

Southern Nuclear Operating Company

ND-16-0574

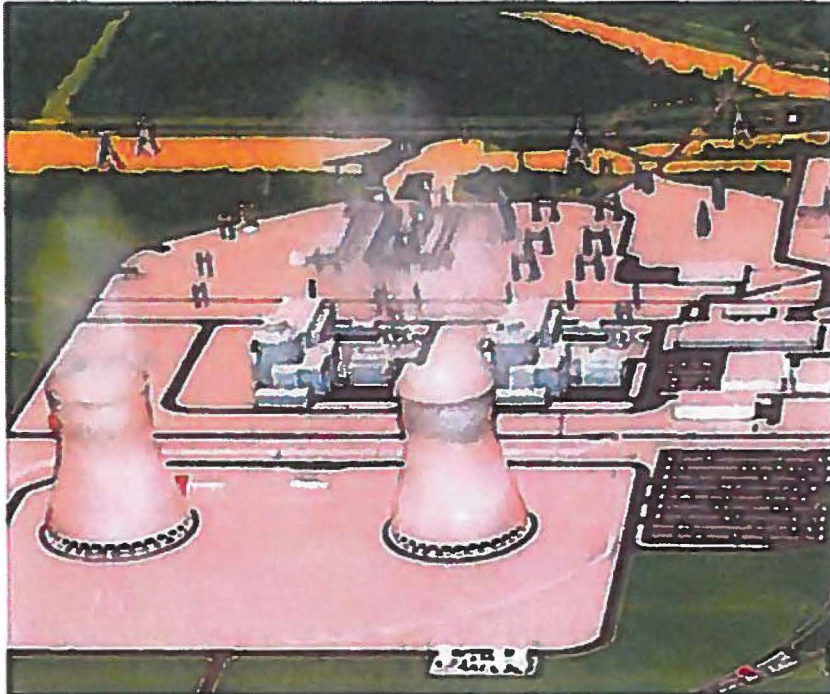
Enclosure 2

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

**Vogtle Electric Generating Plant Units 3 and 4
Standard Emergency Plan On-Shift Staffing Analysis**

(This Enclosure contains 93 pages, in addition to this cover page.)

Vogtle Electric Generating Plant Units 3 and 4



Standard Emergency Plan On-Shift Staffing Analysis

Revision 2

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Date 4/22/16

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Date 4/22/16

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VEGP 3&4 On-Shift Staffing Analysis

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VEGP 3 & 4 On-Shift Staffing Analysis

Introduction

10CFR50 Appendix E, IV.A.9, effective on December 23, 2011, directed that a detailed study be performed by December 24, 2012, to ensure on-shift staffing was adequate to perform critical functions until relieved by the augmented Emergency Response Organization (ERO). Each applicant for a combined license or early site permit under part 52 of this chapter whose application is docketed before December 23, 2011 was allowed to defer compliance with any change to emergency preparedness regulations under the final rule issued November 23, 2011. On May 30, 2014 the NRC issued Vogtle Electric Generating Plan (VEGP) Units 3 and 4 Amendment 20 [Accession No. ML14118A252] which addressed the deferral of the on-shift staffing analysis by adding a License Condition to the VEGP 3 and 4 licenses (2.D.(12)(d)). The NRC in the published staff guidance (Reference 2) endorsed NEI 10-05 as an acceptable means of performing the required staffing analysis. This report documents the result of the analysis for the Vogtle Electric Generating Plant (VEGP) Units 3&4.

References

1. 10CFR50 Appendix E
2. NSIR/DPR-ISG-01, Interim Staff Guidance, Emergency Planning for Nuclear Power Plants
3. NEI 10-05, Revision 0, Assessment of On-Shift Emergency Response Organization Staffing and Capabilities
4. SNC Standard Emergency Plan, Vogtle 3&4 Annex
5. VEGP 3&4 UFSAR Chapter 15, Revision 3.1

Executive Summary

A detailed staffing analysis, performed in accordance with NEI 10-05, was conducted to document the adequacy of shift staffing for VEGP 3&4 as required by 10CFR50 Appendix E.

The minimum staff described in the Standard Emergency Plan, Vogtle 3&4 Annex Table 2.2.A, was used to perform the on-shift staffing analysis.

NRC staff guidance directs the scenarios that must be used to demonstrate the adequacy of on-shift staffing to perform required functions for event mitigation, radiation protection response, firefighting, chemistry and Emergency Plan functions. Those scenarios include specific design basis accidents as described in the UFSAR as well as specific scenarios defined in the Staff Guidance document. Identification of these scenarios is the first phase of the NEI 10-05 process. Table 1 identifies the on-shift compliment. Table 2 identifies the scenarios that were required to be considered for evaluation.

The next phase required of NEI 10-05 requires a dedicated team, using tabletop techniques, to evaluate the scenarios for conflicts between the functional areas that must be resolved by detailed procedural analysis. For those scenarios where no conflicts are identified in the specified areas no further action is required. Table 3 identifies the results of this evaluation and any scenarios that required detailed analysis due to conflicts in response actions.

Conclusion

The minimum staff identified in the Vogtle 3&4 Annex Table 2.2.A is adequate to respond to the scenarios identified in the regulations until relieved by the augmented ERO. The analysis showed that on-shift personnel are sufficient to respond to analyzed events until augmented by the ERO 90 minutes after declaration and that no conflicts in responsibility exist.

VEGP 3 & 4 On-Shift Staffing Analysis

VEGP 3 & 4 On-Shift Staffing Analysis

Table 1
VEGP 3 and 4 On-Shift Staffing

VEGP 3&4 Annex Shift Staffing for Power Operation		
Position	On-Shift	Shared by VEGP Site
Shift Manager (SM/SRO/STA)	2	1
Shift Supervisor (SRO)	2	
Shift Support Supervisor (SRO/FBL)	1	1
Reactor Operators (RO)	4	
Communicator ^{Note 1}	1	1
System Operators (SO)	8	
RP Technician	2	
Chemistry Technician	1	
Maintenance Supervisor		1
Electrical Maintenance		1
Mechanical Maintenance		1
I&C Maintenance		1
Chemistry Technician/Dose Assessment		1
Field Monitoring Team		1
Total On-Shift Personnel:	21	9
Fire Brigade ^{Note 2}	5	
Rescue Operations/First Aid ^{Note 3}	2	
Security	Sec plan	

Note 1 – Communicator position is staffed by a qualified licensed operator (RO or SRO)

Note 2 – Fire Brigade is a collateral duty of Operations requiring 5 personnel without safe shutdown responsibilities. The Fire Brigade consists of 1 Fire Brigade Leader (Shift Support Supervisor – SRO) and 4 Fire Brigade Members (System Operators). These individuals are not assigned safe shutdown responsibilities

Note 3 – Rescue/First Aid is a collateral duty of RP personnel.

VEGP 3 & 4 On-Shift Staffing Analysis

Table 2
NEI 10-05 Appendix A
Analyzed Events and Accidents

Event #	Event Type	Event	Summary Description of Event	Reactor Mode	Reference Documents	Event EAL	Analysis Required
1.	DBT	Hostile Action Based Event	Land based hostile action against the Protected Area by a HOSTILE FORCE. Assume adversary characteristics defined by the DBT	All	ISG IV.C	SAE	Yes
2.	DBA	Steam System Piping Failure (Main Steam Line Break – MSLB)	Steam line rupture outside containment	3	UFSAR §15.1.5 Condition IV	ALERT	Yes
3.	DBA	Feedwater System Pipe Break	Feedwater line rupture (double-ended) between the check valve and steam generator	1	UFSAR §15.2.8 Condition IV	ALERT	No Note 1
4.	DBA	Reactor Coolant Pump Shaft Seizure (Locked Rotor)	Instantaneous seizure of a reactor coolant pump rotor with loss of offsite power	1	UFSAR §15.3.3 Condition IV	UE	Yes
5.	DBA	Reactor Coolant Pump Shaft Break	Instantaneous failure of a reactor coolant pump shaft	1	UFSAR §15.3.4 Condition IV	N/A	No Note 2
6.	DBA	RCCA Ejection Accident (SB LOCA)	Mechanical failure of a control rod mechanism pressure housing, resulting in the ejection of an RCCA and drive shaft.	1-2	UFSAR §15.4.8 Condition IV	ALERT	Yes
7.	DBA	Steam Generator Tube Rupture	Double-ended break of one steam generator tube on the cold leg side with a loss of offsite power	1	UFSAR §15.6.3 Condition IV	ALERT	Yes
8.	DBA	Large Break LOCA	Split break on cold leg loop containing core makeup tanks with release exceeding PAGs requiring PARs	1	UFSAR §15.6.5 Condition IV	GE	Yes Note 3
9.	DBA	Fuel Handling Accident	Irradiated, fully raised fuel bundle is dropped resulting in breach of the cladding and a release of fuel/ cladding gap activity	6	UFSAR §15.7.4 Condition IV	ALERT	No Note 4

VEGP 3 & 4 On-Shift Staffing Analysis

Table 2
NEI 10-05 Appendix A
Analyzed Events and Accidents

Event #	Event Type	Event	Summary Description of Event	Reactor Mode	Reference Documents	Event EAL	Analysis Required
10.	ISG	Aircraft Probable Threat	Verifiable information that the plant is in the flight path of a track of interest (TOI) with an ETA of 30 minutes or less.	All	ISG IV.C	ALERT	Yes
11.	ISG	ATWS	Failure of Rx to SCRAM without operator action	1-2	UFSAR §15.8 ISG IV.C	ALERT	Yes
12.	ISG	Station Blackout	A loss of all offsite AC power and Emergency Diesel Generators	1	UFSAR §15.2.6 ISG IV.C	UE - ALERT	No Note 5
13.	ISG	Control Room Fire with Evacuation and Remote Shutdown	MCR Evacuation required. Operation from Remote Shutdown Panel.	1-6	ISG IV.C	ALERT	Yes
14.	ISG	Appendix R Fire	Appendix R Fire requiring FB Response	N/A	ISG IV.C	ALERT	No Note 6
15.	ISG	Entry Into SAMGs	Directed to the SAMGs from the Emergency Operating Procedure Flow Charts	N/A	ISG IV.C and the EOP Flowcharts	GE	No Note 7

Note 1 –Per UFSAR Section 15.2.8, the radiological consequences for the feedwater lines are less than those presented for the postulated main steam line break. Therefore, this event is bounded by the main steam line break event (Event #2).

Note 2 –Per UFSAR Section 15.3.4, the calculated results for the locked rotor analysis (Event #4) bound this event; therefore, further analysis is not required.

Note 3 – Event designated as proceeding non-mechanistically to GE with release exceeding Protective Action Guides (PAGs) and requiring Protective Action Recommendations (PARs).

Note 4 –Refueling accident is not analyzed with the existing on-shift staff per FAQ 2013-008.

Note 5 –NSIR/DPR-ISG-01 identifies Design Basis Accidents (Condition IV events) as requiring a staffing analysis and recommends consideration of other events beyond design basis, such as Station Blackout. The VEGP 3&4 UFSAR addresses a Station Blackout as a Condition II Design Basis Event in Section 15.2.6, Loss of AC Power to the Plant Auxiliaries. Therefore, per the ISG, further analysis of this event is not required.

Note 6 –Event is bounded by the Control Room Fire with Evacuation and Remote Shutdown (Event #13). No further analysis required.

Note 7 –Per NEI 10-05, Section 2.11, since no actions other than licensed and non-licensed operators were determined to be involved with SAMG implementation, further analysis is not required.

VEGP 3 & 4 On-Shift Staffing Analysis

Appendix A Phase II Analysis Results

VEGP 3 & 4 On-Shift Staffing Analysis

A multi-disciplined team of subject matter experts from VEGP 3&4 was assembled to provide input into the on-shift staffing analysis (OSA) of events identified by NSIR/DPR-ISG-01, Interim Staff Guidance, Emergency Planning for Nuclear Power Plants. This team consisted of: a Shift Manager; a Shift Support Supervisor; a Nuclear Plant Operator; an RP Supervisor; a Chemistry Supervisor; a Security Supervisor; a Fire Protection Engineer; Licensing Support; and Emergency Planning Staff (station, corporate, and consultants). The team provided analysis support during the Phase II analysis as follows:

Table 3
On-Shift Staffing Analysis Team

Team Member	Subject Matter Expertise
Shift Supervisor (SRO) Shift Support Supervisor (SRO) Nuclear Plant Operator (RO)	EOP actions
	Abnormal Procedure (AB) actions
	Operating Procedure actions
	Shift Technical Advisor actions
	Emergency Director (E Plan) actions
	Fire Brigade response actions
	Offsite Communicator actions
RP Supervisor	RP response actions
	Dose Assessment actions
	Field Monitoring Team (FMT) actions
	First Aid response actions
Chemistry Support Superintendent Chemistry Supervisor	Chemistry response actions
Maintenance Director	Mechanical Maintenance actions
	Electrical Maintenance actions
Security Supervisor	Security response actions
Fire Protection	Fire Hazard Analysis
Emergency Planning	Emergency Plan response actions
Emergency Planning Consultants	Facilitate analysis and provide support

The OSA was conducted in three steps; identification of events for analysis; minimum on-shift staffing complement determination; and, a tabletop analysis of the on-shift staffing resources required for response to identified events. The results and recommendations of the OSA are documented in this report.

VEGP 3 & 4 On-Shift Staffing Analysis

Appendix B Phase II Event Analysis Tables

VEGP 3 & 4 On-Shift Staffing Analysis

On-Shift Personnel Assignments Used During OSA On-Shift Operator Assignments

Position	Designation	Assignment
Shift Manager	SM1	Unit 3 Shift Manager/Emergency Director/STA
Shift Manager	SM2	Unit 4 Shift Manager/Emergency Director/STA
Shift Supervisor	SRO1	Unit 3 Shift Supervisor
Shift Supervisor	SRO2	Unit 4 Shift Supervisor
Shift Support Supervisor	SRO3/FBL	Shift Support Supervisor/Fire Brigade Leader
Reactor Operator	RO1	Unit 3 Operator At Controls
Reactor Operator	RO2	Unit 3 Licensed Operator
Reactor Operator	RO3	Unit 4 Operator At Controls
Reactor Operator	RO5	Unit 4 Licensed Operator
Licensed Operator	COM1	Unit 3 ENN/ENS Communicator
System Operator	SO1	Unit 3 Turbine Building
System Operator	SO2	Unit 3 Auxiliary Building
System Operator	SO3	Unit 4 Turbine Building
System Operator	SO4	Unit 4 Auxiliary Building
System Operator	SO5/FBM1	Fire Brigade Member
System Operator	SO6/FBM2	Fire Brigade Member
System Operator	SO7/FBM3	Fire Brigade Member
System Operator	SO8/FBM4	Fire Brigade Member

Other On-Shift Assignments Used During Analysis

Position	Designation	Assignment
Shift Manager	SM3	V1&2 Shift Manager/Emergency Director
Shift Support Supervisor	SRO4/FBL2	V1&2 Fire Brigade Leader
Reactor Operator	RO4/COM1	V1&2 Communicator
RP Technician	RP1	RP Support
RP Technician	RP2	RP Support
RP Technician	RP3/FMT	RP Support/Field Monitoring
Chemistry Technician	CT1	Chemistry Support
Chemistry Technician	CT2/DA	Chemistry Support/Dose Assessment
Maintenance Supervisor	MS	Maintenance Supervision
Electrical Maintenance	EM	Electrical Maintenance
Mechanical Maintenance	MM	Mechanical Maintenance
I&C Technician	IC	I&C Maintenance
SAS Operator	SEC1	SAS Support/Accountability
Security Supervisor	SEC2	Security Shift Supervisor
Security Officer	SEC3	Security Support

On-Shift Shared Resource from VEGP 1&2

VEGP 3 & 4 On-Shift Staffing Analysis

Event #1 Design Basis Threat

Initial Conditions:

Time: Saturday @0230

Unit 3 & 4 @ 100% Power

Normal operating temperature

Normal operating pressure

Sequence of Events:

0235 Adversary force assaults VEGP 3 and attempts to breach the protected area fence

Security engages adversaries and notifies Shift Manager

0240 Security informs Shift Manager that PA has been breached

0245 Security informs Shift Manager that adversaries have been neutralized

No injuries to site personnel

No fires or collateral damage to plant equipment

No adverse consequences to plant safety

VEGP 3 & 4 On-Shift Staffing Analysis

APPENDIX B

Event #1: DBA/ISG - Design Basis Threat

ECL: Site Area Emergency

TABLE 1 – On-shift Positions

Line	On-shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table#/Line#	Unanalyzed Task?	TMS/ Action Required?
1.	Shift Manager (SM3)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T5/L1 T5/L3 T5/L8 T5/L10 T5/L14	No	No
2.	Shift Supervisor (SRO1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L1 T5/L5	No	No
3.	Shift Supervisor (SRO2)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L2 T5/L5	No	No
4.	Reactor Operator (RO1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L3	No	No
5.	Reactor Operator (RO2)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L4 T5/L7 T5/L11	No	No
6.	Reactor Operator (RO3)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L5	No	No
7.	Reactor Operator (RO5)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L6 T5/L7 T5/L11	No	No
8.	Reactor Operator (RO4/COM1)	Standard Emergency Plan Vogtle 3&4 Annex	90	T5/L5 T5/L6 T5/L9 T5/L13	No	No
9.	SAS Operator (SEC1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L7	No	No

VEGP 3 & 4 On-Shift Staffing Analysis

Line	On-shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table#/Line#	Unanalyzed Task?	TMS/ Action Required?
10.	Security Supervisor (SEC2)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L8	No	No

Notes: Although multiple functions have been identified for some positions, no conflict exists requiring further action. Performance of these functions by the identified positions is either acceptable by NEI 10-05 guidance, **OR** the functions are the same, **OR** the functions are performed sequentially without issue.

Position utilizes Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 2 - Plant Operations & Safe Shutdown

Event # 1

Two Units – Two Control Rooms
Minimum Operations Crew Necessary to Implement
AOPs and EOPs, or SAMGs if applicable

Applicable to Unit 3&4

Line	Generic Title/Role	On-Shift Position	Task Performance Validation
1.	Shift Supervisor	Shift Supervisor (SRO1)	Operations Training
2.	Shift Supervisor	Shift Supervisor (SRO2)	Operations Training
3.	Reactor Operator	Reactor Operator (RO1)	Operations Training
4.	Reactor Operator	Reactor Operator (RO2)	Operations Training
5.	Reactor Operator	Reactor Operator (RO3)	Operations Training
6.	Reactor Operator	Reactor Operator (RO5)	Operations Training

Notes: See Table 2A for AOP/EOP response actions

Other (non-Operations) Personnel Necessary to Implement
AOPs and EOPs, or SAMGs if applicable

Line	Generic Title/Role	On-Shift Position	Task Performance Validation
7.	SAS Operator	SAS Operator (SEC1)	Security/EP Training
8.	Security Supervisor	Security Supervisor (SEC2)	Security/EP Training


Notes: See Table 2A for AOP/EOP response actions

VEGP 3 & 4 On-Shift Staffing Analysis

Event #: 1

Title: Table 2A – Design Basis Threat

Procedure Step/Actions			Performance Time (mins) After Procedure Implementation																	
Proc/Step	Task	Assigned Resource	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90
	Security Supervisor Contact CR	SEC2	X																	
3(4)-AOP-904, Security Events																				
Attachment 1, Step 1	Manually Trip Rx	SRO1 SRO2 RO1 RO3	X																	
Step 3&5	MCR Isolation IAW Attachment 5&6	RO2 RO5	X																	
Step 4	Plant Announcement for DBT Event	SRO1 SRO2	X																	
Step 11	Notify LLEA	SEC1	X																	
NMP-EP-111, Emergency Notification																				
Step 4.14	NRC Prompt Notification	RO2 RO5		X																
3(4)-EOP-E-0, Rx Trip or Safeguards Actuation																				
Steps 1-4	Post Trip Verifications	SRO1 SRO2 RO1 RO3	X																	
3(4)-EOP-ES-0.1, Rx Trip Response																				
Steps 1-37	Stabilize Plants (periodic, ongoing CR actions)	SRO1 SRO2 RO1 RO3		X																

 Task completion time

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 3 – Firefighting

Event # 1

Line	Performed By	Task Analysis Controlling Method
1.	N/A	N/A
2.	N/A	N/A
3.	N/A	N/A
4.	N/A	N/A
5.	N/A	N/A

Notes: Fire Brigade response not required for this event.

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 4 – Radiation Protection & Chemistry

Event # 1

Line	Position Performing Function/Task	Performance Time Period After Event Initiation (Minutes)															
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-90
1.	In-Plant Survey On-Shift Position:																
2.	Out of Plant Survey On-Shift Position:																
3.	Personnel Monitoring On-Shift Position:																
4.	Job Coverage On-Shift Position:																
5.	Offsite Radiological Assessment On-Shift Position:																
6.	Other Site-Specific RP Describe: On-Shift Position:																
7.	Chemistry function/task #1 Describe: On-Shift Position:																
8.	Chemistry function/task #2 Describe: On-Shift Position:																

Notes: RP and Chemistry personnel in 'duck and cover'.

Task completion time

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 5 – Emergency Plan Implementation

Event # 1

Line	Function/Task	On-Shift Position	Task Analysis Controlling Method
1.	Declare the Emergency Classification Level (ECL)	SM3	EP/Ops Training and EP Drill Program
2.	Approve Offsite Protective Action Recommendations	N/A	EP/Ops Training and EP Drill Program
3.	Approve content of State/local notifications	SM3	EP/Ops Training and EP Drill Program
4.	Approve extension to allowable dose limits	N/A	EP/Ops Training and EP Drill Program
5.	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	SRO1 SRO2 RO4/COM1	EP/Ops Training and EP Drill Program
6.	ERO notification	RO4/COM1	EP/Ops Training and EP Drill Program
7.	Abbreviated NRC Notification for DBT event	RO2 RO5	EP/Ops Training and EP Drill Program
8.	Complete State/local notification form	SM3	EP/Ops Training and EP Drill Program
9.	Perform State/local notifications	RO4/COM1	EP/Ops Training and EP Drill Program
10.	Complete NRC event notification form	SM3	EP/Ops Training and EP Drill Program
11.	Activate ERDS	RO2 RO5	EP/Ops Training and EP Drill Program
12.	Offsite radiological assessment	N/A	EP/Ops Training and EP Drill Program
13.	Perform NRC notifications	RO4/COM1	EP/Ops Training and EP Drill Program
14.	Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	SM3	EP/Ops Training and EP Drill Program
15.	Personnel accountability	N/A	EP/Ops Training and EP Drill Program



Notes: EAL – HS4 (Site Area Emergency)

Function performed by Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis

Table 5A - E-Plan Implementation Timeline/Event # 1

Function/Task	On-shift Position	Time from Event Initiation (minutes)																	
		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
Declare the Emergency	SM3	HS4																	
Approve Offsite PARs	N/A																		
Approve State/local notifications	SM3						x											x	
Approve extension to allowable dose limits	N/A																		
Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	SR01 SR02 RO4/COM1	x		X															
Abbreviated NRC notification for DBT event	RO2 RO5		x																
ERO Notification	RO4/COM1			x															
Complete State/local notification form	SM3				x													x	
Perform State/local notifications	RO4/COM1						x												x
Complete NRC event notification form	SM3							x											
Activate ERDS	RO2 RO5				x														
Offsite radiological assessment	N/A																		
Perform NRC notifications	RO4/COM1								x										
Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	SM3									x									
Personnel accountability	N/A																		

 Task completion time
 Function performed by Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis

Event #2 Steam Piping Failure (MSLB)

Initial Conditions:

Time: Tuesday @ 0430

Unit 3 0% Power – Initial Hot Standby Operating Temperature and Pressure

Unit operating at maximum TS allowed RCS Iodine and maximum allowed SG tube leakage

Sequence of Events:

0430 Initial Hot Standby conditions reached

0435 Double-Ended rupture of B Main Steam Line (SG2) occurs outside containment

MSIVs close in 10 seconds

Startup Feedwater system is isolated

VEGP 3 & 4 On-Shift Staffing Analysis

APPENDIX B

Event #2: DBA/ISG – Steam System Piping Failure (MSLB)

ECL: Alert


TABLE 1 – On-shift Positions

Line	On-shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table#/Line#	Unanalyzed Task?	TMS/ Action Required?
1.	Shift Manager (SM1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T5/L1 T5/L3 T5/L8 T5/L10 T5/L14	No	No
2.	Shift Supervisor (SRO1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L1	No	No
3.	Reactor Operator (RO1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L2	No	No
4.	Reactor Operator (RO2)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L3	No	No
5.	Licensed Operator (COM1)	Standard Emergency Plan Vogtle 3&4 Annex	90	T5/L5 T5/L6 T5/L9 T5/L11 T5/L13	No	No
6.	System Operator (SO1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L4	No	No
7.	System Operator (SO2)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L5	No	No
8.	RP Technician (RP1)	Standard Emergency Plan Vogtle 3&4 Annex	90	T4/L1	No	No
9.	RP Technician (RP3/FMT)	Standard Emergency Plan Vogtle 3&4 Annex	90	T4/L2	No	No
10.	Chemistry Technician (CT1)	Standard Emergency Plan Vogtle 3&4 Annex	90	T4/L7	No	No

VEGP 3 & 4 On-Shift Staffing Analysis

Line	On-shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table#/Line#	Unanalyzed Task?	TMS/ Action Required?
11.	Chemistry Technician (CT2/DA)	Standard Emergency Plan Vogtle 3&4 Annex	90	T4/L5 T5/L12	No	No

Notes: Although multiple functions have been identified for some positions, no conflict exists requiring further action. Performance of these functions by the identified positions is either acceptable by NEI 10-05 guidance, **OR** the functions are the same, **OR** the functions are performed sequentially without issue.

 Position utilizes Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 2 - Plant Operations & Safe Shutdown

Event # 2

Two Units – Two Control Rooms
Minimum Operations Crew Necessary to Implement
AOPs and EOPs, or SAMGs if applicable

Applicable to Unit 3

Line	Generic Title/Role	On-Shift Position	Task Performance Validation
1.	Shift Supervisor	Shift Supervisor (SRO1)	Operations Training
2.	Reactor Operator	Reactor Operator (RO1)	Operations Training
3.	Reactor Operator	Reactor Operator (RO2)	Operations Training
4.	System Operator	System Operator (SO1)	Operations Training
5.	System Operator	System Operator (SO2)	Operations Training

Notes: See Table 2A for AOP/EOP response actions

VEGP 3 & 4 On-Shift Staffing Analysis

Event #: 2

Title: Table 2A – Steam System Piping Failure (MSLB)

Procedure Step/Actions			Performance Time (mins) After Procedure Implementation																					
Proc/Step	Task	Assigned Resource	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90				
3-EOP-E-0, Rx Trip or Safeguards Actuation																								
Step 1-21	Post Trip response and verifications	SRO1 RO1	X																					
Step 22	Perform Att. 1 (RNS Alignment for IRWST Cooling)	SRO1 RO2				X																		
Attachment 1 Step 23	Verify and manipulate service water valve position	SO1								X														
Attachment 1 Step 25	Verify CCS valve positions	SO2									X													
Step 23	Implement 3-EOP-F-0 CSF Monitoring	RO2				X (periodic)																		
Step 24	Request local Rad. Surveys of Steam Line, Aux and Turbine Bldgs.	RO1				X																		
3-EOP-FR-P.1, Response to Imminent Pressurized Thermal Shock Conditions																								
Step 1-3	Check for Auto Depressurization	SRO1 RO1					X																	
Step 5	Locally close Accumulator Discharge MOV Breakers	SO2							X															
Step 6-7	Depressurization of RCS	SRO1 RO1						X																
Step 8-16	Isolate Faulted SG	SRO1 RO1										X												
Step 17-25	Establish normal feed water and makeup conditions	SRO1 RO1												X										
Step 26-42	Continue with stabilization of Plant	SRO1 RO1															X							

Notes: RP sample results would determine Classification criteria met for RA1 at ~T=10



Task completion time

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 3 – Firefighting

Event # 2

Line	Performed By	Task Analysis Controlling Method
1.	N/A	N/A
2.	N/A	N/A
3.	N/A	N/A
4.	N/A	N/A
5.	N/A	N/A

Notes: Fire Brigade response not required for this event.



VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 4 – Radiation Protection & Chemistry

Event # 2

Line	Position Performing Function/Task	Performance Time Period After Event Initiation (Minutes)															
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-90
1.	In-Plant Survey (Turbine/Aux) On-Shift Position: RP1	X															
2.	Off-Site Survey On-Shift Position: RP3/FMT							X									
3.	Personnel Monitoring On-Shift Position:																
4.	Job Coverage On-Shift Position:																
5.	Offsite Radiological Assessment On-Shift Position: CT2/DA							X									
6.	Other Site-Specific RP Describe: On-Shift Position:																
7.	Chemistry function/task #1 Describe: Periodic monitoring of RMS (computer screen) On-Shift Position: CT1	X (periodic)															
8.	Chemistry function/task #2 Describe: On-Shift Position:																

Notes: Chemistry sampling of SG in advance of event; sampling analysis unavailable after event due to S/G isolation

 Task completion time
 Function performed by Vogtle 1&2 On-shift resource


VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 5 – Emergency Plan Implementation

Event # 2

Line	Function/Task	On-Shift Position	Task Analysis Controlling Method
1.	Declare the Emergency Classification Level (ECL)	SM1	EP/Ops Training and EP Drill Program
2.	Approve Offsite Protective Action Recommendations	N/A	EP/Ops Training and EP Drill Program
3.	Approve content of State/local notifications	SM1	EP/Ops Training and EP Drill Program
4.	Approve extension to allowable dose limits	N/A	EP/Ops Training and EP Drill Program
5.	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	COM1	EP/Ops Training and EP Drill Program
6.	ERO notification	COM1	EP/Ops Training and EP Drill Program
7.	Abbreviated NRC Notification for DBT event	N/A	EP/Ops Training and EP Drill Program
8.	Complete State/local notification form	SM1	EP/Ops Training and EP Drill Program
9.	Perform State/local notifications	COM1	EP/Ops Training and EP Drill Program
10.	Complete NRC event notification form	SM1	EP/Ops Training and EP Drill Program
11.	Activate ERDS	COM1	EP/Ops Training and EP Drill Program
12.	Offsite radiological assessment	CT2/DA	EP/Ops Training and EP Drill Program
13.	Perform NRC notifications	COM1	EP/Ops Training and EP Drill Program
14.	Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	SM1	EP/Ops Training and EP Drill Program
15.	Personnel accountability	N/A	EP/Ops Training and EP Drill Program



Notes: EAL – RA1 (Alert)

 Function performed by Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis

Table 5A - E-Plan Implementation Timeline/Event # 2

Function/Task	On-shift Position	Time from Event Initiation (minutes)																			
		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90		
Declare the Emergency	SM1	RA1																			
Approve Offsite PARs	N/A																				
Approve State/local notifications	SM1						X										X				
Approve extension to allowable dose limits	N/A																				
Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	COM1			X											X						
ERO notification	COM1			X																	
Abbreviated NRC notification for DBT event	N/A																				
Complete State/local notification form	SM1			X											X						
Perform State/local notifications	COM1						X										X				
Complete NRC event notification form	SM1							X													
Activate ERDS	COM1				X																
Offsite radiological assessment	CT2/DA				X																
Perform NRC notifications	COM1									X											
Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	SM1									X											
Personnel accountability	N/A																				

 Task completion time
 Function performed by Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis

Event #4 Reactor Coolant Pump Shaft Seizure (Locked Pump Rotor)

Initial Conditions:

Time: Saturday @ 2030

Unit 4 100% Power, NOP, NOT, NOL

Sequence of Events:

2030 Rotor on RCP 2A seizes and pump trips off

Rx Trip on low-flow

Loss of Offsite Power occurs

Standby Diesel Generators start and load to unit auxiliaries

VEGP 3 & 4 On-Shift Staffing Analysis

APPENDIX B

Event #4: DBA/ISG – Reactor Coolant Pump Shaft Seizure (Locked Rotor)

ECL: UE

TABLE 1 – On-shift Positions

Line	On-shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table#/Line#	Unanalyzed Task?	TMS/ Action Required?
1.	Shift Manager (SM2)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T5/L1 T5/L3 T5/L8 T5/L10 T5/L14	No	No
2.	Shift Supervisor (SRO2)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L1	No	No
3.	Reactor Operator (RO3)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L2	No	No
4.	Reactor Operator (RO5)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L3	No	No
5.	Licensed Operator (COM1)	Standard Emergency Plan Vogtle 3&4 Annex	90	T5/L5 T5/L6 T5/L9 T5/L11 T5/L13	No	No
6.	System Operator (SO3)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L4	No	No
7.	System Operator (SO5/FBM1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L5	No	No
8.	RP Technician (RP3/FMT)	Standard Emergency Plan Vogtle 3&4 Annex	90	T4/L5	No	No
9.	Chemistry Technician (CT1)	Standard Emergency Plan Vogtle 3&4 Annex	90	T2/L6 T4/L7	No	No
10.	Chemistry Technician (CT2/DA)	Standard Emergency Plan Vogtle 3&4 Annex	90	T4/L4 T5/L12	No	No

Notes: Although multiple functions have been identified for some positions, no conflict exists requiring further action. Performance of these functions by the identified positions is either acceptable by NEI 10-05 guidance, **OR** the functions are the same, **OR** the functions are

VEGP 3 & 4 On-Shift Staffing Analysis

performed sequentially without issue



Position utilizes Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 2 - Plant Operations & Safe Shutdown

Event # 4

Two Units – Two Control Rooms
Minimum Operations Crew Necessary to Implement
AOPs and EOPs, or SAMGs if applicable

Applicable to Unit 4

Line	Generic Title/Role	On-Shift Position	Task Performance Validation
1.	Shift Supervisor	Shift Supervisor (SRO2)	Operations Training
2.	Reactor Operator	Reactor Operator (RO3)	Operations Training
3.	Reactor Operator	Reactor Operator (RO5)	Operations Training
4.	System Operator	System Operator (SO3)	Operations Training
5.	System Operator	System Operator (SO5/FBM1)	Operations Training

Notes: See Table 2A for AOP/EOP response actions

Other (non-Operations) Personnel Necessary to Implement
AOPs and EOPs, or SAMGs if applicable

Line	Generic Title/Role	On-Shift Position	Task Performance Validation
6.	Chemistry Technician	Chemistry Technician (CT1)	Chemistry Training

Notes: See Table 2A for AOP/EOP response actions

VEGP 3 & 4 On-Shift Staffing Analysis

Event #: 4

Title: Table 2A – RCP Shaft Seizure

Procedure Step/Actions			Performance Time (mins) After Procedure Implementation																	
Proc/Step	Task	Assigned Resource	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90
4-EOP-E-0, Rx Trip or Safeguards Actuation																				
Steps 1-4	Post Trip Verifications	SRO2 RO3	X																	
4-EOP-ES-0.1, Rx Trip Response																				
Steps 1-37	Stabilize Plants (periodic, ongoing CR actions)	SRO2 RO3		X (periodic)																
	Direct entry into 3AOP-302 Loss of 6.9Kv or 480v Bus Power	SRO2 RO5	X																	
	CSF-F-0 Critical Safety Function Status Tree	RO5	X (periodic)																	
4-AOP-302, Loss of 6.9Kv or 480v Bus Power																				
Step 2	Verify DG loading	RO5	X (periodic)																	
Att. 1, Step 22	Re-establish IDS Battery Charger Power IAW 3-IDS-SOP-001	SO3											X							
4-AOP-302 Steps 3-6	Restore Power to ECS-EK-13/14 and -23/24 IAW 3-ECS-SOP-002	SO5/FBM1												X						
4-AOP-501, Main Control Room Isolation																				
	Main Control Room Isolation	RO5			X															
4-EOP-ES-0.1, Rx Trip Response																				
Step 28	Direct Chemistry Sampling of RCS	RO3									X									
	Chemistry Sampling of RCS and SG	CT1										X								

Task completion time

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 3 – Firefighting

Event # 4

Line	Performed By	Task Analysis Controlling Method
1.	N/A	N/A
2.	N/A	N/A
3.	N/A	N/A
4.	N/A	N/A
5.	N/A	N/A



Notes: Fire Brigade response not required for this event.

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 4 – Radiation Protection & Chemistry

Event # 4

Line	Position Performing Function/Task	Performance Time Period After Event Initiation (Minutes)															
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-90
1.	Out of Plant Survey On-Shift Position:																
2.	Personnel Monitoring On-Shift Position:																
3.	Job Coverage On-Shift Position:																
4.	Offsite Radiological Assessment On-Shift Position: CT2/DA							x									
5.	Other Site-Specific RP Describe: FMT On-Shift Position: RP3/FMT							x									
6.	Other Site-Specific RP Describe: On-Shift Position:																
7.	Chemistry function/task #1 Describe: Sample RCS and S/Gs (approximately 1 hour to perform) On-Shift Position: CT1										x						

 Task completion time
 Function performed by Vogtle 1&2 On-shift resource


VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 5 – Emergency Plan Implementation

Event # 4

Line	Function/Task	On-Shift Position	Task Analysis Controlling Method
1.	Declare the Emergency Classification Level (ECL)	SM2	EP/Ops Training and EP Drill Program
2.	Approve Offsite Protective Action Recommendations	N/A	EP/Ops Training and EP Drill Program
3.	Approve content of State/local notifications	SM2	EP/Ops Training and EP Drill Program
4.	Approve extension to allowable dose limits	N/A	EP/Ops Training and EP Drill Program
5.	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	COM1	EP/Ops Training and EP Drill Program
6.	ERO notification	COM1	EP/Ops Training and EP Drill Program
7.	Abbreviated NRC Notification for DBT event	N/A	EP/Ops Training and EP Drill Program
8.	Complete State/local notification form	SM2	EP/Ops Training and EP Drill Program
9.	Perform State/local notifications	COM1	EP/Ops Training and EP Drill Program
10.	Complete NRC event notification form	SM2	EP/Ops Training and EP Drill Program
11.	Activate ERDS	COM1	EP/Ops Training and EP Drill Program
12.	Offsite radiological assessment	CT2/DA	EP/Ops Training and EP Drill Program
13.	Perform NRC notifications	COM1	EP/Ops Training and EP Drill Program
14.	Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	SM2	EP/Ops Training and EP Drill Program
15.	Personnel accountability	N/A	EP/Ops Training and EP Drill Program



Notes: EAL – SU1 (UE)

 Function performed by Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis

Table 5A - E-Plan Implementation Timeline/Event # 4

Function/Task	On-shift Position	Time from Event Initiation (minutes)																	
		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
Declare the Emergency	SM2	SU1																	
Approve Offsite PARs	N/A																		
Approve State/local notifications	SM2					x											x		
Approve extension to allowable dose limits	N/A																		
Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	COM1				x										x				
ERO notification	COM1				x														
Abbreviated NRC notification for DBT event	N/A																		
Complete State/local notification form	SM2				x										x				
Perform State/local notifications	COM1						x										x		x
Complete NRC event notification form	SM2							x											
Activate ERDS	COM1						x												
Offsite radiological assessment	CT2/DA				x														
Perform NRC notifications	COM1									x									
Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	SM2									x									
Personnel accountability	N/A																		

 Task completion time
 Function performed by Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis

Event #6 Rod Cluster Control Assembly (RCCA) Ejection Accident

Initial Conditions:

Time: Monday @ 2100

Unit 3 100% Power @ BOC (Beginning of Cycle), NOP & NOT

Sequence of Events:

2100 RCCA H8 (Control Bank rod) is ejected due to unidentified SCC around the CRDM housing (circumferential crack)

Rx trips on high neutron flux

SB LOCA conditions exist

2105 Safeguards initiation signal received

VEGP 3 & 4 On-Shift Staffing Analysis

APPENDIX B

Event #6: DBA/ISG – RCCA Ejection Accident (SB LOCA)

ECL: Alert

TABLE 1 – On-shift Positions

Line	On-shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table#/Line#	Unanalyzed Task?	TMS/ Action Required?
1.	Shift Manager (SM1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T5/L1 T5/L3 T5/L8 T5/L10 T5/L14	No	No
2.	Shift Supervisor (SRO1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L1 T5/L5	No	No
3.	Reactor Operator (RO1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L2	No	No
4.	Reactor Operator (RO2)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L3	No	No
5.	Licensed Operator (COM1)	Standard Emergency Plan Vogtle 3&4 Annex	90	T5/L5 T5/L6 T5/L9 T5/L11 T5/L13	No	No
6.	System Operator (SO1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L4	No	No
7.	System Operator (SO2)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L5	No	No
8.	RP Technician (RP1)	Standard Emergency Plan Vogtle 3&4 Annex	90	T2/L6 T4/L1	No	No
9.	RP Technician (RP3/FMT)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T4/L6	No	No
10.	Chemistry Technician (CT1)	Standard Emergency Plan Vogtle 3&4 Annex	90	T2/L7 T4/L8	No	No
11.	Chemistry Technician (CT2/DA)	Standard Emergency Plan Vogtle 3&4 Annex	90	T4/L5 T5/L12	No	No

VEGP 3 & 4 On-Shift Staffing Analysis

Notes: Although multiple functions have been identified for some positions, no conflict exists requiring further action. Performance of these functions by the identified positions is either acceptable by NEI 10-05 guidance, **OR** the functions are the same, **OR** the functions are performed sequentially without issue.

 Position utilizes Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 2 - Plant Operations & Safe Shutdown

Event # 6

Two Units – Two Control Rooms
Minimum Operations Crew Necessary to Implement
AOPs and EOPs, or SAMGs if applicable

Applicable to Unit 3

Line	Generic Title/Role	On-Shift Position	Task Performance Validation
1.	Shift Supervisor	Shift Supervisor (SRO1)	Operations Training
2.	Reactor Operator	Reactor Operator (RO1)	Operations Training
3.	Reactor Operator	Reactor Operator (RO2)	Operations Training
4.	System Operator	System Operator (SO1)	Operations Training
5.	System Operator	System Operator (SO2)	Operations Training

Notes: See Table 2A for AOP/EOP response actions

Other (non-Operations) Personnel Necessary to Implement
AOPs and EOPs, or SAMGs if applicable

Line	Generic Title/Role	On-Shift Position	Task Performance Validation
6.	RP Technician	RP Technician (RP1)	RP Training
7.	Chemistry Technician	Chemistry Technician (CT1)	Chemistry Training

Notes: See Table 2A for AOP/EOP response actions

VEGP 3 & 4 On-Shift Staffing Analysis

Event #: 6

Title: Table 2A – RCCA Ejection (SB LOCA)

Procedure Step/Actions			Performance Time (mins) After Procedure Implementation																		
Proc/Step	Task	Assigned Resource	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	
3-EOP-E-0, Rx Trip or Safeguards Actuation																					
Steps 1-22	Post Trip response w/ Safeguards Actuation	SRO1 RO1	X																		
Attachment 1	RNS Alignment for IRWST Cooling	RO2			X																
Step 23	Initiate CSF Status Tree Monitoring IAW 3-EOP-F-0	RO2			X (periodic)																
Step 24	Request Local Rad Surveys of Aux and Turbine Bldgs & both Steam Lines	RO1					X														
	Perform local surveys in response to event	RP1					X														
3-EOP-ES-1.3, ADS Stage 1-3 Actuation Response																					
Step 1-41	ADS Actuation Response	SRO1 RO1					X														
Step 42	Local SWS (service water) alignment	SO1									X										
Step 44	Local CCS (Component Cooling Water) Alignment	SO2											X								
3-EOP-E-1, Loss of Reactor or Secondary Coolant																					
Steps 1-29	Depressurize and Stabilize Plant	SRO1 RO1											X								
Step 30	Chemistry Sampling of RCS and SG's	CT1													X						
Step 36	Place AUX Boiler In Service	SO1															X				

Task completion time

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 3 – Firefighting

Event # 6

Line	Performed By	Task Analysis Controlling Method
1.	N/A	N/A
2.	N/A	N/A
3.	N/A	N/A
4.	N/A	N/A
5.	N/A	N/A



Notes: Fire Brigade response not required for this event.

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 4 – Radiation Protection & Chemistry

Event # 6

Line	Position Performing Function/Task	Performance Time Period After Event Initiation (Minutes)															
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-90
1.	In-Plant Survey Aux & Turbine Buildings/SG Lines On-Shift Position: RP1				x												
2.	Out of Plant Survey On-Shift Position:																
3.	Personnel Monitoring On-Shift Position:																
4.	Job Coverage On-Shift Position:																
5.	Offsite Radiological Assessment On-Shift Position: CT2/DA					x											
6.	Other Site-Specific RP Describe: FMT On-Shift Position: RP3/FMT					x											
7.	Other Site-Specific RP Describe: On-Shift Position:																
8.	Chemistry function/task #1 Describe: Sample RCS/SGs On-Shift Position: CT1													x			

 Task completion time
 Function performed by Vogtle 1&2 On-shift resource


VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 5 – Emergency Plan Implementation

Event # 6

Line	Function/Task	On-Shift Position	Task Analysis Controlling Method
1.	Declare the Emergency Classification Level (ECL)	SM1	EP/Ops Training and EP Drill Program
2.	Approve Offsite Protective Action Recommendations	N/A	EP/Ops Training and EP Drill Program
3.	Approve content of State/local notifications	SM1	EP/Ops Training and EP Drill Program
4.	Approve extension to allowable dose limits	N/A	EP/Ops Training and EP Drill Program
5.	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	SRO1 COM1	EP/Ops Training and EP Drill Program
6.	ERO notification	COM1	EP/Ops Training and EP Drill Program
7.	Abbreviated NRC Notification for DBT event	N/A	EP/Ops Training and EP Drill Program
8.	Complete State/local notification form	SM1	EP/Ops Training and EP Drill Program
9.	Perform State/local notifications	COM1	EP/Ops Training and EP Drill Program
10.	Complete NRC event notification form	SM1	EP/Ops Training and EP Drill Program
11.	Activate ERDS	COM1	EP/Ops Training and EP Drill Program
12.	Offsite radiological assessment	CT2/DA	EP/Ops Training and EP Drill Program
13.	Perform NRC notifications	COM1	EP/Ops Training and EP Drill Program
14.	Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	SM1	EP/Ops Training and EP Drill Program
15.	Personnel accountability	N/A	EP/Ops Training and EP Drill Program



Notes: EAL – FA1 (Alert)

 Function performed by Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis

Table 5A - E-Plan Implementation Timeline/Event # 6

Function/Task	On-shift Position	Time from Event Initiation (minutes)																			
		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90		
Declare the Emergency	SM1	FA1																			
Approve Offsite PARs	N/A																				
Approve State/local notifications	SM1						X										X				
Approve extension to allowable dose limits	N/A																				
Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	SRO1	X																			
Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	COM1				X												X				
ERO notification	COM1				X																
Abbreviated NRC notification for DBT event	N/A																				
Complete State/local notification form	SM1				X										X						
Perform State/local notifications	COM1						X										X				
Complete NRC event notification form	SM1							X													
Activate ERDS	COM1				X																
Offsite radiological assessment	CT2/DA	X																			
Perform NRC notifications	COM1									X											
Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	SM1									X											
Personnel accountability	N/A																				

 Task completion time
 Function performed by Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis

Event #7 Steam Generator Tube Rupture (SGTR)

Initial Conditions:

Time: Tuesday @ 0430

Unit 3 100% Power, NOP & NOT

Sequence of Events:

- 0430 RE011 (SG2) Steam Generator Blowdown Rad monitor and B MS Line Rad monitors
RE027A/RE027B begin to increase above background

Slight increase observed in SG2 level

Pressurizer level and pressure observed to be decreasing

- 0432 Reactor operators initiate actions to increase pressurizer level and pressure and trouble shoot
S/G tube leakage

- 0435 SGTR occurs – double ended guillotine break of tube at top of tube sheet on cold leg side of the
SG2

Secondary rad monitors in alarm

Rx Trip occurs

Loss of Offsite Power occurs – Standby Diesel Generators start and load to auxiliary buses
Safeguards signal initiated

- 0517 PORV on SG2 fails open when low-2 Pressurizer (Prz) level signal is received (10% Prz level)

- 0525 PORV block valve closes on low steam line pressure signal (or manually actuated by control
room operator)

VEGP 3 & 4 On-Shift Staffing Analysis

APPENDIX B

Event #7: DBA/ISG – Steam Generator Tube Rupture (SGTR)

ECL: Alert


TABLE 1 – On-shift Positions

Line	On-shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table#/Line#	Unanalyzed Task?	TMS/ Action Required?
1.	Shift Manager (SM1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T5/L1 T5/L3 T5/L8 T5/L14	No	No
2.	Shift Supervisor (SRO1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L1 T5/L5	No	No
3.	Shift Support Supervisor (SRO3/FBL)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T5/L5 T5/L6 T5/L9 T5/L10 T5/L13	No	No
4.	Reactor Operator (RO1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L2	No	No
5.	Reactor Operator (RO2)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L3 T5/L11	No	No
6.	Licensed Operator (COM1)	Standard Emergency Plan Vogtle 3&4 Annex	90	T2/L4	No	No
7.	System Operator (SO1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L5	No	No
8.	System Operator (SO2)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L6	No	No
9.	System Operator (SO5/FBM1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L7	No	No
10.	System Operator (SO6/FBM2)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L8	No	No

VEGP 3 & 4 On-Shift Staffing Analysis

Line	On-shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table#/Line#	Unanalyzed Task?	TMS/ Action Required?
11.	RP Technician (RP1)	Standard Emergency Plan Vogtle 3&4 Annex	90	T2/L9 T4/L1 T4/L4	No	No
12.	RP Technician (RP3/FMT)	Standard Emergency Plan Vogtle 3&4 Annex	90	T4/L6	No	No
13.	Chemistry Technician (CT1)	Standard Emergency Plan Vogtle 3&4 Annex	90	T2/L10 T4/L7	No	No
14.	Chemistry Technician (CT2/DA)	Standard Emergency Plan Vogtle 3&4 Annex	90	T4/L5 T5/L12	No	No

Notes: Although multiple functions have been identified for some positions, no conflict exists requiring further action. Performance of these functions by the identified positions is either acceptable by NEI 10-05 guidance, **OR** the functions are the same, **OR** the functions are performed sequentially without issue.

 Position utilizes Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 2 - Plant Operations & Safe Shutdown

Event # 7

Two Units – Two Control Rooms
Minimum Operations Crew Necessary to Implement
AOPs and EOPs, or SAMGs if applicable

Applicable to Unit 3

Line	Generic Title/Role	On-Shift Position	Task Performance Validation
1.	Shift Supervisor	Shift Supervisor (SRO1)	Operations Training
2.	Reactor Operator	Reactor Operator (RO1)	Operations Training
3.	Reactor Operator	Reactor Operator (RO2)	Operations Training
4.	Licensed Operator	ENN/ENS Communicator (COM1)	Operations Training
5.	System Operator	System Operator (SO1)	Operations Training
6.	System Operator	System Operator (SO2)	Operations Training
7.	System Operator	System Operator (SO5/FBM1)	Operations Training
8.	System Operator	System Operator (SO6/FBM2)	Operations Training

Notes: See Table 2A for AOP/EOP response actions

Other (non-Operations) Personnel Necessary to Implement
AOPs and EOPs, or SAMGs if applicable

Line	Generic Title/Role	On-Shift Position	Task Performance Validation
9.	RP Technician	RP Technician (RP1)	RP Training
10.	Chemistry Technician	Chemistry Technician (CT1)	Chemistry Training

Notes: See Table 2A for AOP/EOP response actions

VEGP 3 & 4 On-Shift Staffing Analysis

Event #: 7

Title: Table 2A – Steam Generator Tube Rupture

Procedure Step/Actions			Performance Time (mins) After Procedure Implementation																					
Proc/Step	Task	Assigned Resource	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90				
3-AOP-103 – Steam Generator Tube Leak																								
Step 1-5	Notify Chem/RP	RO1	X																					
	Direct sampling on SG	RO1	X																					
	Perform Sampling and analysis of SGs	CT1	X																					
	RP survey of Resin Columns	RP1	X																					
	Rx Trip and LOOP	RO1		X																				
3-EOP-E-0 – Rx Trip or Safeguards Actuation																								
Step 1-22	Post Trip Response Actions	SR01 RO1		X																				
3EOP-E-0 Attachment 1	RNS Alignment for IRWST Cooling	RO2					X																	
Attachment 1 Step 23	Local SWS (service water) alignment	SO1								X														
Attachment 1 Step 25	Local CCS (Component Cooling Water) Alignment	SO2								X														
3EOP-E-0 Step 23	Monitor CSF Status Trees IAW 3EOP-F-0 CSF Status Trees	RO2					X (periodic)																	
Step 24	Request RP Local surveys of Steam Lines, Aux, Rad and Turbine Bldgs	RO1									X													
Step 26	Transition to 3EOP-E-3 for SGTR	SR01 RO1										X												
3-EOP-E-3, Steam Generator Tube Rupture																								
Step 6.b	Locally Isolate Hotwell Overflow Valves	SO5/FBM1 RP1										X												
	Direct entry into 3AOP-302 Loss of AC Power	SR01		X																				
3-AOP-302, Loss of 6.9 Kv or 480v Buss Power (Loss of AC)																								
Step 2	Verify DG loading	COM1		X (periodic)																				

VEGP 3 & 4 On-Shift Staffing Analysis

Event #: 7

Title: Table 2A – Steam Generator Tube Rupture

Procedure Step/Actions			Performance Time (mins) After Procedure Implementation																	
Proc/Step	Task	Assigned Resource	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90
Step 6	Restore Power to EK-13/14 and EK-23/24	COM1 SO6/FBM2											X							
Attachment 1 Step 22	Re-establish IDS Battery Charger Power IAW 3IDS-SOP-001,	SO1 SO2										X								
3-AOP-501, Loss of Main Control Room AC																				
	Main Control Room Isolation Actions	COM1				X														
3-EOP-E-2 Faulted Steam Generator Isolation																				
Step 1-6	Isolate ruptured SG	SRO1 RO1												X						
Step 7	Transition to E-3	SRO1 RO1														X				

 Task completion time

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 3 – Firefighting

Event # 7

Line	Performed By	Task Analysis Controlling Method
1.	N/A	N/A
2.	N/A	N/A
3.	N/A	N/A
4.	N/A	N/A
5.	N/A	N/A

Notes: Fire Brigade response not required for this event.



VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 4 – Radiation Protection & Chemistry

Event # 7

Line	Position Performing Function/Task	Performance Time Period After Event Initiation (Minutes)															
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-90
1.	In-Plant Survey - Survey SG resin columns for activity and Aux/Turbine Buildings/SGs On-Shift Position: RP1	X															
2.	Out of Plant Survey On-Shift Position:																
3.	Personnel Monitoring On-Shift Position:																
4.	Job Coverage - Hotwell Overflow Valve isolation On-Shift Position: RP1										X						
5.	Offsite Radiological Assessment On-Shift Position: CT2/DA					X											
6.	Other Site-Specific RP Describe: FMT On-Shift Position: RP3/FMT					X											
7.	Chemistry function/task #1 Describe: Sample and analyze SGs to verify leaking SG and determine leak rate On-Shift Position: CT1	X															

Notes: Chemistry Technician is unable to complete leak rate determination due to isolation of SG blowdown.

 Task completion time
 Function performed by Vogtle 1&2 On-shift resource


VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 5 – Emergency Plan Implementation

Event # 7

Line	Function/Task	On-Shift Position	Task Analysis Controlling Method
1.	Declare the Emergency Classification Level (ECL)	SM1	EP/Ops Training and EP Drill Program
2.	Approve Offsite Protective Action Recommendations	N/A	EP/Ops Training and EP Drill Program
3.	Approve content of State/local notifications	SM1	EP/Ops Training and EP Drill Program
4.	Approve extension to allowable dose limits	N/A	EP/Ops Training and EP Drill Program
5.	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	SRO1 SRO3/FBL	EP/Ops Training and EP Drill Program
6.	ERO notification	SRO3/FBL	EP/Ops Training and EP Drill Program
7.	Abbreviated NRC Notification for DBT event	N/A	EP/Ops Training and EP Drill Program
8.	Complete State/local notification form	SM1	EP/Ops Training and EP Drill Program
9.	Perform State/local notifications	SRO3/FBL	EP/Ops Training and EP Drill Program
10.	Complete NRC event notification form	SRO3/FBL	EP/Ops Training and EP Drill Program
11.	Activate ERDS	RO2	EP/Ops Training and EP Drill Program
12.	Offsite radiological assessment	CT2/DA	EP/Ops Training and EP Drill Program
13.	Perform NRC notifications	SRO3/FBL	EP/Ops Training and EP Drill Program
14.	Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	SM1	EP/Ops Training and EP Drill Program
15.	Personnel accountability	N/A	EP/Ops Training and EP Drill Program



Notes: EAL – FA1 (Alert)

 Function performed by Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis

Table 5A - E-Plan Implementation Timeline/Event # 7

Function/Task	On-shift Position	Time from Event Initiation (minutes)																		
		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	
Declare the Emergency	SM1	FA1																		
Approve Offsite PARs	N/A																			
Approve State/local notifications	SM1						x										x			
Approve extension to allowable dose limits	N/A																			
Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	SRO1	x																		
Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	SRO3/FBL				x												x			
ERO notification	SRO3/FBL				x															
Abbreviated NRC notification for DBT event	N/A																			
Complete State/local notification form	SM1				x										x					
Perform State/local notifications	SRO3/FBL						x										x			
Complete NRC event notification form	SRO3/FBL							x												
Activate ERDS	RO2					x														
Offsite radiological assessment	CT2/DA				x															
Perform NRC notifications	SRO3/FBL									x										
Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	SM1									x										
Personnel accountability	N/A																			

 Task completion time
 Function performed by Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis

Event #8 Large Break LOCA with release exceeding PAGs requiring PARs (Fast Breaker)

Initial Conditions:

Time: Monday @ 0330

Unit 4 100% Power, NOP & NOT

'A' RNS pump OOS for planned maintenance

Sequence of Events:

0330 LB LOCA occurs on 2A Cold Leg (split break)

Rx trips

0331 Containment Hi Range monitors RE160, RE161, RE162, and RE163 reading > High 1 Alarm

0335 Rapid unexplained decrease in Containment Pressure observed

RE104B, PV Extended Range Gas (Accident High Range), reading > 85,000 $\mu\text{Ci/cc}$

0415 CR personnel determine that 'B' RNS did not start when demanded and is unavailable (control breaker failure)

VEGP 3 & 4 On-Shift Staffing Analysis

APPENDIX B

Event #8: DBA/ISG – Large Break LOCA (LB LOCA) with release and PARs

ECL: General Emergency


TABLE 1 – On-shift Positions

Line	On-shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table#/Line#	Unanalyzed Task?	TMS/ Action Required?
1.	Shift Manager (SM2)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T5/L1 T5/L2 T5/L3 T5/L4 T5/L8 T5/L10 T5/L14	No	No
2.	Shift Supervisor (SRO2)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L1 T5/L5	No	No
3.	Reactor Operator (RO3)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L2	No	No
4.	Reactor Operator (RO5)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L3	No	No
5.	Licensed Operator (COM1)	Standard Emergency Plan Vogtle 3&4 Annex	90	T5/L5 T5/L6 T5/L9 T5/L11 T5/L13	No	No
6.	System Operator (SO3)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L4	No	No
7.	System Operator (SO4)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L5	No	No
8.	System Operator (SO5/FBM1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L6	No	No
9.	RP Technician (RP1)	Standard Emergency Plan Vogtle 3&4 Annex	90	T2/L7 T4/L1	No	No
10.	RP Technician (RP3/FMT)	Standard Emergency Plan Vogtle 3&4 Annex	90	T4/L5	No	No

VEGP 3 & 4 On-Shift Staffing Analysis

Line	On-shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table#/Line#	Unanalyzed Task?	TMS/ Action Required?
11.	Chemistry Technician (CT2/DA)	Standard Emergency Plan Vogtle 3&4 Annex	90	T4/L4 T5/L12	No	No
12.	SAS Operator (SEC1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T5/L15	No	No

Notes: Although multiple functions have been identified for some positions, no conflict exists requiring further action. Performance of these functions by the identified positions is either acceptable by NEI 10-05 guidance, **OR** the functions are the same, **OR** the functions are performed sequentially without issue.

 Positions filled by Vogtle 1&2 personnel

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 2 - Plant Operations & Safe Shutdown

Event # 8

Two Units – Two Control Rooms
Minimum Operations Crew Necessary to Implement
AOPs and EOPs, or SAMGs if applicable

Applicable to Unit 4

Line	Generic Title/Role	On-Shift Position	Task Performance Validation
1.	Shift Supervisor	Shift Supervisor (SRO2)	Operations Training
2.	Reactor Operator	Reactor Operator (RO3)	Operations Training
3.	Reactor Operator	Reactor Operator (RO5)	Operations Training
4.	System Operator	System Operator (SO3)	Operations Training
5.	System Operator	System Operator (SO4)	Operations Training
6.	System Operator	System Operator (SO5/FBM1)	Operations Training

Notes: See Table 2A for AOP/EOP response actions

Other (non-Operations) Personnel Necessary to Implement
AOPs and EOPs, or SAMGs if applicable

Line	Generic Title/Role	On-Shift Position	Task Performance Validation
7.	RP Technician	RP Technician (RP1)	RP Training


Notes: See Table 2A for AOP/EOP response actions

VEGP 3 & 4 On-Shift Staffing Analysis

Event #: 8

Title: Table 2A – Large Break LOCA with release

Procedure Step/Actions			Performance Time (mins) After Procedure Implementation																	
Proc/Step	Task	Assigned Resource	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90
4-EOP-E-0, Rx Trip or Safeguards Actuation																				
Steps 1-7	Post Trip response w/ Safeguards Actuation	SRO2 RO3	X																	
	Monitor CSF Status Trees IAW 34EOP-F-0 (intermittent)	RO5			X (periodic)															
4-EOP-ES-1.3 ADS Stage 1-3 Actuation Response																				
1-15	ADS Stage 1-3 Actuation Response Actions	RO3			X															
4-EOP-ES-1.4, ADS Stage 4 Actuation Response																				
1-5	ADS Stage 4 Actuation Response Actions	RO3						X												
Step 6	Check RNS Intact	SO3							X											
Step 22	Manually Start RNS Pumps (B pump does not start)	RO3								X										
Step 38	Align Service water	SO4										X								
Step 40	Align CCS	SO5/FBM1										X								
4-EOP-E-0 (Continued)																				
Step 8-26	Post Trip response w/ Safeguards Actuation	SRO2 RO3										X								
Step 24	Request Local Rad Surveys of both Steam Lines, Aux and Turbine Bldgs	RO3										X								
	Perform local surveys in response to event	RP1											X							
Step 27	Perform 4-EOP-E-1 LOCA	SRO2 RO3														X				

 Task completion time

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 3 – Firefighting

Event # 8

Line	Performed By	Task Analysis Controlling Method
1.	N/A	N/A
2.	N/A	N/A
3.	N/A	N/A
4.	N/A	N/A
5.	N/A	N/A

Notes: Fire Brigade response not required for this event.

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 4 – Radiation Protection & Chemistry

Event # 8

Line	Position Performing Function/Task	Performance Time Period After Event Initiation (Minutes)															
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-90
1.	In-Plant Survey On-Shift Position: RP1											x					
2.	Out of Plant Survey On-Shift Position:																
3.	Personnel Monitoring On-Shift Position:																
4.	Offsite Radiological Assessment On-Shift Position: CT2/DA					x											
5.	Other Site-Specific RP Describe: FMT Support On-Shift Position: RP3/FMT					x											
6.	Other Site-Specific RP Describe: On-Shift Position:																
7.	Chemistry function/task #1 Describe: On-Shift Position:																

Task completion time

Function performed by Vogtle 1&2 On-shift resource


VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 5 – Emergency Plan Implementation

Event # 8

Line	Function/Task	On-Shift Position	Task Analysis Controlling Method
1.	Declare the Emergency Classification Level (ECL)	SM2	EP/Ops Training and EP Drill Program
2.	Approve Offsite Protective Action Recommendations	SM2	EP/Ops Training and EP Drill Program
3.	Approve content of State/local notifications	SM2	EP/Ops Training and EP Drill Program
4.	Approve extension to allowable dose limits	SM2	EP/Ops Training and EP Drill Program
5.	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	SRO2 COM1	EP/Ops Training and EP Drill Program
6.	ERO notification	COM1	EP/Ops Training and EP Drill Program
7.	Abbreviated NRC Notification for DBT event	N/A	EP/Ops Training and EP Drill Program
8.	Complete State/local notification form	SM2	EP/Ops Training and EP Drill Program
9.	Perform State/local notifications	COM1	EP/Ops Training and EP Drill Program
10.	Complete NRC event notification form	SM2	EP/Ops Training and EP Drill Program
11.	Activate ERDS	COM1	EP/Ops Training and EP Drill Program
12.	Offsite radiological assessment	CT2/DA	EP/Ops Training and EP Drill Program
13.	Perform NRC notifications	COM1	EP/Ops Training and EP Drill Program
14.	Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	SM2	EP/Ops Training and EP Drill Program
15.	Personnel accountability	SEC1	EP/Ops Training and EP Drill Program



Notes: EAL – FG1 (General Emergency)

 Function performed by Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis

Table 5A - E-Plan Implementation Timeline/Event # 8

Function/Task	On-shift Position	Time from Event Initiation (minutes)																			
		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90		
Declare the Emergency	SM2	FG1																			
Approve Offsite PARs	SM2						X										X				
Approve State/local notifications	SM2						X										X				
Approve extension to allowable dose limits	SM2				X (as necessary)																
Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	SRO2	X																			
Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	COM1				X												X				
ERO notification	COM1				X																
Abbreviated NRC notification for DBT event	N/A																				
Complete State/local notification form	SM2				X										X						
Perform State/local notifications	COM1						X										X				
Complete NRC event notification form	SM2							X													
Activate ERDS	COM1				X																
Offsite radiological assessment	CT2/DA				X																
Perform NRC notifications	COM1									X											
Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	SM2									X											
Personnel accountability	SEC1				X																

 Task completion time
 Function performed by Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis

Event #10 Aircraft Probable Threat

Initial Conditions:

Time: Monday @ 0130

Unit 3 100% Power, NOP & NOT

Sequence of Events:

0130 Aircraft probable threat call received from NRC Headquarters.
Control Room personnel verify notification per procedure.
Aircraft is 25 minutes from the site.

VEGP 3 & 4 On-Shift Staffing Analysis

APPENDIX B

Event #10: DBA/ISG – Aircraft Probable Threat

ECL: Alert

TABLE 1 – On-shift Positions


Line	On-shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table#/Line#	Unanalyzed Task?	TMS/ Action Required?
1.	Shift Manager (SM1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L1	No	No
2.	Shift Manager (SM2)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L2	No	No
3.	Shift Manager (SM3)	Standard Emergency Plan Vogtle 1&2 Annex	N/A	T5/L1 T5/L3 T5/L8 T5/L14	No	No
4.	Shift Supervisor (SRO1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L3	No	No
5.	Shift Supervisor (SRO2)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L4	No	No
6.	Shift Support Supervisor (SRO3/FBL)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L5 T3/L1	No	No
7.	Shift Support Supervisor (SRO4/FBL2)	Standard Emergency Plan Vogtle 1&2 Annex	N/A	T5/L13	No	No
8.	Reactor Operator (RO1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L6	No	No
9.	Reactor Operator (RO2)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L7 T5/L11	No	No
10.	Reactor Operator (RO3)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L8	No	No
11.	Reactor Operator (RO5)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L9	No	No
12.	Reactor Operator (RO4/COM1)	Standard Emergency Plan Vogtle 1&2 Annex	90	T5/L5 T5/L6 T5/L9 T5/L10	No	No

VEGP 3 & 4 On-Shift Staffing Analysis

Line	On-shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table#/Line#	Unanalyzed Task?	TMS/ Action Required?
13.	Licensed Operator (COM1)	Standard Emergency Plan Vogtle 3&4 Annex	90	T2/L10	No	No
14.	System Operator (SO1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L11	No	No
15.	System Operator (SO2)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L12	No	No
16.	System Operator (SO3)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L13	No	No
17.	System Operator (SO4)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L14	No	No
18.	System Operator (SO5/FBM1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L15 T3/L2	No	No
19.	System Operator (SO6/FBM2)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L16 T3/L3	No	No
20.	System Operator (SO7/FBM3)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L17 T3/L4	No	No
21.	System Operator (SO8/FBM4)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L18 T3/L5	No	No
22.	Security Officer (SEC3)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L19	No	No

Notes: Although multiple functions have been identified for some positions, no conflict exists requiring further action. Performance of these functions by the identified positions is either acceptable by NEI 10-05 guidance, **OR** the functions are the same, **OR** the functions are performed sequentially without issue.

All Emergency Planning functions, except for U3 ERDS activation, performed from the Vogtle Units 1&2 Personnel for this event.

 Position utilizes Vogtle 1&2 On-shift resources

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 2 - Plant Operations & Safe Shutdown

Event # 10

Two Units – Two Control Rooms
Minimum Operations Crew Necessary to Implement
AOPs and EOPs, or SAMGs if applicable

Applicable to Unit 3&4

Line	Generic Title/Role	On-Shift Position	Task Performance Validation
1.	Shift Manager	Shift Manager (SM1)	Operations Training
2.	Shift Manager	Shift Manager (SM2)	Operations Training
3.	Shift Supervisor	Shift Supervisor (SRO1)	Operations Training
4.	Shift Supervisor	Shift Supervisor (SRO2)	Operations Training
5.	Shift Support Supervisor	Shift Support Supervisor (SRO3/FBL)	Operations Training
6.	Reactor Operator	Reactor Operator (RO1)	Operations Training
7.	Reactor Operator	Reactor Operator (RO2)	Operations Training
8.	Reactor Operator	Reactor Operator (RO3)	Operations Training
9.	Reactor Operator	Reactor Operator (RO5)	Operations Training
10.	Licensed Operator	ENN/ENS Communicator (COM1)	Operations Training
11.	System Operator	System Operator (SO1)	Operations Training
12.	System Operator	System Operator (SO2)	Operations Training
13.	System Operator	System Operator (SO3)	Operations Training
14.	System Operator	System Operator (SO4)	Operations Training
15.	System Operator	System Operator (SO5/FBM1)	Operations Training
16.	System Operator	System Operator (SO6/FBM2)	Operations Training
17.	System Operator	System Operator (SO7/FBM3)	Operations Training
18.	System Operator	System Operator (SO8/FBM4)	Operations Training

Notes: See Table 2A for AOP/EOP response actions

Other (non-Operations) Personnel Necessary to Implement
AOPs and EOPs, or SAMGs if applicable

Line	Generic Title/Role	On-Shift Position	Task Performance Validation
19.	Security Officer	Security Officer (SEC3)	Security/EP Training

Notes: See Table 2A for AOP/EOP response actions

VEGP 3 & 4 On-Shift Staffing Analysis

Event #: 10

Title: Table 2A – Aircraft Probable Threat


Procedure Step/Actions			Performance Time (mins) After Procedure Implementation																	
Proc/Step	Task	Assigned Resource	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90
3(4)-AOP-904, Security Events																				
Attachment 2 Step 4	Begin Unit rapid down power (~ 20Mw/min)	SRO1 SRO2 RO1 RO3	X																	
Attachment 2 Step 6	MCR Isolation	RO2 RO5	X																	
Attachment 2 Step 7	PA Announcement for Probable Aircraft Threat	RO2 RO5	X																	
Attachment 2 Step 8	MCR Habitability Actions i.a.w. Attachment 5&6	RO2 RO5	X																	
Attachment 2 Step 9	Security to Extinguish exterior lighting	SEC3	X																	
Attachment 2 Step 16	Dispatch to Remote Shutdown Workstation	SM1 SM2 COM1 RO5				X														
	Maintain NRC Open-Line	SRO1 SRO2	X(open line maintained following initial notification)																	
3(4)-AOP-904 (continued)																				
Attachment 2 Step 16	Disperse Ops personnel to safe area	SRO3/FBL SO5/FBM1 SO6/FBM2 SO7/FBM3 SO8/FBM4 SO1 SO2 SO3 SO4		X																
Attachment 2 Step 19	Stabilize and monitor Rx down power	SRO1 SRO2 RO1 RO3		X																
3(4)-AOP-101, Rapid Power Reduction																				

VEGP 3 & 4 On-Shift Staffing Analysis

Event #: 10

Title: Table 2A – Aircraft Probable Threat

Procedure Step/Actions			Performance Time (mins) After Procedure Implementation																	
Proc/Step	Task	Assigned Resource	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90
Step 24-32	Secure Main Turbine and take off-line	SRO1 SRO2 RO1 RO3												X						
Step 34	Drive Rods to Rx Sub-critical and Trip Rx	SRO1 SRO2 RO1 RO3															X			

 Task completion time

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 3 – Firefighting

Event # 10

Line	Performed By	Task Analysis Controlling Method
1.	Shift Support Supervisor (SRO3/FBL)	Fire Brigade Training
2.	System Operator (SO5/FBM1)	Fire Brigade Training
3.	System Operator (SO6/FBM2)	Fire Brigade Training
4.	System Operator (SO7/FBM3)	Fire Brigade Training
5.	System Operator (SO8/FBM4)	Fire Brigade Training

Notes: Fire Brigade dispersed to safe location in response to this event.

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 4 – Radiation Protection & Chemistry

Event # 10

Line	Position Performing Function/Task	Performance Time Period After Event Initiation (Minutes)															
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-90
1.	In-Plant Survey On-Shift Position:																
2.	Out of Plant Survey On-Shift Position:																
3.	Personnel Monitoring On-Shift Position:																
4.	Job Coverage On-Shift Position:																
5.	Offsite Radiological Assessment On-Shift Position:																
6.	Other Site-Specific RP Describe: On-Shift Position:																
7.	Chemistry function/task #1 Describe: On-Shift Position:																
8.	Chemistry function/task #2 Describe: On-Shift Position:																

Notes: RP and Chemistry personnel relocated to Nuclear Ops Warehouse

Task completion time

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 5 – Emergency Plan Implementation

Event # 10

Line	Function/Task	On-Shift Position	Task Analysis Controlling Method
1.	Declare the Emergency Classification Level (ECL)	SM3	EP/Ops Training and EP Drill Program
2.	Approve Offsite Protective Action Recommendations	N/A	EP/Ops Training and EP Drill Program
3.	Approve content of State/local notifications	SM3	EP/Ops Training and EP Drill Program
4.	Approve extension to allowable dose limits	N/A	EP/Ops Training and EP Drill Program
5.	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	RO4/COM1	EP/Ops Training and EP Drill Program
6.	ERO notification	RO4/COM1	EP/Ops Training and EP Drill Program
7.	Abbreviated NRC Notification for DBT event	N/A	EP/Ops Training and EP Drill Program
8.	Complete State/local notification form	SM3	EP/Ops Training and EP Drill Program
9.	Perform State/local notifications	RO4/COM1	EP/Ops Training and EP Drill Program
10.	Complete NRC event notification form	RO4/COM1	EP/Ops Training and EP Drill Program
11.	Activate ERDS	RO2	EP/Ops Training and EP Drill Program
12.	Offsite radiological assessment	N/A	EP/Ops Training and EP Drill Program
13.	Perform NRC notifications	SRO4/FBL2	EP/Ops Training and EP Drill Program
14.	Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	SM3	EP/Ops Training and EP Drill Program
15.	Personnel accountability	N/A	EP/Ops Training and EP Drill Program

Notes: EAL – HA4 (Alert)



Function performed by Vogtle 1&2 On-shift resources

VEGP 3 & 4 On-Shift Staffing Analysis

Table 5A - E-Plan Implementation Timeline/Event # 10

Function/Task	On-shift Position	Time from Event Initiation (minutes)																	
		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
Declare the Emergency	SM3		x																
Approve Offsite PARs	N/A																		
Approve State/local notifications	SM3					x													
Approve extension to allowable dose limits	N/A																		
Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	RO4/COM1	x																	
ERO notification	RO4/COM1				x														
Abbreviated NRC notification for DBT event	N/A																		
Complete State/local notification form	SM3				x														
Perform State/local notifications	RO4/COM1						x												
Complete NRC event notification form	SM3							x											
Activate ERDS	RO2					x													
Offsite radiological assessment	N/A																		
Perform NRC notifications	SRO4/FBL2																		
Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	SM3										x								
Personnel accountability	N/A																		

Notes: Alert EAL HA4

 Task completion time
 Function performed by Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis

Event #11 ATWS

Initial Conditions:

Time: Tuesday @ 0500

Unit 3 @ 100% Power, NOT and NOP

Sequence of Events:

0500 Spurious Rx Trip signal received without an RPS initiated Rx Trip

Manual Rx trip by OATC in control room is successful

VEGP 3 & 4 On-Shift Staffing Analysis

APPENDIX B

Event #11: DBA/ISG – ATWS
TABLE 1 – On-shift Positions

ECL: Alert

Line	On-shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table#/ Line#	Unanalyzed Task?	TMS/ Action Required?
1.	Shift Manager (SM1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T5/L1 T5/L3 T5/L8 T5/L10 T5/L14	No	No
2.	Shift Supervisor (SRO1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L1 T5/L5	No	No
3.	Reactor Operator (RO1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L2	No	No
4.	Reactor Operator (RO2)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L3	No	No
5.	Licensed Operator (COM1)	Standard Emergency Plan Vogtle 3&4 Annex	90	T5/L6 T5/L9 T5/L11 T5/L13	No	No
6.	System Operator (SO1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L4	No	No
7.	RP Technician (RP3/FMT)	Standard Emergency Plan Vogtle 3&4 Annex	90	T4/L5	No	No
8.	Chemistry Technician (CT1)	Standard Emergency Plan Vogtle 3&4 Annex	90	T2/L5 T4/L7	No	No
9.	Chemistry Technician (CT2/DA)	Standard Emergency Plan Vogtle 3&4 Annex	90	T4/L4 T5/L12	No	No

Notes: Although multiple functions have been identified for some positions, no conflict exists requiring further action. Performance of these

VEGP 3 & 4 On-Shift Staffing Analysis

functions by the identified positions is either acceptable by NEI 10-05 guidance, **OR** the functions are the same, **OR** the functions are performed sequentially without issue.



Position utilizes Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 2 - Plant Operations & Safe Shutdown

Event # 11

Two Units – Two Control Rooms
Minimum Operations Crew Necessary to Implement
AOPs and EOPs, or SAMGs if applicable

Applicable to Unit 3

Line	Generic Title/Role	On-Shift Position	Task Performance Validation
1.	Shift Supervisor	Shift Supervisor (SRO1)	Operations Training
2.	Reactor Operator	Reactor Operator (RO1)	Operations Training
3.	Reactor Operator	Reactor Operator (RO2)	Operations Training
4.	System Operator	System Operator (SO1)	Operations Training

Notes: See Table 2A for AOP/EOP response actions

Other (non-Operations) Personnel Necessary to Implement
AOPs and EOPs, or SAMGs if applicable

Line	Generic Title/Role	On-Shift Position	Task Performance Validation
5.	Chemistry Technician	Chemistry Technician (CT1)	Chemistry Training

Notes: See Table 2A for AOP/EOP response actions

VEGP 3 & 4 On-Shift Staffing Analysis

Event #: 11

Title: Table 2A – ATWS

Procedure Step/Actions			Performance Time (mins) After Procedure Implementation																		
Proc/Step	Task	Assigned Resource	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	
3-EOP-E-0, Rx Trip or Safeguards Actuation																					
Step 1-4	Post Trip Response Actions	SRO1 RO1	X																		
	Monitor CSF Status Trees IAW 3-EOP-F-0	RO2		X (periodic)																	
3-EOP-ES-0.1, Rx Trip Response																					
Steps 1-37	Stabilize Plant (periodic, ongoing CR actions)	SRO1 RO1		X																	
Step 15	Place AUX Boiler in service	SO1					X														
Step 28	Direct Chemistry to sample RCS and SG	RO1		X																	
	Perform RCS and SG Sampling & Analysis	CT1								X											

Task completion time

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 3 – Firefighting

Event # 11

Line	Performed By	Task Analysis Controlling Method
1.	N/A	N/A
2.	N/A	N/A
3.	N/A	N/A
4.	N/A	N/A
5.	N/A	N/A



Notes: Fire Brigade response not required for this event.

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 4 – Radiation Protection & Chemistry

Event # 11

Line	Position Performing Function/Task	Performance Time Period After Event Initiation (Minutes)															
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-90
1.	Out of Plant Survey On-Shift Position:																
2.	Personnel Monitoring On-Shift Position:																
3.	Job Coverage On-Shift Position:																
4.	Offsite Radiological Assessment On-Shift Position: CT2/DA					X											
5.	Other Site-Specific RP Describe: FMT On-Shift Position: RP3/FMT					X											
6.	Other Site-Specific RP Describe: On-Shift Position:																
7.	Chemistry function/task #1 Describe: Sample/analyze RCS/SG On-Shift Position: CT1								X								

 Task completion time
 Function performed by Vogtle 1&2 On-shift resource


VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 5 – Emergency Plan Implementation

Event # 11

Line	Function/Task	On-Shift Position	Task Analysis Controlling Method
1.	Declare the Emergency Classification Level (ECL)	SM1	EP/Ops Training and EP Drill Program
2.	Approve Offsite Protective Action Recommendations	N/A	EP/Ops Training and EP Drill Program
3.	Approve content of State/local notifications	SM1	EP/Ops Training and EP Drill Program
4.	Approve extension to allowable dose limits	N/A	EP/Ops Training and EP Drill Program
5.	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	SRO1	EP/Ops Training and EP Drill Program
6.	ERO notification	COM1	EP/Ops Training and EP Drill Program
7.	Abbreviated NRC Notification for DBT event	N/A	EP/Ops Training and EP Drill Program
8.	Complete State/local notification form	SM1	EP/Ops Training and EP Drill Program
9.	Perform State/local notifications	COM1	EP/Ops Training and EP Drill Program
10.	Complete NRC event notification form	SM1	EP/Ops Training and EP Drill Program
11.	Activate ERDS	COM1	EP/Ops Training and EP Drill Program
12.	Offsite radiological assessment	CT2/DA	EP/Ops Training and EP Drill Program
13.	Perform NRC notifications	COM1	EP/Ops Training and EP Drill Program
14.	Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	SM1	EP/Ops Training and EP Drill Program
15.	Personnel accountability	N/A	EP/Ops Training and EP Drill Program



Notes: EAL – SA2 (Alert)

 Function performed by Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis

Table 5A - E-Plan Implementation Timeline/Event # 11

Function/Task	On-shift Position	Time from Event Initiation (minutes)																	
		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
Declare the Emergency	SM1	SA2																	
Approve Offsite PARs	N/A																		
Approve State/local notifications	SM1						x										x		
Approve extension to allowable dose limits	N/A																		
Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	SRO1	x																	
Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	COM1				x										x				
ERO notification	COM1				x														
Abbreviated NRC notification for DBT event	N/A																		
Complete State/local notification form	SM1				x										x				
Perform State/local notifications	COM1						x										x		
Complete NRC event notification form	SM1							x											
Activate ERDS	COM1				x														
Offsite radiological assessment	CT2/DA				x														
Perform NRC notifications	COM1									x									
Perform other site-specific event notifications (e.g., INPO, ANI, etc.)	SM1									x									
Personnel accountability	N/A																		

 Task completion time
 Function performed by Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis

Event #13 Control Room Fire with Evacuation and Remote Shutdown

Initial Conditions:

Time: Sunday @ 0200

Unit 4 @ 100% Power, NOT and NOP

Sequence of Events:

0200 Operators observe smoke coming from behind control board

0201 Smoke in CR becomes thicker/flames observed

FB activated

0202 Operators attempt to extinguish flames, using portable extinguishers, without success

Shift Supervisor makes decision to evacuate control room

VEGP 3 & 4 On-Shift Staffing Analysis

APPENDIX B

Event #13: DBA/ISG – Control Room Fire with Evacuation and Remote Shutdown

ECL: Alert

TABLE 1 – On-shift Positions

Line	On-shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table#/Line#	Unanalyzed Task?	TMS/ Action Required?
1.	Shift Manager (SM2)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T5/L1 T5/L3 T5/L8 T5/L10 T5/L14	No	No
2.	Shift Supervisor (SRO2)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L1	No	No
3.	Shift Support Supervisor (SRO3/FBL)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L2 T3/L1	No	No
4.	Reactor Operator (RO3)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L3	No	No
5.	Reactor Operator (RO3)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L4 T5/L5	No	No
6.	Licensed Operator (COM1)	Standard Emergency Plan Vogtle 3&4 Annex	90	T2/L5 T5/L5 T5/L6 T5/L9 T5/L11 T5/L13	No	No
7.	System Operator (SO3)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L6	No	No
8.	System Operator (SO4)	Standard Emergency Plan Vogtle 3&4 Annex		T2/L7	No	No
9.	System Operator (SO5/FBM1)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L8 T3/L2	No	No
10.	System Operator (SO6/FBM2)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L9 T3/L3	No	No

VEGP 3 & 4 On-Shift Staffing Analysis

Line	On-shift Position	Emergency Plan Reference	Augmentation Elapsed Time (min)	Role in Table#/Line#	Unanalyzed Task?	TMS/ Action Required?
11.	System Operator (SO7/FBM3)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L10 T3/L4	No	No
12.	System Operator (SO8/FBM4)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L11 T3/L5	No	No
13.	RP Technician (RP1)	Standard Emergency Plan Vogtle 3&4 Annex	90	T2/L12 T3/L6 T4/L6	No	No
14.	RP Technician (RP3/FMT)	Standard Emergency Plan Vogtle 3&4 Annex	90	T4/L5	No	No
15.	Chemistry Technician (CT1)	Standard Emergency Plan Vogtle 3&4 Annex	90	T2/L13 T4/L7	No	No
16.	Chemistry Technician (CT2/DA)	Standard Emergency Plan Vogtle 3&4 Annex	90	T4/L4 T5/L12	No	No
17.	Security Officer (SEC3)	Standard Emergency Plan Vogtle 3&4 Annex	N/A	T2/L14 T3/L7	No	No

Notes: Although multiple functions have been identified for some positions, no conflict exists requiring further action. Performance of these functions by the identified positions is either acceptable by NEI 10-05 guidance, **OR** the functions are the same, **OR** the functions are performed sequentially without issue.

 Position utilizes Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 2 - Plant Operations & Safe Shutdown

Event # 13

Two Units – Two Control Rooms
Minimum Operations Crew Necessary to Implement
AOPs and EOPs, or SAMGs if applicable

Applicable to Unit 4

Line	Generic Title/Role	On-Shift Position	Task Performance Validation
1.	Shift Supervisor	Shift Supervisor (SRO2)	Operations Training
2.	Shift Support Supervisor	Shift Support Supervisor (SRO3/FBL)	Operations Training
3.	Reactor Operator	Reactor Operator (RO3)	Operations Training
4.	Reactor Operator	Reactor Operator (RO5)	Operations Training
5.	Licensed Operator	ENN/ENS Communicator (COM1)	Operations Training
6.	System Operator	System Operator (SO3)	Operations Training
7.	System Operator	System Operator (SO4)	Operations Training
8.	System Operator	System Operator (SO5/FBM1)	Operations Training
9.	System Operator	System Operator (SO6/FBM2)	Operations Training
10.	System Operator	System Operator (SO7/FBM3)	Operations Training
11.	System Operator	System Operator (SO8/FBM4)	Operations Training

Notes: See Table 2A for AOP/EOP response actions

Other (non-Operations) Personnel Necessary to Implement
AOPs and EOPs, or SAMGs if applicable

Line	Generic Title/Role	On-Shift Position	Task Performance Validation
12.	RP Technician	RP Technician (RP1)	RP Training
13.	Chemistry Technician	Chemistry Technician (CT1)	Chemistry Training
14.	Security Officer	Security Officer (SEC3)	Security Training

Notes: See Table 2A for AOP/EOP response actions

VEGP 3 & 4 On-Shift Staffing Analysis

Event #: 13

Title: Table 2A – Control Room Fire With Evacuation And Remote Shutdown

Procedure Step/Actions			Performance Time (mins) After Procedure Implementation																		
Proc/Step	Task	Assigned Resource	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	
	Activate FB	SR03/FBL SO5/FBM1 SO6/FBM2 SO7/FBM3 SO8/FBM4 RP1 SEC3	X																		
4-AOP-601, Evacuation of the Control Room																					
Step 1	Trip Rx and Turbine Stop Dilutions Stop Core Temp Changes	SR02 RO3	X																		
Step 2	Announce CR Evacuation and Fire Alarm	RO5	X																		
Step 3	Manipulate CR switches to allow RSD control	RO3 RO5	X																		
	CR Personnel transition to Remote Shutdown Room	SR02 RO3 RO5	X																		
Step 6-8	Stabilize plant from Remote Shutdown	SR02 RO3 RO5		X																	
Step 9-10	Initiate Cool Down and stabilize to safe shut down Temps	SR02 RO3							X												
4-EOP-E-0, Rx Trip or Safeguards Actuation																					
Step 1-4	Rx trip/Turbine trip verification	SR02 RO3		X																	
	Monitor Critical Safety Function Status Trees IAW 3EOP-F-0	RO5		X (periodic)																	
4-EOP-ES-0.1, Rx Trip Response																					
Steps 1-37	Rx Trip Response	SR02 RO3		X																	
Step 15	Start Aux Boiler	SO3			X (periodic once operational)																

VEGP 3 & 4 On-Shift Staffing Analysis

Event #: 13

Title: Table 2A – Control Room Fire With Evacuation And Remote Shutdown

Procedure Step/Actions			Performance Time (mins) After Procedure Implementation																	
Proc/Step	Task	Assigned Resource	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90
Step 28	Direct Chemistry to perform RCS and SG sampling	RO3				X														
	Perform RCS and SG Sampling	CT1				X														
4-AOP-902, Fire Response																				
Steps 7-11	Verify Fire Response actions and Monitor FP system parameters	SR02 RO5		X																
Attachment 47 Step 2	Verify HVAC Dampers Closed	RO5			X															
Step 12	Establish Fire watch	SO5/FBM1										X								
Step 16	Manually place Fire Pumps in Standby	SO4									X									
B-GEN-ENG-006, Fire Response Procedure																				
Step 4.4	Notify Burke County EMA	COM1		X																

Notes: Note 1 – SM2, COM1 and report to TSC to perform Emergency Response functions

Task completion time

VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 3 – Firefighting

Event # 13

Line	Performed By	Task Analysis Controlling Method
1.	Shift Support Supervisor (SRO3/FBL)	Fire Brigade Training
2.	System Operator (SO5/FBM1)	Fire Brigade Training
3.	System Operator (SO6/FBM2)	Fire Brigade Training
4.	System Operator (SO7/FBM3)	Fire Brigade Training
5.	System Operator (SO8/FBM4)	Fire Brigade Training
6.	RP Technician (RP1)	RP/First Responder Training
7.	Security Officer (SEC3)	Security Training

<p>Notes: RP1 provides first responder/SCBA support for Fire Brigade SEC3 provides access control support at fire scene</p>
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VEGP 3 & 4 On-Shift Staffing Analysis

TABLE 4 – Radiation Protection & Chemistry

Event # 13

Line	Position Performing Function/Task	Performance Time Period After Event Initiation (Minutes)															
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-90
1.	Out of Plant Survey On-Shift Position:																
2.	Personnel Monitoring On-Shift Position:																
3.	Job Coverage On-Shift Position:																
4.	Offsite Radiological Assessment On-Shift Position: CT2/DA					x											
5.	Other Site-Specific RP Describe: FMT On-Shift Position: RP3/FMT					x											
6.	Other Site-Specific RP Describe: MERT Support for FB Response/SCBA refill On-Shift Position: RP1	x															
7.	Chemistry function/task #1 Describe: Sample/Analyze RCS and SGs On-Shift Position: CT1				x												

Task completion time

Function performed by Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis


TABLE 5 – Emergency Plan Implementation

Event # 13

Line	Function/Task	On-Shift Position	Task Analysis Controlling Method
1.	Declare the Emergency Classification Level (ECL) <i>Note 1</i>	SM2	EP/Ops Training and EP Drill Program
2.	Approve Offsite Protective Action Recommendations	N/A	EP/Ops Training and EP Drill Program
3.	Approve content of State/local notifications <i>Note 1</i>	SM2	EP/Ops Training and EP Drill Program
4.	Approve extension to allowable dose limits	N/A	EP/Ops Training and EP Drill Program
5.	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	RO5 COM1	EP/Ops Training and EP Drill Program
6.	ERO notification	COM1	EP/Ops Training and EP Drill Program
7.	Abbreviated NRC Notification for DBT event	N/A	EP/Ops Training and EP Drill Program
8.	Complete State/local notification form <i>Note 1</i>	SM2	EP/Ops Training and EP Drill Program
9.	Perform State/local notifications <i>Note 1</i>	COM1	EP/Ops Training and EP Drill Program
10.	Complete NRC event notification form <i>Note 1</i>	SM2	EP/Ops Training and EP Drill Program
11.	Activate ERDS	COM1	EP/Ops Training and EP Drill Program
12.	Offsite radiological assessment	CT2/DA	EP/Ops Training and EP Drill Program
13.	Perform NRC notifications <i>Note 1</i>	COM1	EP/Ops Training and EP Drill Program
14.	Perform other site-specific event notifications (e.g., INPO, ANI, etc.) <i>Note 1</i>	SM2	EP/Ops Training and EP Drill Program
15.	Personnel accountability	N/A	EP/Ops Training and EP Drill Program

Notes: EAL – HA5 (Alert)

Note 1 – Classification and notifications performed from the TSC



 Function performed by Vogtle 1&2 On-shift resource

VEGP 3 & 4 On-Shift Staffing Analysis

Table 5A - E-Plan Implementation Timeline/Event # 13

Function/Task	On-shift Position	Time from Event Initiation (minutes)																		
		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	
Declare the Emergency ^{Note 1}	SM2	HA5																		
Approve Offsite PARs	N/A																			
Approve State/local notifications ^{Note 1}	SM2						X										X			
Approve extension to allowable dose limits	N/A																			
Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	RO5	X																		
Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	COM1				X												X			
ERO notification	COM1				X															
Abbreviated NRC notification for DBT event	N/A																			
Complete State/local notification form ^{Note 1}	SM2				X										X					
Perform State/local notifications ^{Note 1}	COM1						X										X			
Complete NRC event notification form ^{Note 1}	SM2							X												
Activate ERDS	COM1				X															
Offsite radiological assessment	CT2/DA				X															
Perform NRC notifications ^{Note 1}	COM1									X										
Perform other site-specific event notifications (e.g., INPO, ANI, etc.) ^{Note 1}	SM2									X										
Personnel accountability	N/A																			

Notes: ^{Note 1} – Classification and notifications performed from TSC

 Task completion time
 Function performed by Vogtle 1&2 On-shift resource