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August 20, 2012

Docket Nos.: 50-348
50-364

NL-12-0867

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Joseph M. Farley Nuclear Plant – Units 1 and 2
License Amendment Request to Technical Specification 3.7.6,
Condensate Storage Tank

Ladies and Gentlemen:

Pursuant to 10 CRF 50.90, Southern Nuclear Operating Company (SNC) hereby requests an amendment to the Technical Specifications (TS) for Joseph M. Farley Nuclear Plant (FNP), Units 1 and 2.

The change would revise the current FNP TS minimum condensate storage tank level to reflect an increased minimum level. SNC concludes that the proposed amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of “no significant hazards consideration” is justified.

Enclosure 1 provides the basis for the proposed change. Enclosure 2 contains the TS markup page. Enclosure 3 contains the TS clean typed page.

SNC requests approval of the proposed license amendment by August 15, 2013. The proposed changes would be implemented within 60 days of issuance of the amendment.

In accordance with 10 CFR 50.91, a copy of this license amendment request with enclosures is being provided to the designated Alabama state officials.

This letter contains no NRC commitments. If you have any questions, please contact me at (205) 992-7673.

Mr. Mark Ajluni states he is Nuclear Licensing Director of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and, to the best of his knowledge and belief, the facts set forth in this letter are true.

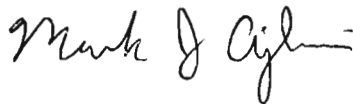
Sworn to and subscribed before me this 20th day of August, 2012.



Notary Public

My commission expires: 11/13/14

Respectfully submitted,



M. J. Ajluni
Nuclear Licensing Director

MJA/CLN/lac

- Enclosures:
 1. Basis for Proposed Change
 2. Technical Specifications Markup Page
 3. Technical Specifications Clean Typed Page

cc: Southern Nuclear Operating Company
Mr. S. E. Kuczynski, Chairman, President & CEO
Mr. D. G. Bost, Executive Vice President & Chief Nuclear Officer
Mr. T. A. Lynch, Vice President – Farley
Mr. B. L. Ivey, Vice President – Regulatory Affairs
Mr. B. J. Adams, Vice President – Fleet Operations
RTYPE: CFA04.054

U. S. Nuclear Regulatory Commission
Mr. V. M. McCree, Regional Administrator
Mr. R. E. Martin, NRR Project Manager – Farley
Mr. E. L. Crowe, Senior Resident Inspector – Farley

Alabama Department of Public Health
Dr. D. E. Williamson, State Health Officer

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Enclosure 1

Basis for Proposed Change

Enclosure 1
Basis for Proposed Change

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Enclosure 1 to NL-12-0867 Basis for Proposed Change

1.0 Summary Description

This evaluation supports a request to revise Operating License (OL) NPF-2 and NPF-8 for Joseph M. Farley Nuclear Plant (FNP), Units 1 and 2, respectively.

The proposed change would revise the OL to change the Condensate Storage Tank (CST) level requirement specified in Technical Specification (TS) Surveillance Requirement (SR) 3.7.6.1. The proposed change is being made as a result of a Nuclear Regulatory Commission (NRC) challenge to the current calculation basis with respect to potential vortexing and assumptions regarding heat loads on CST volume. These challenges were made during the Component Design Bases Inspection conducted in 2011.

2.0 Detailed Description

The proposed change to TS 3.7.6 is as follows:

SR 3.7.6.1 is revised from "Verify the CST level is \geq 150,000 gal.," to "Verify the CST level is \geq 164,000 gal."

The Bases for TS Limiting Condition of Operation (LCO) 3.7.6 will be updated to incorporate the revised required CST minimum volume from 150,000 gallons to 164,000 gallons.

3.0 Technical Evaluation

The CST is a 500,000 gallon capacity tank that is a part of the Auxiliary Feedwater (AFW) System. The CST provides makeup and surge capacity to compensate for changes in the turbine plant system's inventory and provides reserve supply for emergency shutdown decay heat removal, should the normal feedwater system fail.

The required CST volume for operability is specified in SR 3.7.6.1. The TS SR is revised to increase the tank's minimum water volume. This revision increases water volume margin. The revised CST minimum storage volume for each unit has been determined from plant specific calculations performed to determine the most limiting plant event. Based on these calculations, the limiting event for CST required tank volume is maintaining the plant at hot standby for a 2 hour period after a reactor trip followed by a 4 hour cooldown to 350°F, including the total water volume lost from assumed ruptured lines of AFW pump recirculation lines and unisolated flow instrumentation lines. Also included in the calculation of useable volume is minimum tank level to prevent vortexing (10,132 gallons). A useable volume for one reactor coolant pump (RCP) in operation for the duration of the event (6 hours) plus 10 megawatt thermal (MWt) net RCP heat added and decayed over one hour is also included. The limiting CST required tank volume for FNP Units 1 and 2 is 154,054 gallons and includes volume available to the AFW pumps, as stated in TS

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3.7.6 LCO Bases. Other accidents and scenarios require less CST inventory.

Increasing the minimum level to 164,000 gallons provides adequate volume margin and is supported by the design of the lower portion of the CST (protected volume is 164,832 gallons).

4.0 Regulatory Evaluation

4.1 Significant Hazards Consideration

Southern Nuclear Operating Company (SNC) has evaluated whether or not a significant hazards consideration is involved with the proposed changes by focusing on the three standards set forth in 10 CFR 50.92(c) as discussed below:

1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed change would revise TS 3.7.6, "Condensate Storage Tank (CST)," to revise the CST level requirements specified in Surveillance Requirement (SR) 3.7.6.1. The proposed change administratively increases the volume margin of the CST.

The CST is not an accident initiator and is credited to mitigate accidents and events. These changes have no impact on the method by which the CST performs its functions. With these changes, a sufficient quantity of water will continue to be supplied by the CST to the Auxiliary Feedwater (AFW) pumps to remove heat from the Reactor Coolant System (RCS) during a plant event.

With this change, the overall quantity of water required to meet operability requirements of SR 3.7.6.1 is increased. This increase is acceptable, providing increased CST volume margin and is based on plant specific CST minimum storage volume calculations.

This change does not impact any accident initiators or analyzed events. It does not impact any assumed mitigation capability for any accident or transient event. The change does not involve the addition or removal of any equipment; however, a design change to the low level alarm setpoint will be required. Therefore, operation of the facility in accordance with the proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

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Response: No.

The CST is not an accident initiator and is credited to mitigate accidents and events. These changes have no impact on the method by which the CST performs its functions. This change does not involve any physical modifications to plant structures, systems, or components (SSCs), or the manner in which SSCs are maintained, modified, tested, or inspected. In addition, there is no change in the types or increases in the amounts of effluents that may be released offsite, and there is no increase in individual or cumulative occupational radiation exposure. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No.

The accident analyses credit CST inventory to meet RCS design pressure, containment design pressure, 10 CFR 100 dose limits, and 10 CFR 50.36 peak cladding temperature limits. The increase in SR 3.7.6.1 CST required minimum volume increases the CST volume margin. The CST volume for the natural circulation cooldown event is greater than that required to mitigate accidents. The CST will continue to provide the entire required source of usable volume of safety grade water to the AFW System pumps to remove decay and sensible heat from the RCS. This change does not involve any physical modifications to SSCs or the manner in which SSCs are maintained, modified, tested, or inspected. However, a design change to the low level alarm setpoint will be required. The change does not alter the manner in which safety limits, limiting safety system settings, or limiting conditions for operation are determined. The setpoints at which protective actions are initiated are not altered by the change. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, SNC concludes that the proposed amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

4.2 Applicable Regulatory Requirements/Criteria

The regulatory basis for TS 3.7.1.3, "Condensate Storage Tank," is to provide a safety grade source of water to the steam generators for removing decay and sensible heat from the reactor coolant system (RCS). FNP's CST provides the primary and preferred source of AFW during plant transients.

Enclosure 1 to NL-12-0867 Basis for Proposed Change

The following lists the regulatory requirements and plant specific design bases related to the proposed changes.

- 10 CFR Part 50 General Design Criteria (GDC) 2, "Design bases for protection against natural phenomena," requires structures, systems, and components (SSCs) important to safety shall be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, hurricanes, floods, tsunami, and seiches without loss of capability to perform their safety functions.
- GDC 5, "Sharing of structures, systems, and components," requires that SSCs important to safety shall not be shared among nuclear power units unless it can be shown that such sharing will not significantly impair their ability to perform their safety functions, including, in the event of an accident in one unit, an orderly shutdown and cooldown of the remaining units.
- GDC 44, "Cooling water," describes that a system to transfer heat from SSCs important to safety, to an ultimate heat sink shall be provided.
- GDC 45, "Inspection of cooling water system," defines that the cooling water system shall be designed to permit appropriate periodic inspection of important components, such as heat exchangers and piping, to assure the integrity and capability of the system.
- GDC 46, "Testing of cooling water system," requires that the cooling water system shall be designed to permit appropriate periodic pressure and functional testing.
- Regulatory Guidance 1.29, "Seismic Design Classification," describes the acceptable method for identifying and classifying those features of a light-watercooled nuclear power plant that should be designed to withstand the effects of a Safe Shutdown Earthquake.
- NRC Branch Technical Position RSB 5-1, "Design Requirements of the Residual Heat Removal System," dated July 1981.
- NUREG -0800, "U.S. NRC Standard Review Plan," Section 9.2.6, "Condensate Storage Facilities," provides guidance to the NRC staff for the review and evaluation of system design features from the CST to the connections or interfaces with other systems associated with the condensate storage facilities, which may or may not be safety related.

Enclosure 1 to NL-12-0867 Basis for Proposed Change

The CST is aligned to the AFW system as the primary and preferred source of cooling water for plant transients that result in a need for AFW. NUREG-0800, Standard Review Plan, Section 9.2.6, "Condensate Storage Facility," provides guidelines to assure conformance with the requirements of General Design Criteria 2, 5, 44, 45, and 46.

4.3 Precedent

The proposed increase in CST minimum water volume has previously been approved for Brunswick Steam Electric Plant in Amendment 202 to Facility Operating License No. DPR-71 and Amendment No. 232 to Facility Operating License No. DPR-62 in the NRC letter, "Issuance of Amendment No. 201 to Facility Operating License No. DPR-71 and Amendment No. 232 to Facility Operating License No. DPR-62 Revising Condensate Storage Tank Capacity – Brunswick Steam Electric Plant, Units 1 and 2 (TAC Nos. MA1483 and MA 1484)," dated June 5, 1998, based on the Brunswick application dated April 3, 1998.

4.4 Conclusions

In conclusion, based on the considerations discussed above, (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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

5.0 Environmental Consideration

A review has determined that the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or a significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

6.0 References

1. Joseph M. Farley Nuclear Plant Unit 1 and Unit 2, Final Safety Analysis Report Update Revision 24, June 2012, Table 3.2-1
2. Joseph M. Farley Nuclear Plant Unit 1 and Unit 2, Final Safety Analysis Report Update Revision 24, June 2012, Section 6.5., "Design Bases"

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3. Joseph M. Farley Nuclear Plant Unit 1 and Unit 2, Final Safety Analysis Report Update Revision 24, June 2012, Section 9.2.6.2, "System Description"
4. Joseph M. Farley Nuclear Plant Unit 1 and Unit 2, Final Safety Analysis Report Update Revision 24, June 2012, Section 9.2.6.3, "Safety Considerations"
5. Joseph M. Farley Nuclear Plant Units 1 and 2, Technical Specification Bases Revision 55, Bases 3.7.6
6. Joseph M. Farley Nuclear Plant Units 1 and 2 Technical Specifications, Amendments 188 (Unit 1) and 183 (Unit 2), TS 3.7.6
7. NRC letter, "Issuance of Amendment No. 201 to Facility Operating License No. DPR-71 and Amendment No. 232 to Facility Operating License No. DPR-62 Revising Condensate Storage Tank Capacity – Brunswick Steam Electric Plant, Units 1 and 2 (TAC Nos. MA1483 and MA 1484)", dated June 5, 1998
8. NUREG-1431, "Standard Technical Specifications Westinghouse Plants," Revision 4, dated October 2011.
9. NUREG -0800, "U.S. NRC Standard Review Plan," Section 9.2.6, "Condensate Storage Facilities"
10. Calculation BM 95-0961-001, Revision 5, "Verification of CST Sizing Basis"

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Enclosure 2

Technical Specifications Markup Page

3.7 PLANT SYSTEMS

3.7.6 Condensate Storage Tank (CST)

LCO 3.7.6 The CST shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. CST inoperable.	A.1 Verify by administrative means OPERABILITY of backup water supply.	4 hours <u>AND</u> Once per 12 hours thereafter
	<u>AND</u> A.2 Restore CST to OPERABLE status.	7 days
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours
	<u>AND</u> B.2 Be in MODE 4.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.6.1 Verify the CST level is $\geq 150,000$ 164,000 gal.	In accordance with the Surveillance Frequency Control Program

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3.7 PLANT SYSTEMS

3.7.6 Condensate Storage Tank (CST)

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