pressurized Water Reactors," August 8, 2003.

3. NRC letter, "St. Lucie Plant, Units 1 and 2 – Request for Additional Information Regarding Bulletin 2003-01 Responses (TAC Nos. MB9605 and MB9606)," March 21, 2005.

4. FPL letter L-2005-124, "Response to Request for Additional Information Regarding Bulletin 2003-01 "Potential Impact of Debris Blockage on Emergency Sump Recirculation at Pressurized-Water Reactors" TAC Nos. MB9605 and MB9606," May 20, 2005.

5. NRC Generic Letter 2004-02, "Potential Impact of Debris Blockage on Emergency Circulation during Design Basis Accidents at Pressurized-Water Reactors," September 13, 2004.

6. Content Guide for Generic Letter 2004-02 Supplemental Responses, Transmittal Letter, William H. Ruland (NRC) to Anthony Pietrangelo (NEI), November 21, 2007.

7. FPL letter L-2008-030, "Supplemental Response to NRC Generic letter 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors," February 27, 2008.

ATTACHMENT 2

MARKED-UP TECHNICAL SPECIFICATION PAGES

UNIT 1

Page 3/4 1-18
Page 3/4 5-8

UNIT 2

Page 3/4 1-14
Page 3/4 5-8

REACTIVITY CONTROL SYSTEMS

BORATED WATER SOURCES – OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.8 At least two of the following four borated water sources shall be OPERABLE:

a. Boric Acid Makeup Tank 1A in accordance with Figure 3.1-1.

b. Boric Acid Makeup Tank 1B in accordance with Figure 3.1-1.

c. Boric Acid Makeup Tanks 1A and 1B with a minimum combined contained borated water volume in accordance with Figure 3.1-1.

d. The refueling water tank with:

1. A minimum contained volume of ~~401,800~~ 477,360 gallons of water,

2. A minimum boron concentration of 1720 ppm,

3. A maximum solution temperature of 100°F,

4. A minimum solution temperature of 55°F when in MODES 1 and 2, and

5. A minimum solution temperature of 40°F when in MODES 3 and 4.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one borated water source OPERABLE, restore at least two borated water sources to OPERABLE status within 72 hours or make the reactor subcritical within the next 2 hours and borate to a SHUTDOWN MARGIN equivalent to the requirements of Specification 3.1.1.2 at 200°F; restore at least two borated water sources to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.8 At least two borated water sources shall be demonstrated OPERABLE:

a. At least once per 7 days by:

1. Verifying the boron concentration of the water source,

EMERGENCY CORE COOLING SYSTEMS

REFUELING WATER TANK

LIMITING CONDITION FOR OPERATION

3.5.4 The refueling water tank shall be OPERABLE with:

a. A minimum contained volume ~~401,800~~ 477,360 gallons of borated water,

b. A minimum boron concentration of 1720 ppm,

c. A maximum water temperature of 100°F,

d. A minimum water temperature of 55°F when in MODES 1 and 2, and

e. A minimum water temperature of 40°F when in MODES 3 and 4

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the refueling water tank inoperable, restore the tank to OPERABLE status within 1 hour or be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.5.4 The RWT shall be demonstrated OPERABLE:

a. At least once per 7 days by:

1. Verifying the water level in the tank, and

2. Verifying the boron concentration of the water.

b. At least once per 24 hours by verifying the RWT temperature.

REACTIVITY CONTROL SYSTEMS

BORATED WATER SOURCES – OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.8 At least two of the following four borated water sources shall be OPERABLE:

a. Boric Acid Makeup Tank 2A in accordance with Figure 3.1-1.

b. Boric Acid Makeup Tank 2B in accordance with Figure 3.1-1.

c. Boric Acid Makeup Tanks 2A and 2B with a minimum combined contained borated water volume in accordance with Figure 3.1-1.

d. The refueling water tank with:

1. A minimum contained borated water volume of ~~417,100~~ 477,360 gallons,

2. A boron concentration of between 1720 and 2100 ppm of boron, and

3. A solution temperature of between 55°F and 100°F.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With the above required boric acid makeup tank(s) inoperable, restore the tank(s) to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and borated to a SHUTDOWN MARGIN equivalent to its COLR limit at 200°F; restore the above required boric acid makeup tank(s) to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

b. With the refueling water tank inoperable, restore the tank to OPERABLE status within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.8 At least two required borated water sources shall be demonstrated OPERABLE:

a. At least once per 7 days by:

1. Verifying the boron concentration in the water and

2. Verifying the contained borated water volume of the water source.

b. At least once per 24 hours by verifying the RWT temperature when the outside air temperature is outside the range of 55°F and 100°F.

c. At least once per 24 hours when the Reactor Auxiliary Building air temperature is less than 55°F, by verifying that the boric acid makeup tank solution is greater than 55°F.

EMERGENCY CORE COOLING SYSTEMS

3/4.5.4 REFUELING WATER TANK

LIMITING CONDITION FOR OPERATION

3.5.4 The refueling water tank shall be OPERABLE with:

a. A minimum contained borated water volume ~~417,100~~ 477,360 gallons,

b. A boron concentration of between 1720 and 2100 ppm of boron, and

c. A solution temperature of between 55°F and 100°F.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the refueling water tank inoperable, restore the tank to OPERABLE status within 1 hour or be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.5.4 The RWT shall be demonstrated OPERABLE:

a. At least once per 7 days by:

1. Verifying the contained borated water volume in the tank, and

2. Verifying the boron concentration of the water.

b. At least once per 24 hours by verifying the RWT temperature when the outside air temperature is less then 55°F or greater than 100°F.

ATTACHMENT 3

WORD-PROCESSED TECHNICAL SPECIFICATION CHANGES

UNIT 1

Page 3/4 1-18
Page 3/4 5-8

UNIT 2

Page 3/4 1-14
Page 3/4 5-8

REACTIVITY CONTROL SYSTEMS

BORATED WATER SOURCES – OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.8 At least two of the following four borated water sources shall be OPERABLE:

a. Boric Acid Makeup Tank 1A in accordance with Figure 3.1-1.

b. Boric Acid Makeup Tank 1B in accordance with Figure 3.1-1.

c. Boric Acid Makeup Tanks 1A and 1B with a minimum combined contained borated water volume in accordance with Figure 3.1-1.

d. The refueling water tank with:

1. A minimum contained volume of 477,360 gallons of water,

2. A minimum boron concentration of 1720 ppm,

3. A maximum solution temperature of 100°F,

4. A minimum solution temperature of 55°F when in MODES 1 and 2, and

5. A minimum solution temperature of 40°F when in MODES 3 and 4.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one borated water source OPERABLE, restore at least two borated water sources to OPERABLE status within 72 hours or make the reactor subcritical within the next 2 hours and borate to a SHUTDOWN MARGIN equivalent to the requirements of Specification 3.1.1.2 at 200°F; restore at least two borated water sources to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.8 At least two borated water sources shall be demonstrated OPERABLE:

a. At least once per 7 days by:

1. Verifying the boron concentration of the water source,

EMERGENCY CORE COOLING SYSTEMS

REFUELING WATER TANK

LIMITING CONDITION FOR OPERATION

3.5.4 The refueling water tank shall be OPERABLE with:

a. A minimum contained volume 477,360 gallons of borated water,

b. A minimum boron concentration of 1720 ppm,

c. A maximum water temperature of 100°F,

d. A minimum water temperature of 55°F when in MODES 1 and 2, and

e. A minimum water temperature of 40°F when in MODES 3 and 4

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the refueling water tank inoperable, restore the tank to OPERABLE status within 1 hour or be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.5.4 The RWT shall be demonstrated OPERABLE:

a. At least once per 7 days by:

1. Verifying the water level in the tank, and

2. Verifying the boron concentration of the water.

b. At least once per 24 hours by verifying the RWT temperature.

REACTIVITY CONTROL SYSTEMS

BORATED WATER SOURCES – OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.8 At least two of the following four borated water sources shall be OPERABLE:

a. Boric Acid Makeup Tank 2A in accordance with Figure 3.1-1.

b. Boric Acid Makeup Tank 2B in accordance with Figure 3.1-1.

c. Boric Acid Makeup Tanks 2A and 2B with a minimum combined contained borated water volume in accordance with Figure 3.1-1.

d. The refueling water tank with:

1. A minimum contained borated water volume of 477,360 gallons,

2. A boron concentration of between 1720 and 2100 ppm of boron, and

3. A solution temperature of between 55°F and 100°F.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With the above required boric acid makeup tank(s) inoperable, restore the tank(s) to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and borated to a SHUTDOWN MARGIN equivalent to its COLR limit at 200°F; restore the above required boric acid makeup tank(s) to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

b. With the refueling water tank inoperable, restore the tank to OPERABLE status within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.8 At least two required borated water sources shall be demonstrated OPERABLE:

a. At least once per 7 days by:

1. Verifying the boron concentration in the water and

2. Verifying the contained borated water volume of the water source.

b. At least once per 24 hours by verifying the RWT temperature when the outside air temperature is outside the range of 55°F and 100°F.

c. At least once per 24 hours when the Reactor Auxiliary Building air temperature is less than 55°F, by verifying that the boric acid makeup tank solution is greater than 55°F.

EMERGENCY CORE COOLING SYSTEMS

3/4.5.4 REFUELING WATER TANK

LIMITING CONDITION FOR OPERATION

3.5.4 The refueling water tank shall be OPERABLE with:

a. A minimum contained borated water volume 477,360 gallons,

b. A boron concentration of between 1720 and 2100 ppm of boron, and

c. A solution temperature of between 55°F and 100°F.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the refueling water tank inoperable, restore the tank to OPERABLE status within 1 hour or be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.5.4 The RWT shall be demonstrated OPERABLE:

a. At least once per 7 days by:

1. Verifying the contained borated water volume in the tank, and

2. Verifying the boron concentration of the water.

b. At least once per 24 hours by verifying the RWT temperature when the outside air temperature is less then 55°F or greater than 100°F.

ATTACHMENT 4

TECHNICAL SPECIFICATION BASES CHANGES
(For Information only)

Unit 1

Page 3/4 1-5

3/4.1 REACTIVITY CONTROL SYSTEMS (continued)

BASES (continued)

3/4.1.2 BORATION SYSTEMS

The boron injection system ensures that negative reactivity control is available during each mode of facility operation. The components required to perform this function include 1) borated water sources, 2) charging pumps, 3) separate flow paths, 4) boric acid pumps, and 5) an emergency power supply from OPERABLE diesel generators.

With the RCS average temperature above 200°F, a minimum of two separate and redundant boron injection systems are provided to ensure single functional capability in the event an assumed failure renders one of the systems inoperable. Allowable out-of-service periods ensure that minor component repair or corrective action may be completed without undue risk to overall facility safety from injection system failures during the repair period.

The boration capability of either system is sufficient to provide a SHUTDOWN MARGIN from all operating conditions corresponding to the requirements of Specification 3.1.1.2 after xenon decay and cooldown to 200°F. The maximum boration capability requirement occurs at EOL from full power equilibrium xenon conditions. This requirement can be met for a range of boric acid concentrations in the Boric Acid Makeup Tanks (BAMTs) and Refueling Water Tank (RWT). This range is bounded by 5400 gallons of 3.5 weight percent (6119 ppm boron) boric acid from the BAMTs and 17,000 gallons of 1720 ppm borated water from the RWT to 8700 gallons of 2.5 weight percent (4371 ppm boron) boric acid from the BAMTs and 13,000 gallons of 1720 ppm borated water from the RWT. A minimum of 45,000 gallons of 1720 ppm boron is required from the RWT if it is to be used to borate the RCS alone.

The requirements for a minimum contained volume of ~~401,000~~ 477,360 gallons of borated water in the refueling water tank ensures the capability for borating the RCS to the desired level. The specified quantity of borated water is consistent with the ECCS requirements of Specification 3.5.4. Therefore, the larger volume of borated water is specified here too.

With the RCS temperature below 200°F, one injection system is acceptable without single failure consideration on the basis of the stable reactivity condition of the reactor and the additional restrictions prohibiting CORE ALTERATIONS and positive reactivity change in the event the single injection system becomes inoperable.