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September 15, 2009



Energy to Serve Your World
NL-09-1861

Docket Nos.: 50-348
50-364

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

Joseph M. Farley Nuclear Plant, Units 1 & 2
License Amendment Request to
Technical Specification 3.3.2 ESFAS Instrumentation and 5.6.8 Post Accident
Monitoring Report

Ladies and Gentlemen:

Southern Nuclear Operating Company (SNC) hereby transmits an application for amendment to Facility Operating License Nos. NPF-2 (Unit 1) and NPF-8 (Unit 2) for Joseph M. Farley Nuclear Plant (FNP), in accordance with the provisions of 10 CFR 50.90.

The proposed amendment is administrative in nature and clarifies the application of Technical Specification (TS) 3.3.2 Condition K, which is applicable to the P-11 and P-12 permissive/interlock functions of the Engineered Safety Feature Actuation System (ESFAS). In addition, an editorial change is proposed for TS 5.6.8 to correct the citation of a condition requiring a report for the Post Accident Monitoring (PAM) instrumentation.

Enclosure 1 provides the basis for the proposed TS changes. Enclosure 2 provides the marked-up TS and TS Bases pages. Enclosure 3 provides the clean typed TS and TS Bases pages.

SNC requests approval of the proposed amendment request by September 30, 2010. The proposed changes will be implemented within 30 days from the date of issuance.

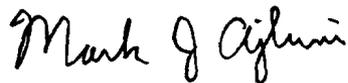
A copy of the proposed changes has been sent to Dr. D. E. Williamson, the Alabama State Designee, in accordance with 10 CFR 50.91(b)(1).

Mr. M. J. Ajluni states he is Nuclear Licensing Manager 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.

This letter contains no NRC commitments. If you have any questions, please advise.

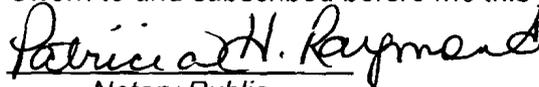
Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY



M. J. Ajluni
Manager, Nuclear Licensing

Sworn to and subscribed before me this 15th day of September, 2009.


Patricia H. Raymond
Notary Public

My commission expires: 7-21-12

MJA/DWD/phr

- Enclosures: 1. Basis for Proposed Changes
 2. Marked-up Technical Specification and Bases Pages
 3. Clean-Typed Technical Specification and Bases Pages

cc: Southern Nuclear Operating Company
 Mr. J. T. Gasser, Executive Vice President
 Mr. J. R. Johnson, Vice President – Farley
 Ms. P. M. Marino, Vice President – Engineering
 RType: CFA04.054

U. S. Nuclear Regulatory Commission
Mr. L. A. Reyes, 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

**Joseph M. Farley Nuclear Plant, Units 1 & 2
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Accident Monitoring Report**

Enclosure 1

Basis for Proposed Changes

Enclosure 1

Basis for Proposed Changes

1.0 Summary Description

In accordance with the provisions of 10 CFR 50.90, Southern Nuclear Operating Company (SNC) is proposing a change to the Joseph M. Farley Nuclear Plant (FNP) Unit 1 and Unit 2 Technical Specifications (TSs).

The Limiting Conditions for Operation (LCOs) for TS 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," include Condition K, which is applicable to permissives/interlocks P-11 and P-12. The current text of Condition K addresses the specific condition of two channels being inoperable. Each P-11 and P-12 function has three channels; however, conditions of one or three inoperable channels could also occur. These possibilities are not encompassed by the existing wording of Condition K; therefore, it is proposed to revise the Condition K text to address all possible conditions of inoperable channels.

The proposed new text for Condition K conforms to the corresponding condition statement applicable to P-11 and P-12 which is contained in the Improved Standard Technical Specifications (STS) (NUREG-1431, Vol. 1, Rev. 3.1) applicable to FNP.

Also, with respect to the reporting requirements described in TS 5.6.8, "PAM Report," an editorial correction is proposed to reference TS LCO Condition "F" rather than "G."

2.0 Detailed Description

TS LCO 3.3.2 Condition K Proposed Change

Change "Two channels inoperable" to "One or more channels inoperable."

TS Paragraph 5.6.8, "PAM Report," Proposed Change

Change "When a report is required by Condition B or G of LCO 3.3.3" to "When a report is required by Condition B or F of LCO 3.3.3"

3.0 Technical Evaluation

From TS Table 3.3.2-1, "Engineered Safety Features Actuation System Instrumentation," LCO 3.3.2 Condition K is applicable to permissives/interlocks P-11 and P-12. Final Safety Analysis Report (FSAR) 7.3 provides a general description of the Engineered Safety Feature Actuation System. Principal functions of P-11 and P-12 are listed in FSAR Table 7.3-4, "Interlocks for Engineered Safety Feature Actuation System," and are described in the Bases for TS 3.3.2, "Engineered Safety Features Actuation System (ESFAS) Instrumentation."

Enclosure 1

Basis for Proposed Changes

P-11 is an ESFAS permissive/interlock which permits normal unit cooldown and depressurization without actuation of safety injection (SI) from pressurizer low pressure. With two-out-of-three pressurizer pressure instrument channels less than the P-11 setpoint, the operator can manually block the Pressurizer Pressure — Low SI signal. The P-11 interlock provides the following two safety functions. With two-out-of-three pressurizer pressure channels above the P-11 setpoint, the Pressurizer Pressure — Low SI actuation is automatically reinstated. With two-out-of-three channels below the P-11 setpoint, the pressurizer power operated relief valves (PORVs) are interlocked closed in the automatic control mode to prevent uncontrolled reactor coolant system (RCS) de-pressurization due to a control system failure or malfunction.

The P-11 function must be operable in Modes 1, 2 and 3 to automatically reinstate SI during normal unit heatup and to allow an orderly cooldown and depressurization of the unit without the actuation of a Pressurizer Pressure — Low SI. Also, P-11 is required to interlock automatic PORV operation, if necessary. This function does not have to be operable in Modes 4, 5, or 6 because the associated safety functions are not required.

P-12 is an ESFAS permissive/interlock which permits normal unit cooldown and depressurization without actuation of SI and main steam line isolation (MSLI) on Steam Line Pressure — Low. On decreasing reactor coolant temperature with two-out-of-three Tav_g channels below the setpoint, the P-12 interlock allows the operator to manually block SI and MSLI on Steam Line Pressure — Low to permit a normal unit cooldown. The P-12 interlock provides the following three safety functions. On increasing reactor coolant temperature with two-out-of-three channels above the setpoint, the P-12 interlock automatically reinstates the SI and MSLI on Steam Line Pressure — Low. On decreasing temperature with two-out-of-three Tav_g channels below the setpoint, the P-12 safety function is to generate MSLI on High Steam Flow in Two Steam Lines Coincident with Tav_g — Low Low. Another P-12 safety function on decreasing temperature with two-out-of-three Tav_g channels below the setpoint is for the P-12 interlock to block the steam dump valves to prevent an excessive cooldown of the RCS due to a control system failure or malfunction.

The P-12 function must be operable in Modes 1, 2, and 3 during plant heatup to automatically reinstate SI and MSLI on Steam Line Pressure — Low when RCS Tav_g is above the P-12 setpoint. In Modes 1, 2, and 3, P-12 must be operable to afford protection should a secondary side break, stuck open relief or safety valve, or steam dump malfunction result in the rapid depressurization of the steam lines. This function is operable when the interlock is in the required state for the unit condition. This function does not have to be operable in Modes 4, 5, or 6 because there is insufficient energy in the secondary side to require mitigation of a postulated event.

Enclosure 1

Basis for Proposed Changes

TS Table 3.3.2-1, "Engineered Safety Feature Actuation System Instrumentation," lists the P-11 and P-12 functions as items 7.c and 7.d. Per item 7.c, three channels are required for P-11, and the applicable TS LCO 3.3.2 Condition is Condition K. Per item 7.d, one channel per loop (i.e., three channels total) is required for P-12, and LCO 3.3.2 Condition K is applicable.

Both P-11 and P-12 voting logic circuits in each train use input from three protection channels. The current wording of Condition K states, "Two channels inoperable." As a result, Condition K does not explicitly address the possible conditions of one channel or three channels inoperable, possibly creating a literal compliance issue. The existing Condition K wording was implemented when FNP converted to the Improved STS. The wording was intended to maintain consistency with the original FNP licensing basis and the STS action statement for inoperable P-11 or P-12 channels.

The proposed Condition K change from "Two channels inoperable" to "One or more channels inoperable" will resolve the current literal compliance issue created during the conversion to the Improved STS. The change does not alter the current Condition K required action, which requires the operator to verify that the interlock is in the required state for the existing unit condition. The proposed change clarifies that the required action must be performed for one, two, or three P-11 or P-12 channels inoperable.

Also, neither the Completion Time nor the Required Action Time is being changed. The required action will verify that the interlock is in the required state for the existing unit condition. As long as the interlock is in the required state for the existing condition, it is immaterial as to the actual number of inoperable channels. The determination for one, two or more channels must be made within one hour. The one hour Completion Time is equal to the time allowed by LCO 3.0.3 to initiate shutdown actions in the event of a complete loss of ESFAS function.

Main control room indications are provided for the operator to determine the state of the P-11 and P-12 channel bistables, the permissive logic circuits, and the associated Pressurizer Pressure — Low SI & MSLI block circuits. The proposed Condition K change does not alter these indication circuits or the methods used to verify the state of the P-11 or P-12 permissives/interlocks.

This proposed change to the LCO 3.3.2 Condition K text is consistent with the Improved STS. The proposed Condition K wording is identical to the wording used in the Improved STS for the corresponding condition applicable to the P-11 and P-12 protection channels (reference Improved STS LCO 3.3.2 Condition L).

The proposed change to TS LCO 3.3.2 Condition K does not impact the FNP safety analyses. The change clarifies that the Condition K action

Enclosure 1

Basis for Proposed Changes

requirements are applicable should one, two, or three P-11 and/or P-12 protection channels be inoperable.

With regard to the proposed editorial correction of TS 5.6.8, a citation error was discovered during review of this section. The current TS 5.6.8 text states, "When a report is required by Condition B or G of LCO 3.3.3..." The review disclosed that the citation of Condition B is correct while Condition G does not currently exist for LCO 3.3.3; instead TS 5.6.8 should cite Condition F.

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 to TS 3.3.2 does not significantly increase the probability or consequences of an accident previously evaluated in the FSAR. These interlocks do not directly initiate an accident. The consequences of accidents previously evaluated in the FSAR are not adversely affected by these changes because the changes are made to reflect the Improved Standard Technical Specifications and the interlocks are verified to be in the required state for the unit condition.

The proposed change to TS 5.6.8 corrects an editorial error and therefore does not significantly increase the probability or consequences of a previously evaluated accident.

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

Response: No.

The proposed change to TS 3.3.2 does not create the possibility of a new or different kind of accident than any accident already evaluated in the FSAR. No new accident scenario, failure mechanisms, or limiting single failures are introduced as a result of the proposed change. The proposed TS 3.3.2 change does not challenge the performance or integrity of any safety-related systems. Therefore, this change does not

Enclosure 1

Basis for Proposed Changes

create the possibility of a new or different kind of accident from any accident previously analyzed.

The proposed change to TS 5.6.8 corrects an editorial error and therefore does not create the possibility of a new or different kind of accident from any accident previously analyzed.

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

Response: No.

The proposed change to TS 3.3.2 does not involve a significant reduction in a margin of safety. The proposed change is made to accurately reflect the format of the Improved Standard Technical Specifications. The actuation setpoints specified by the Technical Specifications and safety analysis limits assumed in the accident analysis are unchanged. The margin of safety associated with these trip setpoints and the safety analysis acceptance criteria is unchanged. Therefore, the proposed change to TS 3.3.2 will not significantly reduce the margin of safety as defined in the Technical Specifications.

The proposed change to TS 5.6.8 corrects an editorial error and therefore involves no 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 following lists the regulatory requirements and plant-specific design bases related to the proposed changes.

Regarding the Proposed Change to TS 3.3.2:

The regulatory basis for TS 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," is to ensure that appropriate plant parameters are sensed, compared with predetermined safety limits and logically combined to send actuation signals to appropriate engineered safety feature devices. The ESFAS meets following requirements:

- 10 CFR Part 50, Appendix A, General Design Criterion (GDC) 13, "Instrumentation and Control," requires that instrumentation be provided to monitor variables under normal, anticipated and accident

Enclosure 1

Basis for Proposed Changes

conditions to assure adequate safety, with appropriate controls provided to maintain variables.

- GDC 20, "Protection System Functions," requires that the protection system initiate automatically to assure fuel design limits are not exceeded and that the system sense accident conditions and initiate operation of systems and components important to safety.
- GDC 21, "Protection System Reliability and Testability," requires that the system be designed for high functional reliability and in-service testability, with redundancy and independence sufficient to preclude loss of the protection function from a single failure and preservation of minimum redundancy despite removal from service of any component or channel.
- GDC 22, "Protection System Independence," requires that the system be designed so that natural phenomena, operating, maintenance, testing and postulated accident conditions do not result in loss of the protection function.
- GDC 23, "Protection System Failure Modes," requires that the system be designed to fail to a safe state in the event of conditions such as disconnection, loss of energy, or postulated adverse environments.
- GDC 24, "Separation of Protection and Control Systems," requires that interconnection of the protection and control systems be limited to assure safety in case of failure or removal from service of common components.
- 10 CFR 50.36(d)(2)(ii)(C) Criterion 3, which requires that a TS LCO be established.
- 10 CFR 50.55a(h) requires that the protection systems meet IEEE 279-1971. Section 4.2 of IEEE 279-1971 discusses the general functional requirement for protection systems to assure they satisfy the single failure criterion.

Regarding the Proposed Change to TS 5.6.8:

The change corrects an editorial error in citing the appropriate report requirement reference; therefore no discussion of regulatory requirements is applicable.

Enclosure 1

Basis for Proposed Changes

4.3 Precedent

Regarding the proposed change to TS 3.3.2:

The proposed new text for Condition K would bring TS 3.3.2 Condition K into conformance with the current text of the corresponding condition statement applicable to P-11 and P-12 contained in NUREG-1431, Volume 1, Revision 3.1, "Standard Technical Specifications Westinghouse Plants."

Regarding the proposed change to TS 5.6.8:

The change corrects an editorial error in citing the appropriate report requirement reference; no discussion of precedents is applicable.

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 plant 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

Southern Nuclear has determined that the proposed amendment would change requirements with respect to the installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, Southern Nuclear has evaluated the proposed amendment and has determined that the amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in the 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), an environmental assessment of the proposed amendment is not required.

6.0 References

1. NUREG-1431, Volume 1, Revision 3.1, "Standard Technical Specifications Westinghouse Plants."

**Joseph M. Farley Nuclear Plant, Units 1 & 2
License Amendment Request to
Technical Specification 3.3.2 ESFAS Instrumentation and 5.6.8 Post
Accident Monitoring Report**

Enclosure 2

Technical Specifications and Bases Markup Pages

5.6 Reporting Requirements

5.6.5 CORE OPERATING LIMITS REPORT (COLR) (continued)

- c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.
- d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

5.6.6 Reactor Coolant System (RCS) PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR)

- a. The reactor coolant system pressure and temperature limits, including heatup and cooldown rates, shall be established and documented in the PTLR for LCO 3.4.3.
- b. The analytical methods used to determine the RCS pressure and temperature limits shall be those previously reviewed and approved by the NRC, specifically those described in the NRC letters dated March 31, 1998 and April 3, 1998.
- c. The PTLR shall be provided to the NRC upon issuance for each reactor fluence period and for any revision or supplement thereto.

5.6.7 EDG Failure Report

If an individual emergency diesel generator (EDG) experiences four or more valid failures in the last 25 demands, these failures shall be reported within 30 days. Reports on EDG failures shall include a description of the failures, underlying causes, and corrective actions taken per the Emergency Diesel Generator Reliability Monitoring Program.

5.6.8 PAM Report

When a report is required by Condition B or  of LCO 3.3.3, "Post Accident Monitoring (PAM) Instrumentation," a report shall be submitted within the following 14 days. The report shall outline the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the Function to OPERABLE status.

(continued)

BASES

ACTIONS

J.1 (continued)

to be lost and the associated Completion Time of prior to the next required TADOT surveillance are acceptable based on the backup nature of this function. This function is not relied on as the primary actuation signal for AFW auto-start in any DBA analysis.

K.1, K.2.1, and K.2.2

Condition K applies to the P-11 and P-12 interlocks. This Condition is applicable when the interlock is inoperable to the extent that an ESFAS function which should not be blocked in the current MODE is blocked.

With one channel inoperable, the operator is not required to take any action. ~~With two channels inoperable, the operator must verify that the interlock is in the required state for the existing unit condition. This action manually accomplishes the function of the interlock. Determination must be made within 1 hour. The 1 hour Completion Time is equal to the time allowed by LCO 3.0.3 to initiate shutdown actions in the event of a complete loss of ESFAS function. If the interlock is not in the required state (or placed in the required state) for the existing unit condition, the unit must be placed in MODE 3 within the next 6 hours and MODE 4 within the following 6 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. Placing the unit in MODE 4 removes all requirements for OPERABILITY of these interlocks.~~

or more channels

L.1, L.2, L.3.1, and L.3.2

Condition L applies to the automatic actuation logic and actuation relays for the P-4, P-11 and P-12 interlocks. This Condition is applicable when the interlock is inoperable to the extent that an ESFAS function which should not be blocked in the current MODE is blocked.

With one train inoperable, the operator must verify that the interlock is in the required state for the existing unit condition. This action manually accomplishes the function of the interlock. Determination must be made within 1 hour. If the interlock is not in the required state (or placed in the required state) for the existing unit condition, the interlock must be restored to OPERABLE status within 24 hours, or the unit must be placed in MODE 3 within the next 6 hours and

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**Joseph M. Farley Nuclear Plant, Units 1 & 2
License Amendment Request to
Technical Specification 3.3.2 ESFAS Instrumentation and 5.6.8 Post
Accident Monitoring Report**

Enclosure 3

Technical Specifications Clean Typed Pages

5.6 Reporting Requirements

5.6.5 CORE OPERATING LIMITS REPORT (COLR) (continued)

- c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.
- d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

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- b. The analytical methods used to determine the RCS pressure and temperature limits shall be those previously reviewed and approved by the NRC, specifically those described in the NRC letters dated March 31, 1998 and April 3, 1998.
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(continued)

BASES

ACTIONS

J.1 (continued)

to be lost and the associated Completion Time of prior to the next required TADOT surveillance are acceptable based on the backup nature of this function. This function is not relied on as the primary actuation signal for AFW auto-start in any DBA analysis.

K.1, K.2.1, and K.2.2

Condition K applies to the P-11 and P-12 interlocks. This Condition is applicable when the interlock is inoperable to the extent that an ESFAS function which should not be blocked in the current MODE is blocked.

With one or more channels inoperable, the operator must verify that the interlock is in the required state for the existing unit condition. This action manually accomplishes the function of the interlock. Determination must be made within 1 hour. The 1 hour Completion Time is equal to the time allowed by LCO 3.0.3 to initiate shutdown actions in the event of a complete loss of ESFAS function. If the interlock is not in the required state (or placed in the required state) for the existing unit condition, the unit must be placed in MODE 3 within the next 6 hours and MODE 4 within the following 6 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. Placing the unit in MODE 4 removes all requirements for OPERABILITY of these interlocks.

L.1, L.2, L.3.1, and L.3.2

Condition L applies to the automatic actuation logic and actuation relays for the P-4, P-11 and P-12 interlocks. This Condition is applicable when the interlock is inoperable to the extent that an ESFAS function which should not be blocked in the current MODE is blocked.

With one train inoperable, the operator must verify that the interlock is in the required state for the existing unit condition. This action manually accomplishes the function of the interlock. Determination must be made within 1 hour. If the interlock is not in the required state (or placed in the required state) for the existing unit condition, the interlock must be restored to OPERABLE status within 24 hours, or the unit must be placed in MODE 3 within the next 6 hours and

(continued)