Southern Nuclear

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U. S. Nuclear Regulatory Commission
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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

Supplement to License Amendment Request to Revise the Emergency Plan
to Change Staffing and Extend Staff Augmentation Times
for Emergency Response Organization Positions

Ladies and Gentlemen:

On June 30, 2020, pursuant to 10 CFR 50.90, Southern Nuclear Operating Company (SNC) requested amendments to the licenses for the plants and units listed above. The license amendment request (LAR) proposed to revise the SNC Standard Emergency Plan (SEP), including the Site Annexes, to change the emergency response organization (ERO) staffing composition and to extend staff augmentation times from 75 to 90 minutes.

On July 23, 2020, the U.S. Nuclear Regulatory Commission (NRC) staff provided the results of their acceptance review, which concluded that technical information was not provided in sufficient detail to enable the NRC staff to complete its detailed review. On August 11, 2020, SNC submitted supplemental information. On September 1, 2020, the NRC accepted the LAR. On October 14, 2020, the NRC issued a request for additional information (RAI) in order to complete its technical review. On November 20, 2020, SNC submitted responses to the NRC RAIs.

On February 24, 2021, the NRC issued an Audit Plan to review additional information needed to evaluate the proposed LAR justification and to determine additional information that may need to be docketed for the NRC to complete its review. The Audit was scheduled for March 15 to April 30, 2021. During the Audit, SNC and the NRC staff agreed that SNC would supplement the LAR with additional information needed for the NRC to complete its technical review. SNC's supplemental information is enclosed.

The conclusions of the No Significant Hazards Consideration Determination Analysis and Environmental Consideration contained in the original LAR have been reviewed and are unaffected by this response.

This letter contains no sensitive information and no new regulatory commitments. If you have any questions, please contact Jamie Coleman at 205.992.6611.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on April 27, 2021.

Cheryl A. Gayheart
Regulatory Affairs Director
Southern Nuclear Operating Company

CAG/efb/cbg

Enclosures:

1. SNC Supplemental Information
2. Proposed Staffing Tables

cc: NRC Regional Administrator, Region ll
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NRC Senior Resident Inspector – Farley, Hatch, Vogtle 1 & 2, Vogtle 3-4
Director, Alabama Office of Radiation Control
Director, Environmental Protection Division – State of Georgia
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Enclosure 1

SNC Supplemental Information

SNC Supplemental Information

Command and Control

SNC proposes to maintain the facility activation requirement within 75 minutes from declaration of an Alert or higher classification for the emergency operations facility (EOF) (see Enclosure 2 Table 1). When the EOF achieves minimum staffing, the EOF Emergency Director and EOF staff can relieve the following functions:

- State and local notifications
- Dose assessment
- Offsite Protective Action Recommendations (PARs)
- Control of field monitoring teams

Communications

SNC proposes to maintain the facility activation requirement within 75 minutes from declaration of an Alert or higher classification for the EOF. One position in the EOF, the emergency notification network (ENN) Communicator, is dedicated to the state and local off-site response organizations (OROs). A second communicator in the EOF, the emergency notification system (ENS) Communicator, is dedicated to the NRC open-line. The EOF ENN Communicator relieves the on-shift ERO personnel of both completion of the ENN form and communications with the OROs. The EOF ENS communicator can relieve the on-shift ERO personnel of both completion of the NRC form 361 and communications with the NRC.

Dose Assessment

SNC on-shift dose analysts have the same training and capabilities as the EOF dose analysts. Additionally, facility activation of the EOF within 75 minutes will allow dose assessment to shift from the station to the EOF.

Engineering

SNC proposes to maintain the facility activation requirement within 75 minutes from declaration of an Alert or higher classification for the EOF. The EOF is staffed with an Engineering Technical Supervisor with the training and capability to provide broad engineering support until the technical support center (TSC) engineering resources are activated. In the EOF, the Engineering Technical Support Supervisor has access to real time plant information to support on-shift needs (e.g. Critical Fault Trees, core damage evaluation for dose assessment, etc.). The EOF Technical Supervisor is also the point of contact for access to the entire SNC Engineering organization including NSSS vendors. The shift technical advisor (STA) function remains in the Control Room with augmented support from the EOF Technical Supervisor.

Radiation Protection

SNC proposes reducing the number of on-shift radiation protection (RP) Technicians from 3 to 2 and to augment one RP technician within 60 minutes from declaration of an Alert or higher classification. Five more RP technicians (total of 8) and the RP/Chemistry Group Lead are augmented in the OSC within 90 minutes.

Maintenance

SNC proposes removing the three maintenance technicians and the maintenance supervisor from on-shift (total of 4) and augmenting three technicians and three supervisors in the OSC and a maintenance supervisor in the TSC (total of 7) within 90 minutes. SNC's Diverse and Flexible Mitigation Capability (FLEX) equipment provides the on-shift staff with additional resources even when the station is not in an Extended Loss of AC Power (ELAP) or a beyond design basis event (BDB). Generally, FLEX maintains long-term core and spent fuel cooling and containment integrity with installed plant equipment that is protected from natural hazards, as well as backup portable onsite equipment. However, when not in a BDB event, some of the functions outlined in NEI 12-01 staffing studies do not apply. For example, Security is not needed to clear haul routes or assist in venting hydrogen from the main generator. Movement of FLEX equipment, including attaching equipment to the station points and starting to supply water, is limited to non-licensed operators (NLOs). The proposed SNC on-shift NLOs, the on-shift RP technicians and the 60-minute RP responder have the training, procedures, and equipment necessary to perform Emergency Plan implementation functions and to use FLEX equipment to provide additional core cooling capabilities. Due to the availability of FLEX equipment, SNC plants have diverse protection against loss of ECCS capability, which provides a basis for determination that no immediate ECCS repair and corrective actions are likely necessary for on-shift personnel prior to augmentation of maintenance personnel. On-shift RP resources provide direction to NLOs for radiological protection (wind direction, protective equipment, etc.). SNC has reviewed scenarios where FLEX equipment would be used to supplement loss of ECCS systems for cooling. The work is outside, which generally simplifies the radiation protection challenges. On-shift RP resources will be prioritized to support use of FLEX equipment for core cooling. Additionally, the augmenting RP technician will be available within 60 minutes to provide additional coverage.

As stated in earlier submittals, including SNC's response to NRC Requests for Additional Information on November 20, 2020, SNC performed performance-based procedure assessments (PBPAs) of the plant emergency operating procedures (EOPs) to identify key maintenance tasks that must be performed by NLOs or other on-shift staff until maintenance technicians arrive in the OSC within 90 minutes. SNC's LAR Implementation Plan will ensure that training is conducted, as appropriate, prior to implementation of the staffing changes.

Therefore, the proposed changes will not result in a reduction in response capability for performance of technical support, repair activities or corrective actions. Hatch and Vogtle 1-2 have successfully completed demonstration of FLEX equipment during the NRC Evaluated Exercises in 2019 and 2020 respectively. Farley is scheduled to complete the same demonstration in 2021 during an Evaluated Exercise. The Vogtle 3-4 AP-1000 passive safety systems provide a basis for determination that no repair and corrective actions are likely necessary for on-shift personnel prior to augmentation of maintenance personnel.

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Enclosure 2

Proposed Staffing Tables

Table 2.2.A – Farley, Hatch and Vogtle 1-2 On-Shift Staffing

Functional Area	Major Tasks	Emergency Positions	Staffing
Command and Control	Emergency Direction; Classification; and Supervision of ERO staff	Shift Manager (Emergency Director (ED))	1
	Support for: Emergency Direction, Classification, and Supervision of ERO staff	Unit Shift Supervisor (SRO)	2 Note 1
Repair Team Activities	Troubleshooting, limited repairs, and corrective actions	Shift Support Supervisor (SRO) System Operators (SOs)	1 7 Note 2
Communications	Communicate EAL and PAR classifications with NRC and Local/State OROs	Communicator	2 Note 3
Dose Assessments and Projections	Dose Assessment and Input to PARs	Chemistry Technician or other trained personnel	1
Radiation Protection	Onsite (out-of-plant) and in-plant surveys, RP coverage and first aid/rescue.	RP Technician or other trained personnel	2
Engineering	Technical Support; Reactor Core/Thermal Hydraulics evaluation	Shift Technical Advisor (STA)	Note 4
TOTAL:			**16** Note 5

Note 1 – Two Shift Supervisors, one for each Unit, are assigned to oversight of their respective Unit, but they can provide support to the ED for EP tasks during an emergency. For example, the Shift Supervisor of the least unaffected Unit would typically provide assistance to the ED.

Note 2 – During an event involving fire, the Shift Support Supervisor-SRO is the fire brigade leader and 4 of the 7 SOs, not performing safe-shutdown activities, would perform firefighting duties prior to beginning troubleshooting, limited repairs, and corrective actions. Only 6 SOs were credited in the 10 CFR 50 Appendix E staffing studies.

Note 3 – There are 2 licensed reactor operators at each Unit for a total of 4 ROs. Two of the ROs perform the Communicator roles. An SRO may perform a Communicator role if available depending on the emergency priorities.

Note 4 – The STA is not counted in the total because this position may be performed by qualified on-shift personnel assigned other functions.

Note 5 – The number of security force staff are not counted in the total because these positions are controlled by the site security plan. First aid and rescue operations staff are not counted in the total as these functions may be provided by shift personnel assigned other functions.

Table 2.2.A – Vogtle 3-4 On-Shift Staffing

Functional Area	Major Tasks	Emergency Positions	Staffing
Command and Control	Emergency Direction; Classification; and Supervision of ERO staff	Shift Manager (Emergency Director (ED))	1
	Support for: Emergency Direction, Classification, and Supervision of ERO staff	Unit Shift Supervisors (SRO) - 2 Shift Support Supervisor (SRO) - 1	3 Note 1
Repair Team Activities	Troubleshooting, limited repairs, and corrective actions.	Shift Support Supervisor (SRO) System Operators (SOs)	1 6 Note 2
Communications	Communicate EAL and PAR classifications with NRC and Local/State OROs	Communicator	2 Note 3
Dose Assessments and Projections	Dose Assessment and Input to PARs	Chemistry Technician or other trained personnel	1
Radiation Protection	Onsite (out-of-plant) and in-plant surveys, RP coverage and first aid/rescue.	RP Technician or other trained personnel	2
Engineering	Technical Support; Reactor Core/Thermal Hydraulics evaluation	Shift Technical Advisor (STA)	Note 4
TOTAL:			**16** Note 5

Note 1 – Two Shift Supervisors, one for each Unit, are assigned to oversight of their respective Unit, but they can provide support to the ED for EP tasks during an emergency. A third SRO will typically be assigned to the Unit not occupied by the ED, but they can provide support to the ED for EP tasks during an emergency as well.

Note 2 – During an event involving fire, the Shift Support Supervisor-SRO is the fire brigade leader and 4 of the 6 SOs would perform firefighting duties prior to beginning troubleshooting, limited repairs, and corrective actions. Only 5 SOs were credited in the 10 CFR 50 Appendix E staffing studies.

Note 3 – There are 2 licensed reactor operators at each Unit for a total of 4 ROs. Two of the ROs perform the Communicator roles. An SRO may perform a Communicator role if available depending on the emergency priorities.

Note 4 – The STA is not counted in the total because this position may be performed by qualified on-shift personnel assigned other functions.

Note 5 – The number of security force staff are not counted in the total because these positions are controlled by the site security plan. First aid and rescue operations staff are not counted in the total as these functions may be provided by shift personnel assigned other functions.

Major Functional Area	Major Task	Position Title EOF in 75 minutes TSC and OSC in 90 minutes	Number of Augmented Responders
Emergency Direction and Control	Command and Control	Emergency Director (TSC)	1
		Emergency Director (EOF)	1
Notification/ Communication	Licensee, Local/State and Federal communications	Emergency Communication Coordinator (EOF) ENS Communicator (EOF) ENS Communicator (TSC) ENN Communicator (EOF) ERF Communicators (OSC, TSC, & EOF)	7
Radiation Protection Actions and Supervision	Offsite Dose Assessment	RP Supervisor (TSC)	1
		Dose Assessment Supv. & Analyst (EOF)	2
		HPN Communicators (EOF & TSC)	2
	Offsite Surveys	FMT Lead and Assistant (OSC) (two each)	4
		FMT Coordinator and Communicator (EOF)	2
	In-plant / Onsite (out-of-plant) Surveys Dosimetry / Access Control	RP/Chemistry Group Lead (OSC) 8 RP Technicians (OSC) (6 augmented and 2 from on-shift) (One of the 6 RP technicians is augmented at 60 minutes.)	9
Engineering	Technical Support	Engineering/Tech Supervisor (TSC & EOF)	2
		Reactor Engineer (TSC)	1
		Engineering Support (TSC)	2
Maintenance, and Other Support	Repair and Corrective Actions	ERF Manager (OSC/TSC/EOF)	3
		Mechanical Group Lead and Tech (OSC)	2
		Electrical Group Lead and Tech (OSC)	2
		I & C Group Lead and Tech (OSC)	2
		Operations Group Lead/Supv. (OSC & TSC)	2
		Security Supervisor/Coordinator (TSC & EOF)	2
		Maintenance Supervisor (TSC)	1
		ORO Coordinator and News Writer (EOF)	2
Total			**50**

SNC Standard Emergency Plan

Table 1

The Table 1, EOF responders are listed for a single-site event. For events affecting multiple sites, certain additional EOF responders are augmented.