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50-364

NL-15-0243

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

Joseph M. Farley Nuclear Plant - Units 1 and 2  
Fourth Six-Month Status Report of the Implementation of the  
Requirements of the Commission Order with Regard to  
Mitigation Strategies for Beyond-Design-Basis External Events (EA-12-049)

References:

1. NRC Order Number EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events, dated March 12, 2012.
2. NRC Interim Staff Guidance JLD-ISG-2012-01, Compliance with Order EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events, Revision 0, dated August 29, 2012.
3. NEI 12-06, Diverse and Flexible Coping Strategies (FLEX) Implementation Guide, Revision 0, dated August 2012.
4. Joseph M. Farley Nuclear Plant - Units 1 and 2 Overall Integrated Plan in Response to Commission Order with Regard to Mitigation Strategies for Beyond-Design-Basis External Events (EA-12-049), dated February 27, 2013.
5. Joseph M. Farley Nuclear Plant - Units 1 and 2 Third Six-Month Status Report of the Implementation of the Requirements of the Commission Order with Regard to Mitigation Strategies for Beyond-Design-Basis External Events (EA-12-049) dated August 26, 2014, including Enclosure 2 – Farley Units 1&2 Mitigation Strategies (FLEX) Overall Integrated Implementation Plan (OIP), Revision 4.

Ladies and Gentlemen:

On March 12, 2012, the Nuclear Regulatory Commission (NRC) issued an order (Reference 1) to Southern Nuclear Operating Company. Reference 1 was immediately effective and directs the Joseph M. Farley Nuclear Plant - Units 1 and 2 (FNP) to develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities in the event of a beyond-design-basis external event. Specific requirements are outlined in Attachment 2 of Reference 1.

Reference 1 required submission of an initial status report 60 days following issuance of the final interim staff guidance (Reference 2) and an overall integrated plan pursuant to Section IV, Condition C.1.a of Reference 1. Reference 2 endorses industry guidance document NEI 12-06, Revision 0, (Reference 3) with clarifications and exceptions identified in Reference 2. Reference 4 provided the initial FNP overall integrated plan (OIP). A revised OIP was submitted with the fall 2014 six-month update (Reference 5).

Reference 1 requires submission of a status report at six-month intervals following submittal of the overall integrated plan. Reference 3 provides direction regarding the content of the status reports. The purpose of this letter is to provide the fourth six-month status report pursuant to Section IV, Condition C.2, of Reference 1, delineating progress made in implementing the requirements of Reference 1. The enclosed report provides an update of milestone accomplishments and schedule adjustments since the last status report.

This letter contains no new NRC commitments. If you have any questions, please contact John Giddens at 205.992.7924.

Mr. C. R. Pierce states he is the Regulatory Affairs Director for 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.

Respectfully submitted,



C. R. Pierce  
Regulatory Affairs Director

CRP/JMG/GLS

Sworn to and subscribed before me this 26 day of February, 2015.



Laura L. Croft  
Notary Public

My commission expires: 10-8-2017

Enclosure: Joseph M. Farley Nuclear Plant - Units 1 and 2  
Fourth Six-Month Status Report Regarding Mitigation Strategies for  
Beyond-Design-Basis External Events (EA-12-049)



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cc: Southern Nuclear Operating Company  
Mr. S. E. Kuczynski, Chairman, President & CEO  
Mr. D. G. Bost, Executive Vice President & Chief Nuclear Officer  
Ms. C. A. Gayheart, Vice President – Farley  
Mr. M. D. Meier, Vice President – Regulatory Affairs  
Mr. B. J. Adams, Vice President – Engineering  
Mr. D. R. Madison, Vice President – Fleet Operations  
Mr. R. R. Martin, Regulatory Manager – Farley  
RType: CFA04.054

U. S. Nuclear Regulatory Commission  
Mr. W. M. Dean, Director of the Office of Nuclear Reactor Regulations  
Mr. V. M. McCree, Regional Administrator  
Mr. G. E. Miller, NRR Senior Project Manager – Farley  
Mr. P. K. Niebaum, Senior Resident Inspector – Farley  
Ms. J. A. Kratchman, NRR/JLD/PMB  
Mr. E. E. Bowman, NRR/DPR/PGCB

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

**Joseph M. Farley Nuclear Plant - Units 1 and 2  
Fourth Six-Month Status Report of the Implementation of the  
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**Enclosure**

**Joseph M. Farley Nuclear Plant - Units 1 and 2  
Fourth Six-Month Status Report Regarding Mitigation Strategies for  
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**Joseph M. Farley Nuclear Plant - Units 1 and 2  
 Fourth Six-Month Status Report Regarding Mitigation Strategies for  
Beyond-Design-Basis External Events (EA-12-049)**

**1 Introduction**

Joseph M. Farley Nuclear Plant - Units 1 and 2 developed an Overall Integrated Plan (Reference 1 of this enclosure), documenting the diverse and flexible strategies (FLEX), in response to Reference 2. This enclosure provides an update of milestone accomplishments since submittal of the last status report including any changes to the compliance method, schedule, or need for relief/relaxation and the basis, if any.

**2 Milestone Accomplishments**

In addition to the submittal of status reports, the following milestone(s) directly related to FLEX implementation have been completed since the previous 6-month update, and are current as of December 31, 2014:

- None

**3 Milestone Schedule Status**

The following provides an update to Attachment 2 of the Overall Integrated Plan (Reference 1). It provides the activity status of each item, and whether the expected completion date has changed. The dates are planning dates subject to change as design and implementation details are developed. The Target and Revised Target Completion Dates are based on the approval of one additional refueling cycle for full implementation of the Order for Joseph M. Farley Nuclear Plant – Units 1 and 2 (References 4 & 5).

Milestone	Target Completion Date	Activity Status	Revised Target Completion Date
Submit 60 Day Status Report	Oct 2012	Complete	N/A
Submit Overall Integrated Plan	Feb 2013	Complete	N/A
Unit 2 1st RFO	May 2013	Complete	N/A
Submit 6 Month Status Report	Aug 2013	Complete	N/A
Initiate Phase 2 Equipment Procurement	Sep 2013	Complete	N/A
Submit 6 Month Status Report	Feb 2014	Complete	N/A
Submit 6 Month Status Report	Aug 2014	Complete	
Submit 6 Month Status Report	Feb 2015	Complete	N/A
Develop Strategies (Farley Response Plan) with National SAFER Response Center	June 2015	In Progress	
Submit 6 Month Status Report	(new)	Not Started	Aug 2015
Develop Operational Procedure Changes	Oct 2015	In Progress	
Develop Modifications	Oct 2015	In Progress	
Develop Training Material	Dec 2015	In Progress	
Develop FSGs	Dec 2015	In Progress	
Submit 6 Month Status Report	(new)	Not Started	Feb 2016
Phase 2 Equipment Procurement Complete	Mar 2016	In Progress	
Issue FSGs	Mar 2016	Not Started	
Implement Training	Mar 2016	In Progress	
Unit 2 Walk-throughs or Demonstrations	Mar 2016	Not Started	
Unit 2 Implementation Outage *	April 2016	Not Started	
Submit 6 Month Status Report	(new)	Not Started	Aug 2016

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Milestone	Target Completion Date	Activity Status	Revised Target Completion Date
Unit 1 Walk-throughs or Demonstrations	Sep 2016	Not Started	
Unit 1 Implementation Outage *	Oct 2016	Not Started	
Submit Completion Report	Dec 2016	Not Started	

\*Full compliance consistent with NRC-approved extension (Reference 5)

**4 Changes to Compliance Method**

There are no changes to the compliance method as documented in the Overall Integrated Plan.

**5 Need for Relief/Relaxation and Basis for the Relief/Relaxation**

Joseph M. Farley Nuclear Plant – Units 1 and 2 requested and received a schedule relaxation of one additional refueling cycle for full implementation of the Order requirements and expects to comply with the relaxed date (References 4 & 5). No additional relief/relaxation is required or anticipated at this time.

**6 Open Items from Overall Integrated Plan and Interim Staff Evaluation**

The following tables provide a summary and status of any open items documented in the Overall Integrated Plan and any open items documented in the Interim Staff Evaluation (ISE).

Overall Integrated Plan Open Item	Status
Structure, content and details of the Farley Response Plan will be determined.	SAFER Team developing Pilot Response Plan

Interim Staff Evaluation Open Item	Status
ISE was issued on February 27, 2014 (ML13337A584) with no Open Items.	N/A

**7 Potential Interim Staff Evaluation Impacts**

The NRC issued an Interim Staff Evaluation (ISE) for FNP (Reference 3) with no Open Items. The ISE states that, “the NRC concludes that the licensee has provided sufficient information to determine that there is reasonable assurance that the plan, when properly implemented, will meet the requirements of Order EA-12-049 at the Joseph M. Farley Nuclear Plant, Units 1 and 2.”

## **8 References**

The following references support the updates to the Overall Integrated Plan described in this enclosure.

1. Joseph M. Farley Nuclear Plant - Units 1 and 2, Overall Integrated Plan in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049), dated February 27, 2013.
2. NRC Order Number EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events, dated March 12, 2012.
3. NRC Letter, Joseph M. Farley Nuclear Plant - Units 1 and 2 Interim Staff Evaluation Relating to Overall Integrated Plan in Response to Order EA-12-049 (Mitigation Strategies) (TAC NOS. MF0716 and MFO717), dated January 17, 2014.
4. Joseph M. Farley Nuclear Plant – Units 1 and 2, Request for Relaxation of Commission Order Modifying Licenses With Regards to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049), dated February 26, 2014.
5. NRC Letter, Joseph M. Farley Nuclear Plant – Units 1 and 2 - Relaxation of Certain Schedule Requirements for Order EA-12-049 Issuance of Order to Modify Licenses With Regard to Requirements for Mitigation Strategies Beyond Design Basis External Events dated April 14, 2014.
6. Joseph M. Farley Nuclear Plant - Units 1 and 2 Third Six-Month Status Report of the Implementation of the Requirements of the Commission Order with Regard to Mitigation Strategies for Beyond-Design-Basis External Events (EA-12-049) dated August 26, 2014, including Enclosure 2 – Farley Units 1&2 Mitigation Strategies (FLEX) Overall Integrated Implementation Plan (OIP), Revision 4.

## **9 Other Additional Information**

The following information provides clarity or corrections to the Overall Integrated Plan but does not constitute a change in strategy:

1. The Main Control Room (MCR) access doors that provide an open pathway to the building exterior at plant grade level are blocked open within the first 2 hours post-BDBEE instead of 6 hours as mentioned in the OIP Revision 4. This strategy will provide sufficient ventilation to equalize the MCR temperature to approximately that of the outside air.
2. Prior to depletion of the initial Condensate Storage Tank (CST) inventory and supplemental Reactor Makeup Water Storage Tank (RMWST) inventory, the CST or RMWST will require makeup from the Refueling Water Storage Tank (RWST) sufficient to continue decay heat removal from the steam generators. The RWST volume is sufficient to provide makeup capability for cooling beyond 72 hours post event. The service water pond (UHS) will be utilized as a makeup source following depletion of the RWST. The National SAFER Response Center (NSRC) will furnish portable water treatment equipment (filtration/demineralizer) that may be utilized to clean the makeup water from the service water pond when available. Water sources to satisfy FLEX strategies will be prioritized, with clean water sources preferred. The approach of using the RWST before using the UHS was not stated in the OIP Revision 4.

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3. Each Seismic Category 1 CST (one per unit) is nominally a 500,000 gallon tank; however, only the bottom 164,000 gallons are missile protected and credited for injection to the steam generators. For conservatism, a value of 150,000 gallons is used in the analyses to determine timing of required actions. This conservatism of using 150,000 gallons was not explained in the OIP Revision 4.