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U.S. Nuclear Regulatory Commission  
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Southern Nuclear Operating Company  
Vogtle Electric Generating Plant Units 3 and 4  
Response to Request for Additional Information  
Request for License Amendment: Revision to Vogtle 3 and 4 Emergency Plan  
and Plant-Specific Emergency Planning ITAAC (LAR-14-004S)

Ladies and Gentlemen:

On March 27, 2014, via Southern Nuclear Operating Company (SNC) letter ND-14-0413, in accordance with the provisions of 10 CFR 50.90, SNC requested an amendment to the Vogtle 3 and 4 Emergency Plan and combined licenses (COLs) for Vogtle Electric Generating Plant (VEGP) Units 3 and 4 (License Numbers NPF-91 and NPF-92, respectively). The Nuclear Regulatory Commission (NRC) staff issued Request for Additional Information (RAI) Letter No. 1, also referred to as electronic RAI (eRAI) 7540, associated with this License Amendment Request (LAR), referred to as LAR-14-004, on June 23, 2014 [ADAMS Accession No. ML14174B413], and the NRC staff issued RAI Letter No. 2, also referred to as eRAI 7540 associated with LAR-14-004, on July 1, 2014 [ADAMS Accession No. ML14182A619]. This letter provides the response to RAI Letters No. 1 and No 2. The revised information is provided in this letter as Enclosure 5 of the LAR. The revised information includes revisions to Enclosures 1, 2 and 4 of the LAR.

The information provided in Enclosure 5 does not change the scope of, nor affect the Technical Evaluation or the conclusions of the Significant Hazards Consideration determination in the amendment request submitted on March 27, 2014. This letter contains no regulatory commitments.

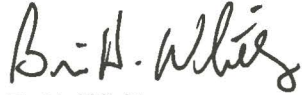
In accordance with 10 CFR 50.91, SNC is notifying the State of Georgia of this LAR supplement by transmitting a copy of this letter and enclosure to the designated State Official.

Should you have any questions, please contact Mr. Wes Sparkman at (205) 992-5061.

Mr. Brian H. Whitley states that: he is the Regulatory Affairs Director of Southern Nuclear Operating Company; he 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,

SOUTHERN NUCLEAR OPERATING COMPANY



B. H. Whitley

BHW/TEA/kms

Sworn to and subscribed before me this 23<sup>rd</sup> day of July, 2014

Notary Public: Kristin Marie Seibert

My commission expires: August 16, 2016



Enclosure 5 Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Response to NRC  
Request for Additional Information Letters No. 1 and No. 2 Related to License  
Amendment Request (LAR) 14-004 (LAR-14-004S)

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**Southern Nuclear Operating Company**

**ND-14-1086**

**Enclosure 5**

**(Note that Enclosures 1, 2, 3, and 4 were provided with LAR-14-004)**

**Vogtle Electric Generating Plant (VEGP) Units 3 and 4**

**Response to NRC Request for Additional Information Letters No. 1 and No. 2**

**Related to**

**License Amendment Request (LAR) 14-004**

**(LAR-14-004S)**

**(This enclosure contains eleven pages, including this cover page)**

**eRAI Tracking No. 7540**

**Question 13.03-01:**

The licensee is proposing to relocate the Operations Support Center (OSC) at Vogtle Units 3 and 4 from the Control Support Area to the Maintenance Support Building (MSB) to share the same space occupied by the OSC staff supporting Units 1 and 2. Since all four units will be sharing the OSC, please confirm that the space provided will be able to accommodate the staff support for all four units including the technical staff to support the unique design difference, displays of data, and communication capabilities for each unit and reactor design.

**SNC Response:**

The OSC will be sized to accommodate the staff support and technical staff for all four units at the VEGP site. The OSC will have communications capability to communicate with all four control rooms, the Technical Support Center (TSC) and the Emergency Operations Facility (EOF).

The following changes are proposed to clarify the capabilities of the OSC:

**Enclosure 2, page 2 of 11, H.1.2 Operations Support Center (OSC):**

Insert the following paragraph between the second and third paragraphs:

The OSC is common for all four VEGP units. The OSC will accommodate the staff support and technical staff to support an event on any or all Units. The OSC has the communications capability to communicate with all four control rooms, the Technical Support Center (TSC) and the Emergency Operations Facility (EOF).

**Question 13.03-02:**

The licensee provides inconsistent information with regard to the communications capability of the OSC. Specifically, within the technical evaluation of the OSC location the licensee states on page 4 of the license amendment request (LAR) that the OSC "shall have direct communications with the control room and with the [Technical Support Center] TSC . . ."; later in the same discussion the licensee states that the OSC is equipped with "dedicated voice telephone circuits to the [Emergency Operations Facilities] EOF and TSC (one for each location)." Please confirm that the OSC will have reliable voice communications with the control room, TSC, and EOF in accordance with the guidance in NUREG-0737, Supplement 1.

**SNC Response:**

The statement regarding requirements for the OSC communications capabilities in the technical evaluation is an excerpt from NUREG-0696, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants." However, the OSC will also meet the requirements of NUREG-0737, Supplement 1, "Clarification of TMI Action Plan Requirements: Requirements for Emergency Response Capability."

The following changes are proposed to clarify the regulatory basis for the OSC:

Enclosure 1, page 3 of 20, 2.1 – Location of the Operations Support Center (OSC)

Revise the second paragraph of the description of the location of the OSC as shown below.

The OSC is established to be consistent with the NUREG-0696, "Functional Criteria for Emergency Response Facilities," guidelines for function, habitability, and communications. [The OSC is also consistent with the NUREG-0737, Supplement 1, "Clarification of TMI Action Plan Requirements: Requirements for Emergency Response Capability," guidelines.](#) Operations support personnel (such as instrument technicians, engineers, mechanics, electricians, chemical/radiation technicians, equipment operators, and incoming shift personnel) assemble in the OSC to aid in the response to an emergency.

Enclosure 1, pages 4 and 5 of 20, Technical Evaluation – OSC Location

Revise the technical evaluation as indicated with the revised text shown below.

10 CFR 50.47(b)(8) requires that adequate emergency facilities and equipment to support the emergency response be provided and maintained. 10 CFR 50, Appendix E, Section IV.E.8.a(ii) requires that the emergency facilities include an onsite operations support center. NUREG-0696 contains regulatory guidance for the capabilities of an OSC. [NUREG-0737, Supplement 1, contains additional regulatory guidance for the capabilities of an OSC.](#) NUREG-0696 contains guidance in the areas of OSC function; habitability, and communications as follows:

- Regarding functional criteria, the OSC is to be an area separate from the control room and the TSC where licensee operations support personnel will assemble in an emergency. The OSC shall provide a location where plant logistic support can be

coordinated during an emergency, and restrict control room access to those support personnel specifically requested by the shift supervisor. When the OSC is activated, it shall be supervised by licensee operations management personnel designated in the licensee's emergency plan to perform these functions.

- Regarding habitability criteria, if the OSC habitability is not comparable to that of the control room, the licensee's emergency plan shall include procedures for evacuation of OSC personnel in the event of a large radioactive release. These procedures also shall include provisions for the performance of the OSC functions by essential support personnel from other onsite locations.
- Regarding communications criteria, the OSC shall have direct communications with the control room and with the TSC so that the personnel reporting to the OSC can be assigned to duties in support of emergency operations. The OSC communications system shall consist of one dedicated telephone extension to the control room, one dedicated telephone extension to the TSC, and one dial telephone capable of reaching onsite and offsite locations, as a minimum. Direct voice intercommunications and/or reliable direct radio communications may be used to supplement these telephone communication links.

[NUREG-0737, Supplement 1, provides requirements that are similar to NUREG-0696, but provides an additional requirement that reliable communication be provided between the OSC and the EOF as well as the control room and the TSC.](#)

NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," contains additional detailed guidance related to the OSC. NUREG-0654, Section II.H.1, requires that an onsite operations support center be provided. NUREG-0654, Section II.H.9, requires that each licensee shall provide for an onsite operations support center (assembly area) which shall have adequate capacity and supplies, including, for example, respiratory protection, protective clothing, portable lighting, portable radiation monitoring equipment, cameras, and communications equipment for personnel present in the assembly area.

The proposed location of the OSC in the MSB meets the requirement for the OSC to be located separate from the control room and the TSC. Since the habitability of the OSC may not be equal to that of the control room, provisions are provided in the emergency plan to relocate the OSC to the OCC located in the Annex Building as described above. Emergency Implementing Procedures (EIPs) describe the method by which the OSC is evacuated. The Vogtle Electric Generating Plant (VEGP) 3 and 4 Emergency Plan, Section B.2.1.3.1, describes the roles and responsibilities of the OSC Manager. The OSC Manager receives direction from TSC personnel to dispatch emergency teams (e.g., firefighting, search and rescue, first aid, repair, etc.) to prescribed areas of the plant or site. The OSC Manager directs the composition of the teams to ensure that appropriately qualified personnel are assigned. In particular, the OSC Manager ensures that proper health physics coverage is provided. The OSC Manager provides specific instructions to the team leaders. The OSC Manager also maintains communications with the teams that remain assigned to the OSC and monitors the status of their activities.

A description of the capabilities of OSC communications is contained in the VEGP 3 and 4 Emergency Plan, Section F.5, "Communications among VEGP Emergency Response Facilities." Communications among the Control Room, TSC, OSC, and EOF will be completed using dedicated telephone circuits, normal plant telephones, and radio, using the plant network.

The OSC is equipped with:

- Dedicated voice telephone circuits to the EOF and TSC (one for each location)
- Normal plant phones
- In-plant radio transceiver
- Plant page system
- Commercial dial

The equipment that will be supplied in the OSC is listed in VEGP 3 and 4 Emergency Plan, Appendix 4, Table A4-4, "OSC Emergency Equipment (Typical)," and is not changed by this amendment request.

Based on the above discussion, the relocation of the OSC meets the requirements of 10 CFR 50.47; 10 CFR 50, Appendix E; NUREG-0696; [NUREG-0737, Supplement 1](#); and NUREG-0654.

**Question 13.03-03:**

The licensee proposes to revise six emergency planning inspections, tests, analyses, and acceptance criteria (EP-ITAAC) to eliminate reference to VEGP 3 and 4 Emergency Plan, Table V2H-1 and to refer instead to Table 7.5-1 in the updated final safety analysis report (UFSAR) for Unit 3 and Unit 4. Please confirm that these criteria are based on Revision 19 of the AP-1000 design certification.

**SNC Response:**

The Vogtle Electric Generating Plant (VEGP) 3 and 4 Updated Final Safety Analysis Report (UFSAR) contains the plant-specific Design Control Document (DCD). The plant-specific DCD is the AP1000 generic DCD (Revision 19), but modified and supplemented by plant-specific departures and exemptions. VEGP 3 and 4 UFSAR Table 7.5-1 is part of the plant-specific DCD. To date, no approved departures or exemptions have affected Table 7.5-1. However, site-specific data has been added to two variables (boundary environs radiation and meteorological parameters), which were listed as "site-specific" in Table 7.5-1 of Revision 19 of the AP1000 DCD.

Based on the above discussion no change to the license amendment request is warranted.

**Question 13.03-04:**

The licensee identifies the Outage Control Center as the designated back-up space for the OSC should the space in the MSB become uninhabitable. Describe whether this designated space has capabilities for reliable voice communications with the control room, TSC, and EOF, and whether it has adequate capacity and supplies for personnel who may be located in this area.

**SNC Response:**

The back-up OSC will have the same capabilities as the OSC including reliable voice communications with the control room, TSC, and EOF. The capacity of the back-up OSC is sufficient to provide the OSC function for an event on VEGP Unit 3 or Unit 4.

The following changes are proposed to clarify the capabilities and capacities of the OCC:

**Enclosure 2, page 2 of 11, H.1.2 Operations Support Center (OSC):**

Replace the third paragraph with the following:

In the event that this facility becomes uninhabitable, the functions of the OSC will be conducted from the designated back-up OSC space in the Outage Control Center (OCC) located in the Annex Building if Unit 3 or Unit 4 is the affected unit and from Clearance and Tagging (C&T) located in the control building if Unit 1 or Unit 2 is the affected unit. These designated back-up OSC spaces will have the same capability as the OSC. Evacuation of the OSC will be conducted according to emergency implementing procedures. These procedures will describe the method by which the OSC is evacuated and the movement of personnel to other facilities. The OSC manager will keep the TSC manager informed of the initiation, progress, and completion of the evacuation and relocation of the OSC personnel. Operations at this facility will be directed by the OSC manager.

**Question 13.03-05:**

The revised ITAAC table for Unit 4 (Table E.3.9-5) shows that EP ITAAC E.3.9.05.01.06, E.3.9.05.01.07, and E.3.9.05.01.08 are verified by Unit 3; however, EP ITAAC E.3.9.05.01.05 is not shown as being deleted as described on page 11 of the license amendment request.

- a. Please clarify if EP ITAAC E.3.9.05.01.05 should be deleted.
- b. Please clarify in the description in Section 2.3 of the LAR whether EP ITAAC E.3.9.05.01.06, E.3.9.05.01.07, and E.3.9.05.01.08 will also be deleted and verified by Unit 3.

**SNC Response to Question 13.03-05a:**

EP ITAAC E.3.9.05.01.05 is intended to be verified by Unit 3 EP ITAAC E.3.9.05.01.05 as described on page 11 of Enclosure 1.

The following changes are proposed to clarify the planned treatment of Unit 4 EP ITAAC E.3.9.05.01.05.

**Enclosure 4, page 5 of 21, H.1.2 Operations Support Center (OSC):**

Change the table heading from **EP ITAAC E.3.9.05.02.02 (858)**  
to **EP ITAAC E.3.9.05.01.05 (853) and EP ITAAC E.3.9.05.02.02 (858)**

And replace the associated table with the following:

Table E.3.9-5 Inspections, Tests, Analyses, and Acceptance Criteria				
No.	ITAAC No.	Program Commitment	Inspections, Tests, Analyses	Acceptance Criteria
853	<del>E.3.9.05.01.05</del>	<del>5.1 The licensee has established an onsite operations support center (OSC). [H. 1]</del> <u>Verified on VEGP Unit 3</u>	<del>5.1 An inspection of the as-built OSC will be performed, including a test of the capabilities.</del>	<del>5.1.5 The OSC is located adjacent to the passage from the annex building to the control room</del>
854		Verified on VEGP Unit 3		
855		Verified on VEGP Unit 3		
856		Verified on VEGP Unit 3		
857	E.3.9.05.02.01	5.2 The licensee has established an emergency operations facility (EOF). [H.2]	5.2 An inspection of the EOF will be performed, including a test of the capabilities.	5.2.1 Voice transmission and reception are accomplished between the EOF and the control room.
858	E.3.9.05.02.02	5.2 The licensee has established an emergency operations facility (EOF). [H.2]	5.2 An inspection of the EOF will be performed, including a test of the capabilities.	5.2.2 The plant parameters listed in <del>Table V2-H-1, Post-Accident monitoring Values</del> <u>UFSAR Table 7.5-1, Post-Accident Monitoring System</u> , can be retrieved and displayed in the EOF.

**SNC Response to Question 13.03-05b:**

As described in VEGP Unit 4 Combined License (NPF-92), Appendix C, page C-459, EP ITAAC E.3.9.05.01.06, E.3.9.05.01.07, and E.3.9.05.01.08 are intended to be verified on VEGP Unit 3.

The following changes are proposed to clarify the regulatory basis for the OSC:

**Enclosure 1, page 11 of 20, EP ITAAC E.3.9.05.01.05**

Revise the first paragraph of the description of the changes to EP ITAAC E.3.9.05.01.05 as shown below.

The acceptance criteria for EP ITAAC E.3.9.05.01.05 require that the OSC is located adjacent to the passage from the annex building to the control room. As requested above, the location of the OSCs will be changed from the Annex Building adjacent to the respective control rooms to the Maintenance Support Building. As a result, it is proposed that Unit 3 EP ITAAC E.3.9.05.01.05 acceptance criteria be changed to reflect the new location of the OSC. Because a common OSC is proposed for use at the VEGP site and because the location of the OSC will be verified by Unit 3 EP ITAAC E.3.9.05.01.05, it is proposed that Unit 4 EP ITAAC E.3.9.05.01.05 be deleted. The proposed change to indicate the location of the OSC in EP ITAAC 3.9.05.01.05 is shown in Enclosure 3 for Unit 3 EP ITAAC. The depiction of deleted Unit 4 EP ITAAC E.3.9.05.01.05, consistent with other unused Unit 4 EP ITAAC ([e.g., EP ITAAC E.3.9.05.01.06, E.3.9.05.01.07, and E.3.9.05.01.08](#)), is shown in Enclosure 4.

Revise the second paragraph of the technical evaluation for EP ITAAC E.3.9.05.01.05 as shown below:

Because the location of the OSC is verified with Unit 3 EP ITAAC 3.9.05.01.05 and because the proposed OSC will be used for VEGP Units 3 and 4, it is not necessary to verify the location of the OSC with the Unit 4 EP ITAAC. Deletion of the VEGP Unit 4 EP ITAAC 3.9.05.01.05 is consistent the approach used for the verification of common emergency preparedness facilities ([e.g., EP ITAAC E.3.9.05.01.06, E.3.9.05.01.07, and E.3.9.05.01.08](#)).

**Question 13.03-6:**

The licensee proposes to delete EP ITAAC E.3.9.05.01.05, E.3.9.05.01.06, E.3.9.05.01.07, and E.3.9.05.01.08 for Unit 4 since these would be verified with Unit 3. Please explain the licensee's plan should schedule/construction issues delay Unit 3, and Unit 4 became operational before Unit 3.

**SNC Response to Question 13.03-06:**

SNC plans to complete EP ITAAC regardless of potential schedule/construction delays on either Unit 3 or Unit 4. SNC further plans to complete EP ITAAC related to Unit 3 before completing EP ITAAC related to Unit 4. When a Unit 3 EP ITAAC is completed that is being used to verify an associated EP ITAAC on Unit 4; i.e., "Verified on Unit 3," the associated closeout letter for the Unit 3 EP ITAAC will also note that the ITAAC is completed for Unit 4. In the very unlikely event that Unit 4 would become operational before Unit 3, all EP ITAAC would have been completed before Unit 4 would become operational.

Based on the above discussion no change the license amendment request is warranted.