SAFETY EVALUATION BY THE OFFICE OF NEW REACTORS

RELATED TO AMENDMENT NO. 74 AND 73

TO THE COMBINED LICENSE NOS. NPF-91 AND NPF-92 RESPECTIVELY

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VOGTLE ELECTRIC GENERATING PLANT UNITS 3 AND 4

DOCKET NOS. 52-025 AND 52-026

1.0 INTRODUCTION

By application dated August 31, 2015 (Reference 1), as supplemented by letters dated February 17, 2016 (Reference 2); April 8, 2016 (Reference 3); May 13, 2016 (Reference 4); May 26, 2016 (Reference 5); June 9, 2016 (Reference 6); and November 2, 2016 (Reference 7), Southern Nuclear Operating Company, Inc. (SNC, the licensee) submitted a license amendment request (LAR) for the Joseph M. Farley Nuclear Plant, Units 1 and 2 (Farley); Edwin I. Hatch Nuclear Plant, Units 1 and 2 (Hatch); and Vogtle Electric Generating Plant (VEGP), Units 1, 2, 3, and 4. The amendments request U.S. Nuclear Regulatory Commission (NRC, the Commission) approval of the proposed SNC Standard Emergency Plan (SEP), encompassing all SNC plants and respective plant-specific annexes.

The supplemental letters dated February 17, 2016; April 8, 2016; May 13, 2016; May 26, 2016; June 9, 2016; and November 2, 2016, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on October 27, 2015 (80 FR 65816).

2.0 REGULATORY EVALUATION

This safety evaluation addresses the impact of the proposed changes in the SNC SEP and the VEGP, Units 3 and 4, SEP Annex as they apply specifically to VEGP, Units 3 and 4. In addition, this safety evaluation addresses the requested amendments to the combined licenses (COLs) for VEGP, Units 3 and 4, with regard to changes to the emergency planning inspections, tests, analyses, and acceptance criteria (ITAAC). The regulatory requirements and guidance on which the NRC based its acceptance, are as follows:

2.1 Regulations

The LAR concerns the emergency plan. As defined in Title 10 of the *Code of Federal Regulations* (10 CFR) 50.54(q)(1)(ii), "emergency plan" means the documents prepared and maintained by the licensee that identify and describe the licensee's methods for maintaining emergency preparedness and responding to emergencies. As a condition of its license, per 10 CFR 50.54(q)(2), each licensee is required to follow and to maintain the effectiveness of an emergency plan that meets the requirements in Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," to 10 CFR Part 50 and the planning standards of 10 CFR 50.47(b). Appendix E to 10 CFR Part 50 establishes minimum requirements for emergency plans for use in attaining an acceptable state of emergency preparedness. Per Section IV of Appendix E to 10 CFR Part 50, emergency plans shall contain, but not necessarily be limited to, information needed to demonstrate compliance with the elements addressing: organization for coping with radiological emergencies, assessment actions, activation of emergency organization, notification procedures, emergency facilities and equipment, training, maintaining emergency preparedness, recovery, and onsite protective actions during hostile action.

Per 10 CFR 50.54(q)(3), a licensee may change its emergency plan, without NRC approval, if the change does not reduce the licensee's capability to perform an emergency planning function in the event of a radiological emergency and the plan, as changed, continues to meet Appendix E to 10 CFR Part 50 and the planning standards of 10 CFR 50.47(b). However, per 10 CFR 50.54(q)(4), changes to a licensee's emergency plan that reduce the effectiveness of the plan as defined in 10 CFR 50.54(q)(1)(iv) may not be implemented without prior approval by the NRC. Where a licensee determines that a change requires NRC approval, 10 CFR 50.54(q)(4) requires the licensee to:

> identify the change, the reason for the change, and the basis for concluding that the licensee's emergency plan, as revised, will continue to meet the requirements in appendix E to [10 CFR Part 50] and, for nuclear power reactor licensees, the planning standards of § 50.47(b).

In this instance, SNC desires to use a fleet SNC SEP with site-specific annexes. Changes would include usage of standard staff augmentation times, changes in staffing numbers, changing in staffing duties, and usage of a consolidated Joint Information Center. In its letter dated August 31, 2015, SNC states that it "conservatively evaluated the proposed changes as reductions in effectiveness requiring NRC approval per 10 CFR 50.54(q)." Accordingly, the NRC staff's review assessed how proposed usage of the SEP and the site-specific annexes would meet Appendix E to 10 CFR Part 50 and the planning standards of 10 CFR 50.47(b).

2.2 Guidance

- NUREG-0654/FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (Reference 8), which provides specific acceptance criteria the NRC has determined is an acceptable means of complying with the standards in 10 CFR 50.47. These criteria provide a basis for NRC licensees, and State and local governments to develop acceptable radiological emergency (REP) response plans.

- Office of Nuclear Security and Incident Response (NSIR)/Division of Preparedness and Response (DPR) interim staff guidance (ISG) document - NSIR/DPR-ISG-01, "Interim Staff Guidance, Emergency Planning for Nuclear Power Plants" (Reference 9), which provides updated guidance for addressing emergency planning requirements for nuclear power plants, based on changes to emergency preparedness (EP) regulations in 10 CFR 50.47 and Appendix E to 10 CFR Part 50, which were published in the *Federal Register* on November 23, 2011 (76 FR 72560)[1].

- NUREG-0800, Section 14.3.10, "Emergency Planning – Inspections, Tests, Analyses, and Acceptance Criteria" (Reference 10), provides generic guidance for developing Emergency Planning ITAACs.

3.0 TECHNICAL EVALUATION

The NRC staff has reviewed the licensee's regulatory and technical analyses in support of its proposed SNC SEP and the VEGP, Units 3 and 4, SEP Annex, as described in SNC's application, as well as the requested amendments to the COLs for VEGP, Units 3 and 4, with regard to changes to the Emergency Planning ITAAC. The staff's technical evaluation is provided below.

3.1 Background

As stated in its August 31, 2015, letter, SNC currently has separate NRC-approved emergency plans for the following plants:

- Joseph M. Farley Nuclear Plant, Units 1 and 2
- Edwin I. Hatch Nuclear Plant, Units 1 and 2
- Vogtle Electric Generating Plant, Units 1 and 2
- Vogtle Electric Generating Plant, Units 3 and 4

The proposed changes would revise each plant's license in order to adopt an SNC SEP that includes plant-specific annexes. By standardizing emergency plans, SNC expects to make improvements by increasing consistency of organizations, duties and responsibilities,

[1] The NRC amended its regulations to make miscellaneous corrections (78 FR 34245; June 7, 2013). One of the changes affected Appendix E to 10 CFR Part 50, Section IV.F.2.a.(1). The phrase "rated power" was revised to read "rated thermal power" for clarity and consistency with 10 CFR 54(gg)(1).

procedures, and training across all SNC plants and corporate EP programs. SNC also plans to align the plants using consistent standards and definitions.

The current VEGP, Units 3 and 4, Emergency Plan, Revision 5, was approved in Volume 2 of NUREG-2124, "Final Safety Evaluation Report Related to the Combined Licenses (COLs) for Vogtle Electric Generating Plant, Units 3 and 4," September 2012 (Reference 11). Specifically, Section 13.3.6 states, in part:

> Further, in accordance with 10 CFR 50.47(a), the staff concludes that, subject to the required conditions and limitations of the full-power license, including the license conditions listed in Section 13.3.5 of this SER [safety evaluation report], there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the VEGP site, and that emergency preparedness at VEGP Units 3 and 4 is adequate to support full-power operations.

In NRC letter dated December 2, 2015 (Reference 12), the staff presented a request for additional information (RAI) related to facilities. Specifically, SNC requested the establishment of two central Joint Information Centers (JICs). SNC responded to the RAI in a letter dated February 17, 2016 (Reference 13), stating that it had decided not to propose these changes to the JIC, as originally described to the NRC in Enclosure 3 of the SNC application dated August 31, 2015. SNC stated that the practice for coordination and dissemination of information to the public, as provided in the current SNC emergency plans and the State and local emergency plans by the respective plants near site JICs, would remain unchanged in the proposed SNC SEP. The letter dated February 17, 2016, also provided revisions to SNC documents submitted in the letter dated August 31, 2015.

In a letter dated February 4, 2016 (Reference 14), the NRC issued its RAI related to on-shift and augmented emergency response organization (ERO) staffing. In a letter dated April 8, 2016, SNC provided responses to the second RAI, including revisions to SNC documents updated from the licensee's February 17, 2016, correspondence.

In a letter dated April 14, 2016 (Reference 15), the NRC issued an RAI related to the proposed SNC SEP. In a letter dated June 9, 2016, SNC provided its response to the third RAI, including revisions to SNC documents updated in the licensee's April 8, 2016, correspondence.

3.2 Proposed Changes

In its August 31, 2015, letter, SNC provided 19 enclosures. The following 10 documents relate to VEGP, Units 3 and 4:

- Enclosure 1: Evaluation of the Proposed Changes – LAR for the Adoption of a SEP for the SNC Fleet
- Enclosure 2. SNC Standard Emergency Plan
- Enclosure 3: Corporate JIC Description and Technical Evaluation

- Enclosure 13: Vogtle (Units 3 and 4) Staffing – Detailed Description and Technical Evaluation

- Enclosure 14: Vogtle (Units 3 and 4) SEP Annex

- Enclosure 15: Vogtle (Units 3 and 4) Justification Matrix

- Enclosure 16: Evaluation of Proposed Changes (LAR for the Revision to Vogtle (Units 3 and 4) Emergency Plan ITAAC

- Enclosure 17: Revision to Vogtle Unit 3 COL Appendix C – Proposed Changes – Markups

- Enclosure 18: Revision to Vogtle Unit 4 COL Appendix C – Proposed Changes – Markups

- Enclosure 19: Off-site Response Organizations – Letters of Consultation and Concurrence

Enclosures not listed above apply to the Farley; Hatch; and VEGP, Units 1 and 2, plants. Additionally, Enclosure 3 was deleted from the LAR by letter dated February 17, 2016.

The major changes that SNC is requesting in the proposed SNC SEP plan include: (a) the adoption of a standard staff augmentation time period of 75 minutes from time of an Alert or higher declaration, (b) changes to ERO augmentation staffing numbers, and (c) changes in ERO staffing duties and responsibilities.

The requested amendments to the VEGP Units 3 and 4 Combined Licenses include a revision to numerous Emergency Planning ITAACs, which address emergency response areas such as position titles, facility names and activation times, offsite notification times, and various changes to Emergency Plan Implementing Procedures (EPIPs). These Emergency Planning ITAACs are being revised to conform to changes that are being made in the VEGP Units 3 and 4 SEP Annex as a result of SNC's adoption of a SNC SEP, including EPIP revisions.

3.3 Evaluation

3.3.1 Review of the Proposed SNC SEP and VEGP, Units 3 and 4, SEP Annex Using the 10 CFR 50.47(b) Planning Standards and NUREG-0654 Evaluation Criteria

3.3.1.1 10 CFR 50.47(b)(1) and Evaluation Criteria of Section II.A of NUREG-0654 – Assignment of Responsibility (Organization Control)

> Primary responsibilities for emergency response by the nuclear facility licensee and by State and local organizations within the Emergency Planning Zones have been assigned, the emergency responsibilities of

the various supporting organizations have been specifically established, and each principal response organization has staff to respond and to augment its initial response on a continuous basis.

The 10 CFR 50.47(b)(1) criteria and Evaluation Criteria of Section II.A of NUREG-0654 are addressed in portions of Section A, "Assignment of Responsibility," and Section B, "Emergency Response Organization (ERO)," as well as the Introduction to the proposed SNC SEP, along with portions of Section 1, "Introduction," and Section 2, "Organizational Control of Emergencies," to the proposed VEGP, Units 3 and 4, SEP Annex.

The SNC SEP identifies those Federal, State, local, and private sector (contractors and private) organizations expected to respond in the event of an emergency at VEGP, Units 3 and 4, as well as their respective roles. Schematic representations of the Technical Support Center (TSC), Operations Support Center (OSC), Emergency Operations Facility (EOF), and JIC provide designated staffing positions and their relationship to other SNC emergency response locations, as well as with offsite response organizations (ORO), where appropriate.

The Shift Manager is in direct charge of shift plant operations and is responsible for the actions of the on-shift crew. In an emergency, the Shift Manager assumes the responsibility of the Emergency Director and takes necessary actions to identify and respond to the emergency until relieved by another qualified Emergency Director. The Shift Manager, as Emergency Director, has the responsibility and authority to immediately and unilaterally initiate emergency actions, including command and control functions. The Emergency Director also has overall coordinating authority for SNC resources. The proposed SNC SEP defines command and control functions as event classification; notification of the NRC and designated State and local agencies; protective action recommendation (PAR) decisions to offsite agencies; and onsite emergency exposure controls, including authorization of emergency exposures in excess of Federal limits and issuance of potassium iodide (KI) to plant employees as a thyroid blocking agent. These control functions will normally shift from the control room to the TSC and subsequently to the EOF as an emergency event escalates in severity. The TSC Emergency Director will relieve the Shift Manager in the control room of the classification and emergency exposure control functions. The EOF Emergency Director will accept responsibility for notification and PAR functions. Both the TSC and EOF are activated simultaneously upon an Alert declaration or at the Shift Manager's discretion.

SNC and VEGP, Units 3 and 4, maintain 24-hour emergency response capability. The normal on-shift complement provides the initial response to an emergency. This group is trained to respond to emergency situations until the augmented ERO arrives. The ERO is composed of personnel with specialties in operations, maintenance, engineering, radiochemistry, radiation protection (RP), fire protection, and security.

Letters of agreement (LOAs) are not necessary with Federal and State agencies that are legally required to respond to an emergency; however, agreements are necessary if an agency is expected to provide assistance not required by law. Therefore, written agreements have been developed that establish the extent of operations between VEGP, Units 3 and 4, and other support organizations that have an emergency response role consistent with this plan. These agreements identify the emergency measures to be provided, the mutually accepted criteria for implementation, and the arrangements for exchange of information. VEGP has obtained LOAs

with private contractors and others who provide emergency support services, which are referenced in the VEGP, Units 3 and 4, SEP Annex. VEGP, Units 3 and 4, maintain these LOAs in accordance with Appendix E to 10 CFR Part 50, paragraph IV.A.7. LOAs, at a minimum, state that the cooperating organization will provide its normal services in support of an emergency at the affected plant.

SNC has committed to a sufficient number of qualified personnel being identified to ensure that positions listed in the SNC SEP can be staffed on a 24-hour per day basis for an extended event. Designated positions in the OSC, TSC, and EOF are responsible for assuring continuity of resources (technical, administrative, and material).

Based on the above, the NRC staff concludes that SNC has identified primary responsibilities for emergency response by VEGP, Units 3 and 4, and State and local organizations within the emergency planning zones (EPZs); the emergency responsibilities of the various supporting organizations have been specifically established; and each principal response organization has staff to respond and to augment its initial response on a continuous basis. Therefore, the NRC staff concludes that the requirements of 10 CFR 50.47(b)(1) and Evaluation Criteria of Section II.A of NUREG-0654 have been addressed adequately.

3.3.1.2 10 CFR 50.47(b)(2) and Evaluation Criteria of Section II.B of NUREG-0654 – Onsite Emergency Organization

> On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support and response activities are specified.

The 10 CFR 50.47(b)(2) criteria and Evaluation Criteria of Section II.B of NUREG-0654 are addressed in portions of Section B of the proposed SNC SEP, along with Table 2.2.A, “Vogtle Electric Generating Plant On-Shift Staffing,” of the proposed VEGP, Units 3 and 4, SEP Annex. NSIR/DPR-ISG-01 provides further guidance to supplement the existing guidance in NUREG-0654, Section II.B, Evaluation Criterion B.5, and Table B-1, “Minimum Staffing Requirements for NRC Licensees for Nuclear Power Plant Emergencies,” regarding assignment of emergency response functions and tasks to licensee personnel.

The normal plant organization of VEGP comprises a staff capable of providing the initial response to an emergency event. In a letter dated May 13, 2016 (Reference 4), SNC submitted a detailed staffing analysis as required by 10 CFR Part 50, Appendix E, IV.A.9, in accordance with License Condition 2.D.(12)(d) of the VEGP, Units 3 and 4, COL. Organizational structures and the on-shift staffing tables are provided in the VEGP, Units 3 and 4, SEP Annex. VEGP, Units 3 and 4, maintain a 24-hour emergency response capability. The normal on-shift complement provides the initial response to an emergency situation until the augmented ERO arrives.

As noted previously in Section 3.3.1.1 of this safety evaluation, the Shift Manager is in direct charge of shift plant operations and is responsible for the actions of the on-shift crew. Also, in an emergency, the Shift Manager, as Emergency Director, initially assumes the responsibility for the command and control functions, and takes necessary actions to identify and respond to the emergency until relieved by another qualified Emergency Director in the TSC or EOF, as part of ERO augmented staffing. After being relieved as Emergency Director, the Shift Manager directs the activities of the operating crew and is responsible for the safe operation of the plant. Command and control normally shifts from the control room to the TSC, and subsequently to the EOF, but may move in either direction, depending on conditions that would warrant passing such authority. The transfer of command and control may be completed sequentially or in parallel. A qualified Emergency Director in either facility can relieve the other facility of the command and control authority and responsibilities.

In the VEGP, Units 3 and 4, SEP Annex, Table 2.2.A, "On-shift Staffing," includes the position titles and major tasks, in accordance with Table B-1 of NUREG-0654. Section B.2, "Onsite Emergency Response Organization," Tables 1 through 4 of the SNC SEP, provide the information in the TSC, OSC, EOF, and JIC, in accordance with Table B-1 of NUREG-0654, Section B.2.

The interfaces between and among the onsite functional areas of emergency activity and local services support, and State and local government response organizations are represented in Figures B.2.1.A – B.3.2.A of the SNC SEP. Contractor and private organizations, as well as other utilities and organizations, are also referenced in the SNC SEP. Local emergency support organizations are included by type of assistance provided: local law enforcement agencies, ambulance services, medical services, and firefighting.

The normal onsite organization of VEGP, Units 3 and 4, provides a staff capable of providing the initial response to an emergency event using shared resources with VEGP Units 1 and 2. The on-shift staffing was validated by performing a detailed staffing analysis (Reference 17) as required by 10 CFR Part 50, Appendix E, IV.A.9.

The current emergency plan, VEGP, Units 3 and 4, Emergency Plan, Revision 5 (Reference 18), describes the on-shift ERO, defines the authority and responsibilities for emergency response, and assigns major functional areas to onsite and offsite response facilities for augmented response. The on-shift control room staff for VEGP remains unchanged in the proposed VEGP, Units 3 and 4, SEP Annex and exceeds the guidance in Table B-1 to NUREG-0654/FEMA REP-1, Revision 1.

The VEGP, Units 3 and 4, Emergency Plan, Revision 5, provides for an on-shift capability to perform dose assessment by a RP individual. In the proposed change, on-shift dose assessment will be assigned to an on-shift chemistry individual appropriately trained and dedicated to this task with no other collateral emergency response duties.

The VEGP, Units 3 and 4, Emergency Plan, Revision 5, provides for two individuals to perform onsite (out-of-plant) surveys. The survey team is composed of an individual qualified to perform the survey and an assistant to drive a vehicle. A Chemistry Technician provides support to coordinate communications between the out-of-plant team and the dose assessor as needed. As part of the proposed VEGP, Units 3 and 4, SEP Annex, the onsite/out-of-plant survey task

will be performed by a single RP technician, or other appropriately trained individual shared with VEGP, Units 1 and 2.

The passive design of VEGP, Units 3 and 4, does not require significant operator action or maintenance support for 72 hours following a design-basis accident. As such, the VEGP, Units 3 and 4, Emergency Plan, Revision 5, provides for one mechanical journeyman, one electrical journeyman, and one instrument and controls technician on-shift to support the repair and corrective action task. These staffing numbers will be maintained in the proposed VEGP, Units 3 and 4, SEP Annex, but these positions will be shared for VEGP, Units 1 and 2. These maintenance personnel will be trained and qualified to perform work on VEGP, Units 1 and 2, and Units 3 and 4. In addition to these personnel, a maintenance supervisor will be added to the on-shift complement to provide supervisory oversight for repair and corrective actions.

Minimum augmentation staffing as depicted in Table 3 of the VEGP, Units 3 and 4, Emergency Plan, Revision 5, is 19 personnel. As described in Tables 1 through 4 in Enclosure 2 of the letter dated June 9, 2016, the proposed minimum augmented ERO is listed for each emergency response facility (ERF) and consists of 13 personnel at the TSC, 14 personnel at the OSC, 17 personnel at the EOF, and 5 personnel at the JIC, for a total of 49 personnel.

In addition to the augmentation of an Emergency Director in the TSC within 75 minutes of an Alert or higher declaration, the proposed SNC SEP provides an additional Emergency Director will be augmented in the EOF within 75 minutes of an Alert or higher declaration. The aspects of the Emergency Direction and Control function assigned to the Emergency Directors are clearly defined in the proposed SNC SEP. Under the proposed SNC SEP, within 75 minutes of an Alert or higher declaration, the Emergency Director in the control room is relieved by the TSC Emergency Director who assumes responsibility for classification and emergency exposure controls and the EOF Emergency Director who assumes responsibility for PARs, emergency notifications, and overall emergency management response. The proposed SNC SEP provides for the transfer of State and local notifications, including authority to approve the content of the notification form, directly to the EOF from the control room. The proposed change includes both sufficient communications personnel to perform the communications and an Emergency Director with the authority to approve the content of the notification.

The VEGP, Units 3 and 4, Emergency Plan, Revision 5, provides for augmentation by two offsite survey teams. The proposed staffing for the SNC SEP augments a single offsite survey team within 75 minutes of an Alert or higher declaration and maintains the augmentation by the EOF Field Team Coordinator and Field Team Communicator positions as currently provided. A third augmented individual, together with the onsite/out-of-plant RP technician, will make up the second offsite field monitoring team. Onsite monitoring will then become a function of the augmenting RP personnel in the OSC. These survey/field monitoring teams are typically used to verify the status of a potential release and validate the dose assessment model. Dose assessment model validation strategies developed and implemented by the EOF staff typically include directing one team to track the leading edge of the radiological plume, and one team to define the lateral edges of the plume and determine plume centerline radiological conditions. If the field team survey data indicates a departure from the dose assessment model, the radiation surveys and air samples collected by these two field monitoring teams can be used to perform dose assessment calculations.

An additional Chemistry Technician will be augmented in the OSC within 75 minutes of an Alert or higher declaration to assist in performing chemistry sampling and analysis. The RP Supervisor position in the TSC will be staffed within 75 minutes of an Alert or higher declaration, relieving the Shift Manager/Emergency Director of the role of oversight of the on-shift dose assessor. The TSC will retain this task until relieved by the EOF Dose Assessment staff, which consists of the Dose Assessment Supervisor and Dose Analyst. There is no loss of function or impact on the timing for performing either of the tasks of dose assessment or required radiochemistry sampling by the proposed on-shift staffing provided in the SNC SEP.

The proposed SNC SEP provides for augmentation of maintenance discipline specific leads in the OSC, as well as an overall OSC Manager within 75 minutes of an Alert or higher declaration. Two RP technicians and a RP/chemistry OSC lead will be augmented in the OSC within 75 minutes of an Alert or higher declaration to support the Protective Actions in-plant function.

Based on the above, the NRC staff concludes that SNC has defined on-shift responsibilities for VEGP, Units 3 and 4, provides adequate staffing to maintain initial VEGP accident response in key functional areas at all times, includes timely augmentation of response capabilities, specifies the interfaces among various onsite and offsite response activities and support. Therefore, the NRC staff concludes that the requirements of 10 CFR 50.47(b)(2) and Evaluation Criteria of Section II.B of NUREG-0654 have been addressed adequately.

3.3.1.3 10 CFR 50.47(b)(3) and Evaluation Criteria of Section II.C of NUREG-0654 – Emergency Response Support and Resources

> Arrangements for requesting and effectively using assistance resources have been made, arrangements to accommodate State and local staff at the licensee's Emergency Operations Facility have been made, and other organizations capable of augmenting the planned response have been identified.

The 10 CFR 50.47(b)(3) criteria and Evaluation Criteria of Section II.C of NUREG-0654 are addressed in portions of Section A; Section B; Section C, "Emergency Response Support and Resources"; Section H, "Emergency Facilities and Equipment"; and Section L, "Medical and Public Health Support," of the proposed SNC SEP, along with portions of Section 1; Section 2; and Section 5, "Emergency Facilities and Equipment," of the proposed VEGP, Units 3 and 4, SEP Annex. NSIR/DPR-ISG-01 provided further guidance to address the new requirements in Appendix E, Section IV.A.7, of the 2011 Final Rule regarding the identification of offsite resources to support onsite emergency response activities during an event involving hostile action. NUREG-0654, Section II.C addresses provisions for adequate emergency response support and resources in general.

Once an emergency has been declared, the Emergency Director has the authority and responsibility to request aid from offsite organizations, whether they are other SNC-operated nuclear power plants; Federal, State, and local organizations; or private organizations.

Resources of the designated Federal agencies are outlined in the SNC SEP.

The EOF is capable of accommodating designated SNC personnel and Federal, State, and local responders, including NRC and the Federal Emergency Management Agency (FEMA) representatives. It is anticipated that representatives from the States of Georgia, South Carolina, Alabama, or Florida may be dispatched to the EOF for an event at applicable SNC plants. Responders from State and local agencies have access to plant parameters through the various data displays available in the EOF. SNC will maintain space for members of an NRC Site Team and Federal, State, and local responders at a location near the plant, which includes space for conducting briefings with emergency response personnel and communications with other licensee and offsite emergency responders.

VEGP, Units 3 and 4, have a laboratory for analysis of radioactive samples. In addition, external facilities for counting and analyzing samples, and for dosimetry processing, can be provided by other SNC-operated facilities, including the Georgia Power Company Central Laboratory, Federal, State, or contracted laboratories. Outside analytical assistance may also be requested from State and Federal agencies or through contracted vendors. The U.S. Department of Energy, through the Radiological Assistance Program, has access to any national laboratory.

The SNC SEP notes that written agreements have been developed that establish the extent of operations between SNC-operated plants and other support organizations that have an emergency response role consistent with this plan. These agreements identify the emergency measures to be provided, the mutually accepted criteria for implementation, and the arrangements for exchange of information. Non-SNC support groups (fire, medical, voluntary assistance, etc.) specific to VEGP, Units 3 and 4, are listed in the VEGP, Units 3 and 4, SEP Annex (Sections 1.3 through 1.7, Section 2.3, and Section 5.8).

Based on the above, the NRC staff concludes that SNC has identified the arrangements for requesting and effectively using assistance resources and arrangements to accommodate State and local staff at the licensee's EOF have been made, and has identified other organizations capable of augmenting the planned response. Therefore, the NRC staff concludes that the requirements of 10 CFR 50.47(b)(3) and Evaluation Criteria of Section II.C of NUREG-0654 have been addressed adequately.

3.3.1.4 10 CFR 50.47(b)(4) and Evaluation Criteria of Section II.D of NUREG-0654 – Emergency Classification System

> A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.

Section D, "Emergency Classification System," of the SNC SEP, provides an overall discussion regarding classification of emergencies and the basis for emergency classification, while the VEGP, Units 3 and 4, SEP Annex, Appendix B, "Emergency Action Level (EAL) Scheme," will reflect the plant's specific EAL scheme. VEGP, Units 3 and 4, have identified values

characteristic of off-normal values and accidents, and identified the plant parameter values that correspond to the example initiating conditions in the Nuclear Energy Institute (NEI) document NEI 07-01, "Methodology for Development of Emergency Action Levels for Passive Reactors," Revision 0 (Reference 17), which will be provided to the NRC pursuant to VEGP, Units 3 and 4, COL License Condition No. 2.D.(12)(d).

Based on the above, the NRC staff concludes that an acceptable emergency classification and action level scheme is in place, the bases of which include facility system and effluent parameters in use by VEGP, Units 3 and 4. Therefore, the NRC staff concludes that the requirements of 10 CFR 50.47(b)(4) and Evaluation Criteria of Section II.D of NUREG-0654 have been addressed adequately.

3.3.1.5 10 CFR 50.47(b)(5) and Evaluation Criteria of Section II.E of NUREG-0654 – Notification Methods and Procedures

> Procedures have been established for notification, by the licensee, of State and local response organizations and for notification of emergency personnel by all organizations; the content of initial and follow-up messages to response organizations and the public has been established; and means to provide early notification and clear instruction to the populace within the plume exposure pathway Emergency Planning Zone have been established.

The 10 CFR 50.47(b)(5) criteria and Evaluation Criteria of Section II.E of NUREG-0654 are addressed in portions of Section E, "Notification Methods and Procedures," of the proposed SNC SEP, along with Appendix D, "Supporting Plans & Implementing Procedures," of the proposed VEGP, Units 3 and 4, SEP Annex.

A dedicated emergency notification network (ENN) will normally be used to accomplish State and local notifications. Backup means of communication are described in Section F, "Emergency Communications," of the SNC SEP. State and local agencies listed in the VEGP, Units 3 and 4, Annex, Section 4, "Emergency Measures," will be notified within 15 minutes of the following:

- initial declaration of an emergency classification,
- emergency classification change, and
- the issuance of, or change to, a PAR.

In conjunction with State and local authorities, SNC-operated plants have established the contents of the initial and subsequent notification message forms to be used during an emergency. Once transmitted to the OROs, the receipt of this information is confirmed using a dedicated communications link.

The Emergency Director is responsible for declaring the appropriate emergency classification and then notifying plant personnel of the emergency declaration in accordance with procedures. This notification may consist of the use of the plant emergency alarm, announcements over the plant public address system, or activation of the recall system. ERO personnel respond to their assigned ERFs upon notification of an Alert or higher declaration.

SNC has established procedures for notification by VEGP of State and local response organizations and for notification and of licensee emergency personnel, the content of initial and followup messages to response organizations has been established; and means to provide early notification and clear instruction to the populace within the 10-mile plume exposure pathway EPZ have been established. The Savannah River Site is notified within 15 minutes of declaration of an Alert or higher.

Prompt alerting and notification of the public within the plume exposure pathway EPZ is the obligation of State and local government or other responsible authority. The responsibility for ensuring the means exist to carry out this purpose rests with SNC. An overview of these means, excluding the Savannah River Site, is listed in the proposed VEGP Units 3 and 4 SEP Annex. The Savannah River Site will provide the necessary response within the reservation, in accordance with their emergency plan. The design objective for the alert and notification system (ANS) is to meet the acceptance criteria provided in a subsequent section of the FEMA-approved design report for the VEGP site.

State and local authorities have developed procedures and messages to be provided to the public in the event of an emergency at an SNC-operated nuclear power plant. Details of these procedures and messages are in the appropriate State and local emergency plans.

Based on the above, the NRC staff concludes that SNC has established provisions for: notification, by VEGP, of State and local response organizations and of licensee emergency personnel; the content of initial and followup messages to response organizations has been established; and means to provide early notification and clear instruction to the populace within the plume exposure pathway EPZ have been established, and that the requirements of 10 CFR 50.47(b)(5) and Evaluation Criteria of Section II.E of NUREG-0654 have been addressed adequately.

3.3.1.6 10 CFR 50.47(b)(6) and Evaluation Criteria of Section II.F of NUREG-0654 – Emergency Communications

> Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public.

The 10 CFR 50.47(b)(6) criteria and Evaluation Criteria of Section II.F of NUREG-0654 are addressed in portions of Section F of the proposed SNC SEP, along with portions of Section 4 and Section 5 of the proposed VEGP, Units 3 and 4, SEP Annex.

Several modes of reliable communication are available, during both normal and emergency conditions, to transmit and receive information among the control room, TSC, OSC, EOF, and other locations onsite and offsite, including the JIC near the VEGP site. Reliable primary and backup means of communication have been established and are provided in the VEGP, Units 3 and 4, SEP Annex. VEGP maintains the capability to make initial notifications to the designated offsite agencies on a 24-hour per day basis. Offsite notifications can be made to State and local warning points and emergency operations centers (EOCs) from the control room and EOF using the ENN. State and local warning points are continuously staffed. Provisions exist for

continuous communications with State and local governments within the plume exposure pathway EPZ, as detailed above.

SNC has established communications systems to provide reliable communications with Federal agencies. Communication with the NRC is on the Federal Telecommunications System (FTS) telephone network, which connects VEGP, Units 3 and 4, and EOF with the NRC Operations Center. Commercial telephone lines serve as the backup communications means with the NRC. Communication with other Federal agencies is primarily by commercial telephone, with alternate systems being utilized as needed.

VEGP has reliable communications between the plant and the EOF, State and local EOCs, and field monitoring teams. VEGP uses an automated ERO Notification System to rapidly notify members of the ERO. The system is designed with redundant power and with geographic separation.

Communications have been established between the primary and backup medical hospitals and transportation services with SNC-operated plants, including VEGP.

Communications tests will be conducted on the frequency specified in the SNC SEP.

Based on the above, the NRC staff concludes that SNC has established provisions for prompt communications among principal response organizations to emergency personnel and to the public. Therefore, the NRC staff concludes that the requirements of 10 CFR 50.47(b)(6) and Evaluation Criteria of Section II.F of NUREG-0654 have been addressed adequately.

3.3.1.7 10 CFR 50.47(b)(7) and Evaluation Criteria of Section II.G of NUREG-0654 – Public Education and Information

> Information is made available to the public on a periodic basis on how they will be notified and what their initial actions should be in an emergency (e.g., listening to a local broadcast station and remaining indoors), the principal points of contact with the news media for dissemination of information during an emergency (including the physical location or locations) are established in advance, and procedures for coordinated dissemination of information to the public are established.

The 10 CFR 50.47(b)(7) criteria and Evaluation Criteria of Section II.G of NUREG-0654 are addressed in portions of Section B; Section G, “Public Education and Information”; and Section H of the proposed SNC SEP, along with portions of Section 2 and Section 5, “Emergency Facilities and Equipment,” of the proposed VEGP, Units 3 and 4, SEP Annex.

The goal of the public information program is to acquaint the general public with the emergency plans for VEGP and actions they should take in the event of a plant emergency. Emergency information is disseminated each calendar year for residents in the plume exposure pathway EPZ. SNC will provide education and emergency information to the public consisting of the following:

- The release of information to the public through the dissemination of timely, accurate emergency communications,
- The orderly flow of emergency information during the recovery period, and
- Providing public education and information for the distribution of EP materials to residents and transient populations.

SNC uses a number of ways to communicate the information to the plume exposure pathway EPZ population. These means are developed in coordination with respective offsite agencies. Any proposed change in the method of dissemination of emergency information to the public must be coordinated and discussed with, and agreed upon by, appropriate State and local offsite emergency officials prior to implementation of the change.

After the initial notification of a declaration of an Alert or higher classification, the Public Information Director will coordinate with the EOF Emergency Director and affected OROs to determine whether to activate the JIC. Upon the decision to activate the JIC, the Public Information Director and JIC staff transfer from the Corporate Media Center (CMC) to the site-specific JIC. The CMC, located at the Atlanta/Birmingham corporate headquarters building of Georgia Power Company/Alabama Power Company, is the official location for coordination of emergency communications response until the site-specific JIC has been activated.

In the letter dated August 31, 2015, SNC proposed a change to the JICs, described in the current respective plant emergency plans, to incorporate an SNC standard approach for a JIC/Joint Information System. The proposed change would consolidate the JICs into two central locations at the existing CMCs: one in Birmingham, Alabama, and the other in Atlanta, Georgia, until such time as the near site JIC could be established. The proposed change would also standardize the media response organization throughout the SNC sites and designate an augmentation time of within 75 minutes of an Alert or higher declaration for JIC minimum staffing. In its February 17, 2016, letter responding to NRC RAIs, dated December 2, 2015, SNC stated that it had decided not to propose these changes to the JIC as originally described to the NRC in Enclosure 3 of the SNC submittal on August 31, 2015. SNC's current practice for coordination and dissemination of information to the public via the near site JICs will remain unchanged in the proposed SNC SEP. In the letter dated February 17, 2016, SNC provided a revised copy of the original submittal, deleting Enclosure 3, and reflecting the changes back to the JICs as described in the current respective plant emergency plans. SNC notified the States of Georgia and Alabama of the changes to the LAR by transmitting a copy of the February 17, 2016, letter and its enclosures to designated State officials.

Once the JIC is staffed, the Public Information Director will manage the emergency communications response from the JIC in coordination with the ORO Public Information Officers (PIOs). Site-specific JIC information is provided in the VEGP, Units 3 and 4, SEP Annex.

The Nuclear Spokesperson speaks on behalf of SNC, providing plant status updates during news briefings. The Public Response Staff reports to the Public Response Coordinator and is responsible for coordinating and developing responses to rumors and public inquiry. Press briefings will be conducted to keep the media informed of events and activities relating to the emergency. Briefings will provide the most current, up-to-date information about events and response to the incident. PIOs from offsite agencies responding to the emergency will be encouraged to participate in the briefings to discuss their particular activities.

A program will be offered each calendar year to acquaint the news media with the methodology for obtaining information during an emergency and with overall EP at SNC-operated nuclear power plants, as appropriate. Training will include information about the plant, emergency response, and the role of the JIC, as well as opportunities to participate in drill activities. SNC has defined its role in providing information to the public on a periodic basis as providing information on how it will be notified and what their initial actions should be in an emergency, establishing the principal points of contact with the news media for dissemination of information during an emergency (including the physical location or locations), and that procedures for coordinated dissemination of information to the public have been established.

Based on the above, the NRC staff concludes that SNC has established provisions for adequate public education and information to support the emergency response. Therefore, the NRC staff concludes that the requirements of 10 CFR 50.47(b)(7) and Evaluation Criteria of Section II.G of NUREG-0654 have been addressed adequately.

3.3.1.8 10 CFR 50.47(b)(8) and Evaluation Criteria of Section II.H of NUREG-0654 – Emergency Facility and Equipment

> Adequate emergency facilities and equipment to support the emergency response are provided and maintained.

The 10 CFR 50.47(b)(8) criteria and Evaluation Criteria of Section II.H of NUREG-0654 are addressed in portions of Section H of the proposed SNC SEP, along with portions of Section 5 of the proposed VEGP, Units 3 and 4, SEP Annex. NSIR/DPR-ISG-01 provides further guidance to supplement the existing guidance in NUREG-0654 regarding the use of alternative facilities when primary ERFs are unavailable because of hostile action. NUREG-0654, Section II.H, "Emergency Facilities and Equipment," addresses provisions for adequate ERFs and equipment in general.

VEGP, Units 3 and 4, have established a TSC, which will be located in the lower level of the Communication Support Center sited between the Unit 2 and Unit 3 power blocks within the VEGP site Protected Area, and an OSC, which is located in the Maintenance Support Building located between Unit 2 and Unit 3. The EOF is a dedicated facility located in Birmingham, Alabama, which serves as the central location for management of SNC's offsite emergency response, coordination of radiological assessment, and management of initial recovery operations. The TSC, OSC, and EOF are required to be activated within 75 minutes following the declaration of an Alert or higher classification. ERFs may be activated at an unusual event at the discretion of the Emergency Director. VEGP, Units 3 and 4, have plans and procedures to ensure timely activation of their ERFs.

An alternative facility for the staging of ERO personnel has been designated for VEGP and is located in the near site media center in Waynesboro, Georgia. In the event of a security or hostile action threat or event, the designated alternative facility may also serve as an evacuation location for TSC and OSC personnel.

VEGP, Units 3 and 4, have installed monitoring instrumentation for seismic monitoring, radiation monitoring, fire protection, and meteorological monitoring. Geophysical monitors include

meteorological instrumentation, seismic monitoring, and hydrological monitors. Radiological monitors and sampling include a radiation monitoring system, liquid and gaseous sampling systems, a laboratory facility, and portable radiation monitoring equipment. Process monitors include a Plant Monitoring/Information System and the Safety Parameter Display System. There is a fire detection system designed to detect products of combustion or heat in designated areas of the plant. The fire alarm communication systems and subsystems are located at strategic points throughout the plant to warn personnel of a fire or other emergency conditions.

VEGP, Units 3 and 4, have made provisions to access data from the following offsite sources of monitoring and analysis equipment: geophysical monitors, radiological environmental monitors, sampling and monitoring equipment, and laboratory facilities.

Emergency facilities and equipment are inspected and inventoried using appropriate administrative or department procedures. These inventories will include requirements that provisions are in place to inspect, inventory, and operationally check emergency equipment/instruments at least once each calendar quarter and as needed. These procedures provide information on location and availability of emergency equipment and supplies.

VEGP, Units 3 and 4, have a meteorological tower equipped with instrumentation for continuous reading of wind speed, wind direction, air temperature, and differential air temperature. This information can be accessed in the control room, TSC, and EOF, and is transmitted by the Emergency Response Data System (ERDS) for NRC and offsite authority use.

Emergency kits are available at VEGP, Units 3 and 4. Designated plant or department procedures identify the equipment in the various emergency kits.

VEGP, Units 3 and 4, have designated a point as the location for receipt and analysis of field monitoring team environmental samples. Sampling and analysis equipment is available for quantitative activity determination of marine and air samples, and qualitative activity determination of terrestrial samples.

Based on the above, the NRC staff concludes that SNC has established provisions for adequate emergency facilities and equipment to support the emergency response. Therefore, the NRC staff concludes that the requirements of 10 CFR 50.47(b)(8) and Evaluation Criteria of Section II.H of NUREG-0654 have been addressed adequately.

3.3.1.9 10 CFR 50.47(b)(9) and Evaluation Criteria of Section II.I of NUREG-0654 – Accident Assessment

> Adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.

The 10 CFR 50.47(b)(9) criteria and Evaluation Criteria of Section II.I of NUREG-0654 are addressed in portions of Section I, “Accident Assessment,” of the proposed SNC SEP.

VEGP, Units 3 and 4, have a comprehensive set of plant system and effluent monitors, as required by the plant's Final Safety Analysis Report. VEGP, Units 3 and 4, have identified values characteristic of off-normal values and accidents, and identified the plant parameter values that correspond to the example initiating conditions in NEI 07-01, Revision 0 (Reference 18), which will be provided to the NRC pursuant to VEGP, Units 3 and 4, COL License Condition No. 2.D.(12)(d).

Plant system and effluent parameter values are used to determine accident severity and subsequent emergency classification. To adequately assess the emergency condition, applicable emergency facilities have the equipment and instrumentation necessary to monitor essential plant information, except where local monitoring is required. Evaluation of plant conditions is accomplished by monitoring plant parameters from both the control room and within the plant. The resources available to provide initial and continuing information for accident assessment throughout the course of an event include plant parameter display systems, liquid and gaseous sampling system, area and process radiation monitoring systems, and accident radiation monitoring systems.

VEGP, Units 3 and 4, use an offsite dose assessment model that estimates doses from radiological accidents for comparison with the U.S. Environmental Protection Agency (EPA) Protective Action Guides (PAGs) (Reference 19) and acute health effect thresholds. The model estimates reactor source term, atmospheric transport, and doses resulting from radiological emergencies, and can be used to assist in making protective action determinations. The system supplements assessments based on plant conditions. The dose assessment model is available in the control room, TSC, and EOF for use in projecting potential offsite radiological doses. The offsite dose assessment program addresses the relationship between effluent monitor readings, onsite and offsite exposures, and contamination for various meteorological conditions.

Dose projections can also be made during a release through use of sample data in situations where effluent monitors are either off-scale, inoperative, or the release occurs by an unmonitored flow path. In the absence of effluent sample data, a computerized offsite dose projection can be performed by specifying the accident category as a default.

VEGP, Units 3 and 4, have a meteorological monitoring system sufficient to acquire and evaluate meteorological information for accident assessment. This information can be accessed in the control room, TSC, and EOF, and is transmitted by the ERDS for NRC and offsite authority use.

The ability exists to take offsite air samples and to directly measure gamma dose rates from a radioactive material release. The capability to take offsite soil, water, and vegetation samples is provided by a minimum of two field monitoring teams. The initial environmental surveys involve measurements to confirm or modify the dose projections based on plant parameters. Subsequent environmental monitoring efforts will be aimed at further defining the offsite consequences, including instituting an expanded monitoring program to enable prompt assessments of any subsequent releases from the plant. VEGP, Units 3 and 4, have instrumentation, procedures, and trained personnel with the expertise to make rapid assessments of the actual or potential magnitude and location of any radiological hazards through liquid or gaseous release pathways.

Field monitoring team equipment has the capability to detect and measure airborne radioiodine in the presence of noble gases that has the capability to detect and measure radioiodine concentrations in air in the plume exposure pathway EPZ as low as 10^{-7} µCi/cc (microcuries per cubic centimeter) under field conditions.

Based on the above, the NRC staff concludes that SNC has established adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency. Therefore, the NRC staff concludes that the requirements of 10 CFR 50.47(b)(9) and Evaluation Criteria of Section II.I of NUREG-0654 have been addressed adequately.

3.3.1.10 10 CFR 50.47(b)(10) and Evaluation Criteria of Section II.J of NUREG-0654 – Protective Response

> A range of protective actions has been developed for the plume exposure pathway EPZ for emergency workers and the public. In developing this range of actions, consideration has been given to evacuation, sheltering, and, as a supplement to these, the prophylactic use of potassium iodide (KI), as appropriate. Evacuation time estimates have been developed by applicants and licensees. Licensees shall update the evacuation time estimates on a periodic basis. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed.

The 10 CFR 50.47(b)(10) criteria and Evaluation Criteria of Section II.J of NUREG-0654 are addressed in portions of Section E and Section J, “Protective Response,” of the proposed SNC SEP, along Appendix A of the proposed VEGP, Units 3 and 4, SEP Annex. NSIR/DPR-ISG-01 provides further guidance regarding protective actions for onsite personnel during hostile action. NUREG-0654, Section II.J, “Protective Response,” addresses, in general, the provisions for developing a range of protective actions for emergency workers and other onsite individuals.

Personnel within the Protected Area are notified of an emergency declaration or escalation of an emergency, as described in Section 3.3.1.5 of this safety evaluation. Provisions are made to alert personnel in high noise areas and outbuildings within the Protected Area and within the Owner Controlled Area. If a site evacuation is required, personnel are directed to either: assemble within designated assembly areas or immediately leave the site and directed to either proceed to their homes or reassemble at designated locations. Visitors to the plant will assemble with and follow the instructions of their escorts. Personal transportation will normally be used, and established evacuation routes will be followed. Personnel without transportation will be identified and provided transportation as necessary.

Personnel evacuated from the site will be monitored for contamination, if needed, by portal monitors as they exit the Protected Area, or with portable friskers in designated assembly areas, or sent to offsite monitoring locations.

Evacuation of personnel is usually conducted immediately after accountability if a Site Area Emergency or General Emergency has been declared, and no impediments to site evacuation exist. Evacuation shall commence as directed by the Emergency Director. Requirements for radiological monitoring of personnel evacuated from the site for external radiation exposure are contained in SNC SEP Section K, "Radiological Exposure Control." Details on the decontamination of non-essential evacuees are in the VEGP, Units 3 and 4, EPIPs. Personnel accountability is mandatory at the Site Area Emergency or General Emergency classification. Accountability may be initiated at other times at the discretion of the Emergency Director to support worker safety. Accountability of personnel within the Protected Area is accomplished within 30 minutes of the declaration of Site Area Emergency or higher, and maintained continuously thereafter, using Protected Area boundary access control as described in the Physical Security Plan.

Onsite protective actions for routine and emergency conditions are detailed in the VEGP's Radiation Protection Program. VEGP maintains an inventory of respiratory protection equipment, anti-contamination clothing, and KI that is available to emergency workers remaining onsite. During an emergency, protective actions would be taken to minimize radiological exposures or contamination affecting onsite personnel.

PARs are provided to the offsite agencies responsible for implementing protective actions for the public within the plume exposure pathway EPZ. The Emergency Director will approve PARs. The PAR decision making flowcharts are plant-specific in nature and are provided in the VEGP implementing procedures. VEGP has the capability to provide State and local agencies with a PAR for beyond the plume exposure pathway EPZ, if warranted. Plant conditions, projected dose and dose rates, and field monitoring data are communicated to offsite agencies responsible to assist them in developing parallel assessments.

An Evacuation Time Estimate (ETE) report has been performed for VEGP site, which provides estimates of the time required to evacuate resident and transient populations surrounding the plant for various times of the year under favorable and adverse conditions. ETEs for evacuation of the plume exposure pathway EPZ surrounding the VEGP site are summarized in Appendix A to the VEGP, Units 3 and 4, SEP Annex, Appendix A, and detailed in the ETE report.

VEGP has maps depicting local roads, primary evacuation travel routes, and the plume exposure pathway EPZ. Maps are also available which show the population distribution within the VEGP plume exposure pathway EPZ, and are described in the VEGP, Units 3 and 4, SEP Annex.

In the event of a serious emergency at the VEGP site, the primary means for alerting the public will be by the FEMA-approved ANS referenced in Section 4.2, "Alert and Notification System (ANS)," the VEGP, Units 3 and 4, SEP Annex. VEGP also has a FEMA-approved backup notification system in the event of a loss of the primary ANS.

Plant conditions, projected dose and dose rates, field monitoring team data, and ETE values are evaluated to develop PARs for preventing or minimizing exposure to the public. There are various types of protective actions that can be recommended to the State and counties, which may include evacuation, shelter in-place, monitor and prepare, and the use of KI in accordance with State plans and policy.

Based on the above, the NRC staff concludes that SNC has developed a range of protective actions for the plume exposure pathway EPZ for emergency workers and the public, and guidelines for the choice of protective actions for onsite personnel during an emergency, consistent with Federal guidance. Therefore, the NRC staff concludes that the requirements of 10 CFR 50.47(b)(10) and Evaluation Criteria of Section II.J of NUREG-0654 have been addressed adequately.

3.3.1.11 10 CFR 50.47(b)(11) and Evaluation Criteria of Section II.K of NUREG-0654 – Radiological Exposure Control

> Means for controlling radiological exposures, in an emergency, are established for emergency workers. The means for controlling radiological exposures shall include exposure guidelines consistent with EPA Emergency Worker and Lifesaving Activity Protective Action Guides.

The 10 CFR 50.47(b)(11) criteria and Evaluation Criteria of Section II.K of NUREG-0654 are addressed in portions of Section K of the proposed SNC SEP.

Under normal operating conditions, SNC-operated plants maintain personnel exposure control programs in accordance with 10 CFR Part 20, "Standards for Protection Against Radiation." The Emergency Director has responsibility for authorizing personnel exposure levels under emergency conditions using the EPA PAGs. In emergency situations, workers may receive exposure under a variety of circumstances in order to assure safety and protection of others and of valuable property.

SNC RP groups have the equipment and personnel to provide 24-hour capability to determine and control radiation exposures of emergency organization personnel to include radiation detection devices, personnel monitoring, and record keeping. In an emergency situation, onsite personnel and offsite support personnel may be issued monitoring devices. Exposure records will be maintained for emergency response personnel who are issued dosimetry.

During normal conditions or an emergency, guidelines to follow for contamination limits are established by the VEGP RP Program. Facilities and supplies for decontaminating personnel are available at various plant locations. Personnel leaving the radiological controlled area or a radiologically contaminated area will be monitored for contamination. During emergencies, other onsite personnel will be checked for contamination as necessary. Contaminated areas are isolated as restricted areas with appropriate radiological protection and access control. Measures will be taken to control onsite access to potentially contaminated potable water and food supplies.

As discussed in SEP Section J of the SNC SEP, nonessential onsite personnel may be evacuated to an offsite reception center or assembly area. Radiological controls personnel at those locations will monitor evacuees and determine the need for decontamination.

Based on the above, the NRC staff concludes that SNC has established the means for controlling radiological exposures for emergency workers in an emergency to include exposure guidelines consistent with the EPA PAG Emergency Worker and Lifesaving Activity limits.

Therefore, the NRC staff concludes that the requirements of 10 CFR 50.47(b)(11) and Evaluation Criteria of Section II.K of NUREG-0654 have been addressed adequately.

3.3.1.12 10 CFR 50.47(b)(12) and Evaluation Criteria of Section II.L of NUREG-0654 – Medical and Public Health Support

> Arrangements are made for medical services for contaminated injured individuals.

The 10 CFR 50.47(b)(12) criteria and Evaluation Criteria of Section II.L of NUREG-0654 are addressed in portions of Section L of the proposed SNC SEP.

VEGP, Units 3 and 4, maintain onsite first aid supplies and equipment necessary for the treatment of contaminated injured persons.

In addition to the onsite first aid response, arrangements have been made with local hospitals for treatment and evaluation of serious injuries or sicknesses. The hospitals are equipped, and hospital personnel trained, to address radiologically contaminated injured individuals. Training of medical support personnel at the agreement hospitals includes: basic training on the nature of radiological emergencies, diagnosis and treatment, and followup medical care. Plant personnel are available to assist medical personnel with decontamination, radiation exposure, and radiological contamination control.

Arrangements have been made by VEGP for ambulance transport of persons with injuries involving radioactivity to designated hospitals. Such services are available on a 24-hour per day basis and are confirmed by LOAs.

Based on the above, the NRC staff concludes that SNC has made arrangements for medical services for contaminated injured individuals. Therefore, the NRC staff concludes that the requirements of 10 CFR 50.47(b)(12) and Evaluation Criteria of Section II.L of NUREG-0654 have been addressed adequately.

3.3.1.13 10 CFR 50.47(b)(13) and Evaluation Criteria of Section II.M of NUREG-0654 – Recovery and Reentry

> General plans for recovery and reentry are developed.

The 10 CFR 50.47(b)(13) criteria and Evaluation Criteria of Section II.M of NUREG-0654 are addressed in portions of Section M, “Recovery and Reentry Planning and Post-Accident Operations,” of the proposed SNC SEP.

Guidance for determining the transition from an emergency to a recovery organization is provided in the VEGP EPIPs. The composition of the recovery organization will depend on the nature of the accident and the conditions following the accident. The SNC SEP addresses general principles that serve as guides for developing a Recovery Plan. It is the responsibility of the Emergency Director to determine that the facility and surroundings are safe for reentry. The Emergency Director will designate a Recovery Manager to constitute the recovery organization. Guidelines as applicable to the specific situation will be addressed prior to terminating the

emergency and are delineated in the SNC SEP. Upon termination of the emergency phase, and at the discretion of the Emergency Director following consultation with offsite authorities, the SNC ERO will shift to the recovery organization.

The Recovery Manager will structure the recovery organization to accomplish the general objectives listed in the SNC SEP. Members of the ERO will be informed when recovery is initiated. The recovery organization may be structured similar to the ERO, with additional modifications depending on the nature of the accident, post-accident conditions, and other factors. The SNC SEP Figure M.2 is a schematic diagram representing the key functional areas of a typical long-term recovery operation.

SNC anticipates that the Federal Radiological Monitoring and Assessment Center will make a total population exposure calculation, based on estimated dose rates and population representing exposed areas.

Based on the above, the NRC staff concludes that SNC has developed general plans for recovery and reentry. Therefore, the NRC staff concludes that the requirements of 10 CFR 50.47(b)(13) and Evaluation Criteria of Section II.M of NUREG-0654 have been addressed adequately.

3.3.1.14 10 CFR 50.47(b)(14) and Evaluation Criteria of Section II.N of NUREG-0654 – Exercises and Drills

> Periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities, periodic drills are (will be) conducted to develop and maintain key skills, and deficiencies identified as a result of exercises or drills are (will be) corrected.

The 10 CFR 50.47(b)(14) criteria and Evaluation Criteria of Section II.N of NUREG-0654 are addressed in portions of Section N, “Exercises and Drills,” of the proposed SNC SEP. NSIR/DPR-ISG-01 provides further guidance regarding the incorporation of a wide range of scenario elements into a licensee’s drill and exercise programs. NUREG-0654, Section II.N, “Exercises and Drills,” addresses provisions for conducting drills and exercises in general.

VEGP will conduct a biennial EP exercise and additional periodic drills. An exercise is an event that tests integrated capability, and a major portion of the basic elements of EP plans and organizations. VEGP, Units 3 and 4, will conduct an emergency response exercise to demonstrate the effectiveness of the SNC SEP on a frequency determined by the NRC. Exercises may include mobilization of State and local personnel and resources, and are intended to verify their capability to respond to an accident. Joint exercises shall be conducted on a frequency described in NRC/FEMA guidance.

VEGP, Units 3 and 4, shall ensure adequate emergency response capabilities are maintained during the interval between biennial exercises by conducting drills, including at least one drill involving a combination of some of the principal functional areas of the licensee’s onsite emergency response capabilities. Drills, including the expected frequency, have been established for the following: communications, fire response, medical emergency, environs

(radiation monitoring), RP (sampling), accountability, alternative facilities, rapid escalation event, minimum/no release scenarios, and multi-site events.

A scenario, prepared in advance, will govern the conduct of exercises and drills. During the exercise planning cycle, VEGP, Units 3 and 4, will vary the content of exercise scenarios to provide ERO members the opportunity to demonstrate proficiency in key skills necessary to respond to several specific scenario elements.

A critique shall be conducted at the conclusion of the exercise to evaluate the organization's ability to respond as called for in the SNC SEP. Qualified personnel will observe and perform a critique of exercises and drills. Biennially, representatives from the NRC observe and evaluate the licensee's ability to conduct an adequate self-critical critique. For partial and full offsite participation exercises, the NRC and FEMA will observe, evaluate, and critique ORO performance in meeting designated objectives.

The critique and evaluation process is used to identify areas of the SNC EP Program that require improvement. The SNC EP group is responsible for evaluating recommendations and comments; determining which items will be incorporated into the program or require corrective actions; and for scheduling, tracking, and evaluating item resolution. Whenever exercises or drills indicate deficiencies in the SNC SEP, site-specific annexes, corresponding implementing procedures, or training lesson plans, such documents will be revised as necessary. The results of exercise critiques, particularly comments on identified areas that require improvement or reevaluation, will be submitted to the VEGP, Units 3 and 4, EP Supervisor or designee, for review. The EP Supervisor or designee will consult with responsible department heads and assign corrective action activities, as appropriate.

Based on the above, the NRC staff concludes that SNC will conduct periodic exercises to evaluate major portions of emergency response capabilities, conduct periodic drills to develop and maintain key skills, and adequately correct deficiencies identified as a result of exercises or drills. Therefore, the NRC staff concludes that the requirements of 10 CFR 50.47(b)(14) and Evaluation Criteria of Section II.N of NUREG-0654 have been addressed adequately.

3.3.1.15 10 CFR 50.47(b)(15) and Evaluation Criteria of Section II.O of NUREG-0654 – Radiological Emergency Response Training

> Radiological emergency response training is provided to those who may be called on to assist in an emergency.

The 10 CFR 50.47(b)(15) criteria and Evaluation Criteria of Section II.O of NUREG-0654 are addressed in portions of Section O, "Radiological Emergency Response Training," of the proposed SNC SEP.

To achieve and maintain an acceptable level of preparedness, the ERO Training Program ensures the training, qualification, and requalification of individuals who may be called on for assistance during an emergency. Offsite training is provided to support organizations that may be called on to provide assistance to VEGP, Units 3 and 4, onsite in the event of an emergency. In addition to general and specialized classroom training, members of the SNC ERO receive

periodic performance-based emergency response training, which is generally provided by participation in a performance drill or exercise.

SNC ERO personnel who are responsible for implementing the SNC SEP and respective site-specific annexes receive specialized training. The training program for ERO personnel is developed based on the requirements of Appendix E to 10 CFR Part 50 and position-specific responsibilities. Requalification training for onsite ERO members consists of an annual review of the SNC SEP in the form of a general overview. In addition to the SNC SEP overview training, personnel assigned to ERO functions will receive training specific to their position. Besides general ERO training, SNC has also identified the following subject area training: active senior licensed control room personnel; radiological field monitoring teams; fire brigade; operations, maintenance, chemistry and RP; medical support; and training for news media.

Individuals assigned as first aid responders shall maintain qualifications for first aid and cardiopulmonary resuscitation training.

Based on the above, the NRC staff concludes that SNC has established radiological emergency response training for those who may be called on to assist in an emergency. Therefore, the NRC staff concludes that the requirements of 10 CFR 50.47(b)(15) have been addressed adequately.

3.3.1.16 10 CFR 50.47(b)(16) and Evaluation Criteria of Section II.P of NUREG-0654 – Responsibility for the Planning Effort: Development, Periodic Review and Distribution of Emergency Plans

> Responsibilities for plan development and review and for distribution of emergency plans are established, and planners are properly trained.

The 10 CFR 50.47(b)(16) criteria and Evaluation Criteria of Section II.P of NUREG-0654 are addressed in portions of Section F; Section O; and Section P, “Responsibility for the Preparedness Effort,” of the proposed SNC SEP and in the EPIPs listed in Appendix D of the proposed VEGP, Units 3 and 4, SEP Annex.

Training for the EP staff at VEGP, Units 3 and 4, consists of an initial and continuing training process.

The Vice President – Regulatory Affairs is responsible for the overall coordination of the corporate EP programs and emergency plans. This position’s direct report, the SNC EP Director, has governance and oversight responsibility for the SNC EP functional area across all SNC sites. The Vice President – Site is responsible for the EP aspects of the program at each plant. The VEGP, Units 3 and 4, EP Supervisor is responsible for coordinating onsite EP activities and supports offsite EP activities in the plant vicinity.

Once per calendar year, the designated EP staff performs a review of the emergency plans for SNC. This review includes a comparison for consistency of emergency plans for a specific site, including the Physical Security Plan, and State and local plans, as appropriate. Approved changes to the proposed SNC SEP and proposed VEGP, Units 3 and 4, SEP Annex will

continue to be forwarded to key organizations and appropriate individuals who are responsible for implementing the plan.

The proposed SNC SEP and proposed VEGP, Units 3 and 4, SEP Annex, agreements, and the EPIPs, will continue to be reviewed once per calendar year and updated as needed. These updates take into account changes identified by drills and exercises and the independent review.

An independent review of the EP Program is conducted, as required by 10 CFR 50.54(t). The review will continue to include the proposed SNC SEP and proposed VEGP, Units 3 and 4, SEP Annex; EPIPs; and practices, training, readiness testing, equipment, and interfaces with offsite agencies. The results of the review, along with recommendations for improvements, are documented and reported to plant management and to appropriate offsite agencies.

A quarterly check of telephone numbers required to implement the proposed SNC SEP and VEGP, Units 3 and 4, SEP Annex will be performed and documented.

Based on the above, the NRC staff concludes that SNC has identified the responsibilities for plan development/ review and for distribution of emergency plans, and that planners are properly trained, and that the requirements of 10 CFR 50.47(b)(16) and Evaluation Criteria of Section II.P of NUREG-0654 have been addressed adequately.

3.3.2 Review of the proposed SNC SEP and proposed VEGP, Units 3 and 4, SEP Annex Using the Applicable Requirements of Section IV of Appendix E to 10 CFR Part 50

3.3.2.1 10 CFR Part 50, Appendix E, IV.A., “Organization”

The organization for coping with radiological emergencies is adequately addressed as referenced in Sections 3.3.1.1 and 3.3.1.2 of this safety evaluation.

3.3.2.2 10 CFR Part 50, Appendix E, IV.B., “Assessment Actions”

The means to be used for determining the magnitude of, and continuously assessing the impact of, the release of radioactive materials is adequately addressed in Section 3.3.1.9 of this safety evaluation.

3.3.2.3 10 CFR Part 50, Appendix E, IV.C., “Activation of Emergency Organization”

Both the entire spectrum of emergency conditions (to include emergency action levels) that involve alerting or activating progressively larger segments of the emergency organization and the communication steps to be taken to alert emergency personnel under each class of emergency are adequately addressed in Sections 3.3.1.4 and 3.3.1.5 of this safety evaluation.

3.3.2.4 10 CFR Part 50, Appendix E, IV.D., “Notification Procedures”

Administrative and physical means for notifying local, State, and Federal officials and agencies, and agreements reached with these officials and agencies for the prompt notification of the public, are adequately addressed in Sections 3.3.1.5 and 3.3.1.6 of this safety evaluation.

3.3.2.5 10 CFR Part 50, Appendix E, IV.E., “Emergency Facilities and Equipment”

Adequate provisions are made and described for emergency facilities and equipment are adequately addressed in Sections 3.3.1.3 and 3.3.1.8 of this safety evaluation.

3.3.2.6 10 CFR Part 50, Appendix E, IV.F., “Training”

The program to provide for training and exercising of emergency plans to ensure licensee employees are familiar with their specific emergency duties, and the participation in training and drills by those whose assistance may be needed in the event of a radiological emergency, are adequately addressed in Sections 3.3.1.14 and 3.3.1.15 of this safety evaluation.

3.3.2.7 10 CFR Part 50, Appendix E, IV.G., “Maintaining Emergency Preparedness”

Provisions to be employed to ensure that the emergency plan, its implementing procedures, and emergency equipment and supplies are maintained are adequately addressed in Sections 3.3.1.8 and 3.3.1.16 of this safety evaluation.

3.3.2.8 10 CFR Part 50, Appendix E, IV.H., “Recovery”

Criteria to be used to determine when reentry of the facility would be appropriate is adequately addressed in Section 3.3.1.13 of this safety evaluation.

3.4 Review of VEGP, Units 3 and 4, EP ITAAC Revisions

3.4.1 VEGP, Units 3 and 4, EP ITAAC No. 845 (E.3.9.01.01.01)

SNC proposed a revision to VEGP, Units 3 and 4 (EP ITAAC No. 845), Inspections, Tests, Analyses (ITA) 1.1.1 to replace references to Table V2 D.2-1, “Hot Initiating Condition Matrix, Modes 1, 2, 3, and 4,” and Table V2 D.2-2, “Cold Initiating Condition Matrix, Modes 5, 6, and De-fueled,” with a reference to VEGP, Units 3 and 4, SEP Annex, Appendix B, “Emergency Action Level (EAL) Scheme,” and to delete the reference to completion of EPIPs. SNC stated that this change reflects relocation of the information contained in the tables to the SNC SEP and that no technical changes to the information contained in the tables or EPIPs will occur as a result of the proposed relocation of EAL technical bases information. In addition, SNC intends to no longer place EAL technical bases information in EPIPs, such that the deletion of the reference to EPIPs does not involve a change in technical information.

SNC further stated that with this change, EP ITAAC E.3.9.01.01.01 will continue to satisfy generic EP ITAAC Item 4.0 in NUREG-0800, Table 14.3.10-1, for verification of displays in the control room, TSC, and EOF for retrieving EAL scheme information. Generic EP ITAAC Item 4.0, ITA 4.1, which is the generic ITA that is associated with ITA 1.1.1, states the following:

> *4.1 An inspection of the control room, technical support center (TSC), and emergency operations facility (EOF) will be performed to verify that they have displays for retrieving facility system and effluent parameters specified in the emergency classification and EAL scheme.

The SNC SEP, Section D, “Emergency Classification System,” provides a general overview of how SNC classifies emergencies, and VEGP, Units 3 and 4, SEP Annex, Appendix B, provides a placeholder for inclusion of the EAL scheme, which will be provided to the NRC pursuant to VEGP, Units 3 and 4, COL License Condition No. 2.D.(12)(d).

The relevant EP requirements associated with EP ITAAC E.3.9.01.01.01 include 10 CFR 50.47(b)(4), which requires in part that a standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee. In addition, 10 CFR 50.47(b)(9) requires that adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.

The associated guidance is provided in NUREG-0654, Evaluation Criteria II.D.1 and II.I.1, respectively. Evaluation Criterion II.D.1, states in part that an emergency classification and emergency action level scheme, as set forth in (NUREG-0654) Appendix I, “Emergency Action Level Guidelines for Nuclear Power Plants,” must be established by the licensee, and shall show the specific instruments, parameters or equipment status for establishing each emergency class. Evaluation Criterion II.I.1, states in part that each licensee shall identify plant system and effluent parameter values characteristic of a spectrum of off-normal conditions and accidents, and shall identify the plant parameter values or other information which correspond to the example initiating conditions of Appendix 1.

The NRC staff agrees with SNC, that the revised ITA does not change the information associated with the EAL scheme, but merely relocates it to VEGP Units 3 and 4 SEP Annex, Appendix B (which currently states: “HOLD FOR EAL Scheme”). ITA 1.1.1 will continue to require the availability of EAL scheme information at the control room, TSC, and EOF, consistent with generic EP ITAAC ITA 4.1. The staff finds that the revised ITA 1.1.1 will continue to accomplish the intended purpose of the EP ITAAC, and demonstrate how SNC satisfies NUREG-0654, Evaluation Criteria II.D.1 and II.I.1, in support of meeting 10 CFR 50.47(b)(4) and 10 CFR 50.47(b)(9). Therefore, the staff finds that the revised ITA 1.1.1 is acceptable.

3.4.2 VEGP, Units 3 and 4, EP ITAAC No. 859 (E.3.9.06.00.01), Acceptance Criterion 6.1.B.3; and VEGP, Units 3 and 4, EP ITAAC No. 870 (E.3.9.08.01.01), Acceptance Criteria 8.1.1.E.3, and 8.1.1.E.3.a

SNC proposed a revision to VEGP, Units 3 and 4 (EP ITAAC No. 859), Acceptance Criterion 6.1.B.3, and VEGP, Units 3 and 4 (EP ITAAC No. 870), Acceptance Criteria 8.1.1.E.3, to delete “within 60 minutes from the decision to do so” from the requirement for SNC to demonstrate the ability to assemble and deploy field monitoring teams. In addition, SNC proposed a revision to VEGP, Units 3 and 4 (EP ITAAC No. 870), Acceptance Criteria 8.1.1.E.3.a to delete reference to the 60-minute and 90-minute timeframes for field team deployment and revise the existing language to read, “Field monitoring teams are briefed, obtain equipment, and are dispatched in accordance with EIPs [EPIPs].” SNC further stated that the SNC SEP does not contain a commitment related to the timing of field team deployment, but does contain commitments related to the definition of readiness for field team deployment. The

SNC SEP, Section I.7, “Environs Surveys and Monitoring,” describes the capabilities and resources associated with the deployment of field monitoring teams.

The relevant EP requirement associated with these exercise acceptance criteria is 10 CFR 50.47(b)(9), which states that, “[a]dequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.” The associated guidance is provided in NUREG-0654, Evaluation Criterion II.I.7, which states that, “[e]ach organization shall describe the capability and resources for field monitoring within the plume exposure pathway emergency planning zone, which are an intrinsic part of the concept of operations for the facility.” Neither 10 CFR 50.47(b)(9) nor NUREG-0654 specify a time in which field monitoring teams are to be deployed, and this EP ITAAC revision is consistent with the SNC SEP and the VEGP, Units 3 and 4, SEP Annex.

The NRC staff finds that the revised VEGP, Units 3 and 4 (EP ITAAC No. 859), Acceptance Criteria 6.1.B.3, and (EP ITAAC No. 870) Acceptance Criteria 8.1.1.E.3 and 8.1.1.E.3.a, will continue to accomplish the intended purpose of the EP ITAAC, which is to demonstrate how SNC satisfies NUREG-0654, Evaluation Criterion II.I.7, in support of meeting 10 CFR 50.47(b)(9). Therefore, the NRC staff concludes that the proposed revisions to the EP ITAAC acceptance criteria identified above are acceptable.

3.4.3 VEGP, Units 3 and 4, EP ITAAC No. 870 (E.3.9.08.01.01), Acceptance Criteria 8.1.1.B.1.a, 8.1.1.B.2.a, 8.1.1.B.2.b, 8.1.1.B.2.c, and 8.1.1.B.3.a

SNC proposed a revision to VEGP, Units 3 and 4 (EP ITAAC No. 870), Acceptance Criteria 8.1.1.B.1.a, 8.1.1.B.2.a, 8.1.1.B.2.b, 8.1.1.B.2.c, and 8.1.1.B.3.a, which address notification of various onsite and offsite entities, to delete the use of a checklist. In addition, Acceptance Criterion 8.1.1.B.3.a is being revised to delete the 15-minute notification time for onsite individuals and to add language that SNC will demonstrate the ability to notify onsite individuals in accordance with EPIPs.

These changes to the objectives and supporting criteria for the exercise are intended to provide more flexibility as to how various actions are to be performed. Notification of onsite personnel, State and local authorities, and the NRC, is described in SNC SEP, Section E.2, “Notification of Personnel,” and SNC SEP, Section J.1, “Alarm Responses.” The notification of State and local counties surrounding VEGP, Units 3 and 4, is addressed in Section 4.1, “Notification of Off-Site Agencies,” of the VEGP, Units 3 and 4, SEP Annex. In addition, VEGP, Units 3 and 4, SEP Annex, Section 4.3, “Protective Actions for Onsite Personnel (SEP J.4),” describes how onsite personnel are notified of emergency conditions, and Appendix D, (SEP P.3) lists EPIP NMP-EP-142, “Emergency Notification.” Review and maintenance of EPIPs are addressed in SNC SEP Section P.3, “Coordination.”

The relevant EP requirement associated with these exercise acceptance criteria is 10 CFR 50.47(b)(5), which states in part that, “[p]rocedures have been established for notification, by the licensee, of State and local response organizations and for notification of emergency personnel by all organizations.” The associated guidance is provided in NUREG-0654, Evaluation Criterion II.E.1, which addresses establishment of procedures for notification of response organizations; NUREG-0654, Evaluation Criterion II.E.2, which states that, “[e]ach organization shall establish procedures for alerting, notifying, and mobilizing

emergency response personnel"; and NUREG-0654, Evaluation Criterion II.E.3, which addresses the contents of the notification messages.

The NRC staff believes that the ability of SNC to demonstrate the onsite and offsite notifications is not necessarily dependent upon the use of a checklist, as the notifications could be made by whatever method SNC chooses, which is consistent with the emergency plan and relevant EPIPs. As such, the inclusion or absence of reference to a checklist is inconsequential to the demonstration of the required notifications. Further, the replacement of the 15-minute notification with a reference to EPIPs is consistent with the SNC SEP for notifying onsite personnel of emergency conditions. The NRC staff concludes that the proposed changes are acceptable because they do not affect SNC's ability to demonstrate the respective notification exercise objectives.

The NRC staff finds that the revised acceptance criteria will continue to accomplish the intended purpose of the EP ITAAC, which is to demonstrate how SNC satisfies NUREG-0654, Evaluation Criteria II.E.1, II.E.2, and II.E.3, in support of meeting 10 CFR 50.47(b)(5). Therefore, the staff concludes that the revised Acceptance Criteria 8.1.1.B.1.a, 8.1.1.B.2.a, 8.1.1.B.2.b, 8.1.1.B.2.c, and 8.1.1.B.3.a, are acceptable.

3.4.4 VEGP, Units 3 and 4, EP ITAAC No. 870 (E.3.9.08.01.01), Acceptance Criteria 8.1.1.B.2 and 8.1.1.B.2.c

SNC proposed a revision to VEGP, Units 3 and 4 (EP ITAAC No. 870), Acceptance Criteria 8.1.1.B.2 and 8.1.1.B.2.c, to add language to notify the NRC immediately after the completion of the notification to the State and local authorities. NRC notification is addressed in SEP Section D.2.6, "Classifying Transient Events"; SEP Section E.1, "Notification Methodology"; and SEP Section E.2.3, "Notification of the Nuclear Regulatory Commission (NRC)," of the proposed SNC SEP.

The relevant EP requirement associated with this exercise acceptance criterion is 10 CFR 50.72(a)(3), which states that the licensee shall notify the NRC immediately after notification of the appropriate State or local agencies, and not later than 1 hour after the time the licensee declares one of the emergency classes (identified in 10 CFR Part 50, Appendix E, Section IV.C.1). In addition, the regulation in 10 CFR 50.47(b)(5) requires, in part, that procedures have been established for notification by the licensee of State and local response organizations and for notification of emergency personnel by all organizations. The associated guidance is provided in NUREG-0654, Evaluation Criterion II.E.1, which states, in part, that each organization shall establish procedures that describe mutually agreeable bases for notification of response organizations, consistent with the emergency classification and action level scheme.

The NRC staff finds that the revision to Acceptance Criteria 8.1.1.B.2 and 8.1.1.B.2.c will continue to accomplish the intended purpose of the EP ITAAC, which is to demonstrate how SNC satisfies NUREG-0654, Evaluation Criteria II.E.1, in support of meeting 10 CFR 50.47(b)(5) and 10 CFR 50.72(a)(3). Therefore, the NRC staff concludes that the revised Acceptance Criteria 8.1.1.B.2 and 8.1.1.B.2.c are acceptable.

3.4.5 VEGP, Units 3 and 4, EP ITAAC No. 870 (E.3.9.08.01.01), Acceptance Criterion 8.1.1.C.1.a; Unit 3 EP ITAAC No. 870 (E.3.9.08.01.01), Acceptance Criterion 8.1.1.D.1; and Unit 4 EP ITAAC No. 870 (E.3.9.08.01.01), Acceptance Criterion 8.1.1.D.1.a

SNC proposed a revision to VEGP, Units 3 and 4 (EP ITAAC No. 870), Acceptance Criterion 8.1.1.C.1.a, to add the "emergency offsite [operations] facility (EOF)" for performing elements of command and control related to accident assessment, and changing the time from 60 minutes to 75 minutes (from declaration of an Alert or higher) for the TSC and EOF to demonstrate command and control. SNC also proposed a revision to VEGP, Unit 3 (EP ITAAC No. 870), Acceptance Criterion 8.1.1.D.1 to change the time from 60 minutes to 75 minutes from an Alert or higher declaration for the TSC and EOF to demonstrate full functional operation. Finally, SNC proposed a revision to VEGP, Unit 4 (EP ITAAC No. 870), Acceptance Criterion 8.1.1.D.1.a to change the OSC activation time from 60 minutes of initial notification to 75 minutes following declaration of an Alert or higher. These changes are being made to be consistent with the SNC SEP.

The proposed SNC SEP Section B.2 discusses the shifting of command and control from the control room to the TSC and EOF. The EOF is described in SEP Section B.3, "Offsite Emergency Response Organization (ERO)," and SEP Section H.2.1, "Emergency Operations Facility," of the proposed SNC SEP. The staffing and activation of the EOF, including the 75-minute timeframe for minimum staffing, is described in SNC SEP Section H.4, "Emergency Response Facility Staffing and Activation," and Appendix D of the VEGP, Units 3 and 4, SEP Annex lists EPIP NMP-EP-143, "Facility Activation."

The relevant EP requirement associated with these exercise acceptance criteria is 10 CFR 50.47(b)(8), which states that, "[a]dequate emergency facilities and equipment to support the emergency response are provided and maintained." The associated guidance is provided in NUREG-0654, Evaluation Criterion II.H.4, which states that, "[e]ach organization shall provide for timely activation and staffing of the facilities and centers described in the plan." In addition, NUREG-0696, Section 2.3, "Staffing and Training," states that the TSC shall achieve full functional operation within 30 minutes, and NUREG-0696, Section 4.3, "Staffing and Training," states that the EOF shall achieve full functional operation within one hour.

The staff concludes that the addition of the EOF to Acceptance Criterion 8.1.1.C.1.a is acceptable and appropriate because the EOF is one of the key ERFs that has command and control responsibilities during an emergency, as reflected in the SNC SEP. However, SNC's addition of the words "emergency offsite facility (EOF)" to VEGP, Units 3 and 4, Acceptance Criterion 8.1.1.C.1.a reflects an incorrect facility name for the EOF, and should be changed to the "emergency operations facility (EOF)." This correction will retain the appropriate facility name for the EOF as the emergency operations facility, which is consistent with (1) the Unit 3 definition of EOF in EP ITAAC No. 845 (E.3.9.01.01.01), Inspections, Tests, Analyses No. 1.1.1; (2) the SNC SEP (e.g., Section B.2 Figure B.3.1.A, "Emergency Operations Facility Organization," and Section H.2.1); (3) VEGP, Units 3 and 4, SEP Annex Section 5.1.5, "Emergency Operations Facility (SEP H.2.1)," and (4) LAR Enclosure 13.

The change from 60 minutes from notification of an Alert or higher declaration to 75 minutes from an Alert or higher declaration for TSC and EOF to demonstrate full functional operation,

including OSC activation within about 75 minutes is acceptable, because revised acceptance criteria will continue to accomplish the intended purpose of the EP ITAAC, which is to demonstrate how SNC satisfies NUREG-0654, Evaluation Criteria II.H.4, in support of meeting 10 CFR 50.47(b)(8), and is consistent with the proposed SNC SEP. Therefore, the NRC staff concludes that the revised Acceptance Criteria 8.1.1.C.1.a and 8.1.1.D.1 are acceptable.

3.4.6 VEGP, Units 3 and 4, EP ITAAC No. 870 (E.3.9.08.01.01), Acceptance Criteria 8.1.1.C.2 and 8.1.1.C.2.a

SNC proposed a revision to VEGP, Units 3 and 4 (EP ITAAC No. 870), Acceptance Criterion 8.1.1.C.2, to demonstrate the ability to transfer emergency direction from the control room to the TSC and EOF, and to delete the 30-minute timeframe to demonstrate the transfer. In addition, SNC proposed a revision to VEGP, Units 3 and 4, Acceptance Criterion 8.1.1.C.2.a, to delete the requirement for personnel to document the transfer of duties. These changes are being made to be consistent with the SNC SEP, which no longer identifies a 30-minute timeframe to demonstrate the transfer emergency direction and no longer requires, in the exercise evaluation objectives and supporting criteria, the transfer of duties to be documented. The SNC SEP Section B.2 discusses the shifting of command and control from the control room to the TSC and EOF. The SNC SEP Section H.4 addresses TSC and EOF activation.

The relevant EP requirement associated with these exercise acceptance criteria is 10 CFR 50.47(b)(8), which states, in part, that, “[a]dequate emergency facilities and equipment to support the emergency response are provided and maintained.” The associated guidance is provided in NUREG-0654, Evaluation Criterion II.H.4, which states that, “[e]ach organization shall provide for timely activation and staffing of the facilities and centers described in the plan.”

The NRC staff finds that the revised exercise Acceptance Criteria 8.1.1.C.2 and 8.1.1.C.2.a will continue to accomplish the intended purpose of the EP ITAAC, which is to demonstrate how SNC satisfies NUREG-0654, Evaluation Criteria II.H.4, in support of meeting 10 CFR 50.47(b)(8). Therefore, the NRC staff concludes that the revised Acceptance Criteria 8.1.1.C.2 and 8.1.1.C.2.a are acceptable.

3.4.7 VEGP, Units 3 and 4, EP ITAAC No. 870 (E.3.9.08.01.01), Acceptance Criteria 8.1.1.C.4 and 8.1.1.C.4.a

SNC proposed a revision to VEGP, Units 3 and 4 (EP ITAAC No. 870), Acceptance Criterion 8.1.1.C.4, to change accountability for all onsite individuals to individuals located within the Protected Area. In addition, SNC proposed a revision to VEGP, Units 3 and 4, Acceptance Criteria 8.1.1.C.4.a, to change the completion of Protected Area personnel assembly and accountability from within 30 minutes of the Alert or higher emergency declaration, to within 30 minutes of the Site Area Emergency or higher declaration. These changes are being made to be consistent with the SNC SEP. The SNC SEP Section J.4, “Onsite Protective Actions,” describes assembly and accountability of personnel within the Protected Area following declaration of a Site Area Emergency or General Emergency.

The relevant EP requirement associated with these exercise acceptance criteria is 10 CFR 50.47(b)(10), which states, in part, that, “[a] range of protective actions has been developed for the plume exposure pathway EPZ for emergency workers and the public.” The

associated guidance is provided in NUREG-0654, Evaluation Criterion II.J.1, which states, in part, that, "[e]ach licensee shall establish the means and time required to warn or advise onsite individuals and individuals who may be in areas controlled by the operator...."

The NRC staff finds that the revised exercise Acceptance Criteria 8.1.1.C.4 and 8.1.1.C.4.a will continue to accomplish the intended purpose of the EP ITAAC, which is to demonstrate how SNC satisfies NUREG-0654, Evaluation Criteria II.J.1, in support of meeting 10 CFR 50.47(b)(10) and are consistent with the SNC SEP. Therefore, the NRC staff concludes that the revised Acceptance Criteria 8.1.1.C.4 and 8.1.1.C.4.a are acceptable.

3.4.8 VEGP, Unit 3, EP ITAAC No. 870 (E.3.9.08.01.01), Acceptance Criterion 8.1.1.D.2

SNC proposed a revision to VEGP, Unit 3 (EP ITAAC No. 870), Acceptance Criterion 8.1.1.D.2, to change the name of the physical location for use by news media during an emergency from the Emergency News Center (ENC) to JIC. This change for VEGP, Units 3 and 4, is reflected in the SNC SEP and the VEGP, Units 3 and 4, SEP Annex.

The EP ITAAC change from the designation of this physical location/space for use by news media during an emergency from the ENC to JIC reflects the SNC SEP and VEGP, Units 3 and 4, SEP Annex designation of the Georgia Power CMC in Atlanta, Georgia, as the official (corporate) JIC for the VEGP plants. Section B.3.2, "Joint Information Center (JIC)," and Section H.2.2, "Joint Information Center (JIC)," of the proposed SNC SEP provide a description of the JIC. The JIC is also addressed in the SNC SEP Section G and Section 5.1.6, "Joint Information Center (JIC) (SEP H.2.2)," of the VEGP, Units 3 and 4, SEP Annex.

The relevant EP requirement associated with this exercise acceptance criterion is 10 CFR 50.47(b)(7), which states, in part, that information is made available to the public, including the principal points of contact with the news media for dissemination of information during an emergency (including the physical location or locations) are established in advance, and procedures for coordinated dissemination of information to the public are established. The associated guidance is provided in NUREG-0654, Evaluation Criterion II.G.3.a, which states that, "[e]ach principal organization shall designate the points of contact and physical locations for use by news media during an emergency," and in NUREG-0654, Evaluation Criterion II.G.3.b, which states that, "[e]ach licensee shall provide space which may be used for a limited number of the news media at the near site Emergency Operations Facility."

The proposed SNC SEP retains all principal functions of the CMC and JIC as provided in the current SNC Emergency Communications Plan at this location. The NRC staff finds that the revised exercise Acceptance Criterion 8.1.1.D.2 will continue to accomplish the intended purpose of the EP ITAAC and demonstrate how SNC satisfies NUREG-0654, Evaluation Criteria II.G.3.a and II.G.3.b, in support of meeting 10 CFR 50.47(b)(7). Therefore, the NRC staff concludes that the revised Acceptance Criterion 8.1.1.C.2 is acceptable.

3.4.9 VEGP, Units 3 and 4, EP ITAAC No. 870 (E.3.9.08.01.01), Acceptance Criteria 8.1.1.D.2.c and 8.1.1.E.1.a

SNC proposed a revision to VEGP, Units 3 and 4 (EP ITAAC No. 870), Acceptance Criterion 8.1.1.D.2.c, to change the name of the "Health Physics Supervisor (TSC)" to

"Radiation Protection Supervisor (TSC)." In addition, SNC proposed a revision to Acceptance Criterion 8.1.1.E.1.a, to change the name of the "HP Technicians" to "RP Technicians." These changes are reflected in SEP Section B.2.1.5, "TSC Radiation Protection (RP) Supervisor"; Table 1, "TSC 75 Minute Augmentation ERO"; and Table 2, "OSC 75 Minute Augmentation ERO"; in SNC SEP Section B; and VEGP, Units 3 and 4, SEP Annex, Table 2.2.A, "Vogtle Electric Generating Plant On-Shift Staffing."

The EP ITAAC title changes from the Health Physics Supervisor (TSC) to Radiation Protection Supervisor (TSC) and from HP Technicians to RP Technicians, merely reflect changes in the SNC SEP and VEGP, Units 3 and 4, SEP Annex, and have no effect on the substantive responsibilities and actions that will be demonstrated by these individuals during the full-participation exercise. As such, the NRC staff concludes that the revised exercise Acceptance Criteria 8.1.1.D.2.c and 8.1.1.E.1.a will continue to accomplish the intended purposes of the EP ITAAC, and are, therefore, acceptable.

3.4.10 VEGP, Units 3 and 4, EP ITAAC No. 870 (E.3.9.08.01.01), Acceptance Criterion 8.1.1.E.5.a

SNC proposed a revision to VEGP, Units 3 and 4 (EP ITAAC No. 870), Acceptance Criterion 8.1.1.E.5.a, to replace the reference to "on-shift HP/Chemistry Shared Foreman or Dose Assessment Supervisor" with "[p]ersonnel with dose assessment expertise on-shift and in the EOF," for performing timely and accurate dose projections in accordance with EPIPs. SNC further stated that this change is needed because the SNC SEP has changed the titles and commitment for personnel performing dose assessment.

SEP Section B.2.1.6, "TSC Dose Analyst," and SEP Section B.3.1.5, "EOF Dose Analyst," of the SNC SEP state, in part, that, "the [onsite TSC] Dose Analyst and [offsite EOF] Dose Analyst, respectively, operate the dose assessment model to provide estimates of environmental dose in the event of a radiological release attributable to the event." In addition, Table 2.2.A of the VEGP, Units 3 and 4, SEP Annex, identifies the Chemistry Technician as the position responsible for offsite dose assessment.

The relevant EP requirement associated with this exercise acceptance criterion is 10 CFR 50.47(b)(9), which states that, "[a]dequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use." The associated guidance is provided in NUREG-0654, Evaluation Criteria II.I.4, II.I.6, and II.I.10, which address the determination of offsite exposures and projected dose.

The EP ITAAC change in the identification of the responsible positions for performing the dose projections will not affect SNC's ability to demonstrate timely and accurate dose projections in accordance with EPIPs. It merely reflects changes in the SNC SEP and VEGP, Units 3 and 4, SEP Annex, and has no effect on the substantive responsibilities and actions that will be demonstrated during the full-participation exercise. As such, the NRC staff finds that the revised Acceptance Criterion 8.1.1.E.5.a will continue to accomplish the intended purpose of the EP ITAAC, which is to demonstrate how SNC satisfies NUREG-0654, Evaluation Criteria II.I.4, II.I.6, and II.I.10, in support of meeting 10 CFR 50.47(b)(9). Therefore, the NRC staff concludes that the revised Acceptance Criterion 8.1.1.E.5.a is acceptable.

3.4.11 VEGP, Unit 3 EP ITAAC No. 870 (E.3.9.08.01.01), Acceptance Criteria 8.1.1.F.1.a and 8.1.1.F.1.b

SNC proposed a revision to VEGP, Unit 3 (EP ITAAC No. 870), Acceptance Criterion 8.1.1.F.1.a, to revise the existing language to read, "Media information (e.g., press releases, press briefings, electronic media) concerning events, conditions, and actions is made available." This change deletes the requirement to make the information available within 60 minutes of notification of the on-call media representative. In addition, SNC proposed to delete VEGP, Unit 3, Acceptance Criterion 8.1.1.F.1.b, which requires a demonstration that followup (public) information is provided (to the news media), at a minimum, within 60 minutes of an emergency classification or PAR. SNC stated that these revisions are needed because the SNC SEP changes the level of detail regarding communication information and transfers goals for performance to the Emergency Communications Plan.

SNC SEP Section G addresses news releases, press briefings, public announcements, and an emergency web page. SNC states that the accurate information concerning plant conditions and mitigating actions will be distributed in a timely manner.

The relevant EP requirement associated with these exercise acceptance criteria is 10 CFR 50.47(b)(7), which states, in part, that information is made available to the public, including the principal points of contact with the news media for dissemination of information during an emergency (including the physical location or locations) are established in advance, and procedures for coordinated dissemination of information to the public are established. The associated guidance is provided in NUREG-0654, Evaluation Criterion II.G.4.b, which states that "[e]ach organization shall establish arrangements for timely exchange of information among designated spokespersons," and in NUREG-0654, Evaluation Criterion II.G.4.c, which states that "[e]ach organization shall establish coordinated arrangements for dealing with rumors." Neither 10 CFR 50.47(b)(7) nor NUREG-0654 specify a time in which the licensee must make media information (concerning events, conditions, and actions) available, or require that followup information is provided, as a minimum, within 60 minutes of an emergency classification or PAR change.

The staff finds that the revised Acceptance Criterion 8.1.1.F.1.a will continue to accomplish the intended purpose of the EP ITAAC, which is to demonstrate how SNC satisfies NUREG-0654, Evaluation Criteria II.G.4.b and II.G.4.c, in support of meeting 10 CFR 50.47(b)(7). Therefore, the NRC staff concludes that the revised Acceptance Criteria 8.1.1.F.1.a and 8.1.1.F.1.b are acceptable.

3.4.12 VEGP, Unit 3, EP ITAAC 870 (E.3.9.08.01.01), Acceptance Criterion 8.1.1.F.2.a

SNC proposed a revision to VEGP, Unit 3 (EP ITAAC No. 870), Acceptance Criterion 8.1.1.F.2.a, to delete the words, "in accordance with EIPs [EPIPs]," for answering rumor control calls in a timely manner with the correct information. These calls are associated with the demonstration of the capability to establish and effectively operate rumor control in a coordinated fashion. SNC stated that this change is needed because the SNC SEP changes the level of detail regarding communication information and transfers tasks related to public information to the Emergency Communication Procedure, which is not considered an EPIP.

Section B.3.2.5, “Public Response Coordinator,” of the SNC SEP states that the Public Response Coordinator reports to the Public Information Director and is responsible for directing the facility’s public response activities, keeping staff informed of the most current plant status, and for obtaining responses for rumors and public inquiries.

The relevant EP requirement associated with this exercise acceptance criterion is 10 CFR 50.47(b)(7), which states, in part, that information is made available to the public, including the principal points of contact with the news media for dissemination of information during an emergency (including the physical location or locations) are established in advance, and procedures for coordinated dissemination of information to the public are established. The associated guidance is provided in NUREG-0654, Evaluation Criterion II.G.4.c, which states that, “[e]ach organization shall establish coordinated arrangements for dealing with rumors.” Neither 10 CFR 50.47(b)(7) nor NUREG-0654 specify that rumor control calls should be answered in accordance with emergency implementing procedures.

The NRC staff concludes that the revised Acceptance Criterion 8.1.1.F.2.a will continue to accomplish the intended purpose of the EP ITAAC, which is to demonstrate how SNC satisfies NUREG-0654, Evaluation Criterion II.G.4.c, in support of meeting 10 CFR 50.47(b)(7). Therefore, the staff concludes that the revised Acceptance Criterion 8.1.1.F.2.a is acceptable.

3.4.13 VEGP, Units 3 and 4, EP ITAAC No. 871 (E.3.9.08.01.02), Acceptance Criterion 8.1.2

SNC proposed a revision to VEGP, Units 3 and 4 (EP ITAAC No. 871), Acceptance Criterion 8.1.2, to replace the reference to Emergency Plan Section B, “VEGP Emergency Organization,” with a reference to the SNC SEP Section B and the VEGP, Units 3 and 4, SEP Annex, Section 2. SNC further stated that this change is needed to reflect the proposed emergency plan revision in the SNC SEP and VEGP, Units 3 and 4, SEP Annex, and does not involve a change in technical information.

The relevant EP requirement associated with this exercise acceptance criterion is 10 CFR 50.47(b)(5), which requires, in part, that procedures have been established for notification of emergency personnel by all organizations. The associated guidance is provided in NUREG-0654, Evaluation Criterion II.E.1, which states that each organization shall establish procedures for alerting, notifying, and mobilizing emergency response personnel.

The NRC staff agrees that the proposed change does not involve a change in technical information, but merely reflects the proposed emergency plan revisions in the SNC SEP and the VEGP, Units 3 and 4, SEP Annex. The NRC staff finds that the revision to Acceptance Criteria 8.1.2 will continue to accomplish the intended purpose of the EP ITAAC, which is to demonstrate how SNC satisfies NUREG-0654, Evaluation Criteria II.E.2, in support of meeting 10 CFR 50.47(b)(5). Therefore, the NRC staff concludes that the revised Acceptance Criterion 8.1.2 is acceptable.

3.5 FEMA's Offsite Review

By letter dated July 5, 2016 (Reference 19), the NRC requested FEMA to provide it with an evaluation of whether the proposed SNC SEP changes would preclude offsite agencies from effectively implementing their approved REP plans. By letter dated August 9, 2016 (Reference 20), FEMA noted the proposed SNC SEP would have no significant impact to offsite response agencies and that FEMA continues to have reasonable assurance that the changes would not prevent offsite agencies from implementing their approved REP plans.

NRC Staff Conclusion

The NRC staff finds that the proposed changes in the SNC SEP and VEGP, Units 3 and 4, SEP Annex continue to meet the standards in 10 CFR 50.47(b)(1) through (b)(16), and the requirements in Appendix E to 10 CFR Part 50. In addition, the NRC staff concludes that with the proposed changes to the EP ITAAC in Appendix C of the VEGP, Units 3 and 4, COLs, there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at VEGP, Units 3 and 4. Therefore, the NRC staff concludes that the licensee's proposed SNC SEP and VEGP, Units 3 and 4, SEP Annex, contained in its application dated August 31, 2015, as supplemented by letters dated February 17, 2016; April 8, 2016; May 13, 2016; May 26, 2016; June 9, 2016; and November 2, 2016, are acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations the Georgia State official was notified of the proposed issuance of the amendment. The State official had no comment.

5.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, the Commission wrote an environmental assessment, and pursuant to 51.35(a) and 51.119(a) published a finding of no significant impact in the Federal Register on February 17, 2017 (82 FR 11064). Accordingly, based upon the environmental assessment, the Commission has determined that issuance of this amendment will not have a significant effect on the quality of the human environment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

7.0 REFERENCES

1. Letter from Southern Nuclear Operating Company, Inc. to U.S. Nuclear Regulatory Commission, "Southern Nuclear Operating Company Joseph M. Farley Nuclear Plant Units 1 and 2; Edwin I. Hatch Nuclear Plant Units 1 and 2; Vogtle Electric Generating Plant

Units 1 and 2; Vogtle Electric Generating Plant Units 3 and 4 Standard Emergency Plan," dated August 31, 2015 (Agencywide Documents Access and Management System (ADAMS) Package Accession No. ML15246A045).

2. Letter from Southern Nuclear Operating Company, Inc. to U.S. Nuclear Regulatory Commission, "Southern Nuclear Operating Company Joseph M. Farley Nuclear Plant Units 1 and 2; Edwin I. Hatch Nuclear Plant Units 1 and 2; Vogtle Electric Generating Plant Units 1 and 2; Vogtle Electric Generating Plant Units 3 and 4 Response to First Request for Additional Information Regarding Standard Emergency Plan," dated February 17, 2016 (ADAMS Package Accession No. ML16060A283).

3. Letter from Southern Nuclear Operating Company, Inc. to U.S. Nuclear Regulatory Commission, "Southern Nuclear Operating Company Joseph M. Farley Nuclear Plant Units 1 and 2; Edwin I. Hatch Nuclear Plant Units 1 and 2; Vogtle Electric Generating Plant Units 1 and 2; Vogtle Electric Generating Plant Units 3 and 4 Response to Second Request for Additional Information Regarding Standard Emergency Plan," dated April 8, 2016 (ADAMS Package Accession No. ML16105A194).

4. Letter from Southern Nuclear Operating Company, Inc. to U.S. Nuclear Regulatory Commission, "Southern Nuclear Operating Company Vogtle Electric Generating Plant Units 3 and 4 Corrected Submittal of the Assessment of Emergency Response Staffing In Accordance with License Condition 2.D.(12)(d)," dated May 13, 2016 (ADAMS Accession No. ML16146A724).

5. Letter from Southern Nuclear Operating Company, Inc. to U.S. Nuclear Regulatory Commission, "Southern Nuclear Operating Company Joseph M. Farley Nuclear Plant Units 1 and 2; Edwin I. Hatch Nuclear Plant Units 1 and 2; Vogtle Electric Generating Plant Units 1 and 2; Vogtle Electric Generating Plant Units 3 and 4 Corrected Response to Second Request for Additional Information Regarding Standard Emergency Plan," dated May 26, 2016 (ADAMS Accession No. ML16147A294).

6. Letter from Southern Nuclear Operating Company, Inc. to U.S. Nuclear Regulatory Commission, "Southern Nuclear Operating Company Joseph M. Farley Nuclear Plant Units 1 and 2; Edwin I. Hatch Nuclear Plant Units 1 and 2; Vogtle Electric Generating Plant Units 1 and 2; Vogtle Electric Generating Plant Units 3 and 4 Response to Third Request for Additional Information Regarding Standard Emergency Plan," dated June 9, 2016 (ADAMS Package Accession No. ML16167A468).

7. Letter from Southern Nuclear Operating Company, Inc. to U.S. Nuclear Regulatory Commission, "Southern Nuclear Operating Company Joseph M. Farley Nuclear Plant Units 1 and 2; Edwin I. Hatch Nuclear Plant Units 1 and 2; Vogtle Electric Generating Plant Units 1 and 2; Vogtle Electric Generating Plant Units 3 and 4 Standard Emergency Plan Implementation Date," dated November 2, 2016 (ADAMS Accession No. ML16167A468).

8. U.S. Nuclear Regulatory Commission and Federal Emergency Management Agency, NUREG-0654/FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of

Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980 (ADAMS Accession No. ML040420012).

9. U.S. Nuclear Regulatory Commission, NSIR/DPR-ISG-01, "Interim Staff Guidance, Emergency Planning for Nuclear Power Plants," dated November 20, 2011 (ADAMS Accession No. ML113010523).

10. U.S. Nuclear Regulatory Commission, NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition" Section 14.3.10, "Emergency Planning – Inspections, Tests, Analyses, and Acceptance Criteria," dated March 2007 (ADAMS Accession No. ML070730206).

11. U.S. Nuclear Regulatory Commission NUREG 2124, Volume 2, "Final Safety Evaluation Report Related to the Combined Licenses for VEGP, Units 3 and 4," dated September 30, 2012 (ADAMS Accession No. ML12271A049).

12. Letter from U.S. Nuclear Regulatory Commission to Southern Nuclear Operating Company, Inc., "Joseph M. Farley, Units 1 and 2, Edwin I. Hatch, Units 1 and 2 and Vogtle Electric Generating Plant, Units 1, 2, 3, and 4 – Request for Additional Information (CAC Nos. MF6670, MF6671, MF6672, MF6673, MF6674, MF6675, and RP9516)," dated December 2, 2015 (ADAMS Accession No. ML15334A009).

13. Letter from Southern Nuclear Operating Company, Inc. to U.S. Nuclear Regulatory Commission, "Southern Nuclear Operating Company Joseph M. Farley Nuclear Plant Units 1 and 2; Edwin I. Hatch Nuclear Plant Units 1 and 2; Vogtle Electric Generating Plant Units 1 and 2; Vogtle Electric Generating Plant Units 3 and 4 Response to First Request for Additional Information Regarding Standard Emergency Plan," dated February 17, 2016 (ADAMS Accession No. ML16060A283).

14. Letter from U.S. Nuclear Regulatory Commission to Southern Nuclear Operating Company, Inc., "Joseph M. Farley, Units 1 and 2, Edwin I. Hatch, Units 1 and 2 and Vogtle Electric Generating Plant, Units 1, 2, 3, and 4 – Request for Additional Information (CAC Nos. MF6670, MF6671, MF6672, MF6673, MF6674, MF6675, and RP9516)," dated February 4, 2016 (ADAMS Accession No. ML16029A035).

15. Letter from U.S. Nuclear Regulatory Commission to Southern Nuclear Operating Company, Inc., "Joseph M. Farley, Units 1 and 2, Edwin I. Hatch, Units 1 and 2 and Vogtle Electric Generating Plant, Units 1, 2, 3, and 4 – Request for Additional Information (CAC Nos. MF6670, MF6671, MF6672, MF6673, MF6674, MF6675, and RP9516)," dated April 14, 2016 (ADAMS Accession No. ML16096A217).

16. "Southern Nuclear Operating Company Vogtle Early Site Permit Application, Part 5, Emergency Plan Revision 5," dated December 31, 2008 (ADAMS Accession No. ML091540898).

17. Nuclear Energy Institute (NEI) document NEI 07-01, “Methodology for Development of Emergency Action Levels for Passive Reactors,” Revision 0 (ADAMS Accession Number ML092030210)

18. U.S. Environmental Protection Agency 400-R-92-001 “Manual of Protective Action Guides and Protective Actions for Nuclear Incidents,” May 1992.

19. Letter from U.S. Nuclear Regulatory Commission to Federal Emergency Management Agency regarding request from SNC for approval to adopt a standard emergency plan for the Joseph M. Farley, Edwin I. Hatch, and Vogtle Nuclear plant sites, dated July 5, 2016 (ADAMS Accession No. ML16176A150).

20. Letter from Federal Emergency Management Agency to U.S. Nuclear Regulatory Commission regarding review of proposed changes to SNC Standard Emergency Plan for impact to offsite response organizations plans, dated August 9, 2016 (ADAMS Accession No. ML16224A308).

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