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February 26, 2014

Docket Nos.: 50-424  
50-425

NL-14-0181

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

**Vogtle Electric Generating Plant – Units 1 and 2  
Second 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. Vogtle Electric Generating Plant - Units 1 and 2 Initial Status Report in Response to Commission Order with Regard to Mitigation Strategies for Beyond-Design-Basis External Events (EA-12-049), dated October 23, 2012.
5. Vogtle Electric Generating 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.

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 Vogtle Electric Generating Plant - Units 1 and 2 (VEGP) 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 VEGP initial status report regarding mitigation strategies. Reference 5 provided the VEGP overall integrated plan.

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 second six-month status report pursuant to Section IV, Condition C.2, of Reference 1, that delineates progress made in implementing the requirements of Reference 1. The enclosed report provides an update of milestone accomplishments since the last status report, including any changes to the compliance method, schedule, or need for relief and the basis, if any.

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/RCW

Sworn to and subscribed before me this 26 day of February, 2014.



Laura L. Crompton  
Notary Public

My commission expires: 10/8/2017

Enclosure: Vogtle Electric Generating Plant - Units 1 and 2  
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Requirements of the Commission Order with Regard to  
Mitigation Strategies for Beyond-Design-Basis External Events (EA-12-049)

cc: Southern Nuclear Operating Company  
Mr. S. E. Kuczynski, Chairman, President & CEO  
Mr. D. G. Bost, Executive Vice President & Chief Nuclear Officer  
Mr. T. E. Tynan, Vice President – Vogtle  
Mr. B. L. Ivey, Vice President – Regulatory Affairs  
Mr. D. R. Madison, Vice President – Fleet Operations  
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Mr. E. Leeds, Director of the Office of Nuclear Reactor Regulations

Mr. V. M. McCree, Regional Administrator

Mr. E. Martin, NRR Senior Project Manager – Vogtle

Mr. L. M. Cain, Senior Resident Inspector – Vogtle

Ms. J. A. Kratchman, NRR/JLD/PMB

Mr. E. E. Bowman, NRR/DPR/PGCB

State of Georgia

Mr. J. H. Turner, Environmental Director Protection Division

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**Enclosure**

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**1 Introduction**

Vogle Electric Generating 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 attachment 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 development of the Overall Integrated Plan (Reference 1), and are current as of December 31, 2013:

- None

**3 Milestone Schedule Status**

The following provides an update to Attachment 2 of the Overall Integrated Plan. 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 revised milestone target completion date does not impact the Order implementation date.

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
Submit 6 Month Status Report	Aug 2013	Complete	N/A
Initiate Phase 2 Equipment Procurement	Sep 2013	Complete	N/A
Develop Operational Procedure Changes	Dec 2013	Started	Oct 2014
Develop Modifications	Jan 2014	Started	Oct 2014
Submit 6 Month Status Report	Feb 2014	Complete	N/A
Develop Training Material	Mar 2014	Started	
Develop Strategies (Playbook) with RRC	Jun 2014	Started	
Submit 6 Month Status Report	Aug 2014	Not Started	
Phase 2 Equipment Procurement Complete	(new)	Started	Aug 2014
Issue FSGs	Sep 2014	Started	
Implement Training	Oct 2014	Started	
Unit 2 Walk-throughs or Demonstrations	Oct 2014	Not Started	
Unit 2 Implementation Outage *	Oct 2014	Not Started	
Submit 6 Month Status Report	Feb 2015	Not Started	
Submit 6 Month Status Report	Aug 2015	Not Started	
Unit 1 Walk-throughs or Demonstrations	Oct 2015	Not Started	
Unit 1 Implementation Outage *	Oct 2015	Not Started	
Submit Completion Report	Fall 2015	Not Started	

\*Full compliance after second listed refueling outage

**4 Changes to Compliance Method**

There are no changes to the compliance method as documented in the Overall Integrated Plan (Reference 1 of this enclosure).

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

Vogtle Electric Generating Plant - Unit 1 expects to comply with the order implementation date and no relief/relaxation is required at this time. Southern Nuclear Operating Company will be providing a relief request for the Vogtle Electric Generating Plant - Unit 2 by separate letter.

**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
1. Structure, content and details of the Regional Response Center playbook will be determined.	SAFER Team developing Pilot Playbook

Interim Staff Evaluation Open Item	Status
3.2.4.10.A Load Reduction to Conserve DC Power - The licensee stated that the Class 1E batteries are capable maintaining critical loads for 10 hours prior to reaching the minimum voltage during an ELAP event, with margin. However, on page 10 of the Integrated Plan the licensee stated that the 480V Flex DGs will be available at any point past 12 hours to restore power to one battery charger on each Class 1 E 125Vdc distribution bus. The licensee's response does not address the additional 2 hours that the critical loads would be powered from the Class 1E batteries and whether the minimum voltage would be exceeded during this time.	In Progress

## **7 Potential Interim Staff Evaluation Impacts**

There are no potential impacts to the Interim Staff Evaluation identified at this time, except for those identified in Section 6.

## **8 References**

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

1. Vogtle Electric Generating 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, Vogtle Electric Generating Plant, Units 1 and 2 - Interim Staff Evaluation Relating to Overall Integrated Plan in Response to Order EA-12-049 (Mitigation Strategies) (TAC NOS. MF0714 and MFO715), dated January 16, 2014

## **9 Other Additional Information**

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

1. A structure to provide protection of the FLEX equipment will be constructed to meet the requirements identified in NEI 12-06 Section 11. Construction of the FLEX Storage Facility will be completed for 2 sets of FLEX equipment by the date the first unit will reach the Order EA-12-049 implementation completion due date.
2. Based on updated calculations:
  - a. The ability to monitor 2 (redundant) channels of instruments is reduced from 16 to 13 hours only in the event the FLEX DG is not installed and operating as planned and expected per the OIP. The ability to monitor a single channel extends past 13 hours without the FLEX DG installed.
  - b. The SFP water inventory heat up rates for the maximum normal design basis heat load has been adjusted from 130°F to 212°F after 10 hours to 100°F to 212°F after 14 hours.
  - c. The time to boil following an emergency design basis heat load (full core offload) has been adjusted from 5 to 7 hours. The time to reach the minimum safe shielding water coverage of 15 feet above the top of irradiated fuel has been adjusted from approximately 25 hours to approximately 27 hours. The acceptability of the initiation of phase 2 actions at approximately 10 hours due to SFP evaporation has been adjusted from less than 3 feet to less than 2 feet.

Second Six-Month Status Report of FLEX Implementation

- d. The projections for the control room to surpass 110°F have been adjusted from less than 9 hours to less than 4 hours. Specifying blocking open the MCR access doors within 1.3 hours has been added to the phase 1 strategy for MCR accessibility. The time for load shed actions outlined in plant procedures to provide reliable illumination in the control room horseshoe area has been adjusted from more than 13 hours to more than 15 hours.
  - e. The temperature heat up in the TDAFW pump room with no ventilation has been adjusted from no more than 121°F during the 4 hour SBO coping period to no more than 116°F during the first 72 hours of operation.
3. No Phase 1 or Phase 2 coping strategies are required for maintaining containment integrity if the BDBEE occurs while the plant is operating in Modes 1 through 4.
4. A Phase 1 coping strategies will be required for maintaining containment integrity if the BDBEE occurs during operating Modes 5 and 6 with steam generator heat removal not available. Containment venting utilizing the ILRT penetration or acceptable alternative provides this containment coping strategy.
5. Opening the large missile shield doors is no longer credited for SFP area venting.
6. SNC is in the process of evaluating Phase 3 strategies and timing; any changes in Phase 3 strategies will be reflected in a future six month status report.