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Nuclear Licensing Director

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December 21, 2012

Docket Nos.: 50-348
50-364

NL-12-2142

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

Joseph M. Farley Nuclear Plant – Units 1 and 2
Facility Operating License Amendment Request for
Degraded Voltage Protection Modification Schedule

Ladies and Gentlemen:

In accordance with 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit," Southern Nuclear Operating Company (SNC) proposes to revise the Farley Nuclear Plant (FNP) Unit 1 and Unit 2 Facility Operating Licenses (FOL), NPF-2 and NPF-8.

On December 19, 2011, the U.S. Nuclear Regulatory Commission (NRC) issued an NRC Component Design Bases Inspection (CDBI) Report to FNP (Reference 1 of Enclosure 1). The report included details of an Unresolved Item (URI 2011010-10, "Administrative Controls in lieu of Automatic Actions for Degraded Voltage Protection") regarding the licensee's use of administrative controls in lieu of automatic degraded voltage protection to assure adequate voltage to safety-related equipment during design basis events. Based on this URI, a design modification will be implemented to remove dependence on manual operator action. The proposed FOL amendment would incorporate the Degraded Voltage Protection modification scheduled completion dates.

This FOL change is also a result of discussions between SNC and the NRC staff concerning the degraded voltage protection scheme at Plant Hatch and the use of administrative controls for degraded conditions, since FNP has a similar issue. This FOL change documents SNC's commitment to redesign the current degraded voltage protection scheme to eliminate the use of administrative controls at FNP.

A discussion of the proposed FOL change, the basis for the change, and Significant Hazards Considerations are provided in Enclosure 1. Enclosures 2 and 3 provide the marked up FOL and clean typed pages of the FOL, respectively, for FNP. SNC has evaluated the proposed FOL change and has

determined that it does not involve a significant hazards consideration as defined in 10 CFR 50.92.

In accordance with 10 CFR 50.91, SNC is notifying the State of Alabama of this License Amendment Request by transmitting a copy of this letter and enclosures to the designated State Official.

SNC requests approval of the proposed license amendments by June 30, 2013. The proposed changes will be implemented within 60 days of issuance of the amendment.

Mr. M. J. Ajluni states he is Nuclear Licensing Director of SNC, is authorized to execute this oath on behalf of SNC 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 contact Doug McKinney at (205) 992-5982.

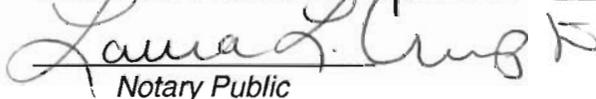
Respectfully submitted,



Mark J. Ajluni

M. J. Ajluni
Nuclear Licensing Director

Sworn to and subscribed before me this 21st day of December, 2012.



Laura L. Long

Notary Public

My commission expires: 11-2-2013

MJA/JMC

Enclosures: 1. Basis for Proposed Changes
2. FNP Facility Operating License Markup Pages
3. FNP Facility Operating License Clean Typed Pages

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

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Mr. V. M. McCree, Regional Administrator

Ms. E. A. Brown, NRR Project Manager – Farley

Mr. J. R. Sowa, Senior Resident Inspector – Farley

Mr. P.K. Niebaum, Senior Resident Inspector – Farley

Alabama Department of Public Health

Dr. D. E. Williamson, State Health Officer

**Joseph M. Farley Nuclear Plant, Units 1 and 2
Facility Operating License Amendment Request for
Degraded Voltage Protection Modification Schedule**

Enclosure 1

Basis for Proposed Changes

Enclosure 1 to NL-12-2142 Basis for Proposed Changes

1. Summary Description

This evaluation supports a request to amend Facility Operating Licenses, NPF-2 and NPF-8, for Joseph M. Farley Nuclear Plant (FNP) Unit 1 and Unit 2, respectively.

The proposed License Amendment Request (LAR) would revise the FNP Facility Operating Licenses (FOL), Appendix C, to require Southern Nuclear Operating Company (SNC) to fully implement and maintain in effect the Degraded Voltage Protection modification schedule.

2. Detailed Description

This LAR includes a proposed change to the FNP FOL, Appendix C, to implement a Degraded Voltage Protection modification. Per a Nuclear Regulatory Commission (NRC) Component Design Basis Inspection (CDBI) report issued on December 19, 2011 (Reference 1), FNP received an Unresolved Item regarding the use of administrative controls in lieu of automatic degraded voltage protection to assure adequate voltage to safety-related equipment during design basis events.

SNC's project plan includes proposed modifications to replace Degraded Voltage Relays (DVRs), possible replacement of the Loss of Offsite Power (LOSP) relays, and installation of new cabinets to house the relays. The modifications will ensure sufficient voltage is available to ensure safety-related loads will remain operable during a degraded voltage condition. A proposed schedule for implementation of the Degraded Voltage Protection modifications is provided in the Technical Evaluation section. SNC to NRC letter dated September 28, 2012 provided a modification schedule and stated a FOL request change would be submitted by December 31, 2012.

This change to FNP FOLs will ensure modifications are completed, as scheduled, in a timely and efficient manner.

3. Technical Evaluation

Successful operation of the required safety functions of the Engineered Safety Features (ESF) systems is dependent upon the availability of adequate power sources for energizing the various components such as pump motors, motor operated valves, and the associated control components. Offsite power is the preferred source of power for the 4160V emergency buses which power the required ESF components. The Loss of Power (LOP) protection instrumentation monitors voltage on the F and G 4160V buses. Each electrical train has independent LOP instrumentation and relay actuation logic for detecting degraded grid or loss of voltage conditions, and initiating an LOP emergency diesel generator (EDG) start signal.

There are three LOP protection instrumentation actuation levels. An alarm sounds at a set point that is no less than 3850V, based on detection of degraded voltage. At no less than 3675V a LOP signal is generated for sustained degraded grid voltage. At no less than 3255V a LOP signal is generated for near instantaneous loss of voltage conditions. Actuation of the degraded grid or loss of voltage signals will automatically disconnect the 4160V emergency buses from the offsite power source.

Enclosure 1 to NL-12-2142 Basis for Proposed Changes

An administrative limit is established at a voltage level between the degraded grid voltage alarm allowable value and the automatic degraded grid voltage actuation upper allowable value. In the voltage range between the administrative limit and the degraded grid voltage actuation trip setpoint, a few ESF components may not have automatic protection from inadequate voltage. The manual actions provide the primary means of protecting these few ESF components from a sustained, slightly low voltage condition and all components from unnecessary automatic disconnection from the preferred offsite power source.

Based on an Unresolved Item from an NRC CDBI report, FNP's current Degraded Voltage Protection System requires upgrades because the system currently relies upon administrative controls to assure adequate voltage to safety-related equipment during design basis events. FNP automatic degraded voltage protection scheme employs automatic setpoints that are too low to assure operability of all safety-related electrical equipment in case of a sustained degraded grid voltage condition and instead relies on administrative controls to assure adequate voltage to safety-related equipment during an accident.

The electrical distribution system for each unit is capable of providing sufficient margin between the minimum expected bus voltage and the voltage level required by the loads, but will require a new DVR set point. The design of the existing DVRs does not allow resolution of this issue through set point adjustment.

The proposed modifications include replacement of DVRs, replacement of the LOSP relays, and installation of new cabinets to house the relays. This project will ensure sufficient voltage is available to ensure safety-related loads will remain operable during a degraded voltage condition.

Work scope and schedule are as follows:

2013	January	Planning Starts
2013	July	Design Starts
2015	January	Complete Design and Begin Implementation Preparation
2015	January	Submit Technical Specification Amendments
2016	January	Issuance of Technical Specification Amendments
2016	U2R24	U2 Spring Outage – Unit 2 Design Implementation Starts
2016	U1R27	U1 Fall Outage – Unit 1 Design Implementation Starts
2017	U2R25	U2 Fall Outage – Unit 2 Completion
2018	U1R28	U1 Spring Outage – Unit 1 Completion

The implementation schedule above is slightly different from the schedule provided in the SNC letter to the NRC dated September 28, 2012 due to further fine-tuning of the plan; however, the completion dates have not changed. This schedule allows time for detailed design completion and time to develop the engineering basis for the technical specification (TS) amendment request. This timeframe also accounts for coordination of outage activities. Two outages are necessary to complete the modifications on each unit based on FNP's philosophy that limits electrical modifications to one electrical train per outage. Non-critical path work activities performed at power are not included in the above schedule.

The implementation schedule and proposed completion dates do not pose a threat to safety due to current administrative controls that will remain in place until the completion of the modifications and TS amendments occur.

**Enclosure 1 to NL-12-2142
Basis for Proposed Changes**

This LAR includes the proposed change to FNP FOLs, Appendix C. A marked up copy of FNP FOLs reflecting the proposed changes are provided in Enclosure 2. A clean typed copy of FNP FOLs with changes incorporated is provided in Enclosure 3.

4. Regulatory Evaluation

4.1 No Significant Hazards Consideration Determination

Southern Nuclear Operating Company (SNC) is requesting an amendment to the Farley Nuclear Plant (FNP) Facility Operating Licenses (FOL), Appendix C, to include a Degraded Voltage Protection modification schedule. This modification is in response to an NRC Unresolved Item regarding the use of administrative controls in lieu of automatic degraded voltage protection to assure adequate voltage to safety-related equipment during design basis events.

SNC has evaluated whether a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," 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 the FNP FOL that incorporates the Degraded Voltage Protection modification implementation schedule is administrative in nature. This proposed change does not alter accident analysis assumptions, add any initiators, or affect the function of plant systems or the manner in which systems are operated, maintained, modified, tested or inspected.

Therefore, this proposed change 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?

Response: No.

The proposed change to the FNP FOL that incorporates the Degraded Voltage Protection modification implementation schedule is administrative in nature. This proposed change does not alter accident analysis assumptions, add any initiators, or affect the function of plant systems or the manner in which systems are operated, maintained, modified, tested or inspected.

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

**Enclosure 1 to NL-12-2142
Basis for Proposed Changes**

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

Response: No.

Plant safety margins are established through limiting conditions for operation, limiting safety system settings, and safety limits specified in the technical specifications. The proposed change to the FNP FOL is administrative in nature. Because there is no change to these established safety margins as a result of this change, the proposed change does not involve a significant reduction in a margin of safety.

Therefore, the proposed change does not involve a significant reduction in margin of safety.

Based on the above, SNC concludes that the proposed change presents no 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

This license amendment request is submitted to ensure compliance with applicable provisions of 10 CFR 50.55a(h)(2) and 10 CFR Part 50, Appendix A, General Design Criterion 17 – Electric Power Systems.

4.3 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 NRC'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. Environmental Considerations

SNC has evaluated the proposed amendment and determined that the amendment does not involve (1) a significant hazards consideration, (2) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (3) 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 the 10 CFR 51.22(b), an environmental assessment of the proposed amendment is not required.

6. References

1. Letter from Rebecca Nease, U.S. Nuclear Regulatory Commission, to T.A. Lynch, SNC Farley Nuclear Plant, "Joseph M. Farley Nuclear Plant, NRC Component Design Bases

Enclosure 1 to NL-12-2142
Basis for Proposed Changes

Inspection – Inspection Report 05000348/2011010 and 05000364/2011010,” dated December 19, 2011.

2. Letter from M.J. Ajluni, SNC, to NRC, “Joseph M. Farley Nuclear Plant – Units 1 and 2 Administrative Controls in Lieu of Automatic Actions for Degraded Grid Protection – Implementation Schedule,” dated September 28, 2012.

**Joseph M. Farley Nuclear Plant, Units 1 and 2
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Enclosure 2

FNP Facility Operating License Markup Pages

APPENDIX C

ADDITIONAL CONDITIONS
FACILITY OPERATING LICENSE NO. NPF-2

Amendment Number	Additional Condition	Condition Completion Date
146	<p>The schedule for performing new and revised Surveillance Requirements (SRs) shall be as follows:</p> <ol style="list-style-type: none"> 1. For SRs that are new in this amendment the first performance is due at the end of the first surveillance interval that begins on the date of implementation of this amendment. 2. For SRs that existed prior to this amendment whose intervals of performance are being reduced, the first reduced surveillance interval begins upon completion of the first surveillance performed after implementation of this amendment. 3. For SRs that existed prior to this amendment that have modified acceptance criteria, the first performance is due at the end of the first surveillance interval that began on the date the surveillance was last performed prior to the implementation of this amendment. 4. For SRs that existed prior to this amendment whose intervals of performance are being extended, the first extended surveillance interval begins upon completion of the last surveillance performed prior to implementation of this amendment. 	<p>Concurrent with the implementation of the Improved Technical Specifications.</p>

SNC shall implement the Degraded Voltage modifications to eliminate the manual actions in lieu of automatic degraded voltage protection to assure adequate voltage to safety-related equipment during design basis events.

Unit 1 2018 Spring Outage, U1R28



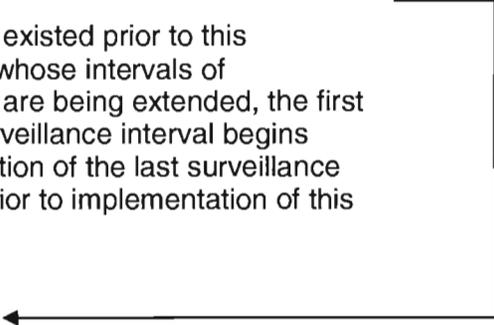
APPENDIX C

ADDITIONAL CONDITIONS
FACILITY OPERATING LICENSE NO. NPF-8

Amendment Number	Additional Condition	Condition Completion Date
137	<p>The schedule for performing new and revised Surveillance Requirements (SRs) shall be as follows:</p> <ol style="list-style-type: none"> 1. For SRs that are new in this amendment the first performance is due at the end of the first surveillance interval that begins on the date of implementation of this amendment. 2. For SRs that existed prior to this amendment whose intervals of performance are being reduced, the first reduced surveillance interval begins upon completion of the first surveillance performed after implementation of this amendment. 3. For SRs that existed prior to this amendment that have modified acceptance criteria, the first performance is due at the end of the first surveillance interval that began on the date the surveillance was last performed prior to the implementation of this amendment. 4. For SRs that existed prior to this amendment whose intervals of performance are being extended, the first extended surveillance interval begins upon completion of the last surveillance performed prior to implementation of this amendment. 	<p>Concurrent with the implementation of the Improved Technical Specifications.</p>

SNC shall implement the Degraded Voltage modifications to eliminate the manual actions in lieu of automatic degraded voltage protection to assure adequate voltage to safety-related equipment during design basis events.

Unit 2 2017 Fall Outage, U2R25



**Joseph M. Farley Nuclear Plant, Units 1 and 2
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Enclosure 3

FNP Facility Operating License Clean Typed Pages

