Southern Nuclear Operating Company

Vogtle Early Site Permit Application

Part 5
Emergency Plan

Revision 5

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Preface

The Vogtle Electric Generating Plant (VEGP) is a two-unit pressurized water reactor operated by Southern Nuclear Operating Company (SNC). In addition, SNC plans to submit an application for a Combined Operating License (COL) for two additional pressurized water reactor plants, based on the Westinghouse Electric Company, LLC (Westinghouse) AP1000 standard design, on the VEGP site. The plant is on a 3169-acre site located in the eastern portion of Burke County, Georgia, approximately 23 river miles upstream from the intersection of the Savannah River with U.S. Highway 301, as shown on Figure i. Figure ii shows the site and the locations of existing and proposed buildings on the site. The locations of the VEGP emergency facilities are also shown on Figure ii.

This Emergency Plan (EP) is applicable to existing VEGP Units 1 and 2, as well as the proposed Westinghouse AP1000 (AP1000) units (i.e., new VEGP Units 3 and 4), and to its environs as specified by the emergency planning zones (EPZs) as described below. The plume exposure pathway EPZ nominally consists of the area within approximately 10 miles of the plant, and the ingestion exposure pathway EPZ extends to 50 miles from the plant. These distances are centered on a point midway between the centers of the VEGP Unit 1 and Unit 2 containment buildings for the 10 mile EPZ map. The two EPZs are shown in Figures iii and iv, respectively.

Because of the location of VEGP site, the emergency planning and/or protective action responsibilities at the state level involves two states, Georgia and South Carolina. Georgia, South Carolina, and the respective counties (Burke County in Georgia and Aiken, Barnwell, and Allendale Counties in South Carolina) have prepared plans for a response to an emergency at VEGP. These plans describe their respective responsibilities, authorities, capabilities, and emergency functions. The major portion of the plume exposure pathway EPZ in South Carolina is within the U. S. Department of Energy (DOE) Savannah River Site (SRS). The Department of Energy, Savannah River Operations Office (DOE-SR), pursuant to a memorandum of agreement between Georgia Power Company (GPC), as assigned to SNC, and DOE-SR, will be responsible for all emergency response actions on the SRS whenever an emergency occurs at the VEGP. The memorandum of Agreement is shown in Appendix 4.

Within the plume exposure pathway EPZ, Burke County in the State of Georgia has the largest resident population. However, the population is small and dispersed. The areas in South Carolina that are not federally owned or controlled are along the Savannah River lowlands in Aiken, Allendale, and Barnwell Counties. The segment in Aiken County, approximately 8 to 10 miles north-northwest (NNW) from the VEGP, is part of the Cowden Plantation and has no resident population. The segments to the east-southeast (ESE), Barnwell and Allendale Counties (approximately 9 to 10 miles from the VEGP), are largely comprised of portions of the Creek Plantation, a horse farm. Within the South Carolina portion of the plume exposure pathway EPZ, the only housing occurs within the Creek Plantation in Barnwell County, where

there are only a limited number of permanent residences. Figure v presents the permanent population within the plume exposure pathway EPZ.

The transient population within the plume exposure pathway EPZ includes persons in the work force at the VEGP and at recreational areas, mainly hunters and fishermen. This transient population is generally along the Savannah River; around the Cowden Plantation and Gray's Landing in Aiken County; around Creek Plantation in Barnwell and Allendale Counties; and at St. Mary's Baptist Church in Barnwell County. Figure vi presents the transient and special populations within the VEGP plume EPZ.

The EPZ for ingestion exposure for the VEGP is shared with the Department of Energy's Savannah River Site. The ingestion pathway EPZ includes an area within about 50 miles of the Savannah River Site and the VEGP site. The ingestion pathway EPZ for the VEGP is contained within the States of Georgia and South Carolina. It includes the Counties of Bullock, Burke, Candler, Columbia, Effingham, Emanuel, Glasscock, Jefferson, Jenkins, Johnson, Lincoln, McDuffie, Richmond, Screven, Warren, and Washington in Georgia, and the Counties of Aiken, Allendale, Bamberg, Barnwell, Colleton, Edgefield, Hampton, Jasper, Lexington, McCormick, Orangeburg, and Saluda, in South Carolina.

Planning for the ingestion exposure pathway is a responsibility of the States of Georgia and South Carolina. Details of ingestion pathway emergency planning are contained in the respective State emergency plans.

The VEGP Emergency Plan is designed to be compliant with 10 CFR 50.47, Emergency plans, and 10 CFR 50 Appendix E, Emergency Planning and Preparedness for Production and Utilization Facilities. It is based on meeting the intent of the guidance contained in NUREG 0654, Revision 1 with the exception of emergency action levels which are based on Nuclear Energy Institute (NEI) 99-01, Revision 4, Methodology for Development of Emergency Action Levels for Units 1 and 2 and NEI 07-01, Revision 0, Methodology for Development of Emergency Action Levels Advanced Passive Light Water Reactors for Units 3 and 4.

In addition, for proposed Units 3 and 4, the VEGP Emergency Plan is designed to be compliant with 10 CFR 52.17(b)(1), 10 CFR 52.17(b)(2)(ii), and 10 CFR 52.17(b)(3). NUREG 0654, Supplement 2 is also used as guidance for the development of the VEGP Emergency Plan pertaining to proposed Units 3 and 4 for the Early Site Permitting process.

The VEGP Emergency Plan is designed to accommodate the unique features of the two unit designs used at the Site. A common VEGP Emergency Plan is supported by Annex V1 which contains the parts of the Emergency Plan that are unique to Units 1 and 2, and Annex V2 which contains the parts of the Emergency Plan that are unique to proposed Units 3 and 4. Each segment of the Emergency Plan is supported by Appendices that contain supporting information for each segment of the plan. The Appendices for Annex V2 contain a set of inspections, tests, analyses, and acceptance criteria (ITAAC) that contain those elements of the Emergency Plan pertaining to proposed Units 3 and 4 that cannot be completed or verified prior to approval of the

Emergency Plan as part of the Early Site Permitting Process. Thus, these ITAACs will be incorporated into the Combined License (COL). After proposed Units 3 and 4 are operating, all references to ITAACs will be removed.

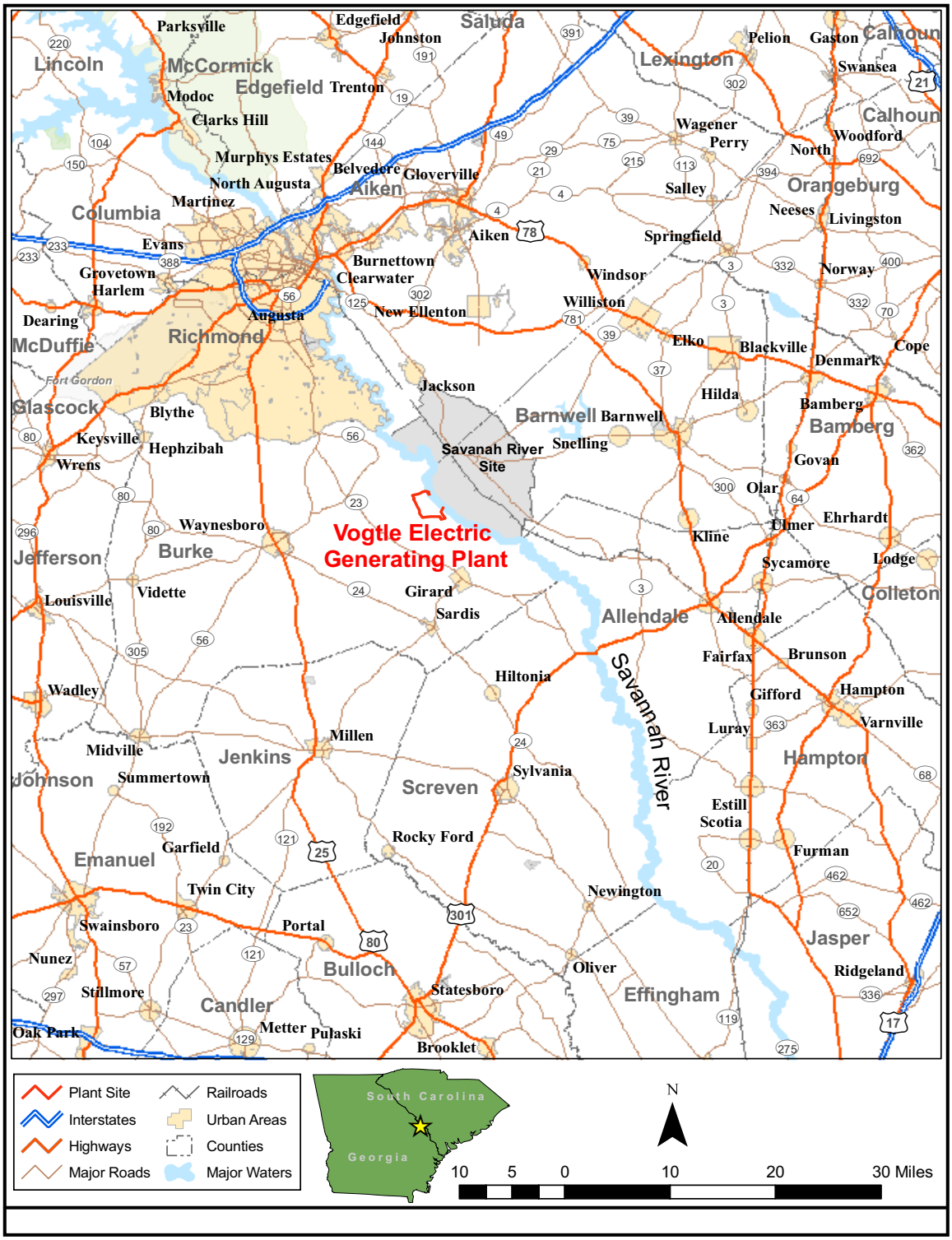


Figure i General Vicinity Map

Figure ii Vogtle Electric Generating Plant Site Plan

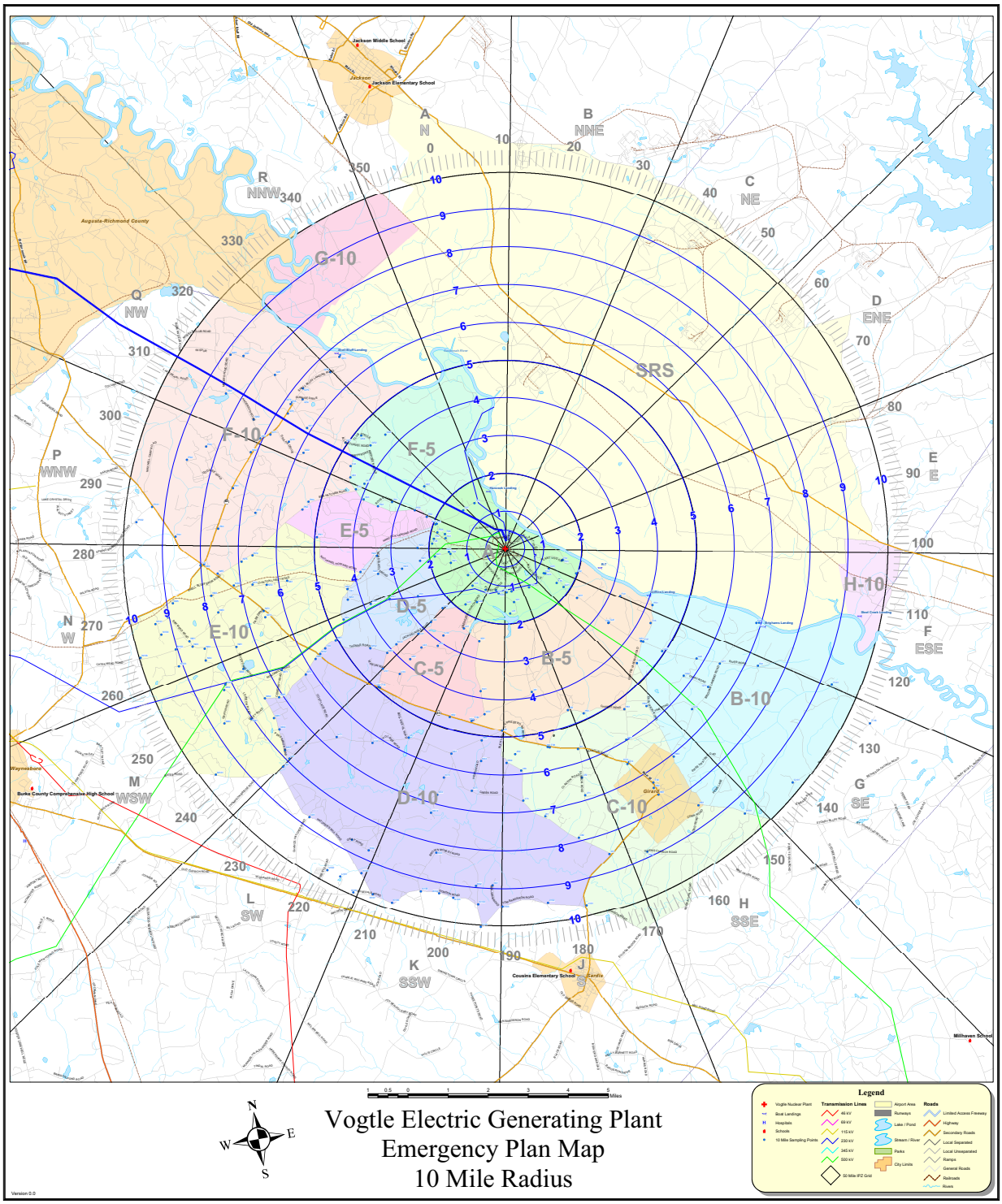
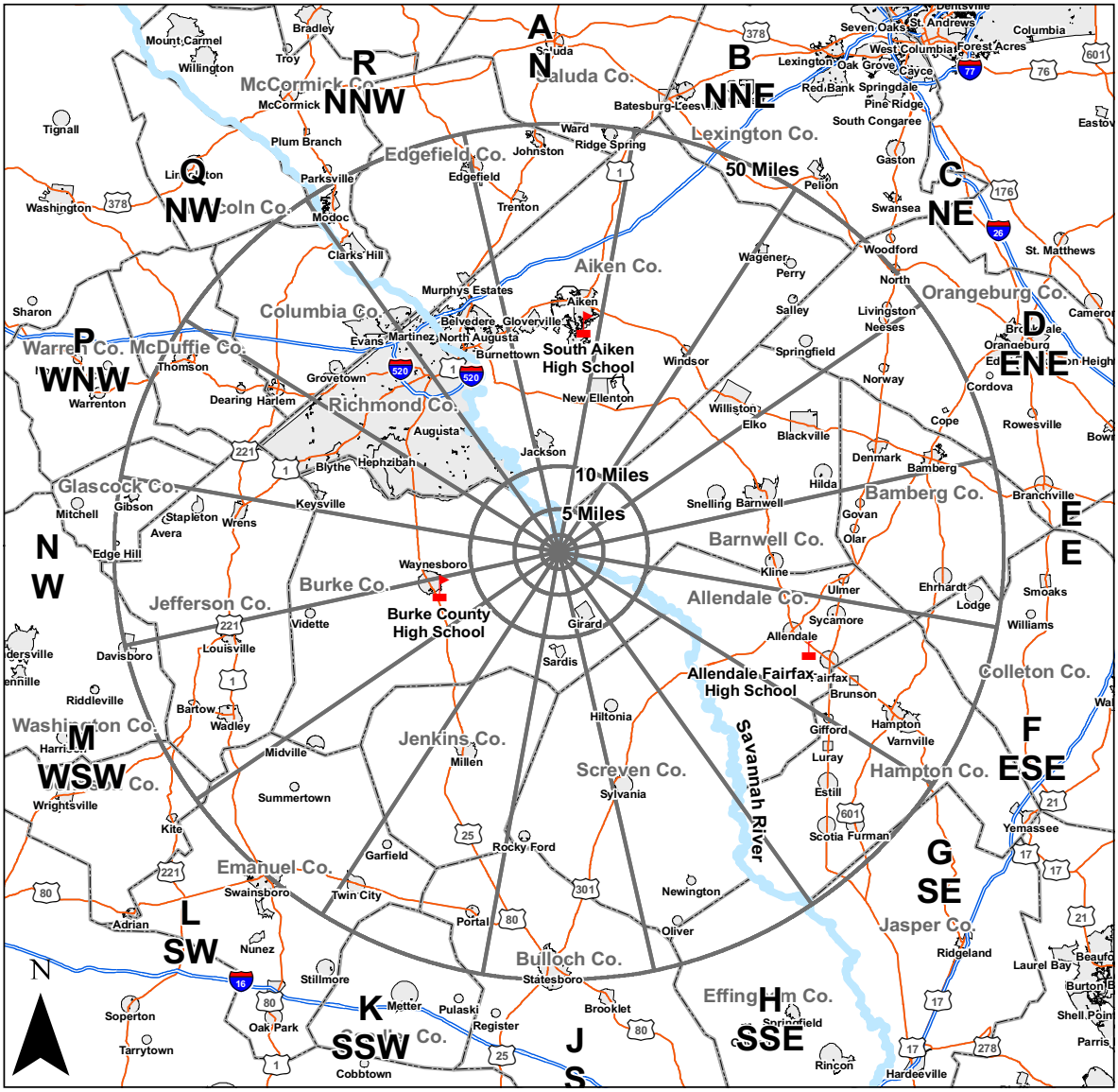


Figure iii VEGP 10-Mile EPZ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10 Miles
5 Miles
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Lexington Co.
Edgefield Co.
Columbia Co.
Richmond Co.
Orangeburg Co.
Bamberg Co.
Barnwell Co.
Allendale Co.
Burke Co.
Jefferson Co.
Glascock Co.
Jenkins Co.
Screven Co.
Hampton Co.
Colleton Co.
Jasper Co.
Bulloch Co.
Emanuel Co.
Washington Co.
Warren Co.
McDuffie Co.
McCormick Co.
Saluda Co.
Lincoln Co.
Aiken
South Aiken High School
Burke County High School
Allendale Fairfax High School
Augusta
Columbia
Savannah
Statesboro
Waynesboro
Sylvania
Swainsboro
Thomson
Warrenton
Dearing
Harlem
Grovetown
Evans
Martinez
North Augusta
Belvedere
Gloverville
Burnetown
Jackson
New Ellenton
Windsor
Williston
Elko
Blackville
Springfield
Salley
Wagener
Perry
Pelion
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Lexington
Oak Grove
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Seven Oaks
St. Andrews
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Forest Acres
Red Bank
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South Congaree
Gaston
Swansea
Woodford
North
Livingston
Neeses
Orangeburg
Cordova
Norway
Cope
Rowesville
Denmark
Bamberg
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Summertown
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Twin City
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Blythe
Hephzibah
Louisville
Davisboro
Riddleville
Bartow
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Harrison
Wrightsville
Kite
Johnston
Ward
Ridge Spring
Trenton
Edgefield
Murphys Estates
Aiken
Vidette
Cameron
Eastover
St. Matthews
Rowesville
Williston
Cameron
Bowman
Branchville
Smoaks
Williams
Colleton
Wallace
Varnville
Yemassee
Beaufort
Burton
Shell Point
Parris Island
Laurel Bay
Ridgeland
Hardeeville
Rincon
Springfield
Oliver
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Brooklet
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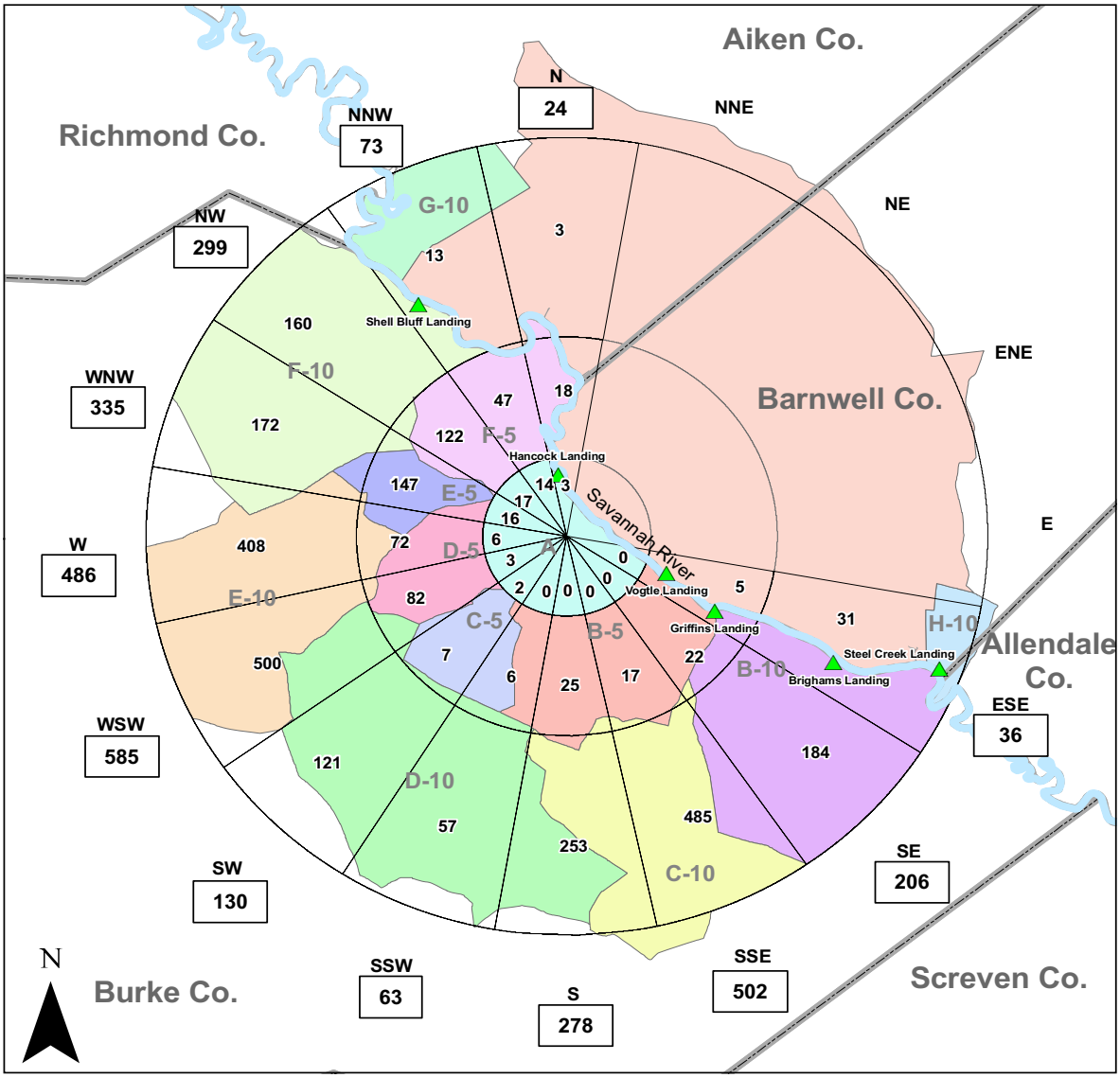

Figure v 2006 Permanent Population within the VEGP Plume EPZ

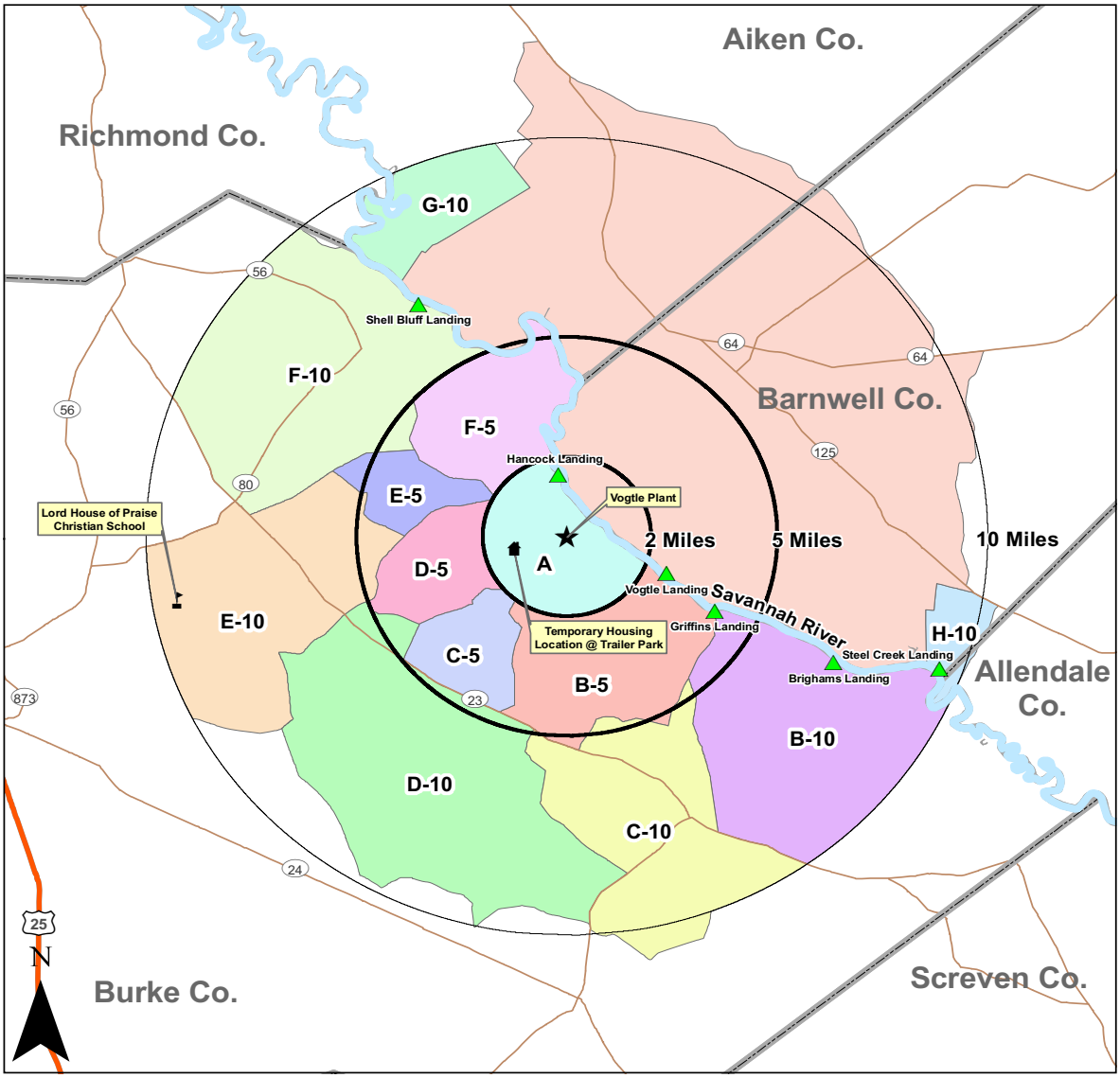

Figure vi Transient and Special Facility Population within the VEGP Plume EPZ

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A Assignment of Responsibilities

In the event of an emergency situation at the VEGP Site, which will require activation of the emergency response organization, various State, local, Federal, and private sector organizations may be required to contribute to the emergency response. This section describes the responsibilities of these organizations. Table A-1 lists primary response organizations and the emergency title of the individual in charge.

A.1 Vogtle Electric Generating Plant

The VEGP Site will be responsible for maintaining an effective Emergency Plan and maintaining proper preparedness through the maintenance of formal procedures for implementing the Plan, the training of personnel in accordance with Section O, the maintenance of necessary equipment, and continuing relationships with various governmental agencies and private organizations as identified in this Section and in Appendix 2. The following tasks will be part of the VEGP Site's responsibility:

- Recognize and declare the existence of an emergency condition.
- Classify the event in accordance with the methodology described in Section D of this Plan.
- Notify appropriate Site personnel and offsite authorities.
- Take corrective actions to mitigate the severity of the accident.
- Request additional support as deemed necessary.
- Establish and maintain effective communications within the Site and with offsite response groups as described in Section F.
- Continuously assess the status of the accident and periodically communicate the status information to the appropriate response groups. This includes the collection and evaluation of onsite and offsite radiological monitoring data.
- Take protective measures onsite and recommend protective actions to offsite authorities.
- Monitor and control radiation exposures of all personnel responding to the emergency and under the direction of the site.
- Provide emergency information to the public through periodic press briefings in conjunction with Federal, State and local officials.

The Site emergency response will be carried out under the control of the Emergency Director. The onsite organization to support these activities is described in Section B.

A.2 State of Georgia

The Georgia Emergency Management Agency (GEMA) is assigned responsibility for overall direction and coordination of emergency and disaster planning and operations in the State of Georgia. GEMA has developed the Georgia Emergency Operations Plan (GEOP), which is an

emergency operations plan for all natural disasters, accidents, and incidents, including radiological emergencies at fixed nuclear facilities. Integral to the GEOP is the Georgia Radiological Emergency Response Base Plan (GA REP) which is used for planning for, responding to, and dealing with radiological emergencies. Details concerning assignment of responsibilities are contained in the GEOP and GA REP.

A.3 Burke County, Georgia

All of the area within the VEGP plume exposure pathway EPZ in the State of Georgia falls within Burke County. The responsibility for overall radiological emergency response planning for Burke County rests with the chairman, Burke County Board of Commissioners. It is the chairman's responsibility to initiate actions and provide direction and control at a level consistent with the specific incident. Agencies within Burke County which have a primary role in radiological emergency planning and response include the Emergency Management Agency (EMA) and the Sheriff's Department. Details concerning assignment of responsibilities for the Burke County response are contained in Annex D to the GA REP.

A.4 State of South Carolina

The South Carolina Emergency Management Division (SCEMD) in the Office of the Adjutant General State of South Carolina is assigned responsibility for South Carolina's emergency preparedness, response, recovery, and mitigation activities. SCEMD has developed the South Carolina Emergency Operational Plan (SCEOP) which establishes the policies and procedures by which South Carolina will coordinate state and federal response to disasters impacting South Carolina. SCEOP Attachment A, Annex 25, Radiological Hazards, assigns responsibilities for radiological hazards in South Carolina. Integral to the SCEOP is the South Carolina Operational Radiological Emergency Response Plan (SCORERP) which prescribes planning objectives, tasks, and responsibilities to departments and agencies of state and local governments for radiological events at nuclear facilities. Details concerning assignment of responsibilities are contained in the SCEOP and SCORERP.

A.5 Aiken, Barnwell, and Allendale Counties, South Carolina

Most of the plume exposure pathway EPZ within South Carolina falls within the site boundary of the SRS. The DOE is responsible for the direction and control of all emergency response actions on the SRS.

There are limited portions of Aiken, Barnwell, and Allendale counties which are outside of the SRS but within the plume exposure pathway EPZ of the VEGP Site. These counties are similarly organized, with the responsibility for overall radiological emergency response planning resting with the chairperson of the county council. It is the chairperson's responsibility to initiate actions and provide direction and control at a level consistent with the specific incident. Agencies within these counties which have a primary role in radiological emergency planning and response

include the Emergency Management Division (EMD) and the Sheriff's Department. Details concerning assignment of responsibilities can be found in the respective county's Emergency Operations Plan (EOP) and the respective Annex Q2, Fixed Nuclear Facility Radiological Emergency Response Plan (RERP).

A.6 Department of Energy- Savannah River Site

A significant portion of the plume exposure pathway EPZ falls within the site boundary of the SRS. The DOE-SR consists of lands owned or leased by the Federal government. As such, DOE-SR is responsible for the direction and control of all emergency response actions on the SRS. See memorandum of agreement between DOE - Savannah River Operations Office and Georgia Power Company, as assigned to SNC, (Appendix 4).

A.7 Medical Support

The VEGP Site has establish agreements with the Burke County EMA to provide ambulance service for the transportation of injured personnel, including people who may be radioactively contaminated, to hospital facilities for treatment. Agreements with Radiation Management Consultants, Burke County Hospital, which is located on Liberty Street between Fourth and Dogwood Streets in Waynesboro, Georgia, and Doctors Hospital in Augusta, Georgia, near the junction of Interstate Highways 20 and 520, will also be established for treatment of injured and contaminated individuals. Copies of these agreements are included in Appendix 2.

A.8 Private Sector Organizations

A.8.1 Bechtel Power Corporation

GPC/SNC has established an agreement with Bechtel Power Corporation to obtain engineering and construction services which may be required following an accident. Bechtel's assistance will not be required during the early stages of the emergency response, but is more likely to be requested during recovery activities as described in Appendix 2.

A.8.2 Westinghouse

SNC has established an agreement with Westinghouse to obtain general services related to nuclear steam supply system (NSSS) operations during and following an accident situation as described in Appendix 2. Westinghouse will provide a capability to respond on a twenty-four seven basis.

A.8.3 Voluntary Assistance Group

SNC is a signatory to two comprehensive agreements among electric utility companies: The Nuclear Power Plant Emergency Response Voluntary Assistance Agreement and the Voluntary

Assistance Agreement by and among Electric Utilities Involved in Transportation of Nuclear Materials.

A.9 Federal Government

The resources of the Federal agencies appropriate to the emergency condition would be made available in accordance with the National Response Plan (NRP). The Emergency Director will be specifically authorized to request Federal assistance on behalf of the Site under the provisions of the NRP. In addition to the NRC, other agencies which may become involved are the Department of Homeland Security (DHS), the Department of Energy (DOE), the Federal Emergency Management Agency (FEMA), the Environmental Protection Agency (EPA, the Department of Health and Human Services (HHS), the Department of Transportation (DOT), and the Department of Agriculture (USDA).

A.10 Concept of Operations

Consistent with the Emergency Classification System described in Section D, the emergency preparedness program for the VEGP Site will require the coordinated response of several organizations. The emergency response organization for the VEGP Site is described in detail in Section B. The Emergency Director will be the key individual in the VEGP Site emergency response organization; one of his non-delegable responsibilities will be the decision to notify the NRC and authorities responsible for offsite emergency measures. The interfaces among the emergency response organizations are shown on Figure A-1.

A.10.1 Continuous Communication Capability

Consistent with the Emergency Classification System described in Section D, the Emergency Director will initiate the activation of the emergency response organization by contacting the states of Georgia and South Carolina, the counties within the plume exposure pathway EPZ, the SRS, and the NRC. These organizations can be contacted on a twenty-four seven basis. The state and local agencies have continuously manned communication links for the purpose of receiving notification of a radiological emergency. The SRS is a continuously operating facility and can be contacted at all times. The Federal agencies which may be requested by the VEGP Site to provide assistance can be notified by contacting the NRC on a dedicated communication link, the Emergency Notification System (ENS) line.

A.10.2 State of Georgia and Burke County Operations

The State of Georgia and Burke County responses are conducted in accordance with the Georgia Radiological Emergency Response Plan and its associated Annex D.

A.10.3 State of South Carolina and County Operations

The state of South Carolina and county response is conducted in accordance with the South Carolina Operational Radiological Emergency Response Plan, the respective county Emergency operations Plan and its associated Annex Q2.

A.10.4 Savannah River Site

The DOE-SR will provide the necessary response within the SRS reservation in accordance with the SRS Emergency Plan. The DOE will exercise overall responsibility, jurisdiction, and authority for conducting on-plant response operations to protect the health and safety of SRS personnel. DOE will provide for emergency notification and, as needed, evacuation, monitoring, decontamination, and immediate life saving medical treatment of non SRS personnel on plant. DOE will also provide access control for SRS areas.

DOE will provide initial radiological monitoring and assessment support to the State of South Carolina under the DOE Radiological Assistance Program (RAP). This includes projected release dispersion information and offsite radiological monitoring and assessment assistance. SRS will also coordinate public affairs activities with the State of South Carolina, SNC and GPC.

By memorandum of agreement between DOE-SR and GPC, as assigned to SNC (see Appendix 4), DOE will provide radiological monitoring within about 10 miles of the VEGP Site in the State of South Carolina.

Table A-1 Responsible Individuals of Primary Response

Organization	Individual in Charge of Emergency Response
ESP Site	Emergency Director
State of Georgia	Governor
Georgia Emergency Management Agency	State Disaster Coordinator
Georgia Department of Natural Resources	Radiation Emergency Coordinator
Burke County, Georgia	Chairman, Burke County Board of Commissioners
Burke County Emergency Management Agency	Emergency Management Agency Director
State of South Carolina	Governor
South Carolina Department of Health and Environmental Control	Manager, Nuclear Emergency Planning Section
South Carolina Office of the Adjutant General, Emergency Management Division	Division Director
Aiken County, South Carolina	Chairman, Aiken County Council
Aiken County Law Enforcement Communications Center	Sheriff
Barnwell County, South Carolina	Chairman, Barnwell County Council
Barnwell County Emergency Management Agency	Coordinator, Disaster Preparedness Agency
Barnwell County Sheriff's Agency	Sheriff
Allendale County, South Carolina	Chairman, Allendale County Council
Allendale County Emergency Preparedness Agency	Director, Emergency Preparedness Agency
Allendale County Sheriff's Office	Sheriff
Department of Energy, Savannah River	Manager, DOE-SR

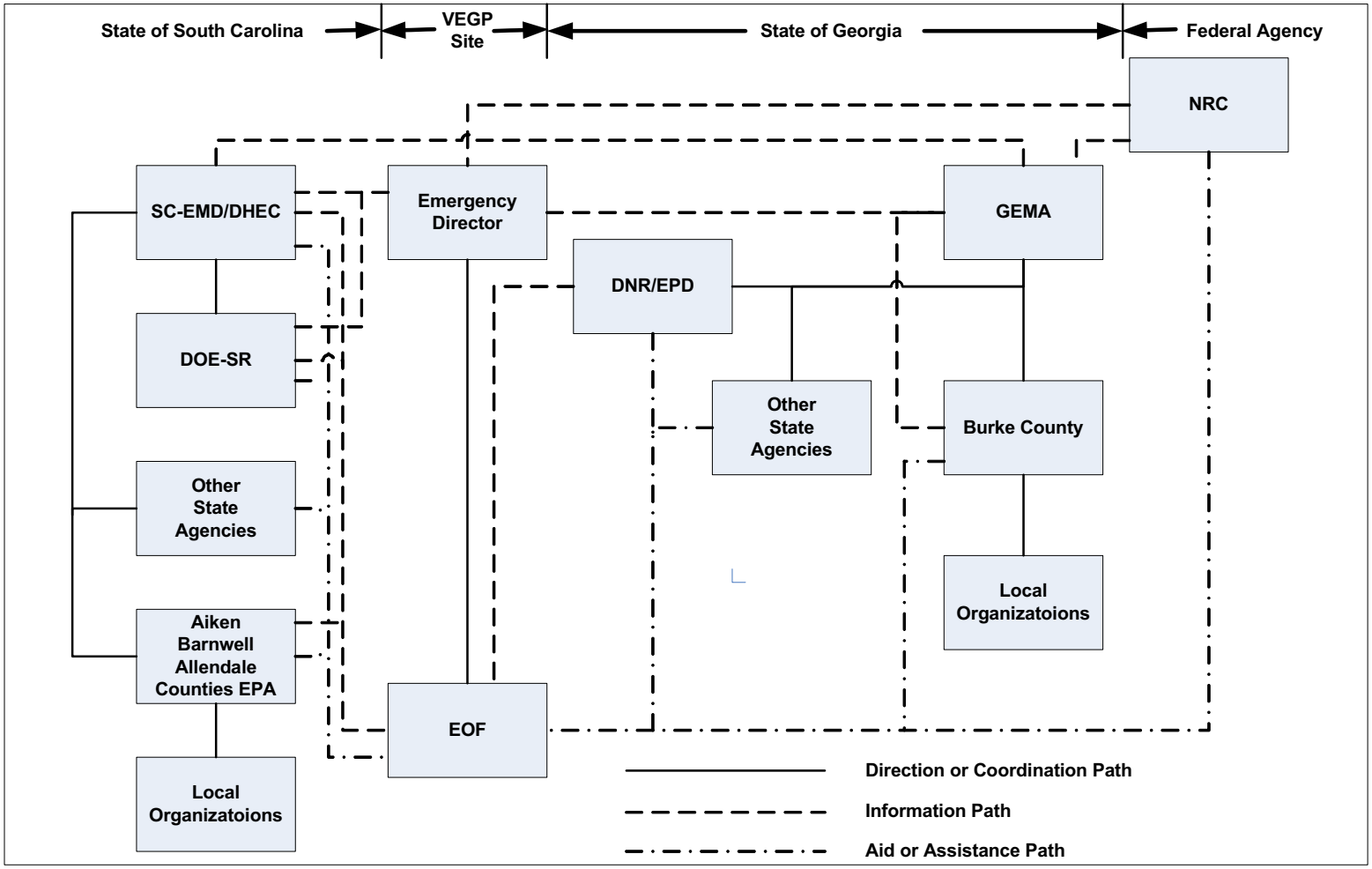

Figure A-1 Formal Interfaces among Emergency Response Organizations

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B VEGP Emergency response organization

Initial staffing of the VEGP onsite emergency response organization (ERO) will be provided from personnel normally employed at the Site. An organizational chart for VEGP is shown in Figure B-1. If the need arises, this staff will be augmented substantially by the addition of SNC personnel and by personnel from other organizations. This section includes a description of the emergency duties of the normal shift complement; a discussion of the manner in which emergency assignments are to be made; a listing of additional support personnel on whom the Site can rely; and a description of the relationships between onsite and offsite response activities.

B.1 Normal Plant Organization

The organizational structure shown on Figure B-1 represents the pool of management personnel available on site during normal working hours. Approximately 700 people are stationed at Units 1 and 2 during the standard workday, and approximately 650 people will be stationed at Units 3 and 4 during the standard workday.

The normal operating crew for each unit includes a shift supervisor, licensed plant operators, and non-licensed plant operators. A Shift Manager is also on shift during operation (as defined in the Technical Specifications). Personnel from the Chemistry and Health Physics, Maintenance, and Security Departments are also on site continuously.

Refer to Table B-1 for minimum staffing requirements. The table is segmented into columns to identify the staffing requirements for the two reactor designs used at the site. The table also includes a column that lists site staffing requirements. The fourth column lists the minimum staffing requirements for Units 1 and 2 operations; the fifth column lists the minimum staffing requirements for Unit 3 operations (prior to Unit 4 and independent of Units 1 and 2 staffing levels); the sixth column lists the minimum staffing requirements for Unit 3 and 4 operations; the seventh column lists the minimum staffing requirements for the VEGP site; and the eighth column lists staff augmentation that will occur within 60 minutes of notification. Augmentation of the site will occur at the indicated levels irrespective of the number of units located at the site. After Unit 4 is in operation, the fifth column (Unit 3 staffing) will not be used.

B.2 Emergency Response Organization

The Emergency Director has the responsibility to classify an event in accordance with the emergency classification system described in Section D. Classification of an event into one of the four emergency categories (Notification of Unusual Event [NUE]; Alert; Site Area Emergency; or General Emergency) activates the Site emergency response organization. The extent to which the emergency response organization is activated depends on the severity of the situation. Table B-1 provides a summary of personnel available on shift and those who would be available within 60 minutes of notification.

For an NUE, the Emergency Director will assign responsibility for making the appropriate notifications and directing the proper response; but no further activation of the emergency response organization will be required.

If the event is classified as an Alert, the Technical Support Center (TSC), Operations Support Center (OSC), and Emergency Operations Facility (EOF) will be activated.

For these classifications, the emergency response organization will be structured as shown on Figure B-2. The corporate resources and operation is presented in Appendix 7, Emergency Operations Facility. Corporate personnel who report to the plant site will be integrated into the Site emergency response organization.

For a Site Area Emergency or General Emergency, the emergency response organization will be fully activated. The organization will be as shown in Figure B-3.

A security related emergency may delay the ordering of facility activation in order to protect plant personnel from the security threat. The decision to delay activation of the facilities will be made by the Emergency Director. Relationships among the Site emergency response organization and other elements of emergency response are shown on Figure A-1.

B.2.1 Emergency response organization Responsibilities

Following an Alert or higher emergency declaration, the positions shown on Figures B-2 and B-3 will be filled by Site or SNC personnel as discussed below.

B.2.1.1 Emergency Director

Plant personnel that may be designated as Emergency Directors are listed in Table B-2. They will receive training as specified in Table O-2 prior to becoming qualified to fill this position. Their non-emergency positions will provide them plant knowledge and supervisory skills necessary to fill the Emergency Director position.

The Emergency Director has the authority, management ability, and knowledge to assume the overall responsibility for directing Site staff in an emergency situation. Initially this position will be filled by the Shift Manager or the Shift Supervisor if the Shift Manager can not be located expeditiously. The responsibility for emergency direction will be transferred to the Nuclear Plant General Manager or an alternate after receiving an appropriate briefing and becoming familiar with the current status of events.

The primary and alternates for the position of Emergency Director are shown on Table B-2.

The Emergency Director will manage the following activities for the duration of the emergency:

- Directs the notification of Site, SNC and GPC personnel and notifies and maintains open communications with offsite authorities regarding all aspects of emergency response.

- Oversees the activation and staffing of emergency response facilities and requests additional assistance, as needed.
- Authorizes emergency operation actions taken to mitigate the emergency condition or reduce the threat to the safety of plant personnel or the public, including the recommendation of protective actions to offsite authorities.
- Provides overall direction for management of emergency services related to the procurement of materials, equipment, and supplies; documentation; accountability; and security functions.
- Provides overall direction for the management of emergency operations planning for procedure, equipment, and system development to support emergency operations.
- Use discretionary authority to modify emergency implementing procedures or tailor the emergency response organization to fit the specific staffing needs.

The Emergency Director may not delegate the following responsibilities:

- Decision to notify offsite emergency response agencies.
- Decision to recommend protective actions to offsite authorities.
- Declaration of emergency classifications.
- Authorization for plant personnel to exceed 10 CFR 20 radiation exposure limits.
- Decision to terminate the emergency.
- Requests for Federal assistance.
- Decision to order site dismissal of non-involved personnel from the site at an Alert classification level.
- Decision to order non-involved personnel to proceed to a reception center and receive radiological monitoring.

The Emergency Director may operate from the control room or TSC at his discretion. He may act as the TSC manager during the early phases of emergency response until the TSC is activated. It is the intent of SNC that the ED function will be transferred from the Control Room as soon as practicable.

B.2.1.2 TSC Staff

B.2.1.2.1 TSC Manager

- Coordination of inputs and recommendations from technical and corrective action advisors.
- Direction of onsite emergency personnel involved in restoration of the plant to a safe condition.
- Technical assistance and operations guidance to control room personnel.

- Direction of TSC staff in analysis of problems, design and planning for temporary modifications, and development of temporary emergency operating procedures.
- Recommendation of protective actions to the emergency director based on plant conditions.
- Providing recommendations on emergency classifications to the Emergency Director.

B.2.1.2.2 TSC Support Coordinator

The TSC Support Coordinator will direct the clerical and logistic activities in the TSC. The TSC Support Coordinator ensures that support staff, including clerks, status board keepers, and communicators, are available in sufficient numbers and that office supplies, drawings, and other documents are available to TSC and OSC personnel. The TSC Support Coordinator is responsible for timely completion of offsite notification. The TSC Support Coordinator ensures that transportation and communication needs are satisfied. The TSC Support Coordinator arranges for additional offsite support personnel and equipment working in conjunction with the EOF Support Coordinator.

B.2.1.2.3 Engineering Supervisor

The Engineering Supervisor will direct a staff of engineers with expertise in reactor engineering, thermal and hydraulic analysis, instrumentation and control, and mechanical and electrical systems. The Engineering Supervisor will direct the analysis of plant problems, core damage assessment, and provide recommendations for plant modifications to mitigate the effects of the accident.

B.2.1.2.4 Maintenance Supervisor

The Maintenance Supervisor will manage the planning and coordination of repair, damage control, and plant modification activities. The Maintenance Supervisor will work closely with the Engineering Supervisor in planning for plant modifications and repairs.

B.2.1.2.5 Operations Supervisor

The Operations Supervisor will analyze problems associated with systems operations and provides recommendations for procedures for mitigating the emergency situation.

B.2.1.2.6 Health Physics Supervisor

The Health Physics Supervisor will be responsible for onsite and in-plant radiological controls. The Health Physics Supervisor will provide guidance to the Maintenance Supervisor related to radiological considerations associated with plant modification and repair, and will provide direction to the OSC Manager related to the health physics controls for emergency teams. The

Health Physics Supervisor will perform offsite dose assessment prior to EOF activation and will keep the Dose Assessment Supervisor in the EOF informed of the radiological status of the plant.

B.2.1.2.7 Chemistry Supervisor

The Chemistry Supervisor will be responsible for directing and evaluating in-plant chemistry and analyses, directing and evaluating post accident sampling, and assisting in core damage assessment.

B.2.1.2.8 TSC Security Supervisor

The TSC Security Supervisor will coordinate the security functions including accountability and site access control. The TSC Security Supervisor coordinates the processing of offsite personnel who require authorization to enter the site. When directed by the Emergency Director, the TSC Security Supervisor will request assistance from civil law enforcement authorities, as required.

B.2.1.3 OSC Staff

B.2.1.3.1 OSC Manager

The OSC Manager will receive direction from TSC personnel to dispatch emergency teams (e.g., firefighting, search and rescue, first aid, repair, etc.) to prescribed areas of the plant or site. The OSC Manager will direct the composition of the teams to ensure that appropriately qualified personnel are assigned. In particular, the OSC Manager will ensure that proper health physics coverage is provided. The OSC Manager will provide specific instructions to the team leaders. The OSC Manager will also maintain communications with the teams that remain assigned to the OSC and monitor the status of their activities.

B.2.1.3.2 OSC Personnel

Selected emergency response personnel will report to the OSC as directed. Depending on the nature of the emergency, personnel from the Maintenance, Operations, Chemistry and Health Physics Departments will be directed to report to the OSC. The following emergency teams will be formed as necessary:

- Backup fire brigade
- Search and rescue
- First aid
- Damage assessment
- Damage control
- Repair and modification

- Field monitoring

B.2.1.4 EOF Staff

The description of the EOF Staff organization and responsibilities is shown in Appendix 7.

B.2.2 Emergency response organization Assignments

Table B-2 identifies by title the individuals who will fill the key emergency positions.

A sufficient number of people will be identified to ensure that all emergency positions on Table B-2 will be filled.

B.2.3 Other Support Services

B.2.3.1 Contractor Support

Arrangements have been made to obtain support services from Bechtel Power Corporation and Westinghouse, if required. These organizations will initially be contacted by the EOF Support Coordinator to arrange for the required assistance.

B.2.3.2 Medical Assistance

Agreements are in place with Radiation Management Consultants, Burke County Hospital, Doctors Hospital, and Burke County Emergency Management Agency (see Appendix 2) to provide assistance for injured personnel, including cases involving radioactive contamination. This assistance will be requested, whenever necessary, in accordance with plant procedures.

B.2.3.3 Government Agency Support

Assistance may be requested from Burke County, the State of Georgia, or Federal agencies. Section A describes the assistance that may be requested. Requests for aid will be made by the Emergency Director.

B.2.4 Interfaces among Response Groups

Figure A-1 illustrates the integrated organization for response to an emergency at the Site.

Table B-1 Minimum Staffing for Power Operation

Major Functional Area	Major Tasks	Position Title or Expertise	Unit 1/2 On Shift	Unit 3 On Shift	Unit 3/4 On Shift	Site On Shift	Augmentation in 60 Minutes
Plant operation and assessment of operational aspects		Shift Manager (SRO)				1[d]	
		Shift Supervisor (SRO)	2[a], [b]	2[a], [b]	3[a], [b]		
		Plant Operator (RO)	3[a]	2[a]	4[a]		
		System Operator	3[a], [c]	2[a], [c]	4[a], [c]		
Emergency direction and control (Emergency Director)	Overall management of emergency organization	Shift Supervisor; Shift Manager				1[e]	1
Notification/communication	Notification of Site, State, local, and Federal personnel	Shift Administrative Assistant or other trained personnel	2	1	2		2
Radiological accident assessment and support of operational accident assessment	EOF direction	Corporate Management					1
	Offsite dose assessment	HP/Chemistry Shared Foreman	1	1	1		
	Offsite surveys onsite (out of plant)	Chemistry Technicians and other trained personnel				3	3
	In-Plant Surveys	HP Technicians				2	1
	Chemistry/radiochemistry	Chemistry Technicians or equivalent	1	1	1		2
Plant system engineering	Technical support (including core/ thermal hydraulics)	Shift Technical Advisor or engineer	1[f]	1[f]	1[f]		
		Electrical					1
		Mechanical					1
Repair and corrective actions	Repair and corrective action	Mechanical maintenance	1	1	1		1
		System operator					1
		Electrical maintenance	1	1	1		2
		Instrument and control technician	1	1	1		1

Table B-1 (Cont.) Minimum Staffing for Power Operation

Major Functional Area	Major Tasks	Position Title or Expertise	Unit 1/2 On Shift	Unit 3 On Shift	Unit 3/4 On Shift	Site On Shift	Augmentation in 60 Minutes
Protective actions (in plant)	Radiation protection: • Access control • HP coverage for repair, corrective actions, search and rescue, first aid and fire fighting • Personnel monitoring • Dosimetry • Decontamination	Health Physics technicians or other trained personnel	2	2	2		4
Firefighting						Fire Brigade per FSAR	Local Support
Rescue operations and first aid						2[g]	Local Support
Site access control and personnel accountability	Security, firefighting communications, personnel accountability	Security personnel				Per Security Plan	
		Totals	17[h]	14[h]	20[h]	5[i]	21

a. May be provided by shift personnel assigned other functions
b. One SRO position may be filled by the duty Shift Manager if the Shift Manager holds a SRO on the applicable unit
c. One of the System Operators may be assigned to the Fire Brigade
d. May be filled by SRO from either Units 1 and 2 or Units 3 and 4
e. May be provided by shift personnel assigned other functions
f. Required unless Shift Manager or the individuals with a senior operating license meet the qualification for the STA as required by the NRC
g. May be provided by shift personnel assigned other functions
h. Does not include positions footnoted with (f) on page B-7
i. Does not include positions footnoted with (d) or (e) on page B-7 or (g) on page B-8

Table B-2 Emergency Response Organization Assignments

Emergency Position	Primary	Alternate(s)
Emergency Director	Plant Manager	Vice president-Vogtle; operations manager; maintenance manager; operations superintendent; site support manager; shift manager; shift supervisor
	Designees	
EOF Staff	Corporate Staff as defined in Appendix 7	
TSC Manager	Supervision from on-site staff as designated in emergency implementing procedures	
TSC Support Coordinator	On-site staff as designated in emergency implementing procedures	
TSC Engineering Supervisor	Supervision from onsite staff as designated in emergency implementing procedures	
TSC Maintenance Supervisor	Supervision from onsite staff as designated in emergency implementing procedures	
TSC Operations Supervisor	Supervision from onsite staff as designated in emergency implementing procedures	
TSC Health Physics Supervisor	Supervision from onsite staff as designated in emergency implementing procedures	
TSC Chemistry Supervisor	Supervision from onsite staff as designated in emergency implementing procedures	
Engineers	Plant Engineers	
TSC Security Supervisor	Supervision from onsite staff as designated in emergency implementing procedures	
OSC Manager	Supervision from on-site staff as designated in emergency implementing procedures	
Dosimetry Team	Qualified health physics personnel	
Communicators (Offsite for Control Room, TSC, and EOF)	Plant engineers; nuclear specialist; administrative assistants; operations personnel, corporate staff	
Clerks	Administrative assistants	
In-plant radiation monitoring team	Selected emergency response personnel	
Post Accident sampling team	Selected emergency response personnel	
Damage control/assessment/repair team	Selected emergency response personnel	

Table B-2 (Cont.) Emergency Response Organization Assignments

Emergency Position	Designees
Search and rescue team	Selected emergency response personnel
Back-up fire brigade	Selected emergency response personnel
First aid team	Selected emergency response personnel
Field monitoring team	Selected emergency response personnel
Shift supervisor Plant operators Plant system operators	Normal operating response personnel

a. Assistant General Manager

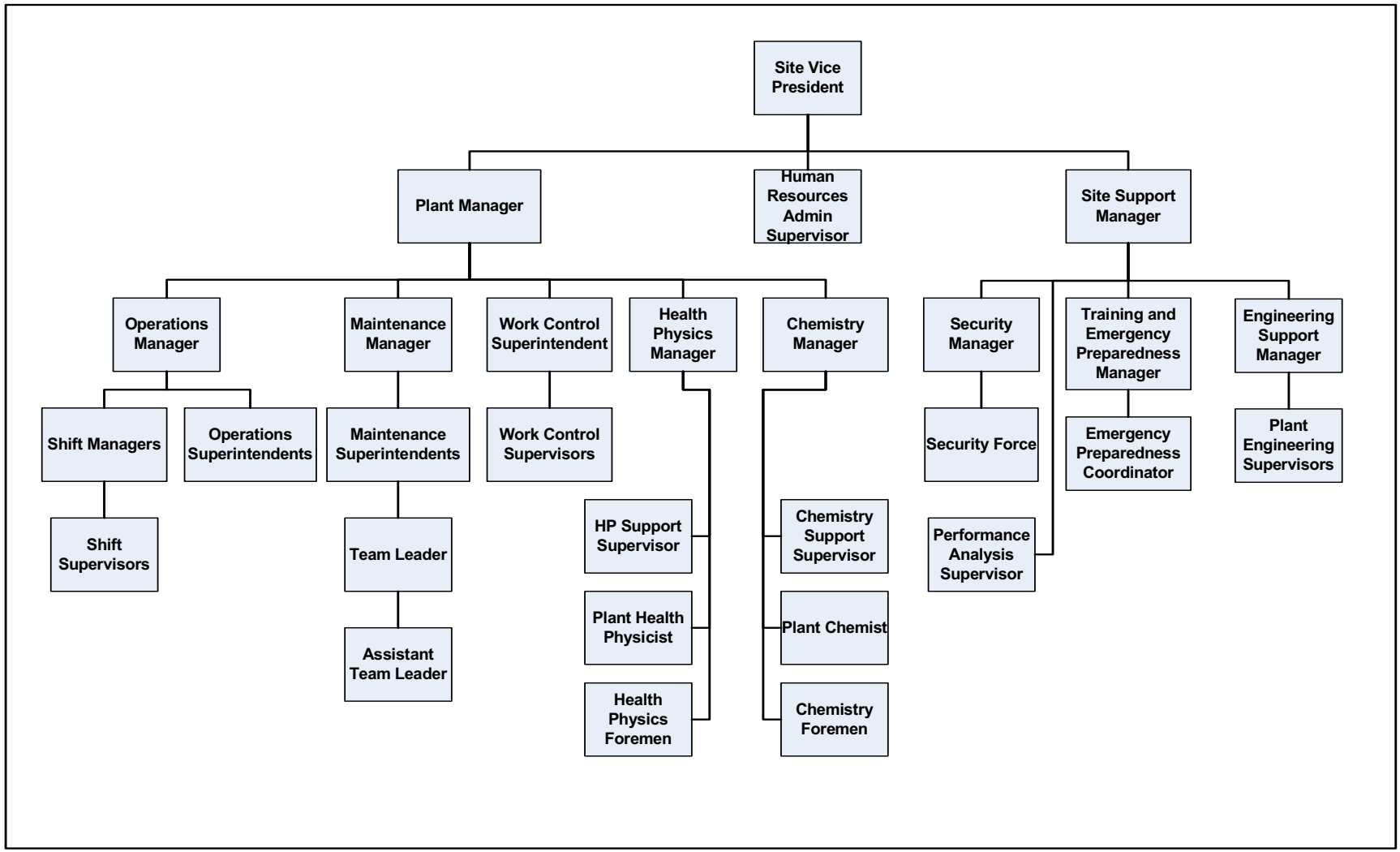

Figure B-1 Site Organization Chart

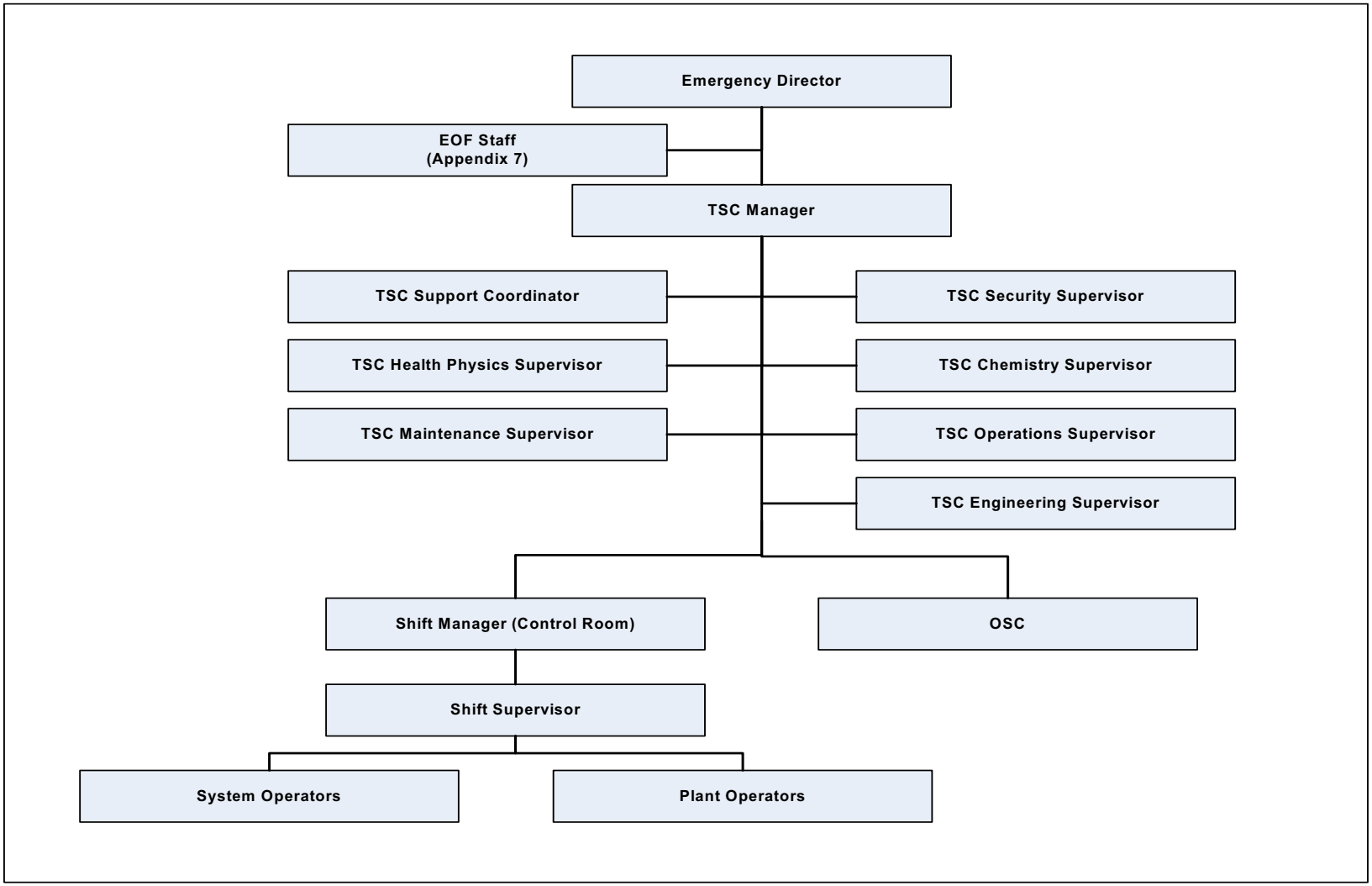

Figure B-2 Response Organization for Alert

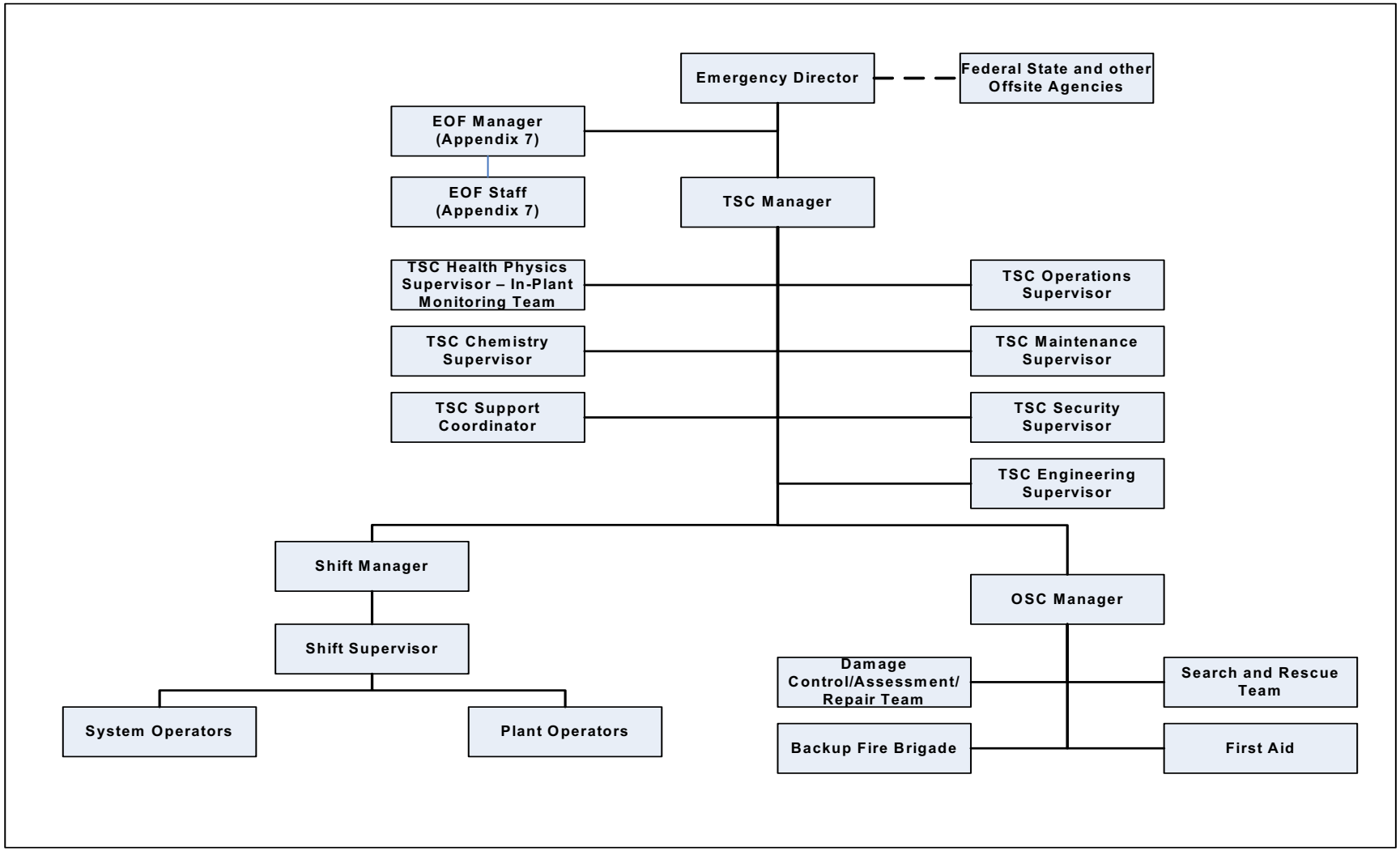

Figure B-3 Site Area or General Emergency ERO

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C Emergency Response Support and Rescue

C.1 State and Local Government Support

The State of Georgia through the Office of Homeland Security - Georgia Emergency Management Agency (OHS-GEMA) has the lead agency responsibility for responding to emergency situations throughout Georgia. Under the procedure established by the Georgia Emergency Operations Plan (GEOP), which was developed pursuant to the Governor's Executive Order, the Department of Natural Resources (DNR) radiological emergency response team in coordination with the Georgia Emergency Management Agency GEMA assesses the radiological conditions at the Site of an incident and determines whether a state of emergency should be declared. The Governor of the State of Georgia or GEMA can declare an emergency based upon the assessment made by GEMA and/or DNR.

The South Carolina agencies responsible for responding to a radiological emergency are the Office of the Adjutant General, Emergency Management Division (EMD) and the Department of Health and Environmental Control (DHEC). The Nuclear Emergency Planning Section within DHEC is given the primary role in responding to the technical aspects of a nuclear accident including assessment of the radiological consequences and provision of protective action guidelines to state and local authorities, through the EMD. The EMD is assigned primary responsibility for the planning effort and for coordinating the state response operations. Jointly with DHEC, EMD determines whether a state of emergency should be declared. Upon the EMD advising the Governor of South Carolina that a radiological emergency exists, the Governor declares an emergency.

The concept of operation for which the State and local governments are responsible, together with a discussion of responsibilities assigned to various state/county governmental agencies, are contained in the respective Radiological Emergency Response Plan. A complete discussion of authority, assigned responsibilities, capabilities, and activation and communication arrangements, are contained in the respective plans.

Representatives from the states of Georgia and South Carolina will be dispatched to the emergency operations facility (EOF) and the emergency news center (ENC). As requested, the Site will send representatives to the offsite government centers. Table C-1 lists the State and County EOCs with their addresses.

C.2 Federal Government Support

In addition to coordination with State/county governmental entities in an emergency situation, the Site may require assistance from certain Federal agencies in the areas of communications, radiological monitoring and laboratory analysis, transportation, and disaster relief. Requests for Federal assistance will be directed, as needed, by the emergency director, and usually these requests will be channeled through the GEMA. The exceptions to this procedure are direct

contacts between the Site Emergency Response Organization, the Nuclear Regulatory Commission (NRC), and Department of Energy, Savannah River (DOE-SR).

In the event of an incident in which Federal assistance is needed to supplement county and State emergency response capabilities, principal points of contact for State government are as follows:

- The Federal Emergency Management Agency (FEMA), Regional Headquarters in Atlanta, Georgia.
- The Department of Energy (DOE), Region Operations Office in Aiken, South Carolina.
- The Environmental Protection Agency (EPA), Regional Headquarters in Atlanta, Georgia.

The Department of Homeland Security (DHS) and its subordinate agency FEMA are assigned lead responsibility for Federal offsite nuclear emergency planning and response (per Title 44 CFR 351 and the Homeland Security Act of 2002). DHS is also delegated responsibility for development and promulgation of the Federal Radiological Emergency Response Plan (FRERP). The FRERP assumes that states will be responsible for overall management of offsite emergency response. The Federal government's role consists of providing technical and/or logistical resource support at the request of State emergency management.

Federal emergency response consists of technical and non-technical components. The NRC and FEMA jointly coordinate federal emergency response actions. The NRC coordinates technical aspects, and FEMA coordinates non-technical aspects of Federal response.

The NRC and FEMA are expected to have representatives at the Site within about three hours after receiving notification. DOE can give assistance within about two hours.

GEMA has the overall responsibility for making arrangements to support the Federal offsite response. County emergency management directors, in whose area Federal government response personnel are to be housed or whose county is otherwise affected by the Federal response, will cooperate with the Federal government and the GEMA in planning for, and making, the necessary support arrangements.

Suitable quarters for lodging Federal government personnel include commercially available hotel/motel accommodations, dormitory, military billets, or similar accommodations. Such facilities exist in the greater Augusta area. Twenty-four hour food service is also available in the area. Commercial auto rentals are available at Bush Field and in the Augusta area.

Within several hours of notification, Federal response personnel will begin arriving at, or near, the Site. The Federal Response Center (FRC) will be established for the coordination and exchange of information among various Federal agencies during an emergency at the Site. The Federal Radiological Monitoring and Assessment Center (FRMAC) will be established for the coordination of Federal monitoring and assessment assistance with State and local governments.

Upon activation of the Federal Radiological Emergency Response Plan (per 44 CFR 351), the DOE is tasked with providing telecommunications support to Federal agencies assisting in offsite radiological monitoring. The DOE has a communications pod which has telephone, VHF radio, microwave, and video receiving and transmission capability. Up to 20 telephone lines may be initially installed. The pod has radio-to-telephone patch capability and microwave capability for about 60 miles. The DOE has written agreements with all telephone companies to provide additional telephone communications, including satellite capability, within 24 to 48 hours. This capability will be used to supplement communications among the FRC, FRMAC, EOF, and States of Georgia EOC/FEOC and South Carolina EOC.

Airfields in the plant vicinity that may be used to support the Federal response, as well as that of other response groups, include a commercial airport with scheduled service and nearby municipal airports that can accommodate small aircraft.

Bush Field (Augusta, Georgia) is the closest major airport capable of providing services for large aircraft. The field is a scheduled commercial air carrier facility capable of handling large multiengine jet aircraft. It is also a military air headquarters for the U. S. Army operating out of Ft. Gordon, Georgia.

Daniel Field (Augusta, Georgia) and Aiken Municipal (Aiken, South Carolina) are air fields capable of servicing and maintaining medium-size jet and propeller aircraft. The Burke County Airport (Waynesboro, Georgia) is the nearest airport to the Site and is used only by small general aviation aircraft.

C.3 VEGP Site Support

The Site will provide space, telephone communications, and administrative services for NRC and FEMA personnel at the TSC and EOF. Up to five NRC representatives can be accommodated at the TSC. In the EOF, space is provided for nine NRC personnel and one FEMA representative. NRC representatives may also be present in the control room. Emergency notification system (ENS) telephones and commercial telephones will be available in the control room, TSC, and EOF. Health Physics Network (HPN) telephones will be available in the TSC and the EOF.

C.4 Other Support

The onsite laboratory will be equipped to analyze all normal in-plant samples. The equipment will include an ion chromatograph, gas chromatograph, gamma spectrometer, and other analytical support equipment.

Field samples will be taken by Site field monitoring teams. These teams will take direct radiation readings and will collect air samples, soil samples, vegetation samples, and water samples as directed by the dose assessment manager. The samples will be scanned with field instrumentation and will then be taken to the Site for laboratory analyses. If necessary, samples will be transported to the Georgia Power Company (GPC) Environmental Laboratory located in

Smyrna, Georgia, or to Plant Hatch for more refined analyses. Environmental samples will be collected by GPC corporate personnel. These samples will be obtained from the current fixed environmental program which is described in Section I. Environmental samples will be sent to Plant Hatch or the GPC environmental laboratory. In-plant samples, such as effluent and air samples, will be analyzed using a gamma spectrometer that will be located in the counting room. Post-accident sampling is described in Section I.

Private organizations that will supply engineering, health physics, and general emergency support are listed below:

- Southern Nuclear Operating Company (SNC), Birmingham, Alabama
- Southern Company Services, Inc. (SCS), Birmingham, Alabama
- Westinghouse Electric Company, LLC (Westinghouse), Pittsburgh, Pennsylvania
- Institute of Nuclear Power Operations (INPO), Atlanta, Georgia

SNC will serve as the primary engineering and design organization for the plant. The nuclear steam supply systems for the plant were purchased from Westinghouse for Units 1 and 2, and AP1000 standard plants will also be purchased from Westinghouse for Units 3 and 4. Westinghouse continues, and will continue, to provide operations support to the company in plant modifications, licensing, and engineering.

As a member of INPO, SNC is provided with INPO's emergency response manual. This manual identifies the quantity of personnel that various organizations (utilities, service companies, and reactor vendors) could reasonably be expected to make available in response to a request for emergency support.

Several offsite GPC and SNC departments may be involved in the emergency response effort. These departments will, where appropriate, develop separate nuclear emergency response plans and procedures governing their emergency functions. Coordination of these plans to ensure a consistent integrated response is the responsibility of the Corporate Emergency Planning Section. These specific plans will include:

- Corporate Emergency Plan, controlled by the SNC Corporate Emergency Planning Section.
- Emergency Communication Plan, controlled by SNC Public Affairs.
- VEGP Security Plan, controlled by the Manager Nuclear Security.
- VEGP Fire Protection Plan, controlled by engineering support.

Table C-1 State and County Emergency Operation Centers (EOCs)

Organization	EOC Location
Georgia State EOC (SEOC)	935 East Confederate Avenue Atlanta, GA 30316-2531
Georgia Forward EOC	Burke County EMA Building 277 GA Hwy 24 and Perimeter Road Waynesboro, GA 30830
Burke County EOC	Burke County EMA Building 277 GA Hwy 24 and Perimeter Road Waynesboro, GA 30830
South Carolina SEOC	2779 Fish Hatchery Road West Columbia, SC 29172-2024
Aiken County EOC	Aiken County Council Building 420 Hampton Avenue West Aiken, SC 29801-3832
Allendale County EOC	Allendale County Courthouse 292 Barnwell Allendale Highway Allendale, SC 20810
Barnwell County EOC	Barnwell County Office 57 Wall Street Barnwell, SC 29812-1584

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D Emergency Classification System

D.1 Classification of Emergencies

The classification system is based on the four emergency classes described in 10CFR50 Appendix E and NUREG 0654, established by the Nuclear Regulatory Commission (NRC), for grouping off-normal nuclear power plant conditions according to (1) their relative radiological seriousness, and (2) the time-sensitive onsite and off-site radiological emergency preparedness actions necessary to respond to such conditions. The existing radiological emergency classes, in ascending order of seriousness, are called:

- Notification of Unusual Event (NUE)
- Alert
- Site Area Emergency
- General Emergency

The classes, therefore, determine initial steps to be taken by on site and by corporate emergency response personnel. The emergency classes are used by offsite authorities to determine which of the preplanned actions are to be taken by their emergency response organizations.

An emergency classification is indicative of the status of the plant. Inputs to the emergency classification system include the status of various plant systems, radiation levels in and around plant areas, and the rate of release of radioactivity from the plant. These are termed Initiating Conditions which are a predetermined subset of nuclear power plant conditions where either the potential exists for a radiological emergency, or such an emergency has occurred.

The SNC classification scheme for Units 1 and 2 is based on Nuclear Energy Institute (NEI) 99-01, Rev 4, *Methodology for Development of Emergency Action Levels*, January 2003 endorsed by Regulatory Guide 1.101, Rev 4, *Emergency Planning and Preparedness for Nuclear Power Reactors,* and NEI 07-01, Rev 0, *Methodology for development of Emergency Action Levels Advanced Passive Light Water Reactors,* for Units 3 and 4. The Initiating Conditions lead each plant to a classification Implementing Procedure which contains the Threshold values for each Initiating Condition.

Each Initiating Condition has specific conditions associated with it that are termed Threshold Values. When an Initiating Condition is observed and the criteria of it's associated Threshold Values are met, an Emergency Action Level (EAL) is met and the event is then classified and declared at the appropriate level.

The SNC Classification procedures are written to classify events based on meeting the Initiating Condition (IC) and a Threshold Value (TV) for an EAL considering each Unit independently. During events, the ICs and TVs are monitored and if conditions meet another higher EAL, that higher emergency classification is declared and appropriate notifications made. Notifications are made on a site basis. If two or more units are in concurrent classifications, the highest

classification would be used for the notification and the other unit classifications noted on the notification form.

At all times, when conditions present themselves that are not explicitly provided in the EAL scheme, the Emergency Director has discretion to declare an event based on his knowledge of the emergency classes and judgment of the situation or condition.

Once an emergency classification is made, it cannot be downgraded to a lower classification. All the actions associated with the emergency classification level must be completed and then a termination of the event can be affected. At termination, on an event specific basis, the site can either enter normal operating conditions or enter a recovery condition with a recovery organization established for turnover from the ERO.

The described emergency classes, and the emergency action levels which determine them, are agreed on by SNC, and State and local authorities. The emergency action levels will be reviewed by these officials annually.

D.1.1 Notification of Unusual Event

D.1.1.1 Description

The classification of Notification of Unusual Event applies to situations in which events are in process or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.

D.1.1.2 Response

In the event of a Notification of Unusual Event, the Shift Manager will assess the conditions and implement the classification emergency implementing procedure (EIP) The emergency response organization will perform the following:

- Inform State and local offsite authorities of the nature of the unusual event within 15 minutes of classifying the emergency. Notify the Nuclear Regulatory Commission (NRC) as soon as possible (ASAP), but no later than 1 hour following classification of the emergency.
- Augment on-shift resources, as needed.
- Assess and respond to the event.
- Escalate to a more severe class, if appropriate, or close out with a verbal summary to offsite authorities followed by a written summary within 24 hours.

D.1.2 Alert

D.1.2.1 Description

The classification of Alert applies to situations in which events are in process or have occurred which involve an, actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of intentional malicious dedicated efforts of hostile action. Any releases of radioactive material for the Alert classification are expected to be limited to small fractions of the U. S. Environmental Protection Agency (EPA) Protective Action Guideline (PAG) exposure levels. The purpose of offsite alert is to assure that emergency personnel are readily available to respond if the situation becomes more serious or to perform confirmatory radiation monitoring, if required, and to provide offsite authorities current status information.

D.1.2.2 Response

In the event of an Alert, the Shift Manager will assess the conditions and implement the Classification EIP.

The emergency response organization will then perform the following:

- Within 15 minutes of classification, inform State and local offsite authorities of Alert Emergency and reasons for emergency. Notify the NRC ASAP, but no later than 1 hour following classification of the emergency.
- Augment resources and activate the emergency response facilities (e.g., Technical Support Center (TSC), Operational Support Center (OSC) and the Emergency Operations Facility [EOF]). These actions may be delayed for security based events at the discretion of the emergency director.
- Assess and respond to the emergency.
- Mobilize, and dispatch if necessary, onsite survey teams.
- Provide periodic plant status updates to offsite authorities.
- Provide periodic meteorological assessments to offsite authorities and, if any emergency releases are occurring, field monitoring team readings or dose estimates for actual releases.
- Activate the Emergency Response Data System for the affected unit within 1 hour following declaration of the Alert.
- Escalate to a more severe class, if appropriate, or close out the emergency class by verbal summary to offsite authorities followed by written summary within 8 hours of closeout.

D.1.3 Site Area Emergency

D.1.3.1 Description

The classification of Site Area Emergency applies to those events which are in progress or have occurred that involve actual or likely major failures of plant functions needed for protection of the public from radiation or contamination, or security events that result in intentional damage or malicious acts toward site personnel or equipment that; (1) could lead to the likely failure of or; (2) prevent effective access to, equipment needed for the protection of the public. Any releases of radioactive material for the Site Area Emergency classification are not expected to exceed EPA Protective Action Guideline exposure levels except near the site boundary.

D.1.3.2 Response

In the event of a Site Area Emergency, the Shift Manager will assess the conditions and implement the Classification EIP.

The emergency response organization will perform the following:

- Within 15 minutes of classification, inform State and local offsite authorities of Site Area Emergency and reasons for emergency. Notify the NRC ASAP, but no later than 1 hour following classification of the emergency.
- If necessary, provide protective action recommendations to State and local authorities.
- Augment resources and activate the emergency response facilities (e.g., Technical Support Center (TSC), Operational Support Center (OSC), and the Emergency Operating Facility [EOF]). These actions may be delayed for security based events at the discretion of the emergency director.
- Assess and respond to the emergency.
- Dispatch, as necessary, onsite and offsite survey teams.
- Dedicate individuals for plant status updates to offsite authorities and periodic press briefings.
- On a periodic basis, make senior technical and management staff available for consultation with the NRC and State officials.
- Provide meteorological information and dose estimates to offsite authorities for actual releases via a dedicated individual.
- Provide release and dose projections based on available plant condition information and foreseeable contingencies.
- Activate the Emergency Response Data System for the affected unit within 1 hour following declaration of the Site Area Emergency.
- Escalate to General Emergency, if appropriate, or close out the emergency class by briefing of offsite authorities followed by written summary within 8 hours of closeout.

D.1.4 General Emergency

D.1.4.1 Description

The classification of General Emergency applies to those events which are in progress or have occurred which involve actual or imminent substantial core degradation or melting with potential loss of containment integrity or security events that result in an actual loss of physical control of the facility. Release of radioactive material for the General Emergency classification can reasonably be expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.

D.1.4.2 Response

In the event of a General Emergency, the Shift Manager will assess the conditions and implement the Classification EIP.

The Emergency response organization will then perform the following:

- Within 15 minutes of classification, inform State and local offsite authorities of the General Emergency and reason for emergency. Notify the NRC ASAP, but no later than 1 hour following classification of the emergency.
- Provide protective action recommendations to State and local authorities based upon plant conditions and/or actual or projected releases of radioactive material.
- Augment resources and activate the emergency response facilities (e.g., Technical Support Center (TSC), Operational Support Center (OSC), and the Emergency Operating Facility [EOF]). These actions may be delayed for security based events at the discretion of the emergency director.
- Assess and respond to the emergency.
- Dispatch onsite and offsite survey teams.
- Dedicate an individual for plant status updates to offsite authorities and periodic press briefings.
- On a periodic basis, make senior technical and management staff available for consultation with the NRC and State officials.
- Provide meteorological data and field monitoring team readings or dose estimates to offsite authorities for actual releases.
- Provide release and dose projections based on plant condition and foreseeable contingencies.
- Activate the Emergency Response Data System for the affected unit within 1 hour following declaration of the General Emergency.

Close out the emergency class by briefing of offsite authorities followed by written summary within 8 hours of closeout.

D.2 Classification Process

The Classification Emergency Implementing Procedure is used to classify the emergency condition upon recognition of an off-normal condition relative to an Initiating Condition.

Two Initiating Condition Matrices are used depending on the initial mode of the unit. A Hot Initiating Condition matrix is used when the unit is in the Technical Specification defined modes of Hot Shutdown, Hot Standby, Startup and Power Operation for existing Units 1 and 2, and the defined modes of Safe Shutdown, Hot Standby, Startup, and Power Operation for proposed Units 3 and 4. A Cold Initiating Condition matrix is used when the unit is in the Cold Shutdown and Refueling modes. The IC Matrices are human factored to read from top to bottom, General Emergency to Notification of Unusual Event, within a category or subcategory.

To facilitate the expeditious classification of emergencies, the various initiating conditions which may result in an emergency class are grouped into six recognition categories as follows:

- Radiological (Hot and Cold – R series)
- Fission Product Barriers (Hot – F series)
- System Malfunctions (Hot – S series)
- System Malfunctions (Cold – C series)
- ISFSI (Hot and Cold – E series)
- Hazards (Hot and Cold – H series)

Within each category, sub categories and specific Initiating Conditions are identified.

Details of the IC Matrices are shown in Annex V1 Section D.2 for existing Units 1 and 2 and in Annex V2 Section D.2 for Units 3 and 4.

D.3 Definitions

D.3.1 Hostile Action

An act toward an NPP or its personnel that includes the use of violent force to destroy equipment, takes hostages, and/or intimidates the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included. HOSTILE ACTION should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on the NPP. Non-terrorism based EALs should be used to address such activities, (e.g., violent acts between individuals in the owner controlled area.)

D.3.2 Hostile Force

One or more individuals who are engaged in a determined assault, overtly or by stealth and deception, equipped with suitable weapons capable of killing, maiming, or causing destruction.

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E Notification Methods and Procedures

This section describes the plan for notification of onsite and off-site Site personnel and State, local, and Nuclear Regulatory Commission (NRC) emergency response centers. Actual methods and sequencing of notifications will be covered in appropriate implementation procedures. Tables E-1and E-2, and Figure E-1, present the initial notification concept.

E.1 Notification of Personnel

The Emergency Director is responsible for classifying an event (Section D) into the appropriate emergency class and then notifying onsite and off-site personnel accordingly using the means described below.

The primary means for notification of personnel within the protected area is the Public Address (PA) system. Upon declaration of a Notification of Unusual Event (NUE), an Alert, a Site Area Emergency, or a General Emergency, the Emergency Director will order an announcement of the emergency.

The tone signals for each of these classes of emergency conditions, as well as for a fire, will be as follows:

- NUE: announcement only, no tone signal
- Alert: warble tone
- Site Area Emergency: warble tone
- General Emergency: warble tone
- Fire: siren tone

The Supervisor Nuclear Security will be responsible for notifying the unaffected Site units, Plant Wilson, the training center, the visitor's center, and recreation park staff. All visitors at the visitor's center will leave the site if directed by the Emergency Director or if a Site Area or General Emergency is declared. Security will activate the site siren to notify personnel on site, but outside the protected area, of an evacuation order.

The Security Department will also be responsible for evacuating all visitors and nonessential personnel from the Plant Vogtle Recreational Park and for the verification of the evacuation of all nonessential personnel from the unaffected Site Units, Plant Vogtle, Plant Wilson, the training center, and the remaining areas inside the owner controlled area.

Visitors within the protected area are escorted by a permanently badged individual. This individual is responsible for informing visitors of emergencies when they occur and for taking action to evacuate visitors from the site, as necessary.

Plant and contractor personnel will be trained on actions to be taken in an emergency prior to their work assignment. The training will include instructions on the methods of personnel

notification and the required personnel actions in the event of an emergency. Notification of the corporate staff is performed in accordance with EIPs. The corporate duty manager is notified by the Vogtle duty manager who receives notification from the Emergency Director.

The notification procedure includes notification of Emergency Response Organization Personnel (ERO) not on site. ERO members will be notified by means of an auto-dialer system activated by on-shift personnel. In addition to those personnel recalled; operations, maintenance, and security personnel required to report will be contacted by on-shift personnel from their own respective department.

E.2 Notification of State and Local Response Personnel

The Emergency Director is responsible for the completion of the Initial Message Form (Figure E-1) and for the notification of the following agencies within 15 minutes of the declaration of an emergency:

- Georgia Emergency Management Agency Emergency Operations Center (EOC) communicator
- Burke County Emergency Operations Center (EOC) communicator
- South Carolina warning point
- Aiken County sheriff dispatcher
- Barnwell County sheriff dispatcher
- Allendale County central dispatch
- Department of Energy-Savannah River (DOE-SR) Operations Center communicator

These agencies will be responsible for notifying appropriate response personnel in accordance with their emergency plans and procedures. A dedicated telephone system, known as the Emergency Notification Network (ENN), will normally be used to accomplish these notifications. Section F describes the ENN and backup means of communication. Figure E-1 presents the sample initial message form for making notifications to these response centers. This form has been developed in conjunction with appropriate offsite agencies.

E.3 Notification of Federal Agencies

The Emergency Director is responsible for ordering notification calls to the DOE-SR Operations Center by ENN and to the NRC Operations Center by the Emergency Notification System (ENS), or commercial telephone as backup, within prescribed time constraints from the declaration of an emergency. Examples of the type of Initial Emergency Message Form used to provide the initial notification to the DOE-SR Operations Center, and the NRC Operations Center Event Notification Form used for the NRC notification, are shown in Figures E-1and E-2, respectively.

E.4 Notification of the Public

It is the responsibility of SNC to provide adequate means for notifying the public, or to be assured that such means are provided. In case of an emergency, State and local agencies are responsible for activating the alert notification system. Administrative and physical means have been established for providing early initial warning and subsequent clear instructions to the populace within the plume exposure pathway emergency planning zone (EPZ). The alert notification system, except for the Savannah River Site (SRS), is described in Appendix 3. This system has the capability to complete the initial alert notification of residents within the plume EPZ in about 15 minutes. Follow up messages can be delivered to the public over commercial broadcast.

In the event that an emergency is declared at the Site, DOE-SR has agreed to provide for the prompt notification of all persons on the SRS within the Site's plume exposure pathway EPZ. See Appendix 4.

The Site will provide offsite authorities with supporting information for their messages to the public. Such messages, consistent with the emergency classification scheme, will provide the public with instructions in regard to specific protective actions to be taken by occupants of affected areas.

E.5 Follow-up Emergency Messages

The Emergency Director is responsible for the completion of a follow-up emergency message (see Figure E-1, for a sample form.). The appropriate support coordinator will ensure the emergency communicator(s) periodically provide follow-up messages to the appropriate offsite Federal, State, and local authorities.

E.6 Verification of Notification Messages

All notification messages must be verified. When the ENN is used, verification is accomplished by roll call. This is a suitable mechanism, since the ENN is a multiparty, dedicated telephone line. When commercial telephone or radio is used for notification, the called party will contact the Site to verify the validity of the message or use the authentication system provided by the State of South Carolina EMD.

Table E-1 Initial Notification System – Normal Working Hours

Responsible Communicator	Primary Notification System	Party Notified
Control Room Staff	PA System	Protected area and administrative buildings
	PA System, telephone, pager	Site duty manager
	Auto-dialer system and beeper system	Recall for emergency personnel not on site
	Plant telephone system	• Unaffected Units • Plant Wilson • Visitor's center • Training center • Personnel on-site outside protected area
Security Department	Direct Contact	Recreation area occupants
ENN Communicator	ENN	• GEMA Operation Center communicator • Burke County EOC communicator • SRS Operations Center communicator • South Carolina Warning Point • Aiken County Sheriff dispatcher • Barnwell County Sheriff dispatcher • Allendale County Sheriff dispatcher
Operations Staff	ENS	NRC Operations Center
Site Duty Manager	Telephone	Corporate Duty Manager

Table E-2 Initial Notification System – Backshift Hours

Responsible Communicator	Primary Notification System	Party Notified
Control Room Staff	PA System	Protected area
	PA System, telephone, pager	Site duty manager
	Auto-dialer system and beeper system	Recall for emergency personnel not on site
	Plant telephone system	• Unaffected Units • Plant Wilson • Visitor's center • Training center • Personnel on-site outside protected area
Security Department	Direct Contact	Recreation area occupants
ENN Communicator	ENN	• GEMA Operation Center communicator • Burke County EOC communicator • SRS Operations Center communicator • South Carolina Warning Point • Aiken County Sheriff dispatcher • Barnwell County Sheriff dispatcher • Allendale County Sheriff dispatcher
Operations Staff	ENS	NRC Operations Center
Site Duty Manager	Telephone	Corporate Duty Manager

Southern Nuclear Emergency Notification

1. A DRILL B ACTUAL EVENT MESSAGE # _____
2. A INITIAL B FOLLOW-UP NOTIFICATION: TIME_____ DATE_____/_____/_____ AUTHENTICATION # _____
3. SITE: **VOGTLE** Confirmation Phone # Control Room (706-554-6762)
4. **EMERGENCY CLASSIFICATION:** A UNUSUAL EVENT B ALERT C SITE AREA EMERGENCY D GENERAL EMERGENCY

BASED ON EAL #_____ EAL DESCRIPTION: _____

5. **PROTECTIVE ACTION RECOMMENDATIONS:** A NONE

B EVACUATE _____
C SHELTER _____
D Advise Remainder of EPZ to Monitor Local Radio/TV Stations/Tone Alert Radios for Additional Information and CONSIDER THE USE OF KI (POTASSIUM IODIDE) IN ACCORDANCE WITH STATE PLANS AND POLICY.
E OTHER_____

6. **EMERGENCY RELEASE**: A None B Is Occurring C Has Occurred
7. RELEASE SIGNIFICANCE: A Not applicable B Within normal operating limits C Above normal operating limits D Under evaluation
8. EVENT PROGNOSIS: A Improving B Stable C Degrading
9. METEOROLOGICAL DATA: Wind Direction from _____ degrees Wind Speed _____mph
Precipitation _____ Stability Class A B C D E F G
10. A DECLARATION B TERMINATION Time _____ Date _____/_____/_____
11. AFFECTED UNIT(S): 1 2 All
12. UNIT STATUS: (Unaffected Unit(s) Status Not Required for Initial Notifications)
A U1 _____% Power Shutdown at Time _____ Date ___/_____/____
B U2 _____% Power Shutdown at Time _____ Date ___/_____/____
13. REMARKS: _____

FOLLOW-UP INFORMATION (Lines 14 through 16 Not Required for Initial Notifications)

EMERGENCY RELEASE DATA. NOT REQUIRED IF LINE 6 A IS SELECTED.

14. RELEASE CHARACTERIZATION: TYPE: A Elevated B Mixed C Ground UNITS: A Ci B Ci/sec C µCi/sec
MAGNITUDE: Noble Gases:_____ Iodines:_____ Particulates:_____ Other: _____
FORM: A Airborne Start Time _____ Date ___/_____/____Stop Time _____ Date ___/_____/____
B Liquid Start Time _____ Date ___/_____/____Stop Time _____ Date ___/_____/____
15. PROJECTION PARAMETERS: Projection period: _____Hours Estimated Release Duration _____Hours
Projection performed: Time _____ Date ___/_____/____ Accident Type: _____
16. PROJECTED DOSE:

DISTANCE	TEDE (mrem)	Adult Thyroid CDE (mrem)
Site boundary	_____	_____
2 Miles	_____	_____
5 Miles	_____	_____
10 Miles	_____	_____

17. APPROVED BY: _____ Title **EMERGENCY DIRECTOR** Time _____ Date___/_____/____
NOTIFIED BY: _____
RECEIVED BY: _____ Time _____ Date___/_____/____
(To be completed by receiving organization)

Figure E-1 Example of Initial Emergency Message for State and Local Response Agencies

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NRC FORM 361
(12-2000)

U.S. NUCLEAR REGULATORY COMMISSION
OPERATIONS CENTER

REACTOR PLANT
EVENT NOTIFICATION WORKSHEET

EN #

NRC OPERATION TELEPHONE NUMBER: PRIMARY -- 301-816-5100 or 800-532-3469*, BACKUPS -- [1st] 301-951-0550 or 800-449-3694*, [2nd] 301-415-0550 and [3rd] 301-415-0553 *Licensees who maintain their own ETS are provided these telephone numbers.

NOTIFICATION TIME	FACILITY OR ORGANIZATION	UNIT	NAME OF CALLER	CALL BACK #

EVENT TIME & ZONE	EVENT DATE	POWER/MODE BEFORE	POWER/MODE AFTER

EVENT CLASSIFICATIONS		1-Hr. Non-Emergency 10 CFR 50.72(b)(1)					
	GENERAL EMERGENCY GEN/AAEC		TS Deviation ADEV		(v)(A)	Safe S/D Capability	AINA
	SITE AREA EMERGENCY SIT/AAEC	4-Hr. Non-Emergency 10 CFR 50.72(b)(2)			(v)(B)	RHR Capability	AINB
	ALERT ALE/AAEC	(i)	TS Required S/D ASHU		(v)(C)	Control of Rad Release	AINC
	UNUSUAL EVENT UNU/AAEC	(iv)(A)	ECCS Discharge to RCS ACCS		(v)(D)	Accident Mitigation	AIND
	50.72 NON-EMERGENCY (see next columns)	(iv)(B)	RPS Actuation (scram) ARPS		(xii)	Offsite Medical	AMED
	PHYSICAL SECURITY (73.71) DDDD	(xi)	Offsite Notification APRE		(xiii)	Loss Comm/Asmt/Resp	ACOM
	MATERIAL/EXPOSURE B???	8-Hr. Non-Emergency 10 CFR 50.72(b)(3)			60-Day Optional 10 CFR 50.73(a)(1)		
	FITNESS FOR DUTY HFIT	(ii)(A)	Degraded Condition ADEG			Invalid Specified System Actuation	AINV
	OTHER UNSPECIFIED REQMT. (see last column)	(ii)(B)	Unanalyzed Condition AUNA		Other Unspecified Requirement (Identify)		
	INFORMATION ONLY NINF	(iv)(A)	Specified System Actuation AESF				NONR
							NONR

DESCRIPTION

Include: Systems affected, actuations and their initiating signals, causes, effect of event on plant, actions taken or planned, etc. *(Continue on back)*

NOTIFICATIONS	YES	NO	WILL BE
NRC RESIDENT			
STATE(s)			
LOCAL			
OTHER GOV AGENCIES			
MEDIA/PRESS RELEASE			

ANYTHING UNUSUAL OR NOT UNDERSTOOD? ☐ YES (Explain above) ☐ NO

DID ALL SYSTEMS FUNCTION AS REQUIRED? ☐ YES ☐ NO (Explain above)

MODE OF OPERATION UNTIL CORRECTED:

ESTIMATED RESTART DATE:

ADDITIONAL INFO ON BACK ☐ YES ☐ NO

NRC FORM 361 (12-2000)

Example

Figure E-2 Example of NRC Event Notification Worksheet

ADDITIONAL INFORMATION PAGE 2 OF 2

RADIOLOGICAL RELEASES: CHECK OR FILL IN APPLICABLE ITEMS ***(specific details/explanations should be covered in event description)***

LIQUID RELEASE	GASEOUS RELEASE	UNPLANNED RELEASE	PLANNED RELEASE	ONGOING	TERMINATED
MONITORED	UNMONITORED	OFFSITE RELEASE	T. S. EXCEEDED	RM ALARMS	AREAS EVACUATED
PERSONNEL EXPOSED OR CONTAMINATED		OFFSITE PROTECTIVE ACTIONS RECOMMENDED		*State release path in description	

	Release Rate (Ci/sec)	% T. S. LIMIT	HOO GUIDE	Total Activity (Ci)	% T. S. LIMIT	HOO GUIDE
Noble Gas			0.1 Ci/sec			1000 Ci
Iodine			10 uCi/sec			0.01 Ci
Particulate			1 uCi/sec			1 mCi
Liquid *(excluding tritium and dissolved noble gases)*			10 uCi/min			0.1 Ci
Liquid (tritium)			0.2 Ci/min			5 Ci
Total Activity						

	PLANT STACK	CONDENSER/AIR EJECTOR	MAIN STEAM LINE	SG BLOWDOWN	OTHER
RAD MONITOR READINGS					
ALARM SETPOINTS					
% T. S. LIMIT *(if applicable)*					

RCS OR SG TUBE LEAKS: CHECK OR FILL IN APPLICABLE ITEMS: ***(specific details/explanations should be covered in event description)***

LOCATION OF THE LEAK *(e.g., SG #, valve, pipe, etc.)*

LEAK RATE	UNITS: gpm/gpd	T. S. LIMITS	SUDDEN OR LONG-TERM DEVELOPMENT
LEAK START DATE	TIME	**COOLANT ACTIVITY AND UNITS:** PRIMARY	SECONDARY

LIST OF SAFETY RELATED EQUIPMENT NOT OPERATIONAL

EVENT DESCRIPTION *(Continued from front)*

Example

Figure E-2 (Cont.) Example of NRC Event Notification Worksheet

F Emergency Communications

This section describes the provisions for communication among the principal response organizations and among the Site Emergency Response Facilities (ERF). Emergency implementing procedures contain details of communication systems and operation. The communications described in this section are summarized in Table F-1.

F.1 Communications with the State of Georgia and Burke County

F.1.1 State of Georgia

The primary means of communication between the Site and the State of Georgia is the Emergency Notification Network (ENN), a dedicated telephone system from the Site to the State Emergency Operating Center (EOC) at Georgia Emergency Management Agency (GEMA) headquarters in Atlanta, Georgia. There is also an ENN terminal at GEMA's FEOC. Extensions for this system are located in the Control Room, Technical Support Center (TSC), and the Emergency Operations Facility (EOF). The ENN system is available on a twenty-four seven basis. Commercial telephones and Southern Company Communications in Atlanta provide backup for the dedicated telephone circuits. The plant telephone backup power is supplied by a battery system.

An Administrative Decision Line (ADL) connects the EOF, SRS Operations Center, the GEMA FEOC, the SEOC of both states, and the three South Carolina counties. This is a prearranged conference call over commercial telephone lines and may be used for discussions other than emergency notifications.

F.1.2 Burke County

The primary means of communication between the Site and Burke County is the ENN, a dedicated telephone system from the Site to the Burke County EOC. Commercial telephones and the Burke County Emergency Management Agency (EMA) radio network provide backup for the ENN.

The ENN is available and manned on a twenty-four seven basis. At the Site, the Emergency Director will be in charge of communications to the Burke County EOC. Actual communications may be completed by others as designated by the Emergency Director. At the Burke County EOC, the Burke County Emergency Management Director will be in charge of communications.

F.2 Communications with the State of South Carolina and Aiken, Barnwell, and Allendale Counties

F.2.1 State of South Carolina

The primary means of communication between the Site and South Carolina is the ENN, a dedicated telephone system from the Site to South Carolina emergency response agencies. The ENN has multiple drops in South Carolina state facilities which will be located at the South Carolina Warning Point (the State Emergency Operations Center [SEOC]) which is manned on a twenty-four seven basis. Commercial telephones provide the backup for the ENN.

An Administrative Decision Line (ADL) connects the EOF, the SRS Operations Center, the GEMA FEOC, the SEOCs of both states, and the three South Carolina counties. This prearranged conference call over commercial lines may be used for discussions other than emergency notifications.

The State Emergency Preparedness Director will be responsible for communication at the SEOC with the Site, the Savannah River Site, and contiguous local and State governments.

F.2.2 Aiken, Barnwell, and Allendale Counties

The primary means of communication between the Site and the South Carolina counties will be the ENN, a dedicated telephone system which includes the Site and Aiken, Barnwell, and Allendale Counties' emergency response agencies. Commercial telephone is the backup means of communication.

Each county has 2 ENN drops: one at the County EOC and one at the following 24 hour warning points:

- Aiken County Sheriff Department Dispatcher
- Allendale County Communications
- Barnwell County 911 Center

F.3 Communications with the Savannah River Site

The primary means of communication between the Site and the Savannah River Site (SRS) is the ENN. SRS has two ENN drops, both located in their Operations Center. The ENN system is available and manned on a twenty-four seven basis. Commercial telephones provide a backup for the ENN. At the Site, the Emergency Director will be in charge of communications to the SRS Operations Center. Actual communications may be completed by others as designated by the Emergency Director. At the SRS Operations Center, the DOE duty officer will be in charge of communications with the Site.

F.4 Communications with the Nuclear Regulatory Commission and Other Federal Agencies

The primary means of communication between the Site and the Nuclear Regulatory Commission (NRC) is the Emergency Notification System (ENS). The ENS phone service is provided by the Federal Telecommunications System (FTS). The ENS is located in the Control Room, TSC, and EOF. The NRC also provides the Health Physics Network (HPN). The HPN phone service is also provided by the FTS. HPN phones are located in the TSC and EOF. In the TSC, the HPN phone will be attended by Site personnel until an NRC representative arrives. The NRC Region II office in Atlanta, Georgia, may also be connected on the ENS through Rockville, Maryland.

The Emergency Response Data System (ERDS) is the primary means by which the transmission of plant parameters occurs. The ERDS computer, when activated, will periodically transmit a predefined list of critical plant parameters over the dedicated ERDS FTS lines to the NRC Operations Center in Rockville, Maryland.

Commercial telephone lines and the Southern Company Communications serve as backup to the ENS and HPN. Communications with other Federal emergency response organizations will be by telephone.

F.5 Communications among VEGP Emergency Response Facilities

Communications among the Control Room, TSC, OSC, and EOF will be completed using dedicated telephone circuits, normal plant telephones, and radio, using the plant network. The radio system will also be used for communications with the radiological monitoring teams. Communications that are available at each emergency response facility are as follows:

F.5.1 Control Room

- Dedicated telephone circuits to the TSC, EOF, and OSC (one for each location)
- ENN
- NRC ENS
- Normal plant phones
- In-plant radio console
- Sound-powered phones
- Plant page system
- Commercial dial
- Southern Company Communications
- Facsimile

F.5.2 Technical Support Center

- Dedicated telephone circuits to the control room, EOF, and OSC (one to each location)
- ENN
- ENS
- Two FTS ERDS lines
- HPN
- Facsimile
- Normal plant phones
- In-plant radio
- Sound-powered phones
- Plant page system
- Field team radio remote
- Additional FTS lines
- Commercial dial
- Burke County radio remote
- South Carolina radio remote
- Southern Company Communications

F.5.3 Operations Support Centers

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

F.5.4 Emergency Operations Facility

- Dedicated telephone circuits to the Control Room, OSC, and TSC (one each to the control room, OSC, TSC)
- ENN
- ENS
- HPN
- Facsimile

- Normal plant phones
- Commercial dial
- Additional FTS lines
- Southern Company Communications
- ENC hotline
- Field team radio remote
- ADL prearranged conference

F.5.5 Emergency News Center

- Southern Company Communications
- GPC general office dial
- Commercial dial
- Site dial
- Facsimile

F.6 Medical Support Facility Communications

Communications with Columbia Doctors Hospital or the Burke County Hospital is by commercial telephone. Radio contact through the Burke County EOC serves as a backup. The Burke County Ambulance Service is equipped with a radio for communications with the hospitals. The ambulance service and hospitals within the state are interconnected in a statewide hospital radio network. The Site is able to communicate with the ambulances by contacting the hospitals, which have radio communications with the ambulances.

F.7 Alerting Emergency Response Personnel

As described in Section E, notification of onsite personnel at the Site will be completed through a combination of public address system announcements, tone signals, and proceduralized telephone calls. After normal working hours, Site personnel not on site at the time of the emergency will be notified by beeper (for plant management) or by telephone call using an auto-dialer system.

F.8 Communications Systems Tests

Communication channels with the State of Georgia, Burke County, the State of South Carolina, Aiken County, Barnwell County, Allendale County, SRS, and the NRC are tested monthly, using the extensions in the Control Room, TSC, and EOF. Communications systems that link the Control Room, TSC, EOF, State EOC's and GEMA FEOC, County EOC's, and SRS EOC are tested quarterly. The communication system for communicating between the TSC, EOF, and the

Site field monitoring teams is tested quarterly. Communications procedures and systems are tested biennially during a communications drill. This drill is normally conducted during the biennial exercise.

Emergency Response Data System computers are tested quarterly.

F.9 VEGP Radiological Monitoring Teams

In-plant monitoring teams will communicate with the Health Physics or OSC communicator at least every half hour. Field monitoring teams will also communicate with the EOF or TSC communicator at least every half hour.

There will be multiple radio frequencies used for communicating with monitoring teams. Transmitters and antennas are located throughout the owner controlled area for field monitoring teams and the in-plant monitoring teams. The field monitoring team radio covers the entire plume exposure pathway EPZ. Remote stations for communicating with the field monitoring teams are located in the TSC and the EOF.

Table F-1 Emergency Response Communications Summary

	Control Room	TSC	OSC	EOF	Emergency News Center	Corporate Office	Burke County EOC GEMA FEOC	GEMA EOC	SRS	NRC Operations Center	NRC Region II Office, Atlanta	SC State EOC	SC County EOC's	SC County Warning Points
ENN	x	x		x			x	x	x			x	x	x
ENS	x	x		x						x	x(a)			
VEGP Dial	x	x	x	x	x		x							
Dedicated Dial	x	x	x	x										
Bell Dial	x	x	x	x	x	x	x	x	x	x	x	x	x	x
In-Plant Radio	x	x												
Plant Page System (PA)	x	x												
Burke County Radio		x	x											
Southern Company Communications	x	x	x	x	x	x	x	x	x			x	x	x
HPN		x	x	x						x				
Facsimile		x	x	x	x	x	x	x	x	x	x	x	x	x
Field Team Radio	x	x												
DNR Radio							x							
SC EPD Radio		x	x	x					x			x	x	
Administrative Decision Line			x	x			x	x	x			x	x	
ERDS		x						x		x	x			

a. ENS available when bridged with NRC Operations Center

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G Public Education and Information

The detailed planning for public information actions during an emergency, including rumor control, is contained in the Emergency Communications Plan (Appendix 8). A general description of the public education and information program follows.

Georgia Power Company (GPC) and Southern Nuclear Operating Company (SNC), in coordination with State and local officials, will provide information to the public at least annually regarding how they will be notified and what their actions should be in an emergency. All materials used to provide emergency planning information to the public (information brochures, advertisements, signs and notices, etc.) will be reviewed by GPC and SNC on an annual basis. All materials will be updated as necessary and printed material distributed annually.

The means for disseminating this information include information on siren poles, signs, notices in public areas, and publications distributed at least annually.

Information is distributed annually to residents in the plume exposure pathway emergency planning zone (EPZ) through use of emergency information communication publications. The text of the communication addresses the following subjects:

- Summary - What to do if you are warned of an emergency at the VEGP
- Emergency response plans
- When an emergency will affect you
- How you will be told about an emergency
- What actions you might need to take
- What if you are told to shelter
- What if you are told to evacuate
- Steps to be prepared for an emergency
- Steps for using map and chart of evacuation area
- Steps to take to get ready for the trip
- Classes of accidents
- Where to get more information or other help
- What radiation is
- Special needs card

A joint message from Southern Nuclear Operating Company; the states of Georgia and South Carolina; and Burke, Aiken, Allendale, and Barnwell counties explaining the contents of the communication, asking that they read the emergency information, requesting that they keep it in a handy place, and giving contacts for further information.

In addition, SNC operates a visitor's center on site. The center is staffed with public information personnel who provide public education programs to the community and any other visitors. These programs typically focus on plant operational concepts, plant safety considerations, and radiation.

G.1 Information for Transients

Signs and notices providing information to transients are placed in public recreation areas, as well as other public places in the plume EPZ, such as siren poles, the VEGP Visitors Center, and commercial establishments (e.g., motels, restaurants, and gas stations). This material will include the following information:

- How people will be warned of an emergency
- What to do if warned of an emergency
- A list of radio and television stations to tune to for further information

Finally, a Vogtle emergency information brochure will be made available within the EPZ to transients at commercial establishments, churches, motels, hunting clubs, the Creek and Cowden Plantations, the VEGP Visitors Center, and through residents whose land is used by nonresidents (e.g., the occasional nonresident hunter). Outside the EPZ, the brochure will be made available to timber company offices for distribution to their employees who enter the EPZ on Company business, and to the Waynesboro Office of the Agriculture Stabilization & Conservation Service for distribution to farmers who farm, but do not reside, in the EPZ.

G.2 Emergency News Center Operations

The emergency news center (ENC) will be the principal point of contact with the news media during an emergency. The ENC will accommodate public information representatives from SNC, GPC, State, local, and Federal response agencies. News releases and media briefings will be coordinated to the maximum extent possible.

GPC will utilize the Corporate Headquarters Building at 241 Ralph McGill Boulevard, NE, Atlanta, Georgia, to serve as a temporary information center until the ENC in Waynesboro (Burke County Office Park) is activated.

Once activated, the ENC becomes the principal location for dissemination of information about the emergency. This facility is located approximately 15 miles from the plant and can accommodate a large number of reporters. Principal GPC and SNC contacts for the media will be the public information director and the designated Company spokesperson. The Company spokesperson position is filled by individuals who, under normal operations, hold supervisory positions on the SNC Corporate or plant Staff, and are technically and professionally qualified to perform this important function. The Company spokesperson has access to all information and telephone contact with the emergency director. He briefs the media on plant status and

Company emergency activities. In addition, technical personnel have been designated who can provide general and background information, as appropriate, to reporters at the ENC.

Further information on the public information organization and information flow to the public during an emergency is available in Appendix 8.

G.3 Offsite Agency Coordination

GPC and SNC will provide timely and accurate information to local, State and federal agencies, and will seek reciprocal information from these agencies. Efforts will be made to coordinate periodic press briefings and to issue public statements in conjunction with these Government agencies. A joint public information center operation at the emergency news center will provide ample opportunity for all parties represented to review all information prior to public release.

G.4 Rumor Control

Rumors will be controlled by providing timely, accurate, and consistent information to the public and by having a single source of information. To dispel rumors in an emergency, a rumor control network will be activated. News media will be monitored to detect and respond to misinformation. The public will be instructed to listen to their radio or TV. Offsite information is the responsibility of offsite agencies; however, rumor control will be coordinated between the states, SNC, and GPC. The states, SNC, and GPC provide information jointly to the rumor control desk at the ENC.

G.5 Media Education

GPC will offer an annual program to acquaint the news media with the methodology for obtaining information about overall emergency preparedness at the VEGP. Training will include information about the plant, radiation, and the role of the emergency news center.

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H Emergency Facilities and Equipment

Following the declaration of an emergency, response activity will be coordinated at a number of facilities. These Emergency Response Facilities (ERFs) and the equipment which will be used for accident assessment and monitoring functions are described in this section.

H.1 Emergency Facilities

H.1.1 Technical Support Center (TSC)

The TSC will be established consistent with NUREG 0696, as described below. The TSC will be located in the lower level of the Communication Support Center (CSC) sited between the Unit 2 and 3 power blocks within the VEGP Site protected area as shown on Figure ii. The TSC will be designed to withstand plant design basis earthquakes and high winds. The layout of the proposed TSC is shown in Figure H-1.

The TSC will be common for all four VEGP units. The TSC will accommodate the required personnel to support an event on any or all Units. Technical and operational data and information will be available for all Units within the TSC. Support facilities will be located within the TSC to support long term operation of the TSC.

The TSC will provide plant management and technical support personnel (including five Nuclear Regulatory Commission (NRC) personnel) with a facility from which they can assist plant operating personnel located in the control rooms during an emergency. The Emergency Director and NRC director will be located next to each other to ensure proper communications. The TSC will be equipped with a computer system, which provides source term and meteorological data and technical data displays to allow TSC personnel to perform detailed analysis and diagnosis of abnormal plant conditions, including assessment of any significant release of radioactivity to the environment. In addition, the TSC will have ready access to plant records. The TSC structure and ventilation system will be designed to ensure that the TSC personnel are protected from radiological hazards.

The ventilation system will include high efficiency particulate air (HEPA) and charcoal filters. The ventilation system will be designed to maintain exposures to occupants at or below 5 rem whole body; 30 rem to the thyroid; and 75 rem skin dose for 30-day occupancy.

The ventilation system will be operated in accordance with emergency implementing procedures (EIPs) and will be manually controlled from the TSC. In addition, portable radiation monitors will be available for personnel in transit from the TSC to other areas. Portable air breathing apparatus and anti-contamination clothing will also be provided in the TSC.

The TSC will be powered by reliable and redundant power supplies. Lighting will be powered by the normal and redundant electrical supply system. An emergency battery operated lighting

system will be installed. Power for vital information systems will be provided by redundant power supplies including a battery backed uninterruptible power supply system.

The documents that will be maintained in the TSC include:

- Technical Specifications.
- Plant Operating Procedures.
- Final Safety Analysis Reports.
- Emergency Plan.
- Emergency Implementing Procedures.
- System piping and instrumentation diagrams and heating, ventilation, and air-conditioning (HVAC) flow diagrams.
- Piping area drawings.
- Electrical one-line, elementary, and wiring diagrams.
- Control logic and loop diagrams.
- Records needed to perform the functions of the emergency operating facility (EOF) when it is not operational.

In addition, copies of the above-listed documents and the following documents are available in VEGP Document Control:

- Plant operating records.
- Plant Review Board records and reports.

The above records are available in current form and are updated, as necessary, to ensure currency and completeness. Operations at this facility are directed by the TSC Manager.

H.1.2 Operations Support Center (OSC)

The description of the OSC for existing Units 1 and 2 is found in Section H.1.2 of Annex V1, and the description of the OSCs for proposed Units 3 and 4 is found in Section H.1.2 of Annex V2.

H.1.3 Emergency Operations Facility

The Emergency Operations Facility is described in Appendix 7.

H.2 News Center Facilities

The Emergency News Center is described in Appendix 8.

H.3 Activation and Staffing of Emergency Facilities

During the initial stages of an emergency situation, emergency activities at the VEGP are directed from the applicable control room. For a Notification of Unusual Event, no other facilities need be activated. For security related events, the activation of emergency facilities may be delayed as described in Section B.

Upon declaration of an Alert or higher level classification, the TSC will be activated and will be operational within about an hour of the initial notification. Overall direction and control will be exercised from the TSC for an Alert or higher declaration.

Activation of the appropriate OSC will be initiated at an Alert or higher level classification. Support personnel will be directed to report to that facility, as appropriate for the specific situation. The OSC will be operational within about an hour of initial notification.

Activation of the EOF is described in Appendix 7.

H.4 Plant Monitoring and Data Handling Systems

A description of pant monitoring and data handling systems for existing Units 1 and 2 is found in Annex V1, and a description of plant monitoring and data handling systems for proposed Units 3 and 4 is found in Annex V2.

H.5 Out-of-Plant Monitoring

H.5.1 Geophysical Monitoring

A source of meteorological data is Bush Field in Augusta. The National Weather Service (NWS) maintains an automated observation station at the airport; and wind speed, wind direction, cloud cover, and ceiling height can be obtained. Information from this automated observation station, as well as forecast information, can be obtained from the NWS in Columbia, S. C.

H.5.2 Radiological Monitoring

VEGP will have sufficient portable equipment and trained personnel to field three field monitoring teams. Each team will include two people who will obtain an emergency monitoring kit. The kits will include dosimeters, a two-way radio, meters for measuring gamma and beta/gamma dose rates, and air samplers for collecting particulates and iodines. The particulate filter is used in the field primarily to clean the sample so that any activity on the cartridge (silver zeolite or equivalent) will be iodine. The cartridge is then counted in the field to provide an estimate of airborne iodine concentration. VEGP monitoring teams will remain on the Georgia side of the Savannah River.

Radiological monitoring on the South Carolina side of the Savannah River will be conducted by personnel from the SRS, or the State of South Carolina. These field monitoring teams will be equipped with equipment similar to that used by the VEGP teams. Results of the offsite

monitoring activities will be provided to the TSC until the dose assessment activities are transferred from the TSC to the EOF.

H.5.3 Laboratory Facility

VEGP has laboratory facilities for analysis of radioactive samples. The major pieces of equipment include a solid-state gamma spectrometer and a beta/gamma gas proportional counter.

The GPC environmental laboratory located in Smyrna, GA has the capability to perform isotopic analyses of drinking water, river water, milk, vegetation, sediment, and biological samples, as well as tritium and gross-beta analysis. In addition, processing of environmental thermo luminescent dosimeters (TLDs) will be handled by this laboratory.

Backup laboratory facilities are available at Plant Hatch. This backup capability could be used if facilities in the VEGP were not available.

H.6 Emergency Kits

Emergency kits are located in the TSC, the OSCs, the health physics control points, the EOF, and other plant locations. An ambulance kit will be carried by the VEGP health physics technician who accompanies the ambulance. Procedures require an inspection and operational check of equipment in these kits on a quarterly basis and after each use. Equipment in these kits is calibrated in accordance with the suppliers' recommendations. A set of spares of certain equipment is also maintained to replace inoperative or out-of-calibration equipment.

A listing of the typical contents of each kit and the spares is included in Appendix 4.

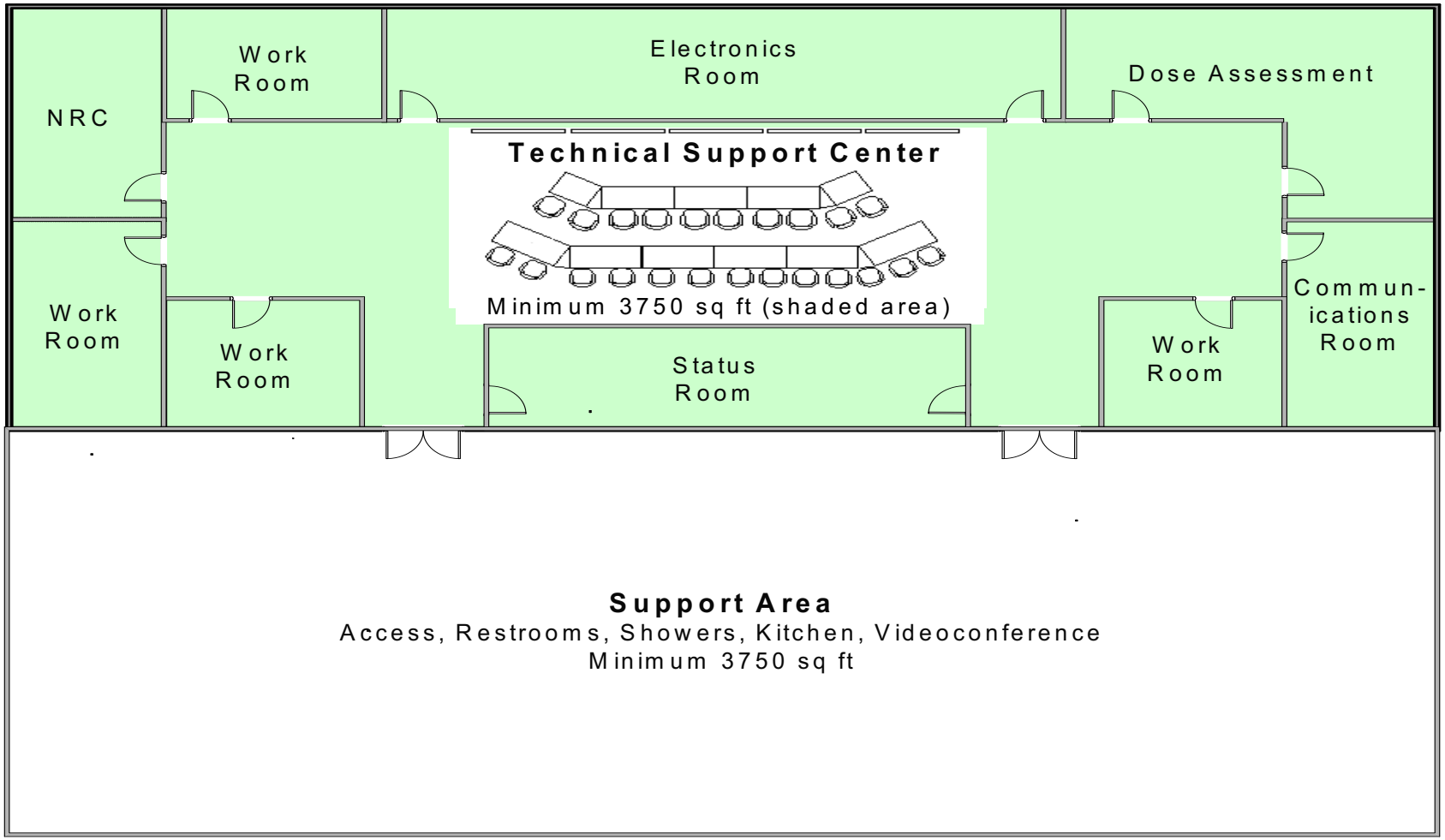

Figure H-1 VEGP TSC Layout

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I Accident Assessment

This section describes the methods, systems, and equipment available for assessing and monitoring actual or potential offsite consequences of a radiological emergency. Initial assessment actions are the responsibility of the Shift Manager and/or the Shift Supervisor, using available shift personnel. Subsequent assessment actions are directed by the emergency director with assistance from the control room, technical support center (TSC), emergency operations facility (EOF), and emergency teams, as necessary.

I.1 Plant Parameters

Plant system and effluent parameter values characteristic of the spectrum of off-normal conditions and accidents, and the manner in which these values are used to classify an emergency, are provided in Section D. Emergency response procedures and emergency implementing procedures (EIPs) include methods for quickly assessing plant system and effluent parameter values, and classifying the emergency condition. Additional information on plant instrumentation is provided in Section H.4 of Annex V1 for Units 1 and 2 and Annex V2 for Units 3 and 4.

I.2 Radiological Monitors

In-plant radiological measurements provide information to help assess emergency conditions. The containment high-range radiation monitor and containment hydrogen monitor are used to provide an early indication of the quantity of radioactivity available for release from the containment. Emergency procedures include a correlation between the monitor reading and the extent of core damage. These correlations are based on the Westinghouse Owners Group (WOG) Core Damage Assessment Guidance, WCAP-14696-A, Revision 1, November 1999. A more detailed assessment of core damage is then performed using emergency implementing procedures which are also based on the WOG methodology.

Data required to evaluate core conditions and coolant chemistry conditions are obtained through established chemistry procedures. Samples can be obtained from the reactor coolant system (RCS), the containment sump, and the containment atmosphere, and are used for all radiochemical analyses.

Reactor coolant grab samples can be either diluted or undiluted. Grab samples can be transported in a shielded cask. Analysis capability meets all Final Safety Analysis Report (FSAR) commitments to Regulatory Guide 0737, II.B.3.

In addition to the onsite capabilities for radiological assessment, AREVA ANP has agreed to provide backup analysis of high radioactivity level samples per the purchase order listed in Appendix 2.

The TSC Manager will approve and direct the transport of the grab sample to AREVA ANP. A transport cask will be obtained from the Pooled Inventory Management Systems (PIMS). Chemistry personnel will collect the sample in the sampling cask and transport it to the loading area. Documentation will be completed and the transport cask shipped to AREVA ANP.

I.3 Determination of Release Rate

The source term or release rate is determined using the process and effluent radiation monitoring systems, and measured or estimated flow rates for releases via monitored effluent release paths.

In the event that instrumentation is off-scale or inoperable, direct measurements with portable survey instruments will be used for determination and verified by field monitoring team samples.

I.4 Dose Assessment System

Computer dose calculation systems will be located in both the TSC and EOF for offsite dose assessment purposes. These systems will support the MIDAS code, a VEGP-specific version of a dose assessment computer code developed by Pickard, Lowe, and Garrick, Inc., (PLG). The code is based on a PLG application entitled *Calculation of Reactor Accident Consequences Including Trajectory (CRACIT)*, which is similar in concept to that in the CRAC program written for the Reactor Safety Study. The MIDAS version is referred to as MIDRAC. The basic functions of MIDRAC are the calculation of dispersion of the released material as it travels downwind and the estimation of the resulting concentrations of this material. Dispersion is modeled using the straight-line Gaussian dispersion model and variable trajectory transport. Initial dose projections can be made within 15 minutes of a radiological release utilizing the computer system. Subsequent dose projections will be made approximately every 15-30 minutes depending on the variability of meteorological conditions and/or radioactive releases.

MIDAS is a personal computer based program for rapidly assessing the radiological impact of accidents at nuclear power plants. It calculates total effective dose equivalent (TEDE), thyroid doses, and skin doses at various fixed downwind distances. Source term information is derived from plant effluent monitors, RCS or containment samples, field monitoring teams, or default accident scenario.

Actual meteorological data and release rate data are obtained from the plant computer and information systems, and entered into the dose projection computer. Minimum meteorological data to be obtained include wind speed, wind direction, and a stability indicator (either vertical temperature difference or standard deviation of the horizontal wind direction). Plant-specific default values are part of the program for use when meteorological or release rate data are not available. The computer will calculate dispersion, dose, and plume arrival times. Dose calculations are based on dose conversion factors (DCF) from EPA 400.

Default release rates are available for possible accidents in the event that measured source term data are not available, or the case where bounding calculations are desired. Default values for various accident source terms are presented in Chapter 15 of the respective FSARs.

Meteorological data are obtained and utilized as input to the dose model, as described in Section H.4.1.1. Data from the primary meteorological monitoring system can be accessed directly from the control room, TSC, and EOF, and are also available to NRC personnel and State representatives at the VEGP site. Data is also available to NRC personnel via ERDS. Meteorological data is delivered to the State via the notification form. In the event the primary instruments are unavailable, the backup meteorological tower is equipped with instruments at the 10 meter level to provide parameters relevant to atmospheric dispersion calculations (i.e., wind speed, wind direction, and sigma theta). In the event both the primary and backup meteorological systems are unavailable, meteorological data will be obtained by commercial telephone directly from the National Weather Service located in Columbia, South Carolina. NWS Columbia has access to information from the automated weather station at Bush Field in Augusta, Georgia. This data will be available to NRC and State personnel via the notification form. Forecast changes in wind direction will be utilized in determination of expected changes in plume trajectory. These forecast changes in plume trajectory may be utilized to expand the areas for which protective actions are recommended.

In the event that significant wind speed or stability class changes are expected, the effect of the expected changes on dose projections will be analyzed utilizing the dose assessment model. In cases where weather forecasts predict precipitation, this information will be utilized in reference to adverse weather evacuation time estimates, as appropriate. When precipitation is predicted or occurring in the area of the plume, the potential for significantly increased rates of radioactivity deposition will be considered by increasing the scope of environmental sampling, as required, in order to quantify the effects of this potentially increased deposition.

The VEGP staff will calculate the 50-mile ingestion pathway doses from the deposition of specific radionuclides. The VEGP field monitoring team will collect sufficient environmental data to characterize the initial deposition of activity, the peak activity in pasture grass and milk, and total intake of I-131, Cs-137, Sr-90, and Sr-89. The samples will be analyzed at the VEGP site, the Environmental Laboratory in Smyrna, Georgia, or at the Plant Hatch Laboratory. The analysis results will be compared with the Preventive and Emergency PAGs, and the associated doses will be determined.

The dose assessment computer program will be used to calculate the projected deposition of radionuclides and associated doses in the ingestion pathway based on release data and meteorological conditions. These estimates will be compared to the Preventive and Emergency PAGs. The results of all analyses will be provided to the States of Georgia and South Carolina by the dose assessment manager.

Each state is responsible for implementing protective measures based on protective action guides and other criteria. The measures will be consistent with the recommendations of HEW/ FDA regarding contamination of human food and animal feed.

I.5 Field Monitoring

The Emergency Director or his designee can deploy up to three teams for field monitoring. These teams are available for field monitoring within the plume EPZ as described in section H. Initially, the Emergency Director can activate at least one team from on-shift personnel. Once the emergency facilities are activated, the Emergency Director can request additional monitoring teams from support personnel located at the operations support center (OSC).

Monitoring teams of at least two people are formed at the OSC, TSC, or the EOF, as appropriate. Field monitoring kits are available to the teams in the EOF or plant entry security building. Field monitoring teams will be dispatched from the EOF, TSC, or OSC, as appropriate. Designated vehicles may be used which are equipped with two-way radios on plant-dedicated frequencies. Handheld radios will also be available as a backup. Vehicles will be available on a twenty-four seven basis.

Prior to leaving for the field, the Dose Assessment Manager, or designee, will direct and brief the teams on the initial survey and sample locations, suggested travel routes, meteorological conditions, and team identification name or number for communication purposes. The teams will inspect their field monitoring kits, perform survey equipment operation checks, obtain dosimeters, and establish radio communications with the monitoring team communicator. Monitoring teams are instructed to contact the monitoring team communicator in the EOF approximately every half hour. If the EOF has not been activated, the teams will obtain their briefing from the health physics supervisor in the TSC, or in the OSC by the OSC manager. They will be controlled by the TSC until the responsibility is transferred to the EOF. It is estimated that teams will be in the field and performing monitoring tasks within about one hour of the determination of the need for field monitoring. Additional field monitoring team formation and dispatch details are contained in implementing procedures.

Preselected radiological sampling and monitoring locations are designated in implementing procedures and are shown on Figure iii. Field monitoring teams may be directed to perform sampling at these locations and others by the dose assessment staff at the EOF. In-transit dose rate measurements will be made. The teams may conduct airborne and dose rate measurements near the expected plume centerline.

If the dose rate exceeds 100 mrem/h, off-centerline measurements will be made. Based on dose rates, the teams will be directed to sweep the plume to identify the centerline or maximum dose rate. Dose rate readings will be taken with open and closed window on the radiation meter. When the ratio between open and closed window readings is a factor of 2 or higher, it will be

assumed that the measurement was taken in the plume. If the open and closed window readings are the same, it indicates that the plume is probably overhead.

The emergency monitoring kits contain a portable air sampler, silver zeolite cartridges, and counters to provide the capability to detect and measure radioiodine concentrations in the air as low as 10^{-7} µCi/cc. The list of equipment carried by the field teams is described in Appendix 4, Table 4-3. Implementing procedures, describe the sampling and measuring techniques for air samples.

The total sample volume and the limiting background count rate allow for a lowest limit of detection (LLD) of at least 10^{-7} µCi/cc. The cartridges can be counted in the field without interference from noble gas (background count rate below 300 cpm on an HP-210 probe or equivalent). The cartridge and air particulate filter will be returned to the laboratory at the plant for isotopic analysis if the field analysis reading is 100 cpm above background on an HP-210 probe or equivalent.

Depending on wind direction and/or the severity of the incident, additional field monitoring teams may be provided by DNR, SC-DHEC, DOE-SR or other divisions of the DOE. Coordination of these teams and data transfer will be accomplished using existing communication links (see Section F for details). The State and VEGP field monitoring teams will be coordinated from the EOF by the Dose Assessment Manager to assure a fully coordinated effort. DOE-SR will direct the field monitoring teams of the Savannah River Site depending upon the wind direction. DOE-SR will make their monitoring data available to VEGP, and State and local representatives at the EOF. The Dose Assessment Team at the EOF will collate field monitoring data for VEGP dose projection purposes. This information will be available to the State and local representatives at the EOF and to DOE-SR.

I.6 Environmental Samples

In addition to direct monitoring and air sampling, the assessment program includes an emergency environmental sampling program in which routine types of environmental samples (water, air, soil, and vegetation) are collected and analyzed in the laboratory for detailed radionuclide data. The GPC environmental laboratory, located in Smyrna, Georgia, has the capability to perform isotopic analyses of drinking water, river water, milk, vegetation, sediment, and biological samples as well as tritium and gross beta analysis.

A detailed description of the current fixed environmental monitoring program, which is summarized below, is presented in the Plant Vogtle Offsite Dose Calculation Manual. Fixed environmental sampling and monitoring locations are described in implementing procedures and are shown on Figure iii. Copies of the map showing the locations will be in the field monitoring kits, the TSC, and the EOF. This program may be modified as per VEGP Technical Specifications.

Direct radiation is measured by thermo luminescent dosimeters (TLDs) which are exchanged and analyzed (read) for gamma dose quarterly.

Airborne radioiodine and particulates are collected at control and indicator stations by continuously drawing a sample stream of air through a charcoal cartridge and a particulate filter using an air displacement pump. The cartridge and filter are changed weekly. The cartridge is analyzed weekly for I-131, and the filter is analyzed for gross beta following filter change. Filters are composited quarterly by location for gamma isotopic analysis.

Surface water samples are taken from the Savannah River by continuous automatic sampling equipment and collected in containers resulting in composite samples for each location. Composite samples are collected monthly and analyzed for gamma isotopics. Quarterly composites, which are obtained from the monthly composites, are analyzed for tritium. Samples from drinking water supplies are taken by continuous automatic sampling equipment near the intakes of water treatment plants. Composite samples from each location are collected monthly. Grab samples of finished drinking water are taken monthly. Monthly samples are analyzed for gross beta and gamma isotopics. Quarterly composites, which are prepared from the monthly samples, are analyzed for tritium. Sediment from the Savannah River is collected semiannually from control and indicator locations using manual grab sampling techniques. Sediment samples are analyzed for gamma isotopics.

Milk samples are collected semimonthly by taking grab samples from milk supplies at control and indicator stations. These samples are analyzed for gamma isotopics.

Vegetation is sampled monthly during the growing season by collecting grab samples of grass or leafy vegetation at control and indicator stations. Vegetation samples are analyzed for gamma isotopics.

The normal environmental sample analysis is performed at the Georgia Power Company's Environmental Laboratory located in Smyrna, Georgia. During, and/or subsequent to emergency conditions, the routine environmental monitoring program will be modified to collect and analyze additional samples from existing stations. The Dose Assessment Manager will coordinate sampling and analysis activities for those areas that may have been impacted by a release from the plant. Sample results will be transmitted back to the Dose Assessment Manager by the analyzing organization.

Data from fixed monitoring stations (TLDs and air samplers) will be utilized to estimate population dose. The samples from fixed monitoring stations would be collected after termination of a radioactive release and analyzed. The results would then be reduced in a manner that would assist in defining the trajectory, radioactivity, and impact of the released plume.

I.7 Use of Field Monitoring Data

Field monitoring measurements are important in determining the actual radiation levels in the environment. The dose assessment computer code provides only a rough approximation of

radiation levels and location of the plume. The uncertainties in the source term and meteorological conditions in the affected areas are the chief contributors to the inaccuracies of projected dose and dose rate. Once field monitoring information becomes available, the dose assessment computer code becomes less important in providing data on which to base protective action recommendations. There is no widely accepted formula to use field monitoring data to reduce the uncertainties and inaccuracies in the dose assessment computer code. The Dose Assessment Manager or HP Supervisor must exercise professional judgment in determining the proper correction factors.

Field monitoring teams should not unnecessarily be exposed to high levels of radiation from a radioactive plume. ALARA (as-low-as-reasonably-achievable) principles should be applied to all field monitoring activities. Once the decision to evacuate the general public has been made, field monitoring activities should be restricted to such activities as determining the source term for an unmonitored release or confirming the presence of a radioactive plume. Plume centerline tracking is of relatively minor importance in protecting the health and safety of the public, and should not be attempted for highly radioactive plumes unless the information derived has some value in assisting in the evacuation of the public. Field monitoring team activities that contribute to the expeditious evacuation and consequent reduction in radiation dose of the public should continue within the EPA emergency exposure guidelines, if necessary.

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J Protective Response

This section describes the protective actions that have been developed to limit radiation exposure of plant personnel and the public following an accident at the plant. This section addresses conditions at the Alert, Site Area, or General Emergency classification. Protective response at the Notification of Unusual Event (NUE) level would be taken at the discretion of the Emergency Director.

J.1 Protective Response for Onsite Personnel

Protective response for onsite personnel (including visitors and contractor personnel) depends upon alerting, assembly and accountability, site dismissal, monitoring, and decontamination.

J.1.1 Alerting

Section E of this Plan, Notification Methods and Procedures, describes the methods to be used to alert onsite personnel of emergency conditions.

J.1.2 Assembly and Accountability

A security related emergency may preclude the ordering of assembly and accountability in order to protect plant personnel from the security threat. The decision not to order assembly and accountability will be made by the Emergency Director.

Upon activation of the plant emergency alarm, plant personnel assigned specific emergency responsibilities proceed to their designated emergency response location. Emergency response personnel in the protected area badge into their emergency response facility (TSC, OSC, or control room). The security computer system performs an initial accountability of all persons in the protected area. Thereafter, the emergency response facility managers of the control room, TSC, and operations support center are responsible for periodically assuring that accountabilities in their facilities are being maintained. Assignment logs and required periodic communications between emergency response teams maintain accountability.

Non-involved plant personnel, visitors, and contractors located within the protected area leave the protected area upon hearing the emergency alarm and report to their designated assembly areas. As these individuals exit the protected area, they badge out. The Security Department accounts for each person inside the protected area at the start of an emergency by using the security computer system. This method provides for accountability of all individuals inside the protected area within about 30 minutes of the emergency declaration page announcement. Accountability reports are made periodically to the emergency director by the Security Department.

J.1.3 Search and Rescue

If protected area accountability reveals a missing person, the Emergency Director assembles a search and rescue team per emergency response procedures. The search and rescue team obtains information on last known location from the computer system or reports from other personnel. A search of likely areas is conducted until the missing individual is located.

J.1.4 Site Dismissal

Site dismissal, with or without monitoring, of non-involved personnel on-site (if feasible) is ordered by the Emergency Director whenever a Site Area or General Emergency is declared. If there has been no radioactive release and a release is not projected, the Emergency Director may elect to order a "site dismissal with no monitoring" rather than with monitoring. For a site dismissal with no monitoring, non-involved personnel are sent home without going to reception centers.

If site dismissal with monitoring is necessary, the Emergency Director will notify the Burke County EMA and request setup of a reception center to receive VEGP non-involved personnel. The route selected to the reception center is based on meteorological and/or radiological conditions. The location of the reception center is shown in Figure iv in the Preface. Personnel on site will be notified by public address, site siren, or other communication that dismissal of non-involved personnel to the applicable reception center will take place and specify the route. Security will dispatch security officers to search areas outside the protected area to ensure all non-involved personnel have left the owner-controlled area.

Upon site dismissal to a reception center, non-involved personnel will be monitored for contamination to determine gross contamination in accordance with the Burke County Emergency Operations Plan.

Those personnel who are contaminated will undergo a decontamination process in accordance with standard health physics procedures. Those personnel who are not contaminated will be released upon clearance of the vehicle. Vehicles will be monitored by gamma instruments for contamination in the designated parking areas. Those vehicles which indicate contamination will be marked or identified for decontamination. Uncontaminated vehicles will be allowed to exit the area upon authorization of the reception center emergency workers. Contaminated vehicles will be decontaminated in accordance with the Burke County Emergency Operations Plan. Contaminated articles and clothing and waste material will be collected and placed in containers or bags for disposal and/or processing at the site.

J.1.5 Monitoring and Decontamination

When an Alert is declared and site dismissal with no monitoring is anticipated, personnel who have left the protected area are monitored by portal monitors. If necessary, decontamination is

completed using the plant decontamination facilities located in the control building or other appropriate location.

When site dismissal with monitoring is expected and release of radioactivity has occurred, monitoring is performed by Burke County emergency workers at an established reception center.

Should decontamination be necessary, the reception center establishes a field decontamination area, using materials from emergency kits located in the vicinity of the reception center. Decontamination and waste disposal are completed in accordance with the Burke County Emergency Operations Plan.

J.1.6 Use of Onsite Protective Equipment and Supplies

A supply of potassium iodide (KI) is stored in the TSC for TSC and control room use, OSC, main control point, or health physics room. The health physics supervisor will direct the issuance of potassium iodide when the projected thyroid exposure is greater than 25 rem. The health physics supervisor will direct radiological survey personnel to distribute potassium iodide and record the name and social security number of those individuals who are issued potassium iodide. Potassium iodide will be issued in 130-mg doses daily for at least 3 days, but not more than 10 days. Issuance will be performed immediately prior to exposure or not longer than four hours after exposure.

At the time potassium iodide is distributed, an iodine sensitivity check will be made by querying each individual concerning known reactions to iodine. Individuals who have experienced reactions to iodine will be excused from duties requiring issuance of KI.

J.2 Protective Response for the Public

VEGP is responsible for ensuring that timely recommendations for protective actions reach appropriate State and local officials. These officials (as described in section A) are then responsible for alerting the public and ordering shelter and/or evacuation, if necessary.

J.2.1 Alerting

The means used by VEGP to alert local and State agencies, and the means used by local and State agencies to alert the public, are described in Section E and Appendix 3 of this Plan.

J.2.2 Protective Action Recommendations

The Emergency Director is responsible for providing protective action recommendations to State and local officials as part of initial notifications and follow-up communications. These recommendations are based upon assessment actions as described in Section I of this Plan. Using available information on plant conditions, projected dose estimates, and any available monitoring data, the Emergency Director recommends whether the public should be advised to

seek shelter or evacuate. Other factors which influence protective actions will be evaluated by State and local officials. The mechanism for communicating these recommendations is described in Section E of this Plan. These recommendations are based on the Environmental Protection Agency (EPA) Protective Action Guidelines, as shown in Table J-2. Table J-3 provides guidance to the Emergency Director on the expected protection afforded by residential units.

In addition, implementing procedures provide guidance on protective action recommendations in the absence of any release of radioactivity. Site dismissal of non-involved station personnel and evacuation and/or sheltering the general public is recommended for a General Emergency even though there has not been a release of radioactivity from the plant.

J.2.3 Evacuation and Sheltering

The Georgia Emergency Management Agency (in coordination with Georgia Department of Natural Resources) and South Carolina Emergency Management Division (in coordination with South Carolina Department of Health and Environmental Control) are responsible for deciding protective measures for affected offsite areas within their jurisdictions. State officials will consider the potential risks of implementing protective actions against the reduction of radiological risk achieved by the protective action.

Determination of the benefit of evacuation must take into account the time needed to complete the evacuation. Table J-4 presents a summary of evacuation time estimates. Appendix 6 includes more detail on how these estimates were developed and presents information on evacuation routes, evacuation areas, relocation centers, shelter areas, and the population distribution by evacuation areas and sectors.

If a decision is made to evacuate any part or all of the plume exposure pathway EPZ, the evacuation will be carried out in accordance with the emergency response plan of each affected county.

In the event of an evacuation, the populace will be instructed to proceed by the appropriate evacuation route to pre-designated reception centers/shelters. Reception centers/shelters for Georgia and South Carolina counties within the plume exposure pathway EPZ are listed in Table J-5. The services to be provided in the reception centers include:

- Registration
- Screening for contamination
- Decontamination, as needed
- Information and assistance for family unification
- Food and lodging
- First aid

Privately owned vehicles will be the primary mode of transportation if evacuation is directed. Individuals who do not have their own means of transportation have been advised, to arrange their own transportation, if possible. If this is not possible, individuals are instructed to stay tuned to the radio or television and listen for the phone number to call to be picked up. Specially equipped vehicles will be dispatched directly to the homes of handicapped and/or non-ambulatory individuals requiring special transportation means.

Under certain conditions, sheltering inside the home may be the preferred recommended action. Area radio and television stations or tone alert radios will advise the public on taking this action, will provide instructions to the public, and will give the "all clear signal" when appropriate.

Table J-1 Use of Equipment and Supplies

Equipment	Criteria for Issuance	Location	Means of Distribution
Full face canister respirator	As needed by onsite emergency teams in areas of high airborne radioactivity	a. Emergency kits	a. Issued at OSC or control point
		b. Health physics (HP) supply room	b. Issued as needed by HP personnel
Self contained breathing apparatus	a. Firefighting	a. Control room	Used as needed by operators
	b. Toxic Gas	b. Emergency kits	
	c. Highly radioactive airborne activity		
	d. Lack of oxygen		
Protective clothing (coveralls, hoods, boots, gloves)	As needed in areas of known contamination	a. Various areas of the station	a. Issued as needed by HP personne
		b. Emergency kits	b. Issued at OSC or control point for emergency teams
		c. HP supply room	

Table J-2 Protective Action Recommendations

Projected Dose (rem) to the Population	Recommended Actions	Comments
Total Effective Dose Equivalent (TEDE) less than 1	No planned protective actions. State may issue an advisory to seek shelter and await further instruction.	Previously recommended protective actions may be reconsidered or terminated.
	State may issue an advisory to seek shelter and await further instruction.	
Thyroid Committed Dose Equivalent (CDE) less than 5	Monitor environmental radiation levels.	
TEDE 1 to less than 5	Evacuate unless constraints make it impractical.	The State and/or County may shelter if evacuation poses a higher risk to some special groups of the population.
Thyroid CDE 5 to less than 25	Monitor environmental radiation levels. Control Access.	
TEDE 5 and above	Conduct evacuation.	
Thyroid CDE 25 and above	Monitor environmental radiation levels and adjust evacuation based on these levels. Control access.	

Table J-3 Sheltering Guidance

Structure or Location	Shielding Factor (a)	
	Average	Range
Outside	1.0	
Vehicles	1.0	
Wood frame house (no basement) (b)	0.9	
Basement of wood house	0.6	0.1 to 0.7(c)
Masonry house (no basement)	0.6	0.4 to 0.7(c)
Basement of masonry house	0.4	0.1 to 0.5(c)
Large office or industrial building	0.2	0.1 to 0.3(c)(d)

a. The ratio of the interior dose to the exterior dose.
b. A wood frame house with brick or stone veneer is approximately equal to a masonry house for shielding purposes.
c. This range is mainly due to different wall materials and different geometries.
d. The reduction factor depends on where personnel are located within the building (e.g., the basement or an inside room).

Table J-4 Evacuation Time Estimates

Evacuation Area(a)		Total Evacuation Time(b) (Minutes)	
Analysis Area	Local Planning Zone	Fair Weather Winter Day	Adverse(c) Weather Winter Day
0-2 miles	A	100	115
0-5 miles 90° S	A, B-5, and C-5	100	115
0-5 miles 90° NW	A, D-5, E-5, and F-5	105	115
0-5 miles except SRS	A, B-5, C-5, D-5, E-5, and F-5	105	115
0-10 miles 90° S	A, B-5, C-5, B-10, C-10, and D-10	105	115
0-10 miles 90° NW	A, D-5, E-5, F-5, E-10, and F-10	105	115
0-10 miles 90° N	G10	(d)	(d)
0-10 miles 90° E	H10	40	40
Full EPZ	13 Evacuation Planning Zones	105	115

a. Analysis area does not include the EPZ that lies within the Savannah River Site (SRS). If required, evacuation of the portion of the SRS within the VEGP EPZ will be accomplished by relocating the potential population at risk to areas outside of the EPZ, but within the SRS boundary, and with evacuation routes not coinciding with routes designated for the population of the other evacuation planning zones.

b. All residents, transients, and special facilities within the analysis area would be evacuated. Evacuation time estimates include the time associated with notification, preparation, and mobilization events, as well as travel time out of the EPZ.

c. Adverse weather conditions assume a reduction in road capacities by 25% and speeds reduced by 40% due to heavy rains.

d. No estimates for G-10 in the Winter Weekday scenario, as it had no population to evacuate in those cases.

Table J-5 Reception Centers/Shelters

COUNTY	RECEPTION CENTER/SHELTER	CAPACITY
Georgia	Burke County Comprehensive High School	4,675, school in session
Burke County		5,980, school not in session
	1057 Perimeter Road,	
	Waynesboro, GA	
South Carolina	Primary	
Aiken County	South Aiken High School	1200
	232 E. Pine Log Road	
	Aiken, SC 29803	
	Additional Center	1200
	Kennedy Middle School	
	659 Pine Log road	
	Aiken, SC 29801	
South Carolina	Primary	675
Allendale County ([a])	Allendale – Fairfax High School	
	3581 Allendale – Fairfax Highway (278 E.)	
	Allendale, SC 29810	
	Additional Center	
	Allendale Elementary School	400
	4561 Allendale – Fairfax Highway (278 E.)	
	Allendale, SC 29810	
South Carolina	See Allendale County shelters listed above	
Barnwell County		

a. To accommodate residents of Barnwell County within the VEGP EPZ

K Radiological Exposure Control

K.1 Emergency Exposure Guidelines

During an emergency, it may be necessary to authorize radiation exposures above 10 CFR 20 limits. These higher exposures may be necessary to complete protective, corrective, or lifesaving actions. Table K-1 presents the emergency exposure limits for emergency workers involved in protecting valuable property, protection of large populations, or lifesaving actions. Under all such situations, every reasonable effort will be made to minimize exposures. Decisions as to appropriate exposures, considering the action required and relative risks, will be made by the emergency director in consultation with health physics personnel.

Equipment and facilities have been designed in accordance with Title 10, Code of Federal Regulations, Part 50 (10 CFR 50), Appendix A, *General Design Criteria for Nuclear Power Plants*. Criterion 61, "*Fuel Storage and Handling and Radioactivity Control*," requires systems, which may contain radioactivity, to be designed to assure adequate safety under normal and postulated accident conditions. Plant design has undergone an extensive As Low As Reasonably Achievable (ALARA) review. The ALARA reviews ensured that the design philosophies established in Regulatory Guide 8.8 were considered at the design stage. Design features are considered for potential exposure and changes are recommended to reduce potentially high doses. The post-accident sampling procedures have been, or will be, designed to provide adequate protection to personnel during the collection of grab samples. Designated sample points are, or will be, specified in plant procedures.

A plant shielding design review for VEGP Units I and 2 was conducted in accordance with the criteria for infrequently occupied areas in NUREG 0737, Item II.B.2. The projected dose rates in the facility are presented in Table 12.3.1-5 of the VEGP Units 1 and 2 FSAR. For proposed Units 3 and 4, the projected dose rates will be contained in Chapter 12 of their FSAR. The effluent sampling procedures have been, or will be, written to assure that no individual receives a dose in excess of regulatory criteria (5 rem whole body, 25 rem thyroid, and 75 rem extremities). A time and dose rate study has been conducted to assure that the exposure criteria can be achieved under accident conditions.

K.2 Onsite Radiation Protection Program

When necessary, the Emergency Director can authorize emergency exposures in excess of 10 CFR 20 limits, but within the limits in table K-1. Where possible, the normal radiation work permit (RWP) procedure will be used to control exposures. This procedure requires signature approval, prior knowledge of worker past exposures, and guidance on protective actions to be used in the course of the emergency work. If time and urgency do not allow this procedure to be followed, the health physics supervisor may approve emergency RWP controls. In all cases, a briefing is given to the emergency team by health physics staff, and each team is accompanied by a qualified health physics technician who meets the qualifications of Reg. Guide 1.2, Revision 2

criteria set out in the VEGP Technical Specifications. This briefing includes a discussion of the hazards involved in the planned action, as well as protective actions to be taken.

A record of individual and collective exposure received during the emergency will be maintained by the dosimetry team. Exposure records at the control point or the OSC will be updated after each entry into a radiologically controlled area. This may be accomplished through the dosimetry records computer system or manually. An individual's dose margin will be assessed by determining the difference between the updated exposure and current administrative limit; these margins are used to determine emergency assignments. Operation of the manual system and activation of the dosimetry team are described in implementing procedures.

In situations where exposures in excess of 10 CFR 20 limits are authorized, the following considerations will be made prior to emergency team selection:

- Declared pregnant female employees shall not be allowed to participate
- For doses greater than 25 rem, personnel shall be volunteers and be fully aware of the risks involved

All emergency exposures will be included in personnel radiation exposure records.

Emergency dosimetry is provided to each member of the emergency response organization for both onsite and offsite organizations as required by the radiological conditions existing at the time. Appendix 4 presents information on the types of dosimetry available in each emergency response facility and other locations.

Emergency response personnel will be made aware that self reading dosimeters should be checked every 15 to 30 minutes during the emergency. There is the capability to read TLDs within 24 hours. They will also be read if the individual has received greater than a previously established value as determined by health physics procedures on their direct reading dosimeter.

Radiation dose will normally be controlled by the health physics supervisor within the limits authorized by routine station health physics procedures. The 10 CFR 20 limits will not be exceeded without the prior approval of the Emergency Director.

TLDs are processed on a routine basis as delineated in Chapter 12 of the FSAR.

K.3 Decontamination

The action levels for determining the need for decontamination of personnel, equipment, and areas are delineated in plant administrative and health physics procedures. Decontamination facilities are located adjacent to the health physics stations. Instrumentation to survey personnel during and after decontamination is located at the health physics station. The facility has vertical showering and normal wash sinks.

Decontamination equipment for personnel is similar to that available in the Decontamination Emergency Equipment Kit (Appendix 4), except that the available supply is greater and stronger

cleaning solutions are available. Waste generated through the use of the decontamination facilities is collected and processed by the plant liquid radwaste system. Decontamination of personnel will be conducted in accordance with standard health physics practices.

If decontamination activities are required, a controlled access area will be established by roping off the area. Supplies of clean clothing will be made available. Personnel decontamination will be accomplished using water washes or other methods for extreme cases as described in plant health physics procedures. These procedures will be applicable to removal of radioisotiopes from the skin. Decontamination of serious wounds will be accomplished at Doctors Hospital or the Burke Medical Center as described in Section L of this Plan.

Equipment and area decontamination will be conducted as determined by the TSC manager, maintenance supervisor, operations supervisor, or health physics supervisor. It is accomplished as described in plant health physics procedures and ranges from vacuum cleaning to wash downs with water and acid, or caustic solutions.

Personnel exiting the radiation-controlled area will be monitored for contamination by stand-up monitoring booths or by a whole-body scan with a hand-held probe. The standard health physics contamination limits will be used for release of personnel. The decontamination facilities described above can accommodate both men and women who indicate low and high levels of contamination. Plant areas that require access to facilitate recovery operations will be surveyed with portable instruments equipped with Beta/Gamma detectors. Appropriate protective clothing will be worn, as determined by this survey, to perform activities in these areas. Recovery operations will necessitate more detailed surveys on an as-needed basis.

K.4 Onsite Radiological Contamination Control

Access control is provided by the Security Department during emergency conditions. Only authorized emergency response personnel are allowed to enter the protected area. Such personnel report to the appropriate emergency response facility for accountability prior to completing any emergency assignments.

Access to in-plant areas that are contaminated is controlled by barriers, signs, locked doors, or personnel stationed for that purpose. Emergency monitoring teams are responsible for determining the need for on-site access control and establishing the proper method through discussions with Technical Support Center (TSC) personnel. Plant procedures used for determining contaminated areas will be used for determining the need for access control.

Any food, tobacco, or potable liquids that are inside a radiation or contamination controlled area, regardless of the packaging, will be considered to be contaminated until surveyed or otherwise determined to be free of contamination. These areas will be controlled by plant health physics procedures and no eating, smoking, or drinking will be allowed. The Emergency Director or designee will make arrangements for supplies to be brought in.

The emergency health physics supervisor is responsible for permitting return of on-site areas and equipment to normal use once monitoring and decontamination are completed.

Table K-1 Emergency Worker Limits for Workers Performing Emergency Services

Dose Limit (rem) Total Effective Dose Equivalent (TEDE) (a)	Activity	Condition
5	All	
10	Protecting valuable property	Lower dose not practicable
25	Life saving or protection of large populations	Lower dose not practicable
>25	Life saving or protection of large populations	Only on a voluntary basis to persons fully aware of the risks involved

a. Limit to the lens of the eye to three times the listed value and doses to any other organ (including skin and extremities) to ten times the listed value.

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L Medical and Public Health Support

L.1 On-Site Capability

Provisions have been made to assist personnel who are injured, who may have received high radiation doses, or who have been externally contaminated. Decontamination materials and portable first aid kits are available at strategic locations throughout the site. There are personnel on shift and in the emergency response organization trained in first aid and decontamination procedures.

The on-site personnel responsible for responding to a medical emergency have had training per the OSHA standard 29 CFR 1910.151 and directive CPL 02-02-053, Guidelines for First Aid Training Programs. Health physics technicians will be assigned to first aid teams in accordance with implementing procedures. The health physics technician will direct and assist in decontamination of injured personnel as necessary. Personnel to perform first aid and decontamination will be available on a twenty-four seven basis as identified in Section B, Table B-1.

In addition, an on-site first aid and decontamination area equipped with decontamination supplies and other specialized equipment is located near the health physics stations. Personnel found to be externally contaminated, but not requiring immediate medical attention, will undergo decontamination in accordance with plant procedures.

L.2 Medical Transportation

Injured and contaminated personnel requiring hospital medical attention will be transported to Doctors Hospital, Augusta, or Burke County Hospital, Waynesboro, by the Burke County Ambulance Service. Letters of agreement pertaining to these services are located in Appendix 2.

The ambulance will be met at the plant entry and security building, provided with dosimetry, and escorted to the patient pickup location. The ambulance and crew will be prepared to receive the contaminated patient as time permits by laying protective material in the ambulance and wearing protective clothing by the crew. Medical treatment of serious injuries will take precedence over contamination control. A health physics technician (HPT) will accompany the patient to the hospital. The HPT will provide advice and guidance to the ambulance crew and hospital staff regarding contamination control, decontamination, radiation exposure, and protective actions. The HPT will perform radiation surveys of the patient, ambulance, and attending hospital staff and assist in maintaining contamination control in the hospital. All contaminated materials will be properly packaged and returned to the site for disposal. The ambulance will also be decontaminated at the VEGP, if required.

L.3 Offsite Support Services

Arrangements for treating externally contaminated patients have been made with the Doctors Hospital in Augusta, Georgia, and Burke County Hospital in Waynesboro, Georgia, (Appendix 2). The objectives of the support hospital are: (1) to resuscitate and stabilize an accident victim from a nuclear facility; and (2) to decontaminate a contaminated/injured patient while controlling the contaminants to a pre-selected area within the hospital. Each hospital has a radiation emergency area (REA) which has a separate entrance adjacent to the emergency room complex. This area will serve as the facility for handling contaminated and injured patients for the following reasons:

- Its proximity to emergency medical equipment and supplies.
- Effective isolation of the area from the hospital proper for contamination control purposes.
- Separate patient ingress and egress for effective contamination control.
- The area can be denied to routine hospital use for a given period of time for patient treatment and decontamination, as well as decontamination of the area itself.
- Capability to delineate a contamination zone (treatment area) from a "clean" area (buffer zone).
- Water supply in treatment area.

Each hospital has available specialized supplies and equipment for decontamination, exposure evaluation, and contamination control; specifically, a decontamination table top which provides for washing contamination from a patient and collecting water in portable storage containers. Precut plastic material for the floor of the treatment room and buffer zone are also available to limit the spread of contamination. Ropes and signs will be used to delineate the REA. These facilities will enable emergency treatment and handling of contaminated individuals. Non-contamination injuries will be handled by the hospital with its routine facilities.

The medical staff of the hospital is trained to treat externally contaminated patients or individuals who have received high exposures. Trained plant radiation protection personnel will assist hospital staff when plant personnel are being evaluated. Following decontamination, personnel suspected to have ingested radionuclides will undergo whole body counting at the VEGP. In addition, protection of attending personnel is afforded by the availability of disposable clothing and self-reading and badge-type dosimeters. Radiation survey instruments are available for monitoring patients and attending personnel. Each hospital has a comprehensive kit containing items necessary for removal of radioactive contamination from skin and wounds. Included in this kit are culture tubes for nasal, oral, and aural samples, as well as containers for urine, fecal, and wound specimens. Large waste containers and plastic liners are available for the collection of contaminated articles.

Each hospital has a procedure entitled, "*Decontamination and Treatment of the Radioactively Contaminated Patient*." This protocol details the following procedures: notification

responsibilities of associated individuals including VEGP health physics personnel; REA setup; emergency treatment; use of protective clothing; patient decontamination and sample collection techniques; handling multiple victims; and return of the REA to routine use. Upon notification of impending patient arrival, hospital personnel will initiate these procedures to prepare the REA for patient arrival. Arrangements have also been made with local doctors to render medical assistance, both on-site and offsite, and to assume responsibility for the medical supervision of the patient (Appendix 2, Letters of Agreement). These doctors will be on emergency call at all times and will respond to an accident when called.

Southern Nuclear Operating Company (SNC) or contractor personnel will maintain programs at Doctors Hospital and Burke County Hospital for treatment of contaminated individuals. In addition, these personnel provide training for the hospital staffs. The current contractor is also on-call for assistance in handling the treatment of contaminated injured personnel. In conjunction with the hospital of the University of Pennsylvania in Philadelphia, the current contractor has established advanced radiation medical facilities. These facilities include qualified personnel trained in the care of radiation accident victims, a radiosurgery decontamination suite for surgery on contaminated patients, an exposure treatment suite for treatment of severely overexposed victims, and an exposure evaluation laboratory with advanced analysis techniques.

L.4 Training of Medical Support Personnel

Section O, *Radiological Emergency Response Training*, identifies the training that will be provided for both on-site and offsite personnel who have medical support responsibilities. The VEGP training department conducts training sessions at least once per calendar year. In addition, drills and exercises are an integral part of the training program and are conducted as specified in Section N, *Exercises and Drills*.

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M Recovery and Reentry Planning and Post-Accident operations

The objectives of Vogtle Electric Generating Plant (VEGP) following any emergency declaration will be to mitigate the consequences of the event and to take those steps described in this Emergency Plan which will minimize any effects on the health and safety of the public and emergency workers. Once the emergency situation has been terminated, the goal will be to restore VEGP to normal operating status. For some situations, such as a Notification of Unusual Event involving a natural phenomenon that has no effect on VEGP, the emergency situation may not have required any change to normal operations, so no formal transition will be required. In other circumstances which may involve suspected or actual damage to the plant, a transition will be appropriate. This is defined as the recovery phase.

M.1 Commencement of Recovery Phase

The Emergency Director will determine when the recovery phase begins. The following guidelines, as applicable to the specific situation, will be observed prior to terminating the emergency:

- The affected reactor is in a stable condition and can be maintained in that condition indefinitely.
- Plant radiation levels are stable or are decreasing with time.
- Releases of radioactive material to the environment have ceased or are being controlled within permissible limits.
- Fire or similar emergency conditions no longer constitute a hazard to safety-related systems or equipment or personnel.
- For a Site Area Emergency or General Emergency, discussions with plant management; applicable members of the VEGP emergency response organization; and offsite authorities including the Nuclear Regulatory Commission (NRC); Georgia Emergency Management Agency, Burke County Emergency Management Agency director; South Carolina Emergency Management Division director; and Savannah River Site (SRS) emergency staff, do not result in identification of any valid reason for not terminating the emergency.

Once the above conditions have been satisfied, the Emergency Director will announce that the emergency is terminated and the plant is in a recovery mode. He will direct that all elements of the emergency response organization be advised of the change in status via the Emergency Notification Network (ENN), Emergency Notification System (ENS), and other pertinent communications systems. At this time, the Emergency Director will designate a Recovery Manager to constitute the recovery organization.

M.2 Recovery Operations

Initially, the recovery manager may direct operations from the emergency operations facility (EOF). He will structure the recovery organization to accomplish the following general objectives:

- Maintain comprehensive radiation surveillance of the site until levels return to normal
- Control access to the affected area of the plant and exposures to workers
- Decontaminate affected areas and equipment
- Conduct activities in radiation areas in accordance with the plant's standard radiation work practices
- Isolate and repair damaged systems
- Document proceedings of the accident and review the effectiveness of the emergency response organization in mitigating plant damage and reducing radiation exposures to the public
- Provide offsite authorities with plant status reports and information concerning the plant recovery organization
- Provide assistance with recovery activities undertaken by State and county authorities, if requested
- Provide public information on the status of recovery operations via releases to the media

Individuals will be assigned to specific positions by the recovery manager, depending on the nature and extent of damage to the plant. Figure M-1 shows a representative organization for recovery operations.

The responsibilities and functions of the managers shown on Figure M-1 are summarized as follows:

- Recovery Manager – has overall responsibility for restoring the station to a normal operating configuration.
- Plant Operations Manager – manages day-to-day plant operations and during recovery is responsible for ensuring that repairs and modifications will optimize post recovery plant operational effectiveness and safety.
- Design and Construction Support Manager – focuses necessary engineering, design, and construction resources on those aspects of plant recovery requiring redesign, modifications, or new construction; directs and coordinates nuclear steam supply system (NSSS) and balance-of-plant engineering and construction/repair work.
- Radcon/Radwaste Manager – develops plans and procedures to process and control liquid, gaseous and solid wastes to minimize adverse effects on the health and safety of the public and plant recovery personnel. In addition the Radcon/Radwaste Manager coordinates the

activities of staff radiological engineers and radiation protection personnel engaged in waste treatment operations.

- Health Physics and Chemistry Manager – responsible for ALARA planning, execution, and monitoring; plans and manages decontamination of affected areas and equipment; supervises and directs all special radiological controls; radiochemistry; and chemistry activities required to support the recovery operation; and coordinates environmental assessment activities with the manager environmental services.
- Technical Support Manager – provides analyses, plans, schedules, and procedures in direct support of plant operations.
- Quality Assurance Manager – ensures that the overall conduct of recovery operations is performed in accordance with corporate policy, and rules and regulations governing activities which may affect public health and safety.
- Scheduling/Planning Manager – prepares plans, schedules, and tracks/expedites recovery operations.
- Administration/Logistics Manager – supplies administrative, logistic, communications, and personnel support for the recovery operation.
- Public Information Director – coordinates the flow of media information concerning recovery operations.

Once the organization is established and specific responsibilities are assigned, the Recovery Manager may relocate some or all of the recovery organization staff from the EOF.

M.3 Reentry Planning

If the accident situation involved a release of radioactivity, appropriate areas of the plant and site will be monitored to determine contamination and radiation levels. Identifying and controlling access to these areas will be in accordance with normal plant procedures. When reentry to a radiation area is required for inspection or work, the activity will be preplanned and plant radiation work practices and ALARA program principles will be followed.

M.4 Exposure Monitoring

All personnel who require access to the plant or to radiation areas on site during the recovery phase will be issued dosimetry, as appropriate. The criteria for reading TLDs and assessing radiation dose will be in accordance with standard health physics practices. The results of the dosimeter readings, including integrated exposures (i.e., man-rems) will be reported to the Recovery Manager, the radcon/radwaste manager, and others in the plant organization who normally receive such reports.

The State of Georgia, the State of South Carolina, and SRS have the responsibility for determining population exposure of the public via plume exposure and ingestion pathways.

VEGP will provide radiological information including estimated quantity of radioactivity released, isotopic composition of released material, and meteorological data to assist the governmental authorities in their determinations. By determining the affected population (see Appendix 6) and by performing dose assessment calculations, including determination of the quantity of radioactivity released and release rate, VEGP personnel can estimate the population exposure, if necessary. Use of data from fixed monitoring stations (TLDs and air samplers) can be used to confirm the exposure estimates.

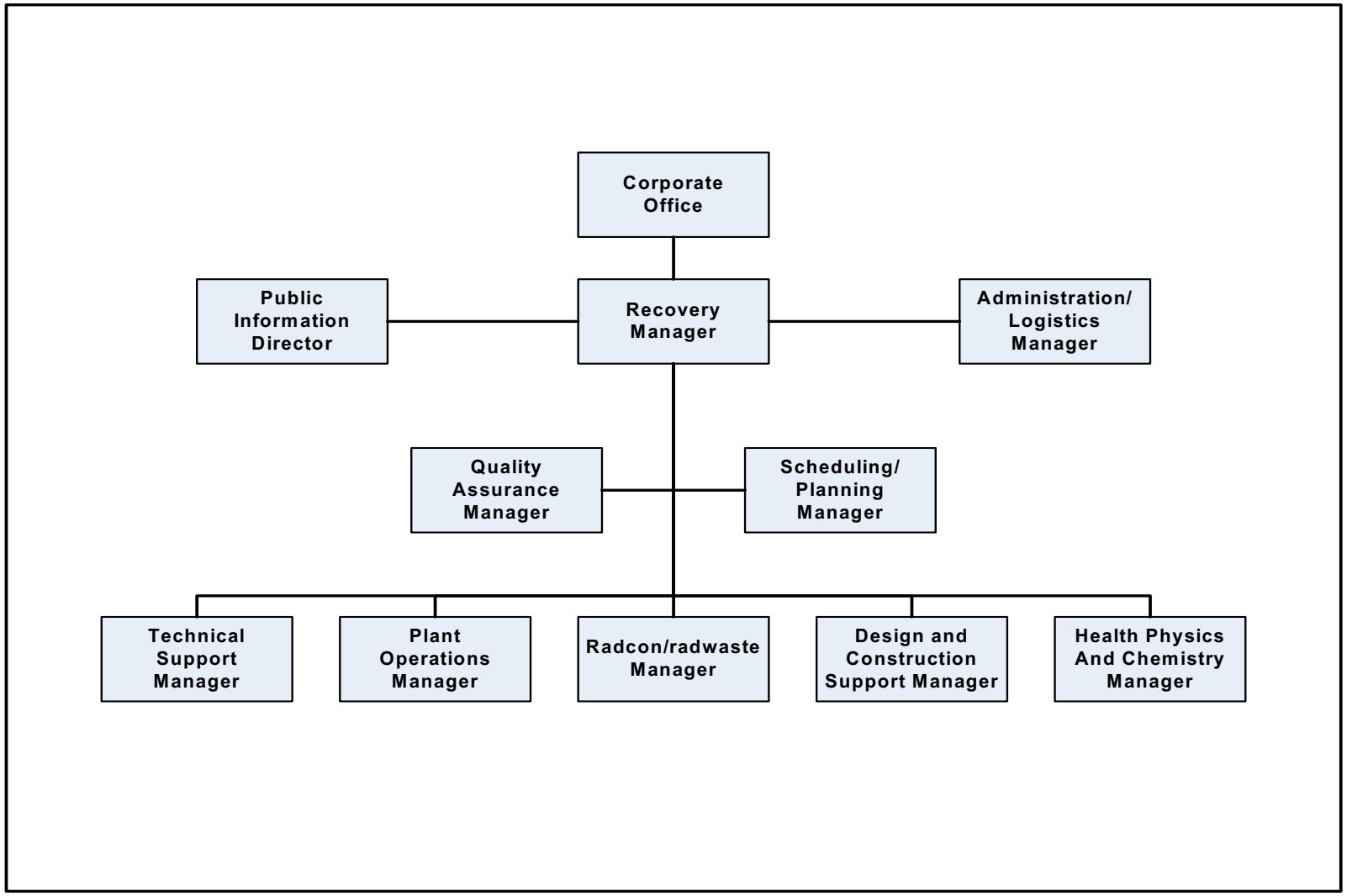

Figure M-1 Recovery Organization

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N Exercises and Drills

Emergency exercises and drills are conducted to test and evaluate the adequacy of emergency facilities, equipment, procedures, communication links, actions of emergency response personnel, and coordination between the Vogtle Electric Generating Plant (VEGP) and offsite emergency response organizations. Some exercises and/or drills will be unannounced.

N.1 Exercises

Emergency preparedness exercises test integrated response capabilities and are conducted in accordance with Nuclear Regulatory Commission (NRC) and Federal Emergency Management Agency (FEMA) guidance as described below. Exercises are conducted every two calendar years, and are designed to include the demonstration of response to a major portion of the basic elements of the emergency preparedness plans of the participating organizations. The planning and execution of the emergency exercise is coordinated with Federal, State, and local agencies, as appropriate.

For those exercises during which offsite response groups play a significant part, mobilization of Federal, State, and local personnel and resources adequate to verify the capability to respond to an accident situation is included. The exercise program for VEGP incorporates the following features:

- Scenarios are varied from year to year so that all major elements of the VEGP emergency preparedness program are tested within a 6 year period.
- VEGP starts an exercise between 6:00 p.m. and 4:00 a.m. once every 6 years.
- Since exercises are normally scheduled several months in advance, a variety of weather conditions is likely to occur.

N.2 Drills

A drill is a supervised instruction period aimed at testing, developing, and maintaining skills in a particular operation. Drills may be incorporated into the biennial exercise; they will be supervised and evaluated by either a training instructor or designated controller/evaluator.

N.2.1 Off Year Drill

Drills shall be conducted to ensure that adequate emergency response capabilities are maintained in the interval between biennial exercises. At least one of these drills will be conducted during the calendar year when there is no biennial exercise and shall involve a combination of some of the principal functional areas of the onsite emergency response capabilities. The principal functional areas include activities such as command and control of emergency response, accident assessment, protective action decision making, and plant system repair and corrective actions. Activation of all emergency response facilities (TSC, OSC and

EOF) is not required during these drills. Supervised instruction, success paths and accident management strategies may be included in these drills.

The States of Georgia and South Carolina including the Counties of Burke, Aiken, Allendale and Barnwell will be permitted to participate in drills when requested by the State or County Government.

N.2.2 Communication Drills

To ensure that emergency communication channels between VEGP and offsite authorities are operable, periodic drills are conducted. For drills, the communication is initiated at VEGP using the actual message format in accordance with the applicable plan and procedure. By using the standard message format, the drill tests understanding of message content as well as the communication systems hardware. The following test and drills are conducted:

- Communication channels with the State of Georgia, Burke County, State of South Carolina, Aiken County, Barnwell County, Allendale County, Savannah River Site (SRS), and the NRC are tested as described in Section F.
- Communication drills among the control room, technical support center (TSC), operations support centers (OSC), emergency operations facility (EOF), emergency news center, the States of Georgia and South Carolina, Burke, Aiken, Barnwell, and Allendale Counties, SRS, and VEGP field monitoring teams are conducted every two years. These drills are normally conducted during the biennial exercise.

N.2.3 Fire Drills

Fire drills are conducted in accordance with the respective Final Safety Analysis Reports (FSAR). As discussed in the FSAR, the program involves quarterly drills, at least one of which is unannounced. The quarterly drills are scheduled so that each member of the fire brigade participates in at least two drills per year. In addition, an annual practice is conducted which requires extinguishing a fire.

N.2.4 Medical Emergency Drills

A medical emergency drill involving a simulated contaminated person is conducted each calendar year. A moulage kit may be used to mock the injuries; otherwise, the drill script will describe the injuries. Controller data will be used for dose rates, contamination levels, and dosimeter readings. The simulated injured player is given initial treatment, as appropriate, by the VEGP first aid team, transported by ambulance to the hospital, and then given subsequent treatment by the hospital staff. This drill may be conducted as part of the biennial exercise.

N.2.5 Radiological Monitoring Drills

Plant environs and radiological monitoring drills are conducted each calendar year per administrative procedures. For these drills, a team is dispatched with a controller to obtain the required measurements or samples. The drill controller will evaluate the proper use of survey instruments, record keeping, communications and the collection of sample media (soil, air, water, and vegetation), as appropriate. This drill may be conducted in conjunction with one of the semi-annual health physics drills.

N.2.6 Health Physics Drills

Semi-annual health physics drills will be conducted in accordance with emergency implementing procedures. The Emergency Preparedness Coordinator will direct the development of drill scenarios so as to test and evaluate the response activities. Drill scenarios will simulate, as closely as possible, actual anticipated emergency conditions. Simulated elevated airborne and liquid samples and radiation in the environment will be utilized for drill activities.

Drills will evaluate the proper response in accordance with emergency implementing procedures. Use of sample techniques, survey techniques, monitoring methods, decontamination methods, and protective clothing and respirators will be demonstrated, as appropriate, during the drill, but may not be used throughout the drill (for example, field monitoring teams will not wear protective clothing). Exposure control considerations will also be exercised during the drill.

Post accident sampling under simulated accident conditions will be demonstrated each calendar year. The post accident analysis may be performed using available instrumentation or using laboratory equipment to demonstrate the methods employed under actual accident conditions.

N.3 Scenarios

Each drill and exercise is conducted in accordance with a scenario. The scenarios for the drills may be considerably less extensive than the scenario for the biennial exercise. The preparation of exercise scenarios is directed by the Manager-Training and Emergency Preparedness or EPC who enlists the assistance of personnel from other departments, as required, to assist in this task. The scenario is coordinated with offsite authorities when they are participating in the exercise. The scenario is submitted to the NRC in accordance with current practice. FEMA receives a copy of the scenario from the participating states.

Scenarios include the following information:

- Objectives.
- Date, time period, place, and participating organizations.
- Controller/evaluator assignments.
- Time schedules of real and simulated initiating events.

- Messages describing equipment malfunctions, personnel injuries, and other non plant events, as appropriate.
- Narrative summary describing the conduct of the drill or exercise.
- Radiological data for onsite facilities and offsite field monitoring teams.

The exercise program is structured with sufficient flexibility to allow free play for decision making processes. The exercise scenario package identifies a specific accident sequence and includes messages that support the accident sequence. The exercise control organization receives general instructions concerning the deviation of plant personnel from procedural response. The exercise control organization may restrict player action if the response would interfere with the time sequence or prevent demonstration of an exercise objective. Free play items may be included in the scenario to maintain player interest. Specific elements that may allow free play in the decision making process during the exercise include:

- Damage control
- Accident mitigation
- Personnel resources augmentation actions
- Exposure control actions
- Communication with offsite authorities
- Recommendation of protective actions

N.4 Evaluations and Corrective Actions

All drills and exercises are evaluated. For periodic drills, the process consists of the following steps:

1. Drills will be evaluated by controllers/evaluators selected on the basis of expertise and availability.
2. Improper or incorrect performance during the drill may be corrected by the controller/ evaluator and the proper method pointed out or demonstrated.
3. The exercise or drill controllers assemble the players at the conclusion of activities for a critique. Players are encouraged to identify areas where improvements are required. The drill controllers also presents their observations to the players.
4. The site Emergency Preparedness Coordinator (EPC) submits a list of corrective actions, responsibilities, and schedule information to the General Manager-Nuclear plant for approval.
5. The EPC assigns action items and monitors the status of completion of corrective actions. Significant problems will be brought to the attention of appropriate plant management.

Exercise evaluation and corrective action are carried out in similar fashion. Critiques with the players are conducted in each facility and coordinated by the controller/evaluator at that facility.

Each controller/evaluator submits written reports to the exercise controller. An overall critique is presented to key players and to the control organization after the exercise. The General Manager-Nuclear Plant approves the responsibilities for corrective actions and deadlines for completion. The site Emergency Preparedness Coordinator monitors completion status. In addition to the internal critique and evaluation, Federal observers may observe, evaluate, and critique the biennial exercise. Corrective actions resulting from this critique, together with deadlines for completion, are assigned by the General Manager-Nuclear Plant. The General Manager-Nuclear Plant is advised of the status of these open items periodically.

As stated in 10CFR50, Appendix E, Section IV, if VEGP failed to demonstrate with reasonable assurance that protective measures can, and will be, taken, a remedial exercise would be performed as directed by the NRC.

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O Radiological Emergency Response Training

Emergency response training is provided at four levels:

1. All VEGP badged personnel will receive General Employee Training at inception of onsite duties. GET will include emergency classification, individual response, signals, accountability, and site dismissal procedures.
2. All VEGP emergency response organization personnel will receive specialized training per Table O-2.
3. Offsite response groups who may support onsite situations, such as fire or personnel injury, will be offered annual training in notification, expected roles, site orientation, security procedures, and basic radiation protection.
4. Selected state and local emergency response management personnel with offsite emergency response roles will be offered a seminar/training course in the following specific areas:
    - VEGP emergency classification system
    - VEGP protective action recommendation criteria and their relationship to plant conditions
    - VEGP emergency response organization.

These offsite management personnel will be offered initial training and annual retraining. Coordination with offsite authorities will include planning for, and participation in, VEGP exercises.

O.1 Training

As a minimum, training will be provided in the subject areas shown in Table O-1 to various personnel according to their emergency response position as shown on Table O-2. It should be noted that these subject areas do not necessarily represent specific course titles, since several individual courses may be used to implement the training in each area. Also, both the content and depth of training may be varied slightly, depending upon the particular audience, in order to tailor the presentation to the specific needs of the group.

The training will be conducted in accordance with lesson plans. Classroom lectures, demonstration and use of equipment, and walk throughs of facilities will be incorporated into the lesson plans as appropriate. A written examination or practical exercise may be administered at the conclusion of a lesson. Records of the attendance and examination scores will be retained in the training files. Those designated to receive training in each subject area are indicated in Table O-3.

Radiological emergency response training is offered throughout the year, with each training course being covered at least once per calendar year or as often as necessary to ensure that

ERO personnel remain qualified in accordance with training requirements in Section O.2. Annual retraining consists of initial training material reinforcement and appropriate lessons learned from the previous year's operating experience. Lessons learned that are distributed by other methods may not be included in annual retraining. The General Manager-Nuclear Plant may receive credit for Management of Radiological Emergencies (MRE) requalification by participating in an integrated drill or annual exercise. In addition, drills and exercises are an integral part of the training program and are conducted as specified in Section N of this Plan. During practical drills, on the spot corrections will be made if the situation and time allow. If not, the corrections will be pointed out in the critique. Upon completion of each training session or drill, the participants will be asked to critique the training in order to ensure continued improvement.

O.2 Qualification

Emergency response personnel at VEGP are qualified by the following criteria:

Table O-1 ERO Qualification

Qualification Methods	Qualification Criteria
Normal Job Duties	Positions in the emergency response organization are assigned commensurate with normal managerial, supervisory, and/or technical skills as shown in Table B-2.
Training	All ERO personnel shall be trained in accordance with Table O-3 within the last 15 months, except for post accident sampling and first aid training, which is to be within 36 months.
Drill/exercise performance	Individual performance is evaluated and corrective action taken as necessary.

O.3 Summary

All badged VEGP workers will receive general training in emergency preparedness. Selected individuals on site and off site will annually receive specialized training in order to implement the VEGP Emergency Plan.

Table O-2 Training Course Description

Training Course	Description
Core Damage Assessment	This course covers the methodology for assessing core damage and estimating potential source terms. It includes retrieval of pertinent plant parameter data from the control room; making core inventory determinations based on reactor power history; estimating cladding and/or fuel damage; and estimating resultant activity released to containment atmosphere.
Offsite Communications	This course covers operation of communications equipment in the ERFs; communications methods, and procedures for notifying off-site emergency response agencies.
Emergency Plan Overview (EPO) (a)	This course covers an overview of the emergency plan with special attention to emergency planning zones (EPZs); emergency classification system; onsite emergency response organizations; responsibilities of emergency response personnel; and site accountability and site dismissal.
First Aid	This course covers OSHA standard 29 CFR 1910.151 and directive CPL 02-02-053.
Management of Radiological Emergencies (MREs)	This course covers classification of emergencies; emergency notification of onsite and offsite emergency response personnel and agencies; activation and staffing of emergency response facilities; protective action recommendation decision making based on EPA PGE; retrieval of available plant computer data; reentry and repair operations; and communications and information management; and recovery.
Offsite Dose Assessment	This course covers dose projection methodology including computerized methods; retrieval of plant computer data; methods for obtaining meteorological data; operation of the dose assessment computer; and interpretation of offsite dose calculation results.
Post-Accident Sampling (TSC Chemistry Supervisors Only)	This course covers collection of samples from plant process and effluent streams under emergency conditions; measuring radiological and selected chemical concentrations in those samples; interpretation of sample results. Training requirements for the TSC chemistry supervisor is triennial.

Table O-2 (Cont.) Training Course Description

Training Course	Description
Repair and Corrective Actions	This course covers ALARA principles as they apply to planning and implementing repair and corrective action; emergency exposure guidelines; and communications during repair and corrective actions.
Field Monitoring Team	This course covers field measurement of airborne radioactivity, radiation levels and contamination in the EPZ; collecting environmental samples; map reading; record keeping; and radio communications.
Radiological Emergency Team in Plant	This course covers methods for performing in-plant radiation, contamination, and airborne radioactivity surveys under emergency conditions; search and rescue of missing personnel; managing health physics activities; and communications for the above activities.
Security	This course covers emergency response activities of the security department including personnel accountability; traffic control; communication; and access control to emergency response facilities.
Medical Support of Radiation Emergencies	This course covers the responsibilities and methods for handling exposed and/or contaminated injuries. It includes interfacing with ambulance crews; health physics activities for transporting a contaminated injured patient to the hospital; and final disposition of the ambulance, ambulance crew, hospital staff, and radiation emergency area (REA) at the hospital.
SCBA	This course covers the use of self-contained breathing apparatus including equipment description; proper donning and use; and inspection and actions in case of equipment failures.

a. EPO is included in GET badge training for all unescorted personnel.

Table O-3 Training Requirements for VEGP ERO Personnel

	Core Damage Assessment	Offsite Communications	Emergency Plan Overview (EPO)	First Aid	Management of Radiological Emergencies (MRE)	Offsite Dose Assessment	Post Accident Sampling	Repair and Corrective Actions	Field Monitoring Team	Radiological Emergency Team in Plant	Security	Medical Support of Radiation Emergencies	SCBA
Emergency Director			X		X								X(a)
EOF Management	Training requirements described in Appendix 7												
EOF Staff													
Dose Assessment Supervisor													
Dose Analysts			X			X							
Security Coordinators			X								X		
TSC Manager			X		X								
TSC Support Coordinator		X	X										
Engineering Supervisor	X		X										
Maintenance Supervisor			X					X					
Operations Supervisor			X										
Health Physics Supervisor			X			X				X		X	
Chemistry Supervisor			X				X						
TSC Engineering Staff			X										
OSC Manager			X		X			X					
Communicators		X	X										

Table O-3 (Cont.) Training Requirements for VEGP ERO Personnel

	Core Damage Assessment	Offsite Communications	Emergency Plan Overview (EPO)	First Aid	Management of Radiological Emergencies (MRE)	Offsite Dose Assessment	Post Accident Sampling	Repair and Corrective Actions	Field Monitoring Team	Radiological Emergency Team in Plant	Security	Medical Support of Radiation Emergencies	SCBA
Clerks			X										
Teams													
In-Plant Monitoring			X							X			X
Damage Control/Assessment			X						X				X
Repair and Modification			X						X				X
Search and Rescue			X	X[b]									X
Fire Brigade			X										X
First Aid			X	X					X				X
Field Monitoring Team			X										X
Dosimetry			X										X
Health Physics Technicians			X	X						X			X
Monitoring Team Communicator			X						X				X

a. Except corporate staff
b. At least one member first aid qualified

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P Responsibility for the Planning Effort

The Executive Vice President/Chief Nuclear Officer (CNO) Southern Nuclear Operating Company (SNC) has overall responsibility and authority for all nuclear activities, including emergency planning (EP) programs. Reporting to the Executive Vice President is the Vice President Fleet Operation Support and the Vice President - (Plant).

Vice President Fleet Operations Support has Fleet responsibility for emergency planning. His direct report, the Nuclear Fleet Security and Emergency Preparedness Manager has overview management responsibility for the Fleet SNC Emergency Planning program effort. The EP Supervisor reporting through the Nuclear Fleet Security and Emergency Preparedness Manager is responsible for overseeing emergency planning activities offsite and coordinating those activities with Licensee, Federal, State and local response organizations. The Emergency Planning Coordinator reports through the Emergency Planning (EP) Supervisor in support of this effort.

Vice President - (Plant) is responsible for the site Emergency Preparedness program. The Emergency Preparedness Coordinator, stationed at the plant site, is responsible for coordinating emergency preparedness activities onsite and in the vicinity of the plant. The Emergency Preparedness Coordinator reports through the Plant Training and Emergency Preparedness Manager and the Site Support Manager to the Vice President - (Plant).

The Emergency Planning Supervisor provides strategic direction for SNC emergency planning; the Emergency Preparedness Coordinator is responsible to the Plant Training and Emergency Preparedness Manager for strategy implementation. The Emergency Planning Coordinator coordinates site input and involvement in emergency planning programs with the Emergency Preparedness Coordinator. The Emergency Preparedness Coordinator is responsible for the implementation of the Emergency Plan and procedure development and maintenance. Figure P-1 shows the EP Organization. The EP Supervisor, Emergency Planning Coordinator, Emergency Preparedness Coordinator, and other individuals with emergency planning responsibilities are trained by self-study and by attending industry seminars, short courses, workshops, etc.

The Emergency Plans are maintained by the Fleet Security and Emergency Planning Manager with the EP-Supervisor being the principal emergency planning contact. Onsite Emergency Implementing Procedures (EIP) are maintained by the Plant Training and Emergency Preparedness Manager with the Emergency Preparedness Coordinator being the principal contact EIPs for the corporate emergency response organization and procedures governing fleet emergency planning activities are maintained by the EP Supervisor. The Emergency Preparedness Coordinator performs a review of the site specific emergency plan annually and all onsite EIPs biennially. The review includes the letters of agreement, which are updated as necessary.

The Emergency Planning Supervisor performs a review of the emergency plans for Southern Nuclear once each calendar year. The review includes a comparison for consistency of all emergency plans for the specific sites including the Security Plan, State, County, and the Savannah River Site plan as appropriate.

The Emergency plans and EIPs are revised in accordance with applicable site procedures.

Emergency Plan changes which are judged to reduce the effectiveness of the Plan will be submitted to the NRC for approval prior to implementation. The Emergency Planning Coordinator will review Emergency Plan changes to determine if the effectiveness of the site specific plan has been reduced prior to submitting the proposed change for departmental review and subsequently to the PRB for approval.

As required by 10CFR50.54(t). An annual independent audit of the emergency preparedness program is conducted by the SNC Quality Assurance (QA) Department. This audit is conducted as part of the standard audit program and will include a review of the Emergency Plan, its implementing procedures and practices, emergency preparedness training, annual exercises, equipment, and emergency response facilities. In addition, an audit of the interfaces with offsite agencies is performed by the Corporate SNC Quality Assurance group.

Each audit is nominally conducted every 12 months; the interval from the previous audit may be shortened but may not be extended beyond 15 months.

Audits are performed in accordance with SNC QA department procedures. Audit reports are written and distributed to management and, in addition, applicable portions of the corporate audit reports are made available to affected Federal, State, and local agencies, as appropriate, in accordance with 10CFR50.54(t).

Appropriate departments are responsible for implementing corrective actions resulting from the audit findings. Records of these audits and exercise findings are maintained in accordance with plant procedures.

In addition to this Plan, several other formal emergency plans have been developed to support the overall emergency response effort. These supporting plans and their sources are listed in procedure NMP-EP-300, SNC Corporate Emergency Planning Activities.

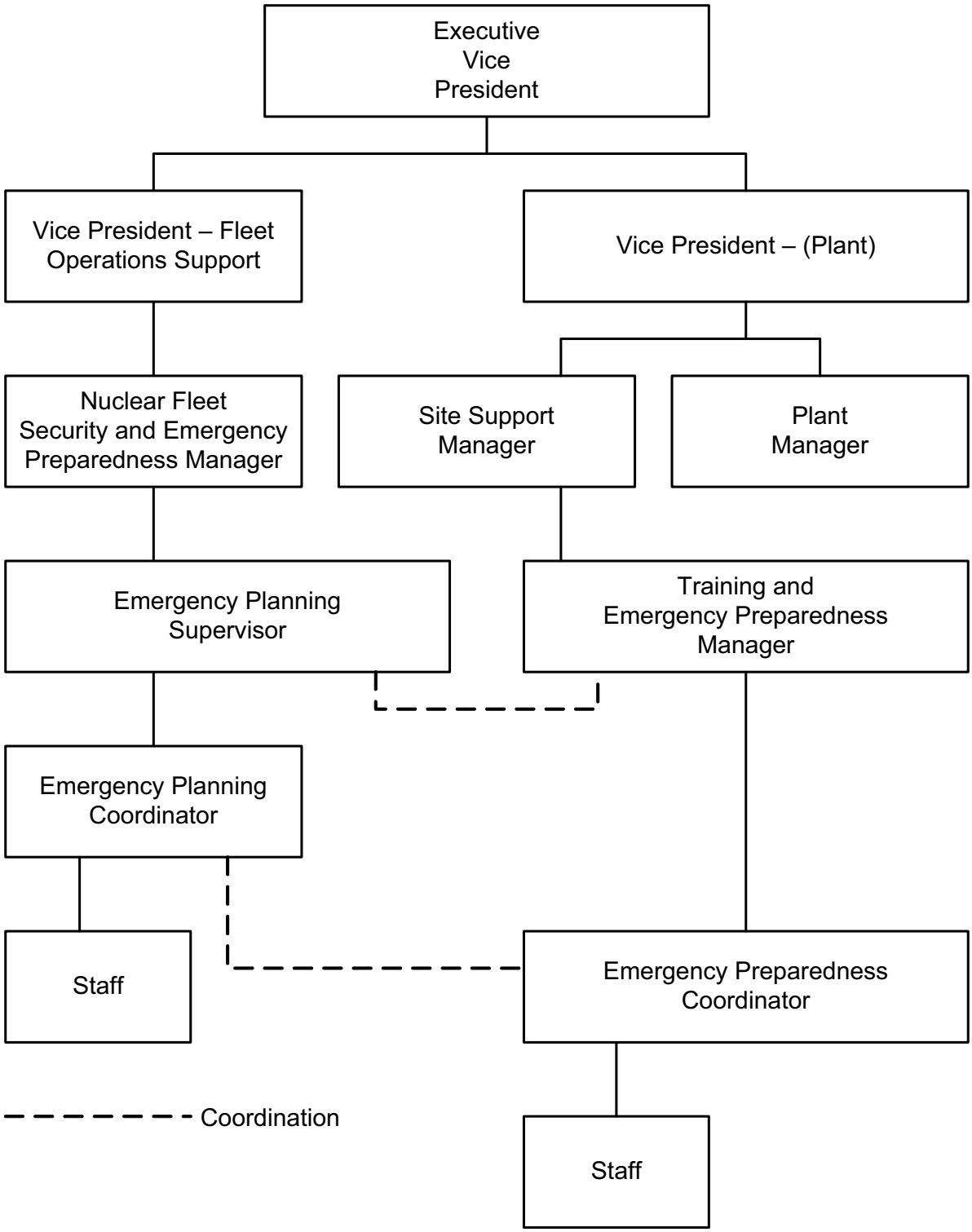

Figure P-1 Emergency Preparedness Organization

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Appendix 1 Glossary

Table A1-1 Glossary

Term	Definition
ACCW	auxiliary component cooling water
ADL	Administrative Decision Line
AIM	analog input module
ALARA	as Low as Reasonably Achievable
APCO	Alabama Power Company
ASAP	as soon as possible
C&T	Clearance and Tagging
CCW	component cooling water
CDE	committed dose equivalent
CNO	Chief Nuclear Officer
COL	Combined License
CPCS	Common Program Control Station
CRACIT	Calculation of Reactor Accident Consequences Including Trajectory
CSC	Customer Service Center
CSF	critical safety function
CSFST	critical safety function status tree
CVCS	chemical and volume control system
DAS	Diverse Actuation System
DCF	dose conversion factor
DCP	Design Change Package
DHEC	Department of Health and Environmental Control of South Carolina
DHS	Department of Homeland Security
DMA	direct memory access
DNR	Department of Natural Resources
DOD	Department of Defense
DOE	Department of Energy
DOE SR	Department of Energy - Savannah River Operations Office
DOE SRS	Department of Energy - Savannah River Site
DOT	Department of Transportation
DPL	Data Point Library
DPM	data processing module
EAL	Emergency Action Level
EAS	Emergency Alerting System
ECCS	emergency core cooling system

Table A1-1 (Cont.) Glossary

Term	Definition
ED	Emergency Director
EIP	Emergency Implementing Procedure
EMA	Emergency Management Agency
EMC	Electric Membership Corporation
EMD	Emergency Management Division
EMD	Emergency Management Division
ENC	Emergency News Center
ENN	Emergency Notification Network
ENS	Emergency Notification System
EOC	emergency operations center
EOF	emergency operations facility
EOP	emergency operating procedure
EP	Emergency Plan
EPA	Environmental Protection Agency
EPC	emergency preparedness coordinator
EPD	Environmental Protection Division of Georgia
EPO	Emergency Plan Overview
EPZ	emergency planning zone
ERF	emergency response facilities
ERO	Emergency Response Organization
ESF	Emergency Support Function
ETE	evacuation time estimate
FEMA	Federal Emergency Management Agency
FEOC	forward emergency operations center
FNP	Farley Nuclear Plant
FRC	Federal Response Center
FRERP	Federal Radiological Emergency Response Plan
FRMAC	Federal Radiological Monitoring and Assessment Center
FSAR	Final Safety Analysis Report
FT	fire training
FTS	Federal Telecommunications System
GA REP	Georgia Radiological Emergency Plan
GEMA	Georgia Emergency Management Agency
GEOP	Georgia Emergency Operations Plan
GET	general employee training
GPC	Georgia Power Company
HEPA	high efficiency particulate air

Table A1-1 (Cont.) Glossary

Term	Definition
HHS	Health and Human Services
HNP	Hatch Nuclear Plant
HP	health physics
HPN	Health Physics Network
HPT	health physics technician
HVAC	heating, ventilation, and air conditioning
I&C	instrumentation and control
IC	Initiating Condition
INPO	Institute of Nuclear Power Operations
IPC	Integrated Plant Computer
IRWST	in-containment refueling water storage tank
ISFSI	Independent Spent Fuel Storage System Installation
ITAAC	Inspection, test, analyses, and acceptance criteria
KI	potassium iodide
LLD	lowest limit of detection
LOCA	loss-of-coolant-accident
MOV	motor operated valve
MRE	Management of Radiological Emergencies
MSIV	main steam isolation valve
MSL	mean sea level
MSRE	medical support of radiological emergencies
NAWAS	National Warning System
NEI	Nuclear Energy Institute
NOAA	National Oceanic and Atmospheric Administration
NRC	Nuclear Regulatory Commission
NRP	National Response Plan
NSCW	nuclear service cooling water
NSSS	nuclear steam supply system
NUE	Notification of Unusual Event
NWS	National Weather Service
ODA	offsite dose assessment
ODCM	Off-site Dose Calculation Manual
OHS-GEMA	Office of Homeland Security – Georgia Emergency Management Agency
OPS	operational protection system
OS	operations supervisor
OSC	operations support center
PA	public address

Table A1-1 (Cont.) Glossary

Term	Definition
PAG	Protective Action Guideline
PAL	Plant Attribute Library
PAR	Protective Action Recommendation
PAZ	protective action zone
PBX	private branch exchange
PCS	passive containment cooling system
PEO	plant equipment operator
PERMS	process and effluent radiation monitoring system
PI	Public Information Director
PIMS	Pooled Inventory Management System
PIO	Public Information Officer
PLG	Pickard, Lowe, and Garrick
PMS	protection and monitoring system
PO	plant operator
PORV	power operated relief valve
PRA	peak recording accelerograph
PRB	Plant Review Board
PRHR	passive residual heat removal
QA	Quality Assurance
QDPS	qualified data processing system
R&CA	repair and corrective action
RC	reactor coolant
RCCA	rod control cluster assembly
RCP	reactor coolant pump
RCS	reactor coolant system
REA	radiation emergency area
REA	Request for Engineering Assistance
REC	radiation emergency coordinator
RERP	Radiological Emergency Response Plan
RET	radiological emergency team
RET/E	radiological emergency team/environmental
RET/I	radiological emergency team/in plant
RHR	residual heat removal
RMC	Radiation Management Consultants
RMS	Radiation monitoring system
RO	reactor operator
RPU	remote processing unit

Table A1-1 (Cont.) Glossary

Term	Definition
RTD	resistance temperature detector
RVLIS	reactor vessel level instrumentation system
RWP	radiation work permit
SC	South Carolina
SCEMD	South Carolina – Emergency Management Division
SCEOP	South Carolina Emergency Operational Plan
SCORERP	South Carolina Operational Radiological Emergency Response Plan
SCS	Southern Company Services
SEOC	State Emergency Operation Center
SG	steam generator
SMA	strong motion accelerometer
SNC	Southern Nuclear Operating Company
SOC	State Operations Center
SOE	sequence of events
SPDS	safety parameter display system
SRO	senior reactor operator
SRS	Savannah River Site
STA	shift technical advisor
TC	thermocouple
TEDE	total effective dose equivalent
TLD	thermoluminescent dosimeter
TMI	Three Mile Island
TSC	technical support center
TV	Threshold Value
UFM	universal field multiplexer
UPS	uninterruptible power supply system
USDA	United States Department of Agriculture
VECP	Vogtle Emergency Communications Plan
VEGP	Vogtle Electric Generating Plant
VRU	Voice Response Unit
WOG	Westinghouse Owners Group
EPZ	emergency planning zone
ERF	emergency response facilities
FEMA	Federal Emergency Management Agency
FEOC	forward emergency operations center
FRERP	Federal Radiological Emergency Response Plan
FSAR	Final Safety Analysis Report

Table A1-1 (Cont.) Glossary

Term	Definition
FT	fire training
GEMA	Georgia Emergency Management Agency
GET	general employee training
GPC	Georgia Power Company
HP	health physics
HPN	Health Physics Network
HVAC	heating, ventilation, and air conditioning
I&C	instrumentation and control
INPO	Institute of Nuclear Power Operations
IPC	Integrated Plant Computer
MSIV	main steam isolation valve
MSL	mean sea level
MSRE	medical support of radiological emergencies
NACOM	National Communication
NAWAS	National Warning System
NCHPD	Nuclear Chemistry and Health Physics Department
NEI	Nuclear Energy Institute
NDOP	Natural Disaster Operations Plan
NOAA	National Oceanic and Atmospheric Administration
NRC	Nuclear Regulatory Commission
NSCW	nuclear service cooling water
NSSS	nuclear steam supply system
NWS	National Weather Service
NUE	Notification of Unusual Event
ODA	offsite dose assessment
OPS	operational protection system
OS	operations supervisor
OSC	operations support center
PA	public address
PAG	Protective Action Guideline
PBX	private branch exchange
PEO	plant equipment operator
PERMS	process and effluent radiation monitoring system
PO	plant operator
PRA	peak recording accelerograph
R&CA	repair and corrective action
RCP	reactor coolant pump

Table A1-1 (Cont.) Glossary

Term	Definition
RCS	reactor coolant system
REC	radiation emergency coordinator
RERP	Radiological Emergency Response Plan
RET	radiological emergency team
RET/E	radiological emergency team/environmental
RET/I	radiological emergency team/in plant
RMC	Radiation Management Consultants
RO	reactor operator
RPU	remote processing unit
RTD	resistance temperature detector
RVLIS	reactor vessel level instrumentation system
RWP	radiation work permit
SAT	satisfied
SC	South Carolina
SCORERP	South Carolina Operational Radiological Emergency Response Plan
SEC	security
SG	steam generator
SLED	State Law Enforcement Division of South Carolina
SMA	strong motion accelerometer
SNC	Southern Nuclear Operating Company
SOE	sequence of events
SPDS	safety parameter display system
SRO	senior reactor operator
SRS	Savannah River Site
STA	shift technical advisor
SUR	startup rate
TC	thermocouple
TLD	thermoluminescent dosimeter
TMI	Three Mile Island
TSC	technical support center
UFM	universal field multiplexer
USDA	United States Department of Agriculture
VEGP	Vogtle Electric Generating Plant
WOG	Westinghouse Owners Group

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Appendix 2 Letters of Agreement

The following letters of agreement are maintained on file with the Site Emergency Preparedness Coordinator.

- Burke County Emergency Management Agency
- WJBF-TV Channel 6
- WRDW-TV Channel 12
- WAGT-TV Channel 26
- RMC - Radiation Management Consultants
- Doctors Hospital
- Physicians' Multispecialty Group, P.C. and Augusta Cosmetic Survey
- Burke Medical Center
- Medical Specialists, Inc.
- Westinghouse
- Bechtel Power Corporation
- Clear Channel (WGUS-AM, WINZ-AM, WEKL-FM, WBBQ- FM, WPRW-FM, WKSP-FM, and WZNY-FM)
- National Weather Service (NWS)
- WDOG Radio Station
- WKXC/KICKS 99 Radio Station
- Burke County Sheriff's Department
- INPO
- B. Lamar Murray, M.D.
- WFXG - TV Channel 54
- Aiken County South Carolina
- Allendale County South Carolina
- Barnwell County South Carolina
- Burke County Georgia
- Georgia Emergency Management Agency
- South Carolina Emergency Management Division
- AREVA ANP (Purchase Order)

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Appendix 3 Means for Providing Prompt Alerting and Notification of the Public

A3A. Introduction

Prompt alerting and notification of the public within the plume exposure pathway EPZ is the obligation of State and local government or other responsible authority. The responsibility that means exist for this purpose rests with Southern Nuclear Operating Company. An overview of these means, excluding the Savannah River Site, is given in this Appendix.

Initial notification of the public will occur in a manner consistent with assuring the public health and safety. The design objective for the system is to meet the acceptance criteria which are provided in a subsequent section of this Appendix. The design objective does not constitute a guarantee that prompt notification can be provided for everyone with 100% assurance, or that the system when tested under actual field conditions will meet the design objective in all cases.

In the event of an emergency, the Emergency Director at VEGP is responsible for notifying appropriate State and local response organizations, plant emergency personnel, and DOE's Savannah River Site. The initiating conditions for each emergency class are delineated in Section D in the main body of this emergency plan. The capability for twenty-four seven alerting and notification of offsite response organizations and plant emergency personnel is described in Section E. Prompt alerting and notification of the public within the plume exposure pathway EPZ will be accomplished by a combination of several means. Initial alerting will be made primarily by both tone-alert radios and a system of fixed sirens. Those who are not alerted by the primary means will be alerted by vehicles or boats equipped with sirens, and/or loudspeakers, or by door-to-door contact. Having been alerted, the public will turn on their radio or television to receive additional instructions from the Emergency Alert System (EAS).

A3B. Concept of Operations

In the event of a serious emergency at VEGP, the primary means for alerting and providing initial instructions to the public will be by a combination of tone-alert radios and a system of fixed sirens. The specific tone-alert radio system to be employed is the National Oceanic and Atmospheric Administration's (NOAA) Alert System. The National Weather Service (NWS) has agreed to activate the NOAA tone alert radio system in the plant vicinity when required by appropriate governmental officials. This means of notification is available on twenty-four seven basis.

The tone-alert radios will broadcast an acoustic alerting signal immediately followed by a vocal emergency message. The initial message will state that an emergency condition exists at VEGP and will also advise of any appropriate instructions for protective actions. NOAA will periodically broadcast short, updated messages as warranted. The siren system consists of a network of 47 rotating electronic sirens mounted on poles strategically located throughout the populated area of the plume exposure EPZ. Based upon Appendix 3 of NUREG-0654 and FEMA REP-10, the

system is designed to provide a minimum of 60 dBC coverage to all residences within the plume exposure EPZ, plus adequate coverage for people outdoors in all other areas of the plume exposure EPZ open to the public. The locations and design coverage contours of the sirens are shown on Figure A3-1.

Anyone not notified by the primary means will be notified by using State and local resources on an as needed and/or as available basis. These resources consist of the following:

a. Vehicles ready for immediate dispatch are equipped with sirens and/or loudspeakers. In Georgia, these vehicles will be dispatched upon request of the Burke County EMA Director (initially) or upon request of the senior GEMA representative when he arrives at the FEOC. The EMA Director, having either made the decision himself or having been requested by GEMA, will direct the Burke County Central Dispatcher (in the Burke County EOC) to dispatch the desired vehicles. This is a twenty-four seven capability. These vehicles will be supplied by the Burke County Sheriff's Department and/or the County Emergency Management Agency, both located in Waynesboro, Georgia. The central dispatcher has direct radio contact with the Burke County EMA vehicles, and will contact Sheriff's vehicles by radio either directly or through the Sheriff's dispatcher. Additional vehicles will be provided by the Georgia State Patrol barracks located in Sylvania, Georgia (Post 21) which can also be contacted by radio from the Central Dispatcher in the Burke County EOC. In South Carolina, vehicles will be dispatched upon request of the senior official in charge of the respective county's emergency operation center; or if the SEOC is operational, when requested by the senior state official. Dispatch of the vehicles is a twenty-four seven capability and will be made through the sheriff's dispatcher of the respective county. Because any people located in the Barnwell County portion of the plume exposure pathway EPZ are accessible only through Allendale County, Allendale County warning teams will have primary responsibility to warn the Barnwell populace. Barnwell County will provide backup warning teams if necessary. Vehicles will be supplied by the respective county sheriff's department.

b. Boats equipped with a voice or sound device will notify sportsmen or recreational users on the Savannah River. These boats will be supplied locally by the Georgia Department of Natural Resources-Law Enforcement Section, and the Burke County Emergency Management Agency and are stationed in Waynesboro. They will be dispatched by the Burke County Central Dispatcher, at the direction of the Burke EMA Director. This is a twenty-four seven capability. For the DNR boat, the dispatcher will radio or telephone the Resident Ranger in Waynesboro. The dispatcher has direct radio contact with County EMA personnel to access the EMA boat. The boats will usually be launched from the Georgia Power Company boat ramp at VEGP. From this point, the boats will be sent up and downstream, depending upon the plume pathway, to the boundaries of the plume EPZ. The boats will be pre-positioned at the boat ramp at an Alert or higher classification

to await orders to launch. Notification of persons on the river will be coordinated with the South Carolina Department of Wildlife.

c. Door-to-door contact may be conducted in acute areas. This will be done, as deemed necessary, by offsite authorities. It might be carried out after completion of a portion of Item No. 1 above in conjunction with confirmation of evacuation. Detailed information and instructions will be provided on local EAS radio and television stations. Seven commercial radio stations and three commercial television stations, whose broadcasts are received in the plume exposure pathway EPZ, have agreed to broadcast emergency instructions and information in cooperation with offsite officials. Each of these stations is a member of the EAS. Not all of these stations broadcast on a twenty-four seven basis. In the event of an emergency, the stations have agreed to come on the air (see letters of agreement in Appendix 2); their FCC licenses permit off hour broadcasts in case of an emergency. Most stations expect to be ready for broadcasting in approximately one-half hour following notification.

These continuing instructions will provide more specific or detailed information of any protective actions advised for affected areas. Information on the nature of the accident, on any releases, and on the progress in ameliorating or terminating the emergency event will also be provided periodically on the commercial stations, along with a prognosis for escalation or termination of the event.

A3C. Criteria for Acceptance

a. Within the plume exposure pathway EPZ, the prompt alerting and notification system will provide an alerting signal and notification by NOAA radio, and an alerting signal by fixed sirens; further notification will also be provided by local commercial radio and television stations which will be activated via EAS.

b. The minimum acceptable design objectives for coverage by the system are:

- Capability for both an alerting signal and an informational or instructional message to the population on an area-wide basis throughout the plume exposure pathway EPZ, within 15 minutes.
- The initial notification system will assure direct coverage of essentially 100% of the population within five miles of the site.
- Special arrangements will be made to assure 100% coverage, within 45 minutes, of the population who may not have received the initial notification within the entire plume exposure pathway EPZ.
- People in remote areas, such as those engaged in hunting and fishing, will be reached by the fixed siren system.

c. Assurance of continued notification capability will be verified on a statistical basis. Periodically, perhaps in conjunction with an exercise at VEGP, the public alert and notification system will be activated; Southern Nuclear Operating Company, and/or the State and local governments, will survey a sample of the residents in the plume exposure pathway EPZ. The survey results may be used to assess the public's ability to hear the alerting signal and their awareness of the meaning of the prompt notification message, as well as the availability of information on what to do in an emergency. In response to the findings of these surveys, appropriate corrective measures will be taken to provide reasonable assurance that the required coverage is maintained.

d. Local and State agencies have the capability to provide information promptly over local commercial radio and television at the time of the activation of the alerting signal. An agreement has been made with NOAA; arrangements have been made with local commercial radio and television stations. Authority for activation of the EAS, whereby designated governmental officials are permitted to issue emergency information and instruction in threatened or actual emergencies, is given by 47 CFR 11, EAS Rules.

A3D. Physical Implementation

In the event of an emergency, Vogtle Electric Generating Plant (VEGP) has developed and will maintain plans, systems, procedures and relationships that are effective in notifying appropriate governmental and other responsible authorities. These authorities will have available to them the means for alerting and notifying the general public, and for advising of appropriate responses by the public.

The communications system between the plant and the responsible authorities (Federal, State and local) features the following capabilities:

a. Twenty-four seven coverage at VEGP and at the primary points to receive and act upon notification.

b. Section D of the main body of this emergency plan describes the conditions for assured dissemination of alerting and warning information by VEGP to appropriate State and local warning points, Section E describes the methods and procedures for notifying these warning points. Communications equipment is described in Section F.

c. VEGP assumes primary responsibility for net control since effectively all of the emergency information originates at VEGP.

Notification of VEGP response personnel is described in Section E of the main body of this emergency plan. Notification of the response personnel of the State and local response organization is described in their respective emergency plans.

Southern Nuclear Operating Company provides NOAA radio receivers for all known establishments (residence, businesses, schools, etc.) within the plume exposure pathway EPZ

who choose to accept them. The radios are distributed by the SNC Emergency Preparedness staff. During the distribution to those accepting the radios, a brochure is handed out. The brochure distributed with the radios is entitled, "*Questions and Answers about Your Plant Vogtle NOAA Weather Radio*." That brochure will be redistributed on an annual basis to NOAA recipients. This brochure includes the following information:

- What is NOAA?
- Why NOAA radios are provided.
- Information they will receive on the NOAA radio. When the alert system will be activated.
- Who makes NOAA broadcasts.
- Where to place the radio.
- Backup battery power for power failures.
- What to do if the NOAA radio doesn't work.
- How to replace radio batteries.

Public information will be distributed on an annual basis to the NOAA radio recipients. Both the brochure and the public information will advise residents to contact VEGP or their local EMA if their radio is defective. The telephone number and address of both offices are provided in each brochure. SNC will replace any defective radios upon request or discovery that the radios are defective. SNC will also annually distribute replacement batteries to all recipients of tone alert radios. SNC will maintain a register of all radio recipients.

The electric service to all Burke County recipients within the plume EPZ is provided by either Georgia Power Company or the Planters Electric Membership Corporation (EMC). Planters EMC has agreed to provide information monthly to SNC concerning any persons requesting new electric service or disconnection of existing electric service. The Emergency Preparedness staff uses that information, together with its knowledge of its own electrical hookups or disconnections in the Georgia plume EPZ, to identify new residents. The Emergency Preparedness staff distributes tone alert radios to any new residents and updates the register of radio recipients periodically. The Emergency Preparedness staff also determines whether there are any permanent Burke County plume EPZ residents without electricity. A list of these residents is maintained. A survey of the Burke County portion of the plume EPZ will be made annually by the Emergency Preparedness staff to assure that the list of any such residents is current. This updated list is provided to the Burke County EMA director. The primary means of notification for these residents will be the siren system.

The recipients of tone-alert radios in the South Carolina portion of the plume EPZ are so few that similar indirect methods for checking the distribution of radios are not necessary. Rather, annual surveys of the entire South Carolina portion of the plume EPZ will be made directly by the Emergency Preparedness Staff.

The tone alert radios are routinely tested by the National Weather Service every Wednesday around noon, unless severe weather is threatening. The effectiveness of the tone alert radios will be tested and evaluated at least once a year in accordance with implementing procedures.

The testing and maintenance of the public alerting sirens in the VEGP EPZ are the responsibility of VEGP. The maintenance program will consist of both periodic routine checks and, as required, corrective maintenance. The actual performance of these maintenance actions will be conducted by Southern Company Services maintenance personnel or contract personnel. In either case, this program will be under the direction of the VEGP emergency preparedness coordinator.

The periodic routine maintenance program will be based on the manufacturers' recommendations and experience gained with the installation. It will consist of quarterly inspections to verify the proper physical condition of each siren location and checks to verify the proper operation of each location utilizing the built-in test and monitoring features of this system.

The periodic test program will consist of a weekly silent test, from the county activation points, and an annual full scale activation of the system. The weekly silent test will consist of activation of the siren from the County EOC. Each siren location is activated and responds in the normal manner, with the exception that the radiated noise of the siren is above the normal audible range and is therefore silent. Proper activation of each siren is confirmed utilizing a monitoring system. This monitoring system verifies the proper activation of the major components of the siren.

Once each year, the system will be activated from the associated county EOC in the normal mode. Advance notice of the test will be provided to the public. Activation of each siren will be verified by the WSMRFC. Reports of siren failures or inadequate coverage will be investigated by VEGP. Unsatisfactory conditions detected by any means will be promptly repaired by Southern Company Services maintenance or contract personnel under the direction of the VEGP emergency preparedness coordinator.

GEMA and SCEMD procedures detail the process for activating the prompt notification system for VEGP and will contain messages for first alert, shelter notice, evacuation notice, and all clear. Following initial notification of an emergency at VEGP by plant officials, GEMA and SCEMD will coordinate any decision to activate the prompt notification system. When a decision to activate the NOAA tone alert radios has been made, GEMA will request activation.

Authorization to activate the NOAA alert system for an emergency situation at VEGP rests with the GEMA director, executive director, and chief of operations. One of these individuals will instruct a GEMA staff officer (pre-designated staff officers are listed by position and name in the GEMA's procedure) to initiate activation of the alert system. The GEMA staff officer will instruct the GEMA radio operator to call the National Weather Service of Columbia, (NWS-Columbia) for activation of the NOAA alert system, and provide the radio operator with his phone number (EOC, FEOC, home). The radio operator will call the meteorologist-on-duty at NWS-Columbia using the National Warning System (NAWAS) circuit and request an emergency call to GEMA. (If

NAWAS malfunctions, GEMA will call the NWS on either a commercial phone number or their FTS phone number.) The meteorologist-on-duty will call the GEMA radio operator on one of three numbers with patch call capability. The numbers are identified in GEMA's procedures. The GEMA radio operator will patch the Weather Service call through to the GEMA staff officer's phone number. The GEMA staff officer will identify himself, and the NOAA operator will verify his name against the pre-designated list in the GEMA procedure.

The GEMA staff officer will request activation of the NOAA alert system and specify the desired message to be broadcast by the tone-alert radios from the scripted messages contained in the GEMA procedure which include pertinent information for South Carolina portions of the plume EPZ. He will also fill in any blanks in the scripted message and specify the length of time the message is to automatically repeat. The entire activation process is estimated by GEMA to take five to ten minutes starting at the time the decision to activate the prompt notification system is made.

Additional follow up messages which are not scripted will be similarly activated.

Each position identified in these activation steps is either staffed or on-call on a twenty-four seven basis.

The Burke County EMA director may request NOAA activation through GEMA. He also has the authority to request activation of the EAS. The Burke County EMA Director, or his designee, may activate the EAS by telephoning (commercial lines) either the EAS Control Station for the area (WBBQ-FM Augusta), or any local radio or television station which is an EAS member. Each member station can notify the other member stations. Certain member stations operate on a twenty-four seven basis, enabling activation regardless of the hour. The Burke County EOC communication facility will also have the ability to activate the EAS directly through a local radio station (WBRO); however this station does not operate on a twenty-four seven basis. GEMA may also activate EAS by calling the same stations described above, or through WSB in Atlanta.

Each of the three South Carolina counties within the plume EPZ may also activate the EAS system in the event of an immediate declaration of a Site Area Emergency or a General Emergency by VEGP and if the South Carolina SEOC is not yet operational. This activation can be made by telephoning (commercial lines) any EAS Control Station for the area (WAKN-FM), Aiken Common Program Control Station (CPCS-1), WTCB, Orangeburg Common Program Control Station (CPCS-1) or any local radio or television station which is an EAS member.

Fixed sirens are radio controlled by the county in which they are located. Forty-six of the sirens are controlled from the Burke County EOC. The remaining siren is controlled from the Barnwell County 911 Center. When a coordinated decision for activation of the prompt notification system has been made between GEMA and SCEMD, the respective state will instruct each affected county to activate its siren(s) at a pre-designated time synchronized with NOAA radio and EAS activation. Each county may also activate its siren(s) when deemed necessary for protection of

its populace if the states' EOC/FEOC are not yet activated. This siren activation would be synchronized with activation of the EAS directly by the county.

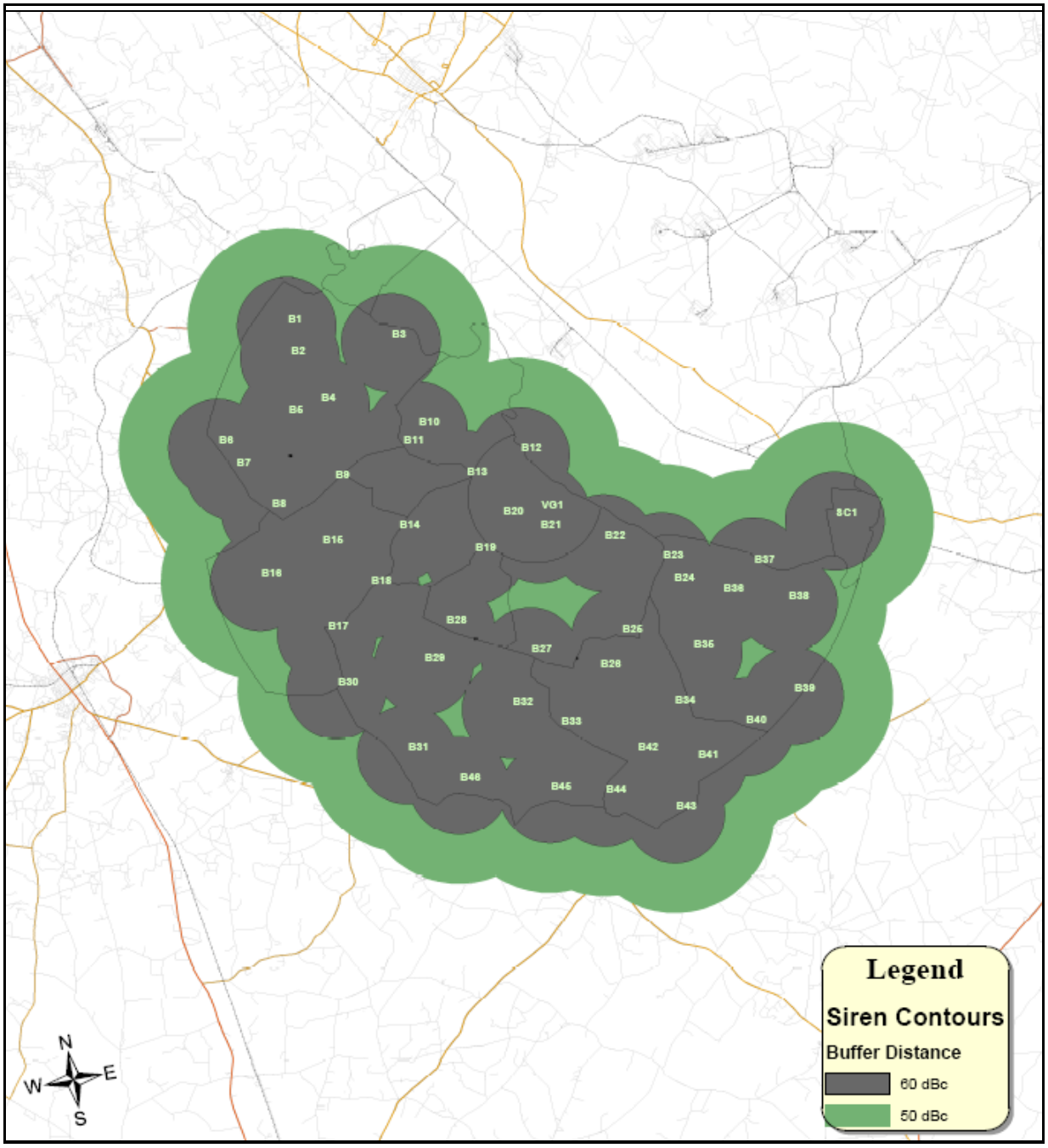

Figure A3-1 60 and 50 dBC Design Coverage Contours

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Appendix 4 Emergency Equipment List

Table A4-1 Control Room/TSC Emergency Equipment (Typical)

Item	Description
1	Survey meters: Ion chamber, minimum range 0-50 R/h; Frisker, minimum range 0-50 k cp
2	Dosimeters (0-99.99 Rem)
3	TLDs
4	Air sampler
5	Silver zeolite cartridges for air sampler
6	Particulate filter papers for air sampler
7	Survey logs
8	Smears
9	Plastic bags
10	Radiological signs
11	Barrier ropes or ribbon
12	Tape
13	Plastic sheeting
14	Absorbent material
15	Coveralls
16	Shoe covers
17	Rubber gloves
18	Cotton gloves
19	Hoods
20	Respirators
21	Respirator filters
22	SCBAs
23	First aid kit
24	Portable lanterns
25	Flashlights
26	Potassium iodide
27	Clipboards, writing materials, and secretarial supplies
28	Area maps
29	Check sources

Table A4-2 EOF Emergency Equipment (Typical) EOF Supplies

Item	Description
1	First aid kit
2	Portable lanterns
3	Flashlights
4	Clipboards, writing materials, and secretarial supplies
5	Area maps

Table A4-3 Emergency Field Monitoring Kits (3) (Typical)

Item	Description
1	Ion chamber survey meter minimum range 0-5 R/h
2	Frisker minimum range 0-5 k cpm
3	Dosimeters (0-99.99 Rem)
4	Air sampler
5	Silver zeolite cartridges for air sampler
6	Particulate filter papers for air sampler
7	Sample counting equipment
8	Field monitoring log forms
9	Area and road maps
10	Clipboard and writing materials
11	Radios
12	Smears
13	Plastic bags
14	Soil scoop
15	Knife
16	1-liter bottles
17	Tape
18	Cotton gloves and rubber gloves
19	Protective clothing
20	First aid kit
21	Flashlight
22	Calculator
23	Tape measure
24	Stop watch
25	Respirators

Table A4-4 OSC Emergency Equipment (Typical)

Item	Description
1	Survey meters: Ion chamber, minimum range 0-50 R/h; Frisker, minimum range 0-50 k cp
2	Dosimeters (0-99.99 Rem)
3	TLDs
4	Air sampler
5	Silver zeolite cartridges for air sampler
6	Particulate filter papers for air sampler
7	Survey logs
8	Smears
9	Plastic bags
10	Radiological signs
11	Barrier ropes or ribbon
12	Tape
13	Plastic sheeting
14	Absorbent material
15	Coveralls
16	Shoe covers
17	Rubber gloves
18	Cotton gloves
19	Hoods
20	Respirators
21	Respirator filters
22	SCBAs
23	First aid kit
24	Flashlights
25	Batteries
26	Check source
27	Potassium iodide
28	Data forms
29	Clipboards, writing materials, and secretarial supplies

Table A4-5 Main Control Point or HP Room Emergency Equipment (Typical)

Item	Description
1	Survey meters: Ion chamber, minimum range 0-50 R/h; Frisker, minimum range 0-50 k cp
2	Dosimeters (0-99.99 Rem)
3	TLDs
4	Air sampler
5	Silver zeolite cartridges for air sampler
6	Particulate filter papers for air sampler
7	Survey logs
8	Smears
9	Plastic bags
10	Radiological signs
11	Barrier ropes or ribbon
12	Tape
13	Plastic sheeting
14	Absorbent material
15	Coveralls
16	Shoe covers
17	Rubber gloves
18	Cotton gloves
19	Hoods
20	Respirators
21	Respirator filters
22	SCBAs
23	First aid kit
24	Flashlights
25	Batteries
26	Radiation protection and monitoring procedures
27	Potassium iodide
28	Clipboards, writing materials, and secretarial supplies

Table A4-6 Decontamination Emergency Equipment Kit (Typical)

Item	Description
1	Ion chamber, minimum range 0-5 R/h
2	Friskers with probe, minimum range 0-50 k cpm
3	Smears
4	Plastic Bags
5	Radiological Signs
6	Barrier ropes or ribbons
7	Tape
8	Plastic sheeting
9	Absorbent material
10	Coveralls
11	Shoe covers
12	Rubber gloves
13	Cotton gloves
14	Hoods
15	Soap
16	Shampoo
17	Towels
18	Razors
19	Shaving cream
20	Dosimeters (0-99 rem)
21	Hand brushes
22	Body maps
23	Potassium iodide
24	TLDs
25	Respirators with/filter cartridges
26	Cotton swabs

Table A4-7 Offsite Ambulance Emergency Equipment

Item	Description
1	Coveralls
2	Shoe Covers
3	Cotton Gloves
4	Plastic Bags
5	Tape
6	Plastic sheeting
7	Absorbent material
8	Rubber gloves
9	Frisker with probe, minimum range of 0-50 k cpm
10	TIDs (a)
11	Dosimeter (0-99.99 Rem) (a)
12	Radiation tape and tags

a. Equipment supplied by personnel at Plant Entry and Security Building (PESB)

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Appendix 5 Memorandum of Agreement with Department of Energy – Savannah River

MOA follows:

Department of Energy
Savannah River Operations Office
P.O. Box A
Aiken, South Carolina 29802

APR 12 1999

Mr. J. B. Beasley, Jr.
Vice President – Nuclear Vogtle Project
Southern Nuclear Operating Company
Birmingham, Alabama 35201

Dear Mr. Beasley:

SUBJECT: Vogtle Electric Generating Plant (VEGP) Memorandum of Agreement (MOA)

Enclosed is your copy of the executed MOA between the Department of Energy Savannah River Operations Office and the Southern Nuclear Operating Company (SNC) for planning and responding to emergencies originating at the Vogtle Electric Generating Plant (VEGP) and the Savannah River Site (SRS).

We appreciate the continued support of SNC and the staff at VEGP in promoting effective emergency preparedness and response activities for our respective facilities. Our staffs are working together to identify more effective ways that we can communicate with the states and demonstrate that we are hearing and addressing their concerns. In the near future I intend to submit to you a revised MOA which includes provisions for notifying the states and/or each other upon the impending release of tritiated water. Our goal would be to assure that government entities with interests in downstream Savannah River water quality will not be surprised by intentional releases of tritium in the water, and there will be no need for SRS to demonstrate when tritium detected in the water is not from SRS facilities. Again, I thank you for your support.

Please contact me or Lee Sjostrom of my staff at (803) 725-5562, if you have any questions.

Sincerely,

Greg Rudy
Manager

VF-99-0033

Enclosure:
Memorandum of Agreement

cc w/encl:
Lawrence E. Mayo, SNC
Merril Meadow, SNC

MEMORANDUM OF AGREEMENT
BETWEEN
UNITED STATES DEPARTMENT OF ENERGY
SAVANNAH RIVER OPERATIONS OFFICE
AND
SOUTHERN NUCLEAR OPERATING COMPANY

I. PURPOSE

This Memorandum of Agreement (MOA) is between the United States Department of Energy Savannah River Operations Office (DOE-SR) and the Southern Nuclear Operating Company (SNC) and provides for planning and responding to emergencies originating at the Vogtle Electric Generating Plant (VEGP), and the Savannah River Site (SRS).

II. RESPONSIBILITIES

DOE-SR is the responsible authority for SRS and as such, is responsible for the protection of all persons and for the direction and control of all emergency response actions on SRS for emergencies occurring at or affecting SRS, including emergencies originating at VEGP.

SNC is responsible for the protection of all persons and for the direction and control of all emergency response actions on the VEGP site for emergencies occurring at or affecting VEGP, including emergencies originating at SRS.

III. AGREEMENT

SNC and DOE-SR agree as follows:

A. In the event an emergency is declared at VEGP:

1. SNC will:

a. notify the Savannah River Site Operations Center through the Emergency Notification Network within 15 minutes of an emergency declaration;

b. utilize the Emergency Notification form to provide information concerning the emergency, including meteorological and radiological data and any protective action recommendations;

c. provide periodic follow-up information to DOE-SR in accordance with the VEGP emergency plan;

d. dispatch a technical liaison to the SRS Emergency Operations Center if requested by SRS.

2. DOE-SR will:

   a. provide for the prompt notification of all persons on SRS within VEGP's plume exposure pathway Emergency Planning Zone;

   b. assess the radiological hazard on SRS and decide upon and implement any protective actions necessary to protect the health and safety of affected persons on SRS, including access control;

   c. perform radiological monitoring on SRS as requested by SNC or the State of South Carolina and provide monitoring results to SNC and to the States of South Carolina and Georgia;

   d. provide resources and support as identified in the Federal Radiological Emergency Response Plan (FRERP) to address ingestion pathway concerns;

   e. provide meteorological data to SNC, as requested; and

   f. advise SNC and the States of South Carolina and Georgia of public information activities concerning the SRS to the maximum extent possible, and provide a spokesperson to the VEGP Emergency News Center when significant media/public interest in SRS activities is anticipated.

   g. as the Regional Coordinating Office for DOE Region 3, respond to requests for radiological assistance from SNC, the Nuclear Regulatory Commission (NRC), or the States of South Carolina or Georgia in the event of an incident involving the actual or potential release of radiological materials. This assistance will be provided under the Radiological Assistance Program (RAP) and will be limited to technical advice and resources for monitoring and assessment actions essential for the control of the immediate hazards to health and safety. DOE radiological assistance will be terminated when it is no longer needed or the necessary assistance is available from State, local, or commercial services.

   h. as the Regional Coordinating Office for DOE Region 3, advise SNC, the NRC, or the States of South Carolina or Georgia of additional DOE Emergency Response assets available to assist in the response.

B. In the event an emergency is declared at SRS:

   1. DOE-SR will:

      a. notify VEGP personnel through the Emergency Notification Network within 15 minutes of an emergency declaration;

      b. utilize the Emergency Notification form to provide information concerning the emergency, including meteorological and radiological data and any protective action recommendations;

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c. dispatch a technical liaison to the VEGP Emergency Operations Facility, as requested by SNC;

d. provide periodic follow-up information to SNC in accordance with the SRS emergency plan;

e. provide resources and support as identified in the FRERP to address ingestion pathway concerns.

2. SNC will:

a. provide for the prompt notification of all persons on the VEGP site within the SRS plume exposure pathway Emergency Planning Zone;

b. assess the radiological hazard on the VEGP site, and decide upon and implement any protective actions necessary to protect the health and safety of affected persons on the VEGP site;

c. perform radiological monitoring as requested by DOE-SR or the States of Georgia and South Carolina and provide results to DOE-SR and to the States of Georgia and South Carolina; and

d. provide meteorological data to DOE-SR, as requested.

C. The parties will also:

1. provide a twenty-four hour point of contact at VEGP and SRS for notification purposes;

2. maintain effective lines of communication during an emergency;

3. participate in each other's emergency response exercises as requested and agreed upon.

IV. TERMS OF AGREEMENT

A. This MOA shall become effective upon the later date of signature of the parties.

B. This MOA supersedes a previous MOA dated January 1, 1984, between the United States Department of Energy Savannah River Operations Office and the Georgia Power Company, as assigned.

C. This MOA may be amended by mutual consent of the parties concerned or terminated by either party upon giving at least thirty (30) days written notice to the other party.

3

Greg Rudy
Manager
Savannah River Operations Office
United States Department of Energy

4/12/09
Date

J. D. Beasley, Jr.
Southern Nuclear Operating Company
Vice President - Nuclear
Vogtle Project

12/11/98
Date

Nothing Follows

Appendix 6 Evacuation Time Estimates for the Vogtle Electric Generating Plant Plume Exposure Pathway Emergency Planning Zone

To support the Vogtle ESP application for the proposed new AP1000 units at the VEGP, SNC contracted with Innovative Emergency Management, Inc. (IEM) to produce new evacuation time estimates (ETE) for the VEGP plume exposure pathway. IEM conducted the analysis using 2006 population data and projected 2010 population data. The methods used to obtain population data and to estimate the ETEs are documented in IEM report *Evacuation Time Estimates for the Vogtle Electric Generating Plant.*

The total permanent resident populations within the 10-mile EPZ for the VEGP are estimated to be 3,017 for 2006 and 3,162 for 2010. This population is broken down by protective action zone (PAZ) and by sector and ring within the report. There is not a major change in the permanent population figures because the power station is located in a densely wooded rural area, and no significant changes in the land use pattern is expected around the plant in the next four years. Transient population consists of workers employed within the area and recreational sportsmen on the Savannah River. Special facilities populations are composed of students, teachers, and other employees at the Lord's House of Praise Christian School, and employees of the VEGP.

IEM used PTV Vision VISUM, a computer simulation model, to perform the ETEs. In order to represent the most realistic emergencies, ETEs have been prepared for several temporal, seasonal, and weather conditions. Evacuations for the nine geographical evacuation areas were modeled individually in each of three seasonal scenarios: Winter Weekday, Winter Weeknight, and Fall Weekend. The winter weekday and weeknight scenarios represent summer weekday and weeknight scenarios because the populations are the same. The fall weekend scenarios are the same as the other weekends except for the areas on and around the Savannah River, which includes an increased population due to recreational sportsmen. These scenarios were considered under both fair and adverse weather conditions. ETEs for 2006 fair weather ranged from 1 hour and 25 minutes to 1 hour and 45 minutes. ETEs for 2006 adverse weather conditions ranged from 1 hour 40 minutes to 1 hour 55 minutes. ETEs for 2010 fair weather conditions ranged from 1 hour 45 minutes to 1 hour 55 minutes. ETEs for 2010 adverse weather conditions ranged from 2 hours 5 minutes to 2 hours 45 minutes. No significant traffic congestion was observed for simulations for either 2006 or 2010.

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Appendix 7 Emergency Operations Facility

A7A Introduction

A7A.1 Purpose

The purpose of this Appendix is to outline the function of the Emergency Operations Facility for the Southern Nuclear Operating Company (SNC). Additionally, this appendix delineates the actions to be taken by SNC Corporate Staff in the event of an emergency at any (SNC) site.

A7A.2 Scope and Applicability

This appendix provides the framework for operations of the EOF for SNC. This appendix is an integral part of the site specific emergency plan(s).

This appendix may be implemented to coordinate a SNC response to an emergency at any SNC facility or in response to a transportation accident involving radioactive material.

Additionally, this appendix provides the mechanism for obtaining and providing additional emergency response support and resources to SNC site(s) in the event of an emergency.

The SNC Corporate Staff will be responsible for offsite emergency response support and resources as requested. Overall management of the emergency will be accomplished at the specific site(s) (Vogtle Electric Generating Plant [VEGP], Hatch Nuclear Plant [HNP] and Farley Nuclear Plant [FNP]).

A7A.3 Summary

The site specific Emergency Plan, is activated by the Emergency Director (ED). Upon notification of an ALERT or higher classification, or as directed by the ED, the EOF will be activated as described in emergency implementing procedures. When notified, the designated corporate emergency response organization management report to the EOF to be briefed on current conditions and perform their assigned tasks. Each manager's support staff will operate from that group's office area. Offsite support personnel and equipment will be dispatched to the site Operations Support Center (OSC) or Technical Support Center (TSC) upon request from the specific site Emergency Director. The corporate emergency response organization will provide offsite emergency response support and resources to SNC sites on a twenty-four seven basis until the emergency has been terminated.

The EOF will be activated for an ALERT, a SITE AREA or GENERAL emergency classification. This facility will be operational within about an hour of the initial notification. SNC's goal is to begin notification of all required on-call Emergency Response Organization (ERO) personnel as soon as practicable, within 15 minutes, following the declaration of an Alert emergency or higher emergency classification at any SNC site. Minimum EOF staff for facility activation will include

the EOF Manager, the Dose Assessment Supervisor, the Dose Analyst, the Field Team Coordinator, the ENN Communicator, and the Licensing Support Coordinator. Access control for the EOF is established through the use of electronic card readers.

During the emergency, the emergency director will normally be located in either the TSC or Control Room at his/her option. The emergency director is responsible for the management of the emergency response. Specific duties and responsibilities are provided in the site specific Emergency Plan and Emergency Implementing Procedures.

SNC has taken precautions to ensure that the EOF can be quickly accessed and made operational within about an hour of the initial notification and is safe-guarded against unauthorized personnel. The common EOF is located in a secure building. The building itself has posted security guards and video surveillance cameras. Any outside doors that do not have security guards are accessible only by SNC ID badges. Additionally, the EOF facility door is accessible only to people with ID badges that have been pre-approved for access. If an event were to occur during off-normal hours, a guard will be posted at the main entrance to Inverness Building 40 to allow access to offsite agency or other responders without pre-designated ID access.

A7B EOF Organization

The EOF Organization consists of selected management and staff members located in the SNC Corporate Office. This organization is responsible for providing offsite emergency response support and resources, as needed. The EOF Organization is displayed in Figure A7-1 and typical duty assignments are shown on Table A7-1. This organization may be supplemented or reduced by the EOF Manager, as required, to respond to the specific emergency situation, but will not be reduced to below the minimum staff as specified in A.3 above.

SNC normally maintains ERO positions in a duty rotation. Several positions have been designated as plant specific and, as such, have personnel designated for each of the three sites. Specifically each of the following EOF positions has site-specific personnel designated:

- EOF Manager
- EOF Technical Supervisor

In order to augment additional staff that may be needed in the unlikely event of a multi-site accident, SNC will re-activate its ERO notification system. When the EOF is activated, all EOF staff pagers are activated, and all EOF personnel are expected to report to the EOF. Personnel that are not needed to augment positions are briefed and dismissed with a stand-by status.

A7B.1 EOF Manager

The EOF Manager manages the following activities:

- Overall direction and control of the offsite response for SNC

- Communication of radiological information to State and local emergency response agencies as needed
- After consultation with the ED, provides support for initial activities associated with planning for recovery operations

The duties and responsibilities of the EOF Manager will be assumed by designated SNC corporate personnel. The designated individual will be assigned according to a predetermined rotation schedule and will typically have either previous plant specific SRO background or long term supervisory/management experience.

The duties and responsibilities of the EOF Manager are as follows:

a. Manage the EOF and direct the activities of the EOF organization

b. Ensure activation of the EOF at ALERT or higher classification, or as directed by the ED

c. Support site efforts for the following:

   - Determining the cause of the incident.
   - Assessing the overall damage, including personnel, equipment, systems, facilities and/or fuel.
   - Developing recovery plans.

d. Keep corporate management informed regarding the emergency response and emergency classification upgrades

e. Ensure that the joint owners, as applicable, are kept apprised of significant changes in the emergency status including upgrades, downgrades and terminations

f. Keep the GPC/APCO public information director fully apprised regarding the status of the emergency

g. Identify the available resources within and outside the company to assist in mitigation and recovery, as necessary

h. Procure outside services and equipment, as necessary

i. Obtain assistance from SNC Environmental Services regarding non-radiological and hazardous materials environmental considerations

j. Request assistance from legal counsel as appropriate

k. Coordinate NRC inquiries/activities requiring a response from the Corporate Office. Obtain licenses and/or amendments to licenses, if required, for repair of the affected unit and disposal of waste products

l. Approve news releases issued from the Emergency Response Center (ERC) or the Emergency News Center (ENC)

m. Communicate developed PARs to the ED once offsite communication responsibility is transferred to the EOF. The EOF Manager and ED will determine which facility will communicate the PARs to offsite agencies. Normally, initial PARs will be communicated to offsite agencies by the TSC while changes in PARs will be communicated to offsite agencies by the EOF

n. Ensure that necessary support is provided to the SNC Newswriter, the SNC Spokesperson, and the Public Information Director to ensure timely and accurate information flow to the public. An unaffected EOF Manager will be available to assist the affected EOF Manager in Company Spokesperson interface activities.

A7B.2 EOF Technical Supervisor

The duties and responsibilities of the EOF Technical Supervisor will be assumed by SNC corporate support personnel. The designated individual will be assigned according to a predetermined rotation schedule and will typically have plant specific long-term engineering/ design experience. Reporting to the Technical Supervisor are the emergency communicators and the necessary engineering technical, and licensing personnel needed to support tasks assigned to the EOF. The duties and responsibilities of the Technical Supervisor are as follows:

a. Provide technical interface to vendors, utility groups, consultants and technical investigation groups

b. Assist in establishing a list of plant equipment/system modifications required to bring the plant to cold shutdown, recovery and/or startup

c. Develop an engineering support plan compatible with the plant mitigation and recovery plan. Provide engineering support developing site recovery procedures. This plan will include engineering personnel resources.

d. Coordinate the work performed by SNC engineering, Southern Company Services, the architect engineer, the nuclear steam supply system supplier, and other engineering consultants. Coordinate the transmittal of engineering modification/design documents (Design Change Packages (DCP), Request for Engineering Assistance (REA), etc) to the site staff, and site and SNC procurement groups.

e. Coordinate the receipt and assessment of technical information related to plant systems and facility operations, and submit recommendations to the TSC Manager through the EOF Manager

f. Provide licensing support, as requested, through utilization of the licensing support

g. Provides communications support for offsite notifications (Emergency Notification Network(ENN), as requested

A7B.3 EOF Support Coordinator

The duties and responsibilities of the EOF Support Coordinator will be assumed by SNC corporate support personnel. The individuals designated to assume the position will be indicated on a predetermined rotational schedule. Reporting to the EOF Support Coordinator are the non-technical personnel needed to support tasks assigned to the EOF. Additionally, the News writer is matrixed to the EOF Support Coordinator from the corporate communications organization. The duties and responsibilities of the EOF Support Coordinator are as follows:

a. Provide assistance to the TSC Support Coordinator in the Technical Support Center (TSC) for ordering equipment and materials needed. Establish a standby list of personnel to provide additional technical support, as required.

b. Obtain materials, supplies, and equipment that are needed in the EOF

c. Process expense accounts, distribute checks from payroll, and conduct other financial aspects of the emergency response organization

d. Provide logistics arrangements for support personnel called in to assist in the emergency, including communications hardware, transportation, food, and lodging

e. Obtain assistance from corporate financial staff to communicate, as necessary, with banks, financial institutions, investors, joint owners and insurers regarding the emergency situation

f. During the initial phase of the emergency, provide the official log of actions and the course of the emergency from the EOF

g. Provide administrative services for the Corporate Emergency Response Organization, such as clerical, typing, and duplication

h. Provide administrative, logistic, financial, and procurement support as appropriate during the recovery phase

A7B.4 Dose Assessment Supervisor

The duties and responsibilities of the Dose Assessment Supervisor will be assumed by SNC corporate support personnel. The individuals designated to assume the position will be indicated on a predetermined rotation schedule. Reporting to the Dose Assessment Supervisor are the Dose Analyst, Field Team Coordinator, Field Team Communicator, and Radiological Status Communicator.

The TSC will initially be responsible for dose projection and field team control activities. When the EOF is activated and ready to assume functions of dose projection/assessment activities, then the EOF Dose Assessment Supervisor will coordinate transfer of dose assessment, field team control, and protective action determination from the TSC to the EOF. Coordination will

include ED/EOF Manager mutual approval of the transfer with the intention of transferring dose assessment from the TSC to the EOF, as rapidly as possible, while ensuring a smoothly coordinated transfer of this critical function.

The duties and responsibilities of the Dose Assessment Supervisor are as follows:

a. Support the plant dose assessment supervisor as necessary. Be prepared to assume offsite dose projection if requested. Keep the EOF Manager informed of any offsite dose assessments performed by the site or corporate staff.

b. Provide an as low as reasonably achievable (ALARA) exposure review of engineering modifications and tasks proposed by the emergency response organization, including necessary documentation of those reviews

c. Develop methods for treatment and/or disposal of radioactive wastes resulting from the emergency and recovery operations

d. Compare calculations and measurements with State and Federal groups performing radiological assessments

e. Coordinate distribution of dose assessment information with offsite authorities

f. Coordinate assistance to the State for transportation incidents involving radioactive material, as requested

g. Develop protective action recommendations (PARs) and communicate to the EOF Manager the need for PAR communication once control is transferred to the EOF

A7B.5 Security Coordinator

The duties and responsibilities of the Security Coordinator will be assumed by SNC corporate security personnel. The individuals designated to assume the position will be indicated on a predetermined rotation schedule.

The duties and responsibilities of the Security Coordinator are as follows:

a. Support the plant security manager, as necessary. Keep the EOF Manager informed of any security events/issues.

b. Provide assistance to the security supervisor at the site, as requested

c. Establish and maintain access control for the EOF

A7B.6 Offsite Response Coordinator

The duties and responsibilities of the Offsite Response Coordinator will be assumed by SNC Corporate Emergency Planning Coordinators and designated staff. The individuals designated

to assume the position will be indicated on a predetermined rotation schedule. The duties and responsibilities of the Offsite Response Coordinator are as follows:

a. Coordinate activities concerning the dispatch and update of technical liaisons to State and Local authorities, as appropriate

b. Monitor EOF functional areas to facilitate coordination between the licensee and State and Local agencies

A7B.7 Engineering/Technical Support Staff and Administrative Support Staff

a. The Engineering/Technical Support staff and administrative support staff will report to the EOF, as directed. These job titles refer to a number of individuals performing a variety of designated tasks. Their numbers will depend on the type and duration of the emergency.

b. The Engineering/Technical Support staff are personnel designated by the management of the Corporate Emergency response organization. They provide management, technical, regulatory and licensing support during an emergency. This staff report through the EOF Technical Supervisor to the EOF Manager.

c. The administrative support staff are the non-technical members of the Corporate Emergency Response Organization. They perform duties designated by the EOF Support Coordinator or appropriate manager which include, but are not limited to, the following:

- Providing clerical and secretarial support to the Emergency response organization
- Operation of word processors
- Operation of telecopiers
- Making entries to, and retrieving data from, Nuclear Network
- Retrieval of file documents
- Updating status boards using information provided from the sites

A7C Notification and Activation

Initial notifications or emergency response personnel will follow the guidelines specified in the site specific Emergency Plan and Emergency Implementing Procedures. This appendix contains the emergency notification of Corporate Management and the appropriate offsite support groups not specified in the site specific Emergency Plan(s).

A7C.1 Notification of Corporate Management

The Corporate Duty Manager will be notified of all emergencies classified at any SNC site. The Corporate Duty Manager will in turn notify the EOF Manager. The EOF Manager is

responsible for activation of the EOF Staff and notifying the appropriate Corporate Management.

- The EOF Manager is responsible for assuring that the Corporate Emergency response organization is notified.
- The EOF Manager will also be responsible for ensuring that the corporate emergency staff members report directly to the EOF.
- Notification of personnel may be accomplished through the use of an automated or manual system.

A7C.2 Notification of Offsite Support Agencies

Offsite support agencies will be notified by the appropriate emergency response organization member(s), as requested by VEGP, FNP, and HNP.

A7D Emergency Facilities and Equipment

Following the declaration of an emergency, response activity will be coordinated at a number of facilities.

These emergency response facilities are described in the site specific emergency plans. The EOF is a common facility for all SNC sites and is described in this section.

A7D.1 EOF Description

The EOF is the central location for management of the offsite emergency response, coordination of radiological assessment, and management of initial recovery operations. The EOF is located in Birmingham, Alabama and serves as the EOF for all SNC sites (VEGP, FNP, and HNP). The EOF will be activated as prescribed in the site specific Emergency Implementing Procedures. From the EOF, SNC corporate management personnel assist the states and other governmental bodies by communicating protective action recommendations approved by the Emergency Director to ensure public health and safety. Plant systems information, radiological data, and meteorological data are provided via the SNC integrated data display system to EOF personnel, as needed, to: assess environmental conditions, coordinate radiological monitoring activities, and recommend implementation of offsite emergency plans. Data displays provide periodic and timely conditions of the affected plant, and periodic and timely assessment of radiological conditions in the plant environs. The SNC integrated data display system utilizes data provided by the plant specific data links. These station data links are described in each site specific plan. These displays may be either manual or electronic. Data displays are located in the main caucus area of the EOF, dose assessment area, plant status area, and engineering area within the facility. Other displays may be located in the command center area. Data is also available to all state agencies responding to the EOF. Data is available both in the main caucus area and the area designated for the particular state agency. Similarly,

this data is available to state and local authorities via a secure network dedicated to data distribution among the various offsite emergency response facilities. The data display system provides the user with a "master view" for the monitoring of multiple site events simultaneously. Data required to support EOF operations is provided by an extensive ring bus transport network. Data may also be obtained manually, via telephone, from the Control Room and the TSC to the EOF.

Contained within the facility will be the manpower and equipment necessary to provide dedicated direct communication links to the plant site(s). In addition, there are commercial and company wide phone systems to, and from, the site(s). A communication link will be established and maintained between the Emergency Operations Facility and the Technical Support Center (TSC) until the Emergency Director determines that the communication link is no longer needed. Other communications equipment accessible to the EOF includes Nuclear Network (an intra-industry computer-based information exchange network), telecopiers, and computer workstations designated for emergency use. Computer workstations are dedicated for performing dose projections for multiple sites. The EOF is the distribution center for all field data and sample analyses. This information will be available to county, State, and Federal representatives. The EOF is sized to accommodate 35 persons, including 25 pre-designated persons, nine persons from the NRC, and one person from the Federal Emergency Management Agency (FEMA). It is anticipated that representatives from the state(s) of Georgia, South Carolina, Alabama, and Florida will be dispatched to the EOF for an event at specific SNC site(s). The EOF has been designed to accommodate these representatives. Agreements exist between the appropriate State agencies and SNC to ensure rapid response of state personnel dispatched to the EOF. Table A7-4 provides additional information concerning EOF communications capabilities. Upon activation of the EOF, Corporate personnel will provide staffing on a twenty-four seven basis until directed otherwise by the Emergency Director. The Emergency Director, located at the affected site(s), is responsible for the management of the emergency response. Specific duties and responsibilities are provided in the site specific Emergency Plan.

The EOF consists of several rooms, as shown, together with the location of key personnel, in Figure A7-2. The EOF is a dedicated facility. The designated emergency planning coordinator for each of the three sites maintains an office within the EOF to ensure readiness and daily operability.

Based on the physical location of the EOF, specialized ventilation systems are not required. The EOF ventilation system is consistent in design with standard building codes. Similarly, EOF functions would not be interrupted by radiation releases from any SNC site.

Normal power to the EOF is from a reliable offsite source. Emergency lighting is provided by battery operated lights. Back-up power for the EOF is supplied by onsite diesel generation. All essential equipment is backed up by the diesel generation system.

The EOF is located adjacent to the document management section for SNC. The following records or information are available:

- Technical Specifications
- Selected plant operating procedures
- Emergency Plans
- Emergency Implementing Procedures
- FSARs
- State and local emergency response plans
- Savannah River Site Emergency Plan

The following records or information can be transmitted to the EOF manually, electronically or by facsimile:

- Environs radiological monitoring records
- SNC employee radiation exposure histories
- System piping and instrumentation diagrams, and HVAC flow diagrams
- Piping area diagrams
- Electrical one-line, elementary, and wiring diagrams

The above records or information are available in current form and updated as necessary to ensure currency and completeness.

Operations at this facility are directed by the EOF manager.

A7D.2 Contingency Planning

Optimum functionality and availability was considered in the decision to locate the EOF in Birmingham, Alabama. At this location, functionality of the EOF would be uninterrupted by radiation releases, natural phenomena, and security based events at any of the SNC sites. Support operations and coordination with Federal, State and local organizations would continue. If personnel were to be dispatched to the sites, then personal protection equipment would be available from the local emergency management agency or from one of the unaffected SNC plant sites.

In the unlikely event that individuals should need to respond to the EOF from within the 10 mile EPZ of any SNC plant, they would be surveyed prior to release by local emergency authorities at the reception centers in accordance with State and Local emergency response plans.

In the unlikely event that the EOF becomes uninhabitable, resources and personnel will be transferred to the Corporate Headquarters of Alabama Power Company, located in

Birmingham, Alabama. These actions will be taken as part of the normal business continuity plan.

A7E Coordination with Governmental Agencies

The site specific Emergency Plan(s) delineate the governmental agencies to be notified and specifies the information to be initially conveyed. It is anticipated that representatives of various agencies will be dispatched to the EOF for an event at an SNC facility. Arrangements have been made between the appropriate State agencies and SNC to ensure rapid response of state personnel dispatched to the EOF.

A7E.1 U.S. Nuclear Regulatory Commission

Coordination with the U.S. Nuclear Regulatory Commission (NRC) may be in progress at several locations simultaneously. For details of the NRC response, see the NRC Incident Response Plan.

Initial notification of the NRC will proceed as specified in the site specific Emergency Plan. The resident NRC inspector(s) and plant personnel have direct communications from the site control room to the NRC headquarters in Rockville, Maryland, and to the regional headquarters in Atlanta, Georgia.

The resident inspector(s) may be reinforced by additional NRC personnel shortly after notification of an emergency. The Emergency Director is responsible for coordinating NRC activities to reduce duplication of effort and reduce impact on the plant staff during the emergency situation.

Provisions have been made to have direct NRC FTS lines in the TSC and the EOF during an emergency. This will allow personnel in the control room to continue responding to the emergency while personnel in the TSC or EOF respond to questions and input from the NRC. NRC activities requiring response from SNC will be coordinated by the EOF Technical Coordinator through the EOF manager.

A7E.2 State Governmental Agencies

The government notifications are outlined in the site specific Emergency Plan(s). Coordination of offsite responses to the emergency is the responsibility of State agencies as outlined in the State Radiological Emergency Response Plans.

A7E.3 Local Governmental Agencies

Notification of local government officials is outlined in the site specific Emergency Plan(s). Coordination with local government agencies will normally be through the responsible State agency.

A7E.4 Department Of Energy

Notification of DOE officials is outlined in the site specific Emergency Plan.

A7F Offsite Support

Offsite resources that may be available to support an emergency response effort include, but are not limited to, the following:

- Southern Nuclear Operating Company
- Georgia Power Company
- Alabama Power Company
- Southern Company Services, Inc.
- The architect engineers
- NSSS supplier
- Nuclear industry
- Contract laboratories

A7F.1 Southern Nuclear Operating Company (SNC)

SNC is divided into three projects: the Farley Project, the Hatch Project, and the Vogtle Project. Each of the projects is further divided into a plant staff and a corporate staff. These represent a pool of positions of which approximately two-thirds would be additional assets that could be made available to support an individual site emergency response organization, as required.

a. Plant Staffs - The permanent plant staffs consist of personnel who possess expertise in at least one of the following areas: operations, maintenance, engineering, administration, or technical support. These personnel would be available to assist in an emergency or recovery situation at an SNC nuclear facility.

b. Corporate Staffs - These staffs consist of personnel who provide management, technical, clerical, procurement, and regulatory support to the nuclear facilities.

A7F.2 Georgia Power Company (GPC)

The GPC Fossil and Hydro Power Generation Department is responsible for the operations and maintenance of all GPC non-nuclear generating facilities including diesel and combustion turbine facilities. This represents a large source of technical expertise which could provide support to the emergency response organization, if required.

The GPC Power Delivery Department manages the activities of the divisions and areas of the company which provide the electrical services to customers. This organization has a large

resource of people and heavy equipment which may be of assistance following a nuclear emergency.

Other GPC assets, including maintenance and repair facilities, training facilities, engineering staffs, and headquarters personnel represent additional resources available for emergency support.

The GPC Central Laboratory has personnel and facilities available to provide offsite monitoring, sample analysis, and dosimetry processing for the affected site.

A7F.3 Alabama Power Company (APCO)

The APCO Fossil and Hydro Power Generation Department is responsible for the operations and maintenance of all APCO non-nuclear generating facilities including diesel and combustion turbine facilities. This represents a large source of technical expertise which could provide support to the emergency response organization, if required.

The APCO Power Delivery Department manages the activities of the divisions and areas of the company which provide the electrical services to customers. This organization has a large resource of people and heavy equipment which may be of assistance following a nuclear emergency.

Other APCO assets, including maintenance and repair facilities, training facilities, engineering staffs, and headquarters personnel represent additional resources available for emergency support.

A7F.4 Southern Company Services, Inc. (SCS)

SNC has the primary responsibility for engineering support of VEGP, FNP and HNP. SCS may be utilized in response to a plant emergency or for subsequent recovery operations as deemed necessary by SNC.

A7F.5 Architect Engineers

The architect engineers will provide support as requested through the engineering services manager. The architect engineers are SNC and Bechtel Power Corporation.

SNC serves as its own Architect/Engineer. SCS, an associate company to Southern Nuclear Operating Company, will be used to the extent appropriate in responding to nuclear emergencies.

Bechtel Power Corporation, headquartered in Gaithersburg, Maryland, also performs architect engineer services for SNC. Bechtel's technical staffs are engaged in all phases of public utility engineering, design, construction, purchasing, inspection, and expedition of materials, as well as consultation on utility operating matters. Bechtel has available a broad range of engineering,

construction, and consulting experience. Bechtel's nuclear experience includes engineering studies, the evaluation of reactor systems, safety evaluations, detailed engineering design, construction, and startup and testing of nuclear power facilities.

A7F.6 Nuclear Steam Supply System Vendor

The applicable NSSS vendor will provide support through the engineering services manager. Plant specific references to the appropriate vendor are specified in the plant specific base plans. The NSSS maintains a large staff of technically qualified people in all the engineering disciplines related to the design, construction, and operation of a nuclear power plant. These same skills would be necessary in the evaluation of, and recovery from, an emergency at any SNC site. Assistance would most likely be sought for large-scale core analysis, special tool design, and licensing.

A7F.7 Nuclear Industry

The nuclear industry provides a large reservoir of personnel with a wide range of technical expertise and knowledge. A nuclear industry national inventory of personnel who might be called upon to supplement Company personnel has been developed through the Institute of Nuclear Power Operations (INPO).

In addition, a number of utilities have entered into an INPO coordinated Voluntary Assistance Agreement program. This provides a mechanism to draw upon industry resources during an emergency.

Support, that may be called upon from neighboring utilities, would include the following:

- Manpower and equipment to assist in in-plant and emergency field monitoring.
- Engineering, design, and technical expertise to assist in determining the cause of the accident and to support recovery.
- Manpower and equipment to assist in maintenance and repairs to the facility.

A7F.8 Contract Laboratories

- Teledyne Isotopes, Inc. for emergency analytical services
- AREVA ANP for emergency analytical services

A7G Maintaining Emergency Preparedness

A7G.1 Organizational Preparedness

A7G.1.1 Training

Corporate personnel identified in the Emergency Response Organization receive training. The training consists of familiarization with the Site Emergency Plans and applicable emergency implementing procedures required to carry out their specific functions.

The corporate emergency planning coordinator(s) will ensure that personnel in the Corporate Emergency Response Organization are familiar with the Emergency Plans and able to respond promptly. A training matrix for corporate personnel assigned to the ERO is shown in Table A7-2, and training course summaries are presented in Table A7-3. Training will be documented in accordance with established practices.

The corporate emergency planning coordinator(s) are responsible for assuring that training is conducted for corporate emergency response personnel each calendar year.

A7G.1.2 Drills/Exercises

Drills/exercises will be conducted each calendar year to test the performance of implementing procedures, personnel, and emergency equipment. These drills/exercises will be conducted with each SNC site. SNC's goal is to activate the EOF in support of all site activities that involve TSC activation. EOF activation is required at least three times annually (one scenario per site per year) in accordance with the existing Emergency Plans. At least one activation every five years will require a concurrent EOF support response for more than one SNC site.

Each drill/exercise will test, as a minimum, the communication links and notification procedures to assure the prompt notification of the corporate staff. Provisions are made for critique of all drills/exercises. Critique items will be forwarded to the site emergency preparedness coordinator for processing in the site specific corrective action program.

A7G.2 Review and Update of Plan And Procedures

Reviews of the site Emergency Plan and Emergency Implementing Procedures will be performed in accordance with site specific emergency plans. These reviews will be used to update the Plans and procedures and to improve emergency preparedness.

Table A7-1 Corporate Emergency Response Organization Assignments

Emergency Position	Corporate Staff Assignment
EOF Manager	Designated in NMP-EP-001
EOF Technical Supervisor	Designated in NMP-EP-001
EOF Support Coordinator	Designated in NMP-EP-001
EOF Dose Assessment Supervisor	Designated in NMP-EP-001
Dose Analyst	Designated in NMP-EP-001
Field Team Coordinator	Designated in NMP-EP-001
Field Team Communicator	Designated in NMP-EP-001
Radiological Status Communicator	Designated in NMP-EP-001
Plant Status Loop Communicator	Designated in NMP-EP-001
ENN Communicator	Designated in NMP-EP-001
ENS Communicator	Designated in NMP-EP-001
Licensing Support Coordinator	Designated in NMP-EP-001
Security Coordinator	Designated in NMP-EP-001
Offsite Response Coordinator	Designated in NMP-EP-001
Engineering/Technical Support Staff	Designated in NMP-EP-001
Administrative Support Staff	Designated in NMP-EP-001
Liaisons	Designated in NMP-EP-001
Public Information Director	Designated in NMP-EP-001
Company Spokesperson	Designated in NMP-EP-001
News Writer	Designated in NMP-EP-001
Other Public Information Emergency Communications Organization Staff	Designated in NMP-EP-001

Table A7-2 Corporate Emergency Response Organization Training Matrix

	Subject Area		
Position	**Emergency Plan Overview**	**Position Specific Items**	**Offsite Dose Assessment**
EOF Manager	X	X	
EOF Technical Supervisor	X	X	
EOF Support Coordinator	X	X	
EOF Dose Assessment Supervisor	X	X	X
Dose Analyst	X	X	X
Field Team Coordinator	X	X	X
Field Team Communicator	X	X	
Radiological Status Communicator	X	X	
Plant Status Loop Communicator	X	X	
ENN Communicator	X	X	
ENS Communicator	X	X	
Licensing Support Coordinator	X	X	
Security Coordinator	X	X	
Offsite Response Coordinator	X	X	
Engineering/Technical Support Staff	X	X	
Administrative Support Staff	X	X	
Liaisons	X	X	
Public Information Director			
Company Spokesperson			
News Writer			
Other Public Information Emergency Communications Organization Staff	See Emergency Communication Plan (Appendix 8)		

Table A7-3 Description of Training Subject Areas

Subject Area	Description
Emergency Plan Overview	An overview of the Emergency Plan with special attention to emergency planning zones (EPZs); emergency classification system, responsibilities of emergency response personnel; site accountability; and site dismissal.
Offsite Does Assessment	Dose projection methodology including manual and computerized methods; methods for obtaining meteorological and radiological data; operation of the dose assessment computer; and interpretation of offsite dose calculation results.
Position Specific Items	An overview of this appendix with an emphasis on organization, interactions with other elements of the emergency response organization, and position specific responsibilities as delineated in the emergency implementing procedures. This overview training may be conducted as part of classroom, table-top, drill or exercise.

Table A7-4 Typical EOF Communication Capability

Communications Function	VEGP	HNP	FNP
EOF Management With TSC	Commercial telephone lines TSC/EOF/OSC Conference Bridge Radio	Commercial telephone lines TSC/EOF/OSC Conference Bridge Radio	Commercial telephone lines TSC/EOF/OSC Conference Bridge Radio
Resource Management	Commercial telephone lines OPX(a)	Commercial telephone lines OPX Ringdown	Commercial telephone lines OPX
Radiological Monitoring	Southern LINC Kenwood Radio System	Southern LINC Kenwood Radio System	Southern LINC Kenwood Radio System
Off-site (PARs)	ENN	ENN	ENN
NRC Use	ENS HPN RSCL PMCL MCL LAN Conference phones (3)	ENS HPN RSCL PMCL MCL LAN Conference phones (3)	ENS HPN RSCL PMCL MCL LAN Conference phones (3)

a. The Offsite Premises Extension (OPX) lines to the three SNC plant sites will be available in the common EOF. These lines bypass the local phone switch. These lines may be referenced as company tie lines.

Intra-facility public address and intra-building public address systems are also available.

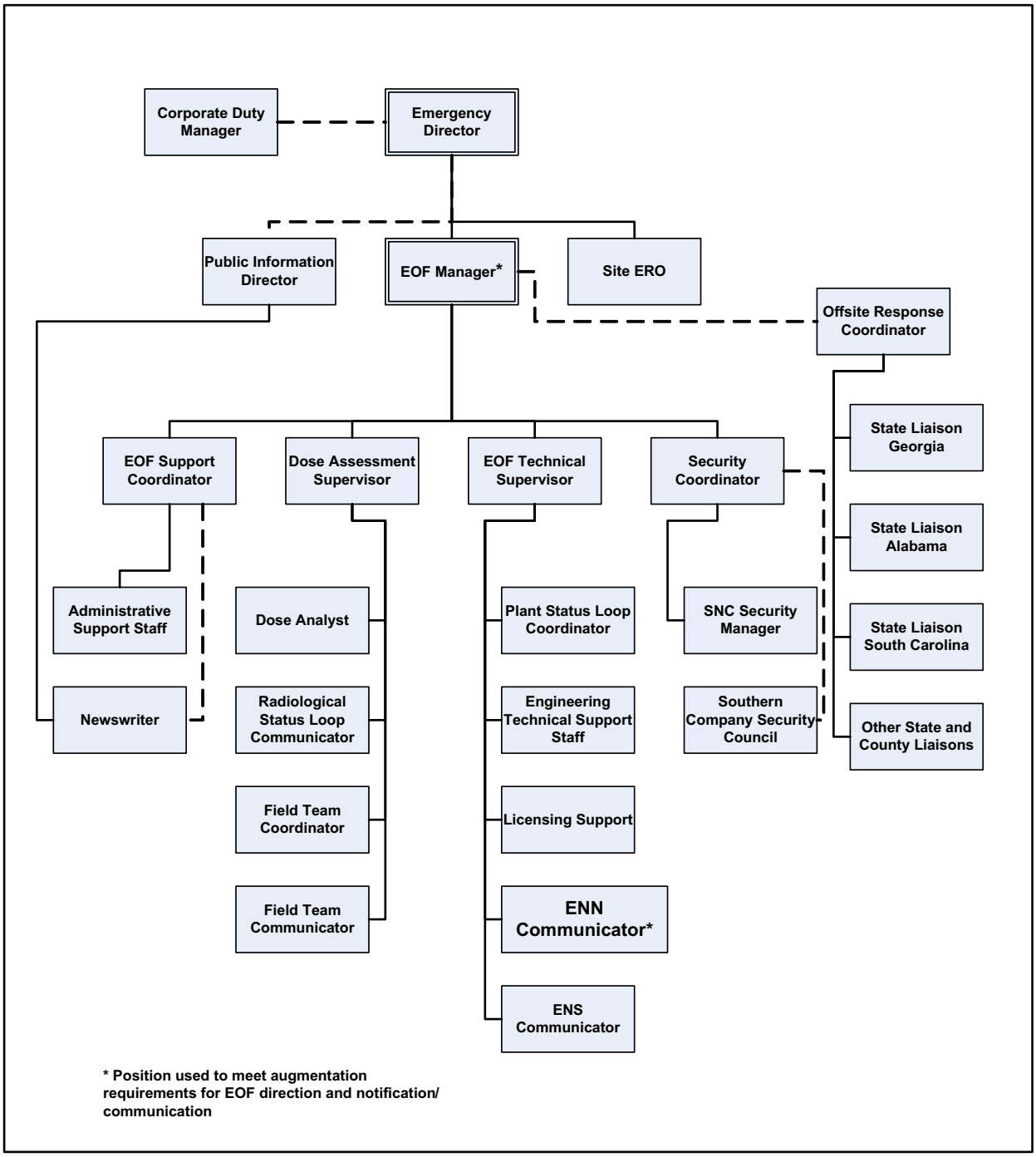

Figure A7-1 ***EOF Organization***

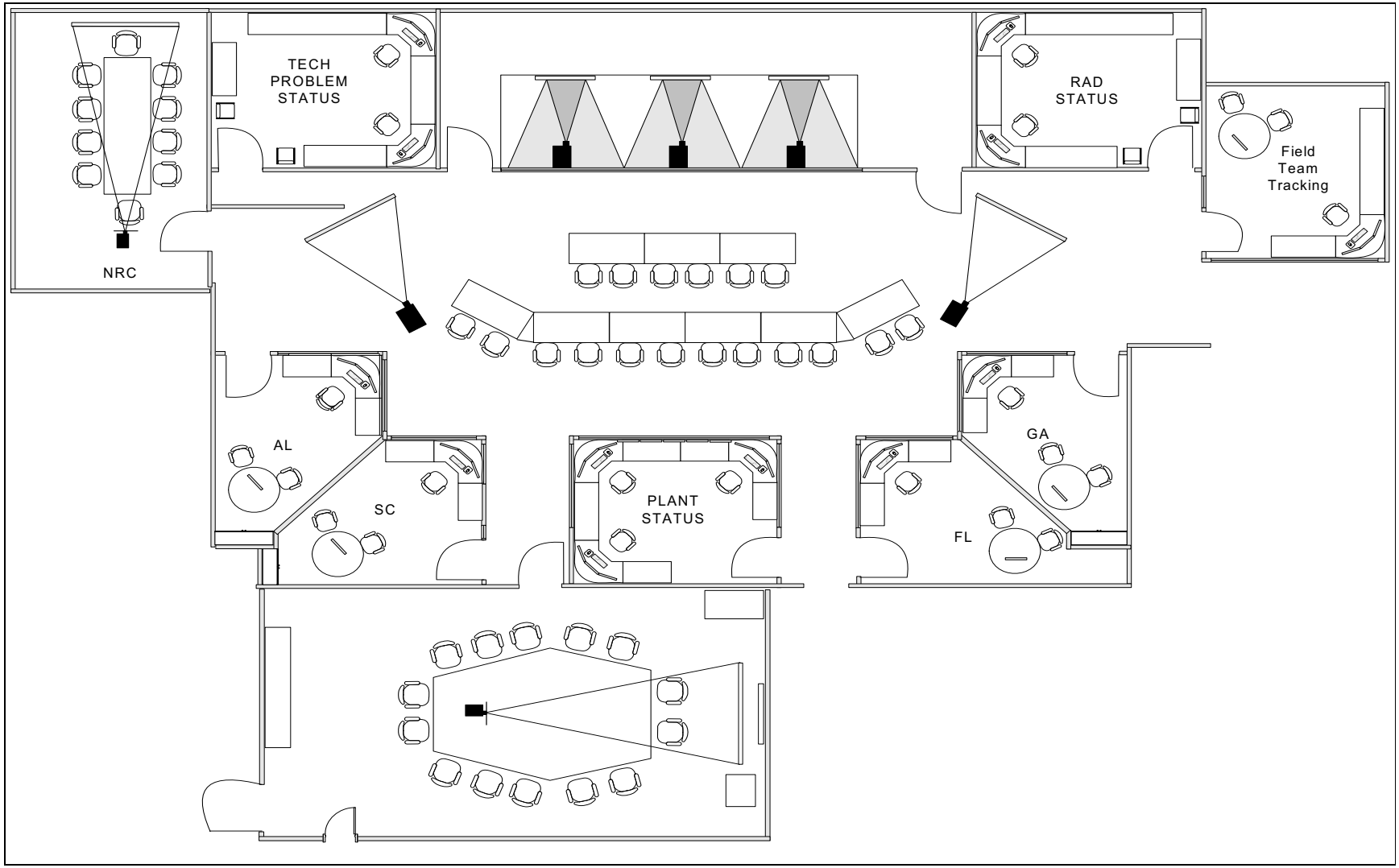

Figure A7-2 EOF Layout

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Appendix 8 Vogtle Electric Generating Plant Emergency Communications Plan

A8A Purpose

The Vogtle Emergency Communications Plan (VECP or the Plan) {BS Comment: The term "Plan" has been used previously referring to the Emergency Plan.} is a portion of the Vogtle Electric Generating Plant (VEGP) Emergency Plan submitted to the Nuclear Regulatory Commission (NRC). The VECP is reviewed and updated annually in conjunction with review and update of the VEGP Emergency Plan. It is designed to:

- Coordinate the public communications effort through the issuance of timely, accurate information during an emergency and maintain an orderly flow of information during the recovery period
- Assign responsibilities to, and duty locations for, the Emergency Communications response team
- Describe the means to activate and staff Emergency Communications positions in the Emergency Response Center (ERC) in Atlanta, the Emergency Operations Facility (EOF) and the Emergency News Center (ENC)
- Describe the training and testing of personnel in their functions under the VECP
- Provide for 24-hour/day Emergency Communications staff coverage in the event of an emergency
- Describe the Public Education and Information Program for the periodic dissemination of emergency planning instructional materials to residents and transients in the plume exposure pathway Emergency Planning Zone.

A8B Policy

The public information policy described below will provide guidance during an emergency at VEGP:

a. The Southern Company has established a policy of full disclosure and will maintain honest and open communications with public officials, the public (especially in the immediate vicinity of the plant), and its employees at all times. This attitude stems from resolve to operate all our facilities safely and prudently and to communicate clearly and completely any significant breach of safety.

b. The Company will provide the public with prompt and accurate information through established news and information channels.

c. The Company will make every effort to meet the information needs of the public and employees while communicating promptly with appropriate local, state, and federal officials during the period of the emergency.

d. Company statements to the news media and employees concerning the VEGP, its operation, and any emergencies are to be made only with the knowledge and guidance of Georgia Power's (GPC's) Corporate Communication Department and the Management of Vogtle Project Support.

A8C Classification of Incidents

The summary descriptions for the four emergency classifications are as follows:

a. A NOTIFICATION OF UNUSUAL EVENT exists when events are in progress or have occurred that indicate a potential degradation of the level of safety of the plant. No release of radioactive material requiring an off-site response is expected to occur.

b. An ALERT involves events that are in progress or that have occurred involving actual or potential substantial degradation of the level of safety of the plant. Any releases are expected to be limited to small fractions of the Environmental Protection Agency (EPA) Protective Action Guideline (PAG) exposure levels.

c. A SITE AREA EMERGENCY reflects events that are in progress or that have occurred involving actual or likely major failures of plant functions needed for protection of the public. Any releases are not expected to exceed EPA PAG exposure levels, except on site or near the site boundary.

d. A GENERAL EMERGENCY involves actual or imminent substantial core degradation or melting with the potential for loss of containment integrity. Releases can be reasonably expected to exceed EPA PAG exposure levels off site for more than the immediate site area.

A8D Relationship with Other Agencies

a. GPC Corporate Communication/SNC Corporate Communication (the Utility) is responsible for the coordination and issuance of all news announcements related to plant emergency conditions at the VEGP. State and county emergency management agencies and the Department of Energy -Savannah River Site (DOE-SRS) are responsible for the issuance of public announcements relating to offsite conditions, including recommended protective actions.

b. The Emergency News Center (ENC) will be operated as a joint information center where the utility, the states, the SRS, the federal agencies, and counties will coordinate information, issue news releases, make announcements, and participate jointly in news briefings. GPC, and state and county agencies will jointly coordinate rumor control from the ENC.

c. Work areas for the information officers of the federal, state, and county emergency response agencies are available at the ENC. Telecommunications facilities are also available to these agencies.

d. Utility news announcements will be provided to representatives of government agencies prior to their distribution to the news media.

e. The county and state emergency management agencies should advise ERC/ENC staff of announcements for the news media or the Emergency Alerting Stations prior to their distribution to the news media.

f. Rumor control should include state and county agency representatives and utility employees coordinated by the GPC Rumor Control Coordinator. Rumors related to offsite matters will be referred to the appropriate federal, state, or county agency representatives for proper responses. Rumors related to onsite matters that agencies are aware of will be relayed to the Rumor Control Coordinator for the necessary actions.

A8E Flow of Emergency Public Information

For any emergency classified as a Notification of Unusual Event, information release is managed by the Georgia Power Corporate Communications in coordination with Southern Nuclear Corporate Communications.

At an alert classification or higher, approval of news releases (other than the Initial News Release) is required from both the EOF Manager and the Public Information (PI) Director, or their designee(s).

The following figures are designed to show the flow of information for emergencies classified as Alert or higher as described in the VECP:

- Figure A8-1, *Flow of Emergency Public Information during an Emergency*.
- Figure A8-2, *Initial/Early Stage Flow of Public Information at Emergency Response Center (Prior to ENC Activation)*.
- Figure A8-3, *Emergency Communications Information Flow Chart (After ENC Activation)*.
- Figure A8-4, *Rumor Control Flow Chart*.
- Figure A8-5, *Emergency Communications Reporting Structure*.

A8F Emergency Communications Staff Locations and Location Functions

The Emergency Communications response will be handled initially from the GPC Emergency Response Center (ERC) by the Public Information Director. The Public Information Director and the Company Spokesperson will initially contact the EOF Manager for briefing on the emergency.

If the decision is made to activate the ENC, the Public Information Director and the Company Spokesperson move to the ENC. Following ENC activation, the ERC staff will maintain communications with the ENC and EOF, keep GPC and SNC personnel notified of plant conditions, and support the ENC.

Upon activation of the ENC, primary utility emergency communications response will be conducted from there. The SNC News Writer, along with a technical assistant, will collect and

assemble plant information and communicate this information to the Public Information Director and the Company Spokesperson.

The EOF Manager, or designee, will review and approve press statements with the SNC News Writer who will forward them to the appropriate facility for issue. The Public Information Director will give final communications approval before the approved information is released from the ENC or the ERC to the media.

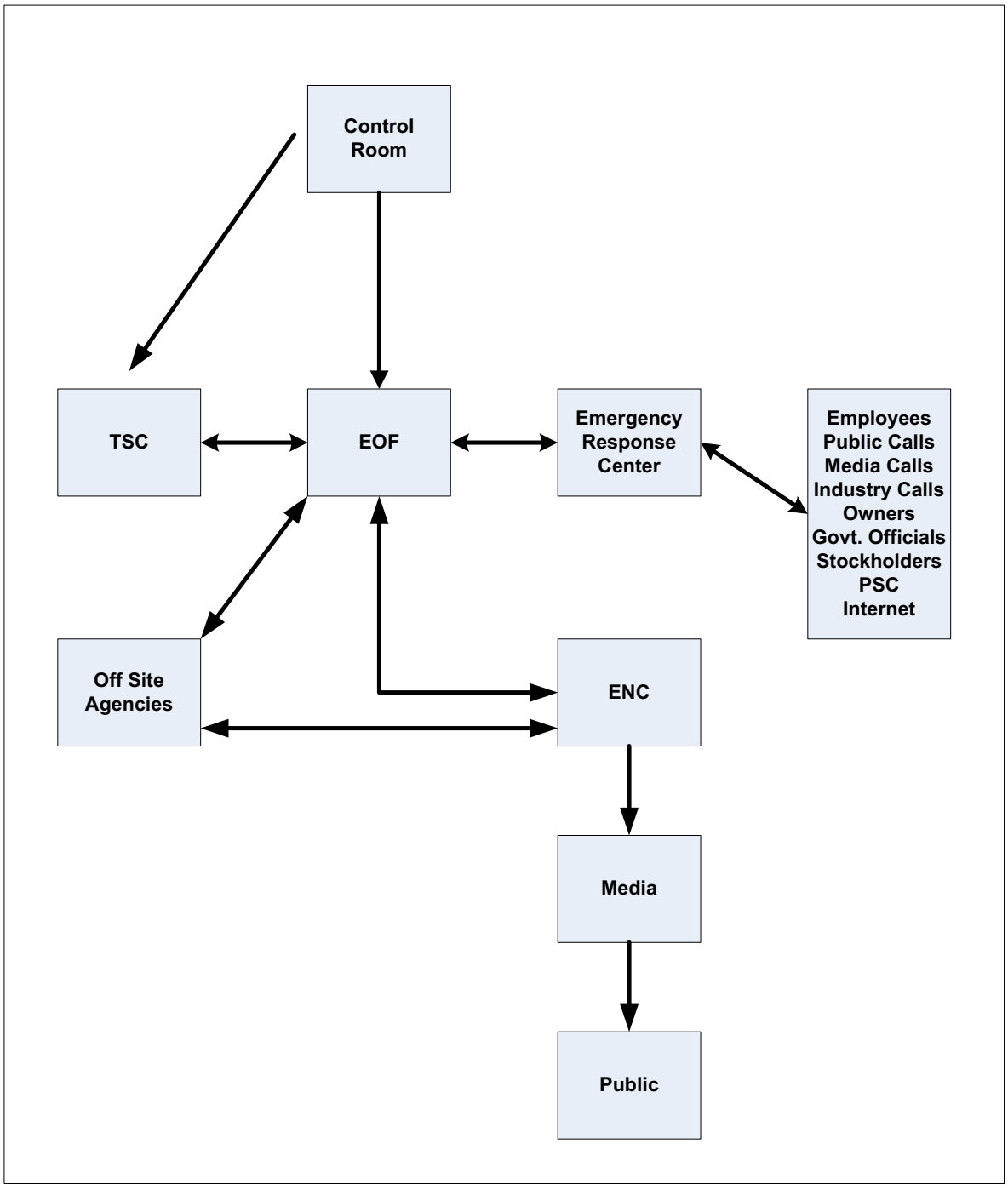

Figure A8-1 Flow of Emergency Public Information during an Emergency

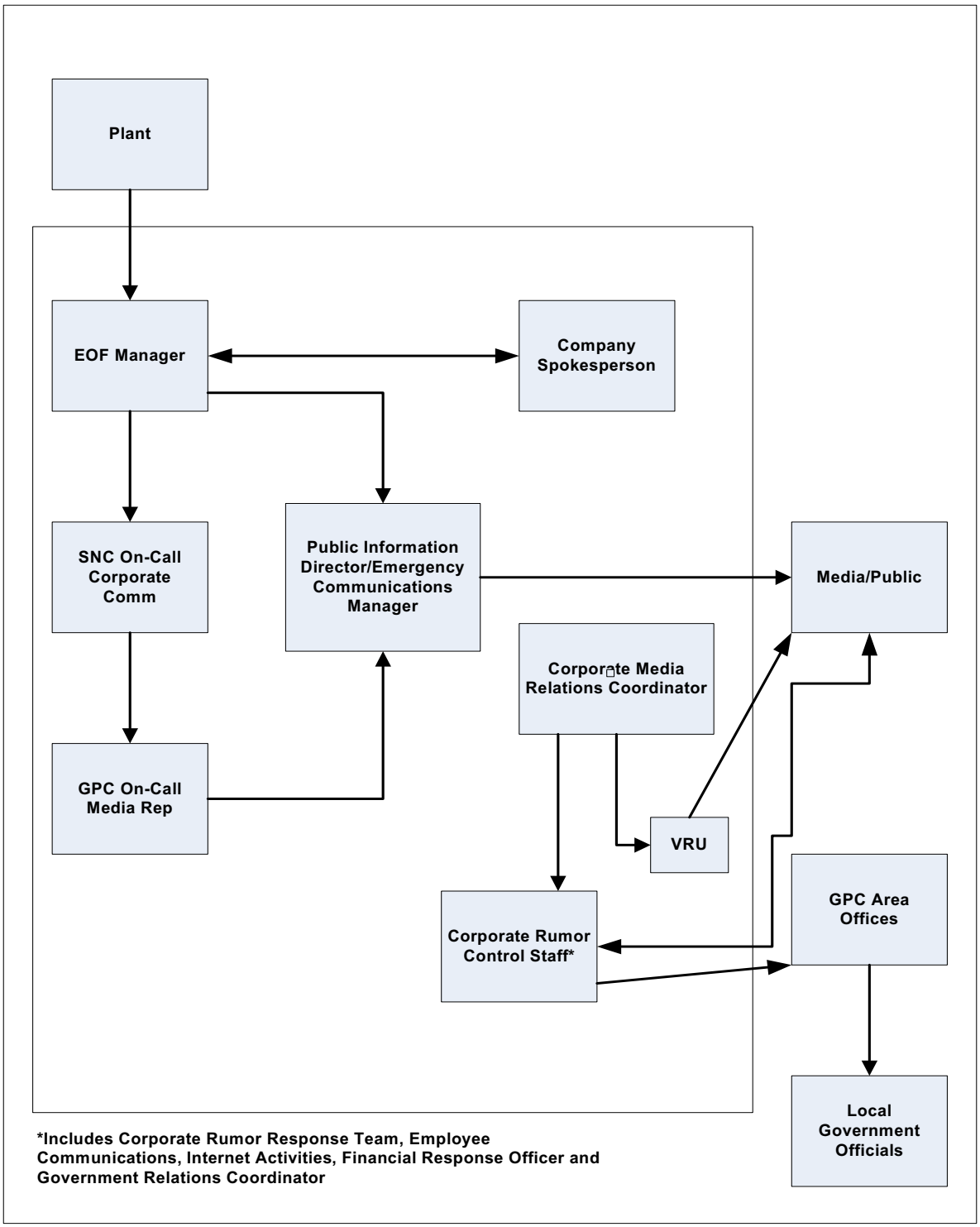

Figure A8-2 Initial Early Flow of Emergency Public Information at Emergency Response Center (Prior to EOF and ENC Activation)

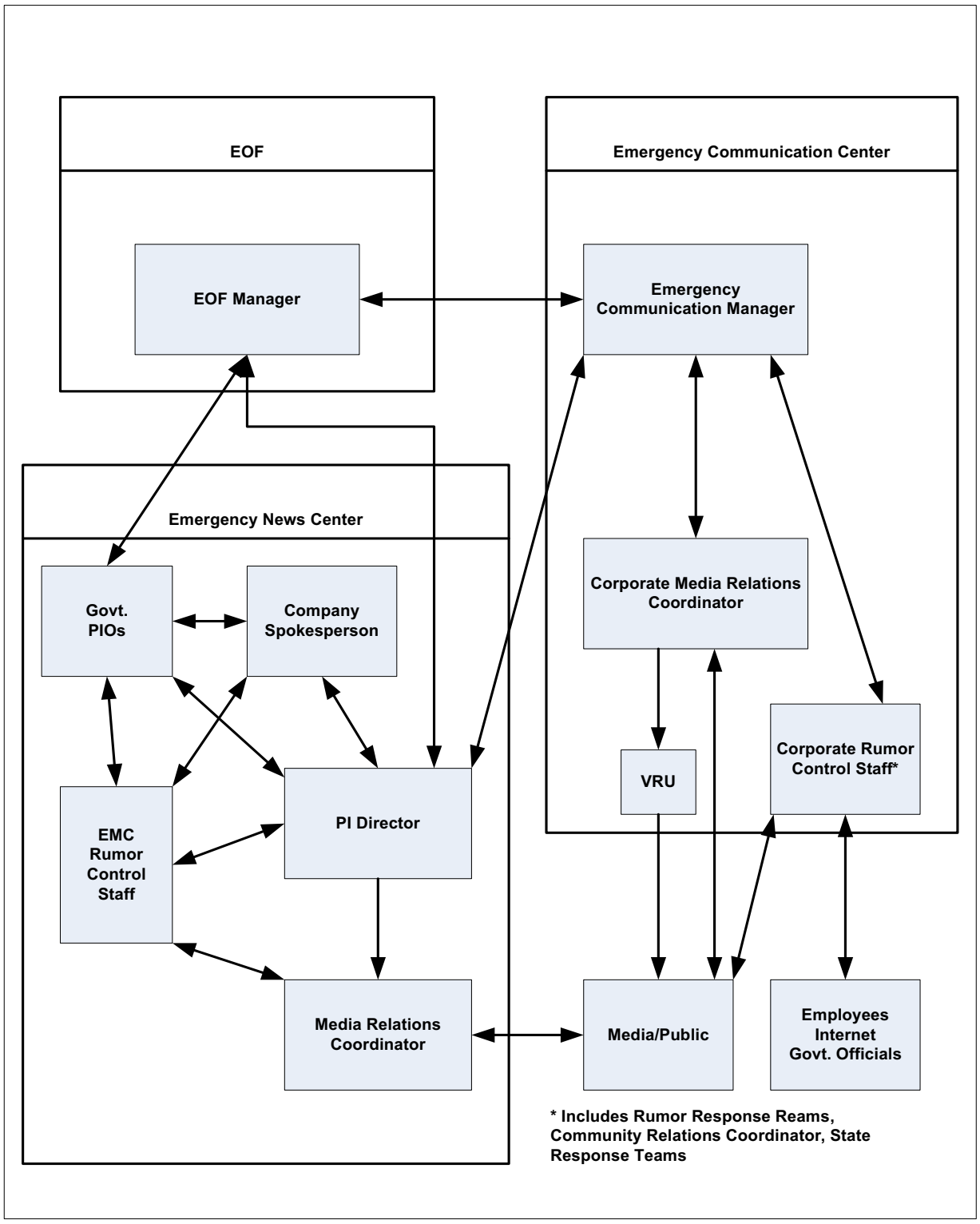

Figure A8-3 Emergency Communications Information Flow after ENC Activation

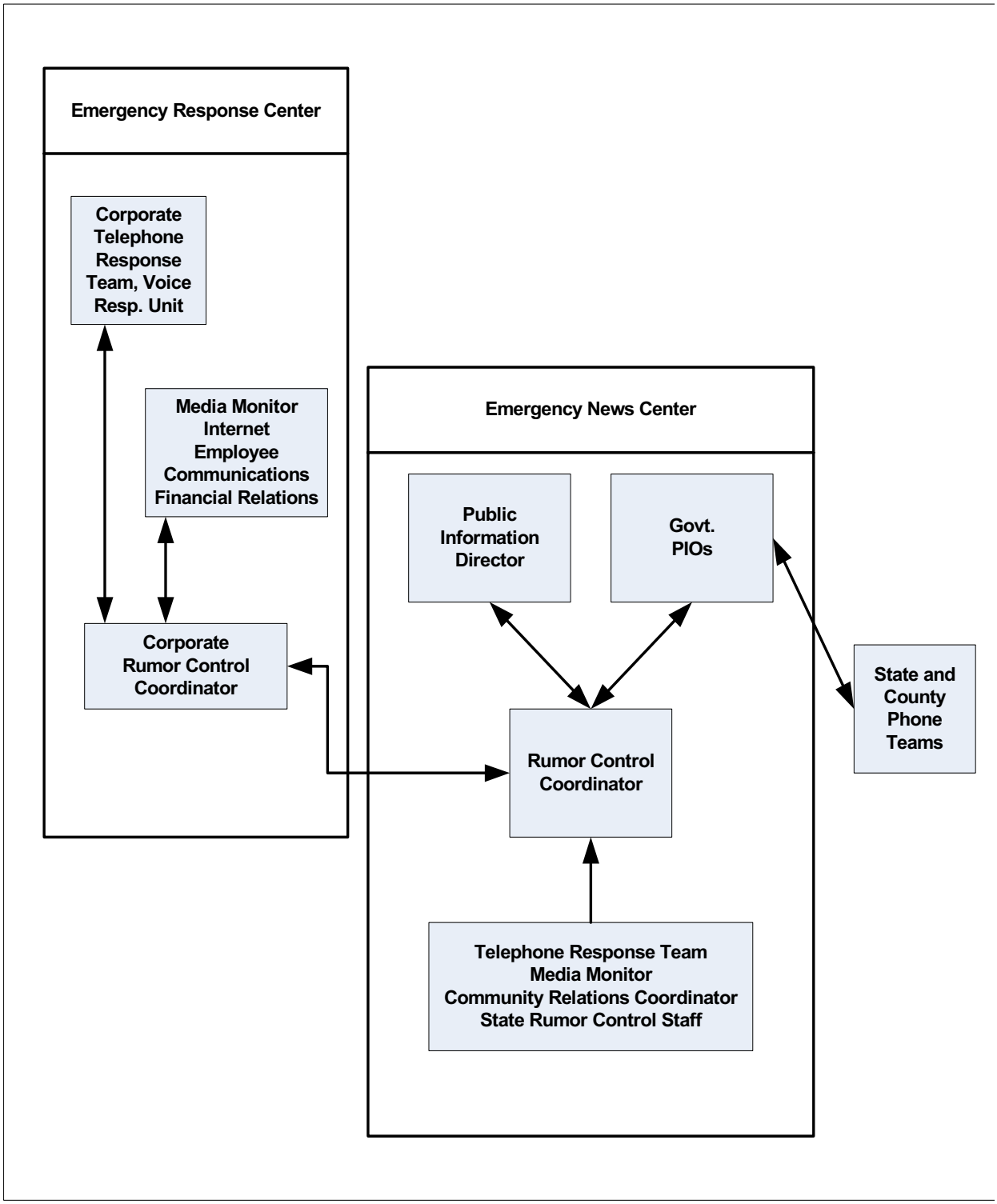

Figure A8-4 Rumor Control Flow Chart

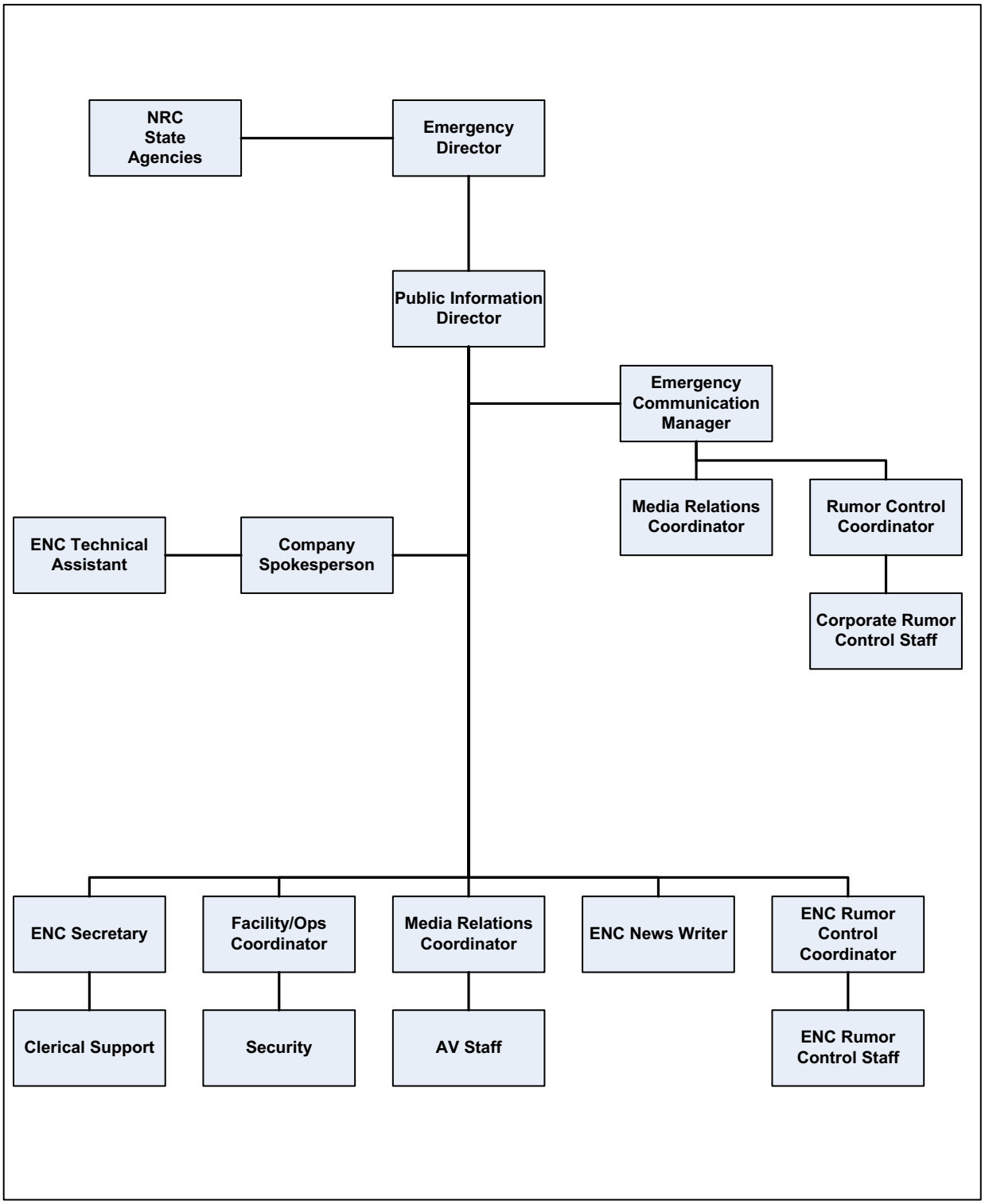

Figure A8-5 Emergency Communications Reporting Structure

A8F.1 Emergency Response Center

The Emergency Response Center at 241 Ralph McGill Boulevard, NE, Atlanta, is the official Company location for the coordination and issuance of news announcements and responses to news media inquiries until the ENC has been activated. The Public Information Director will supervise all emergency communications response staff. Prior to activation of the ENC at an Alert or higher classification, key staff assigned to the ENC will assemble at the ERC and then proceed to the ENC upon receiving such directions from the Public Information Director. Upon activation, the ENC will obtain information from the EOF and/or ERC. The following are assigned to the ERC Emergency Communications staff:

- Public Information Director (until ENC activation)
- Emergency Communications Manager
- Corporate Media Relations Coordinator
- Government Relations Coordinator Employee Communications Coordinator
- Corporate Facility Coordinator
- Corporate Rumor Control Coordinator
- Corporate Rumor Response Team
- Corporate Public Information (PI) Secretary
- Financial Response Officer
- ERC Newswriter
- Internet Coordinator

The responsibilities of principal staff members are outlined in Section H, *Emergency Communications Staff Functions*.

Following activation of the ENC, the ERC staff responsibilities will include the following:

- Maintaining communications with the ENC
- Notifying company senior management of plant conditions
- Supporting the ENC in responding to reports of inaccurate information (rumor control)
- Posting news announcements to GPC's Internet site and monitoring other appropriate sites
- Responding to phone calls from the media and public and providing them with general and logistical information, such as directions to ENC or reading the latest news release
- Updating phone recordings with latest information
- Advising and updating key governmental officials on the emergency
- Providing additional trained personnel to support the Emergency Communications effort
- Advising and updating company and system employees on events

A8F.2 Emergency Operations Facility

The EOF Manager serves as a resource for the Company Spokesperson should he have additional questions or need more information.

A8F.3 Emergency News Center

After the initial notification of an emergency at the Alert classification or higher, the decision is made whether to activate the ENC at the Burke County Office Park. Once the ENC is activated, it becomes the "single source" for media information.

Upon activation of the ENC, the Public Information Director role shifts to that facility. This position maintains overall responsibility for emergency communications response. The Public Information Director will supervise the ENC staff and oversee all functions of the ENC. These functions include writing, approvals and distribution of press statements, coordination of press briefings, interface with the media and local officials, requests for interviews and photos, media monitoring, rumor control, information coordination with offsite agency Public Information Officers (PIOs), and joint news announcements with state and county agencies. It is the PI Director's responsibility to assure that all information is fully coordinated with and among the various local, state, and federal government PIOs.

News briefings will be held at regular intervals during the emergency. The Public Information Director will preside over the ENC briefings. The Company Spokesperson will explain the technical aspects of the developments at the plant. Offsite conditions will be explained by offsite agency representatives.

News releases concerning site events are prepared in the ENC and transmitted to the EOF for approval. Prior to release the information is provided to appropriate government agencies.

If radiological conditions permit, an area near the plant may be designated as the site for television and news photographs of the plant. The Media Relations Coordinator, in consultation with the Public Information Director and the ED, or his designee, will arrange for escorted visits to photographic locations. Media escorts will be coordinated with GEMA as conditions warrant.

The following positions will be assigned to the Emergency News Center:

- Public Information Director
- Company Spokesperson
- Media Relations Coordinator
- ENC Rumor Control Coordinator
- Community Relations Coordinator
- Clerical Support Staff
- News Writer

- Facility Operations Coordinator
- ENC Secretary
- Technical Assistants
- Rumor Response Team
- Security Officers
- AV Support Staff

The responsibilities of principal staff members are outlined in Section H, *Emergency Communications Staff Functions*.

NOTE: The ENC is referred to as the Joint Media Center in offsite agency emergency plans. Both titles refer to the same facility.

A8G Emergency Communications Plan Activation

A8G.1 Notification of Unusual Event

During regular working hours or after hours, the on call Project Manager - Birmingham will notify the on call SNC Corporate Communication Rep who will in turn notify the GPC Media Relations Rep. The notification will include the status of the emergency and a brief description of the event. The GPC Rep will in turn notify the Public Information Director. The Public Information Director will assess the emergency's severity in terms of public interest and impact. With the emergency at the Unusual Event level, the Public Information Director will do the following:

- Stand by and monitor developments
- Consider additional notifications
- Coordinate information with Southern Nuclear Corporate Communication and consider drafting news release

A8G.2 Alert

At the Alert level, initial notifications described in Notification of Unusual Event above will take place. Additionally, the Public Information Director will take the following actions:

- Formally activate the Emergency Communications Plan
- Notify additional personnel in accordance with Implementing Procedures and as needed. A callout list which includes primary and alternate personnel, and home phone numbers may be used.
- Establish contact with the Emergency Operations Facility
- Establish contact with appropriate local, state and federal agencies

In addition, the PI Director will consider performing the following actions:

- Activate the ENC and dispatch staff accordingly
- Conduct news briefings at the ENC or the ERC, which will include to the maximum extent possible, a panel composed of the Company Spokesperson and representatives of government agencies
- Issue news releases
- Activate Rumor Control, Telephone Response Team, and Media Monitor and provide them with news bulletins to use for reference and response

A8G.3 Site Area Emergency/General Emergency

Actions initiated at the Site Area Emergency level will continue through a General Emergency. The initiating actions described in the Alert section will take place. In addition, contact between the ENC and the EOF will be established when both are activated.

A8H Emergency Communications Staff Functions

The following is a description of responsibilities of principal Emergency Communications staff. Assignment of personnel to fill these positions is as indicated in Table A8-2.

A8H.1 Public Information Director

The Public Information Director will be responsible for evaluating the emergency's severity in terms of public interest and safety and coordinating overall emergency communications response. The Public Information Director has the discretion to modify emergency response plan procedures or staffing, as necessary, during an event, to meet the needs of the emergency response.

The Public Information Director will report initially to the ERC. At the decision to activate the ENC, this position will shift to that facility where it will be responsible for overall direction of the ENC. Duties will include preparation and issue of all utility news releases, news briefings, rumor control, and disposition of special media requests; liaison with the news media; and relations with PIO's of federal, state, and local governmental agencies.

A8H.2 Company Spokesperson

The Company Spokesperson will proceed to the ENC or ERC at an Alert or higher classification. The Company Spokesperson will receive technical information from the EOF Manager. In conjunction with the Public Information Director, he will maintain liaison with public information representatives and spokespersons of responding government agencies. The Company Spokesperson will participate in news briefings and answer media questions concerning the plant status and company activities related to the emergency. The spokesperson will identify and notify technical assistants to respond to the ENC to support communications activities.

A8H.3 Emergency Communications Manager

Upon notification, the Emergency Communications Manager will contact the Georgia Emergency Management Agency and DNR Public Information Officers, South Carolina Emergency Preparedness Division, DOE-SRS and Westinghouse-SRS, the ENC Media Relations Coordinator, Facility Operations Coordinator, and the Corporate Media Relations Coordinator. The Emergency Communications Manager will report to ERC where he will coordinate activities.

Once the decision is made to activate the ENC, the Emergency Communications Manager will instruct the Facility Operations Coordinator to activate and equip the ENC.

Until such time as the ENC is activated and the Public Information Director has assumed responsibilities there, the Emergency Communications Manager and the Public Information Director roles may be handled by one individual, as needed, to provide emergency communications response. After ENC activation, the Emergency Communications Manager will coordinate activities at the ERC and maintain contact with the Public Information Director in the ENC.

A8H.4 SNC News Writer

The SNC News Writer will produce and distribute the Initial News Release. The position will coordinate nuclear approvals for all other utility news releases. It will serve as an information resource for the PI Director and Company Spokesperson, obtaining the latest information about plant activities and resolving questions or rumors that might arise.

A8H.5 Corporate Rumor Control Coordinator

Upon notification, the Corporate Rumor Control Coordinator will proceed to the ERC. Responsibilities will include supervising the Corporate Rumor Response Team, advising Corporate Media Relations Coordinator of any inaccuracies noted, and directing specific inquiries to the proper person. This individual will also coordinate Employee Communications and Internet activities. Once the ENC is activated, he will maintain close contact with the ENC Rumor Control Coordinator.

A8H.6 ENC Media Relations Coordinator

Upon notification, the Media Relations Coordinator will notify the ENC News Writer, the ENC Secretary, the ENC Rumor Control Coordinator, and any necessary support staff. The Media Relations Coordinator will report initially to ERC for additional information. Once the ENC is activated, he will report to that location and shall be responsible for supervising GPC media representatives and photographers, updating the ENC status board, and responding to requests from the media. This position is responsible for ensuring media briefing minutes are taken, approved and distributed.

A8H.7 ENC Rumor Control Coordinator

Upon notification, he will notify the Vogtle Rumor Response Team to report to the ENC. Upon arrival, the Rumor Control Coordinator will report to the Public Information Director. Responsibilities will include keeping the Rumor Response Team informed of events; coordinating Rumor Control with the state(s)' PIOs in the ENC, including determining which calls should be handled by the state(s) and which by the Company; and serving as primary contact for all personnel who detect rumors or misinformation. He will maintain contact with Corporate Rumor Control Coordinator.

A8H.8 Corporate Media Relations Coordinator

Responsibilities include responding to reporters' inquiries at the ERC, coordinating information flow among corporate staff, updating recorded public messages, and maintaining contact with other facilities including the EOF and ENC. This position is also responsible for ensuring media briefing minutes are taken, approved and distributed.

A8I Rumor Control

During any emergency situation misinformation and rumors can be expected to evolve. Therefore, the following Rumor Control policies shall be instituted and followed upon the activation of the Emergency Plan.

The Prompt Notification System would be activated by state or local EMA officials to direct area residents to the Emergency Alerting System (EAS), which will serve as the primary source of official information for the public. Rumor Control activities will be coordinated with state agencies. Rumors will be addressed by the following policies and practices:

a. Maintaining a policy of open and candid communications with the news media and general public

b. Releasing all appropriate information in as clear and concise a form as possible, as soon as possible, and making public announcements on a frequent and regular basis

c. Designating only one official spokesperson as the source of new or updated official information about the incident

d. Activation of a Voice Response Unit (VRU) 800 phone number containing a recorded message of current plant status, telephone numbers to call for off-site information, and an 800 number for utility specific questions. Once activated, the number will tie the ERC and ENC telephone response staffs together, allowing calls to be received at either location

e. Monitoring the Internet for media coverage, news releases from involved agencies, and reports or comments from other interested groups

f. Monitoring radio and TV broadcasts both in Atlanta at the ERC and in the Vogtle area at the ENC. Misinformation observed by media monitors at either of these locations will be reported to the Rumor Control Coordinator at the ENC

g. Prior to ENC activation, reports of rumors or misinformation will be relayed to the Corporate Rumor Control Coordinator. Following ENC activation, reports of rumors or misinformation will be relayed to the ENC Rumor Control Coordinator.

   Note: The phone number for the utility Rumor Control will be distributed to appropriate Company, state, and county telephone response personnel, switchboard operators, and emergency response personnel. Personnel will be instructed to call this number to confirm information or to report suspected rumors. The Rumor Control Coordinator will advise the Public Information Director of the need to respond publicly, via news releases or briefings, to serious or widespread rumors or misinformation being circulated.

h. Members of the Corporate Rumor Response Team and the Vogtle Rumor Response Team will be provided with background information and emergency updates. They will be trained to recognize report, respond to, and log all rumors or misinformation.

i. Individuals manning the plant or Corporate Office switchboards and customer service phones will be instructed to direct callers to the VRU 800 line. When provided with basic facts, they may use that information to respond to inquiries. Rumors or misinformation are to be directed to the Rumor Control Coordinator.

j. The Employee Communications Coordinator will transmit a Rumor Control number with instructions for employees to call concerning any rumors they hear.

k. Approved information will be disseminated by the Employee Communications Coordinator to all GPC offices and Southern Company system personnel via normal communications systems and electronic media.

l. General inquiry calls concerning offsite matters will be handled by the Telephone Response Team if the question can be answered using approved information. If not, the calls will be relayed to the appropriate state representative at the ENC or county PIOs.

m. State/county agency representatives will relay inquiries concerning onsite matters to the Rumor Control Coordinator in the ENC.

A8J Telecommunications

The Facility Operations Coordinator will be responsible for resolving special problems and obtaining additional equipment for the ENC. Telephone lines connect the ENC, and EOF to the ERC in Atlanta. Telecopier lines are established between the ENC, EOF, and the ERC. Telephone lines and equipment discussed above are tested quarterly.

A8K Transportation

The Corporate PI Secretary, upon emergency notification, will arrange for ground transportation services for Emergency Communications staff. Special transportation arrangements, such as helicopter service between Birmingham, Atlanta, VEGP and the ENC, may be made available in an emergency.

A8L Security

Security will coordinate 24-hour security support at Corporate Headquarters during an emergency. Security personnel will be provided to the ENC upon activation of this facility. Company personnel, news personnel, industry representatives, government officials, and visitors will be asked to present identification and will be given an identification badge for admittance to the ENC. This will serve as an ID badge for news personnel attending briefings at the ENC.

A8M ENC Print and Audiovisual Aids

Press kits are available at the Emergency News Center and at Corporate Headquarters in Atlanta. These kits are updated regularly and will be available to all news media.

An emergency web page has been developed on the GPC Internet site and will be activated in the event of an emergency. It includes plant schematics, background information and directions to the ENC. News releases about the event would also be available here.

Enlarged maps, photographs, and diagrams of the plant and its operations are stored and maintained for use during news briefings.

Videotape cassettes of plant exterior and interior views will be maintained and made available for distribution, upon request, to television stations. Briefings and special interviews may be videotaped.

A8N Special Requests

The Media Relations Coordinator will respond to requests for special interviews, films, photos, videotapes, etc. Special requests may be refused for either safety or security reasons. In such cases, the reason for refusal will be made clear. Utility personnel will accommodate photographers at the plant site as conditions warrant. Media escorts will be coordinated with GEMA.

Industry experts from appropriate agencies (i.e., NEI, INPO) may be called upon to provide general background information to reporters, but will not comment on the plant's status. With knowledge of the Public Information Director, interviews with these individuals will be arranged by the Media Relations Coordinator. The Media Relations Coordinator or his designee will be present at all special interviews.

A8O Public Information Plan for Recovery

The emergency communications representative in the Recovery Organization will be the Public Information Director. This person, or his designee, will maintain close contact with the Recovery Manager. As conditions and public interest warrant, additional Public Information personnel will be assigned to support the flow of information concerning recovery operations.

Information for possible release will be cleared with the Recovery Manager and the Public Information Director, and given to the media through established procedures. All released information will be made available to federal and state authorities, the utility industry, the public, and Company employees, through established channels of communication.

Advance notice will be given to the public through the media of any Company action that will or may affect the health and safety of the plume exposure pathway EPZ residents. Information of this type will be followed up with a news release as soon as the results of any such action are known.

A8P Training

A8P.1 Staff Training

The GPC Corporate Communication Department will coordinate annual emergency training for emergency communications personnel. It will provide an overview of the Vogtle Emergency Communications Plan.

All individuals with positions on the Emergency Communications staff will participate in training. (Those responders with responsibilities directly related to their daily jobs may be exempted.) The Emergency Communications Plan and specific staff position responsibilities will be a part of the training plan. Training will be documented and records of examinations will be held at GPC Corporate Headquarters by the Corporate Communication EC Training Coordinator. Individual and team performance evaluation during exercises will be utilized to measure training program effectiveness and to adjust course content.

A8P.2 News Media Training

An annual program is offered to acquaint the news media with the methodology for obtaining information during an emergency, as well as information about overall emergency preparedness. The training includes information about the plant, radiation, and the role of the ENC. Media participation as observers or "Reporter players" during VEGP exercises can effectively enhance training. Therefore, media will be invited to participate in VEGP annual exercises.

A8P.3 Training Subject Areas

Following is a description of training provided for emergency communications staff members and news media. A matrix describing training for each position or group is found in Table 1 of this appendix.

Table A8-1 Emergency Communications Training Matrix

	Subject Area			
Position	**Emergency Plan Overview**	**Media Training**	**Position Specific Items**	**Spokesperson**
Public Information Director	X		X	
Emergency Communications Manager	X		X	
Company Spokesperson	X		X	X
Media Relations Coordinator	X		X	
News Writer	X		X	
Corporate Media Relations Coordinator	X		X	
Employee Communications Coordinator	X		X	
Rumor Response Team	X		X	
ENC Rumor Control Coordinator	X		X	
Clerical Staff	X		X	
Corporate Rumor Control Coordinator	X		X	
Facility Operations Coordinator	X		X	
News Media		X		
Corporate Facility Coordinator	X		X	
Internet Coordinator	X			

Table A8-2 Description of Training Subject Areas

Subject Area	Description
Emergency Plan Overview	An overview of the Emergency Plan with special attention to emergency planning zones (EPZs); emergency classification system, responsibilities of emergency response personnel; site accountability; and site dismissal.
Emergency Communication Staff Position Training	Training designed to familiarize emergency communication team members with specific duties and functions; for instance, ENC operations, rumor control, notification and communication, ERC operations, and facility/equipment use.
Spokesperson Training	Focus will be on emergency spokesperson responsibilities, presentation skills, interview and Q/A techniques, news media relations, and translating complex technical information.
Media Training	Program will acquaint news media with the methodology for obtaining information about overall emergency preparedness at VEGP. Training will include information about the plant, radiation, and the role of the ENC.

A8Q Public Information and Education Program for Vogtle

The goal of the program is to acquaint the general public with the emergency plans in connection with the operation of VEGP and actions they should take if a radiological emergency occurs at the plant. To attain this objective, the program outlined below will use available public education and information dissemination resources whenever, and wherever, possible.

a. Educating the public about radiation will be one of the primary aims of the Public Education and Information Program for VEGP.

b. Efforts will be directed at helping the public understand what their initial actions should be in an emergency.

c. The program will seek to familiarize the public with how they will be notified should an emergency occur at the plant. This will include instructions in the use of the National Oceanic and Atmospheric Administration (NOAA) radio notification system and information on the siren notification system.

d. In order to help assure proper public reaction to an emergency notification, GPC/SNC will keep state and local officials continuously informed of all details pertaining to any emergency.

e. The program will seek to familiarize the public with protective actions that may be required and rationale behind recommendations for these types of actions.

f. Several communications methods will be used to acquaint the public with plans for their protection during an emergency at VEGP. These methods are described below:

   - Annual update and distribution of an emergency information publication to plume exposure pathway Emergency Planning Zone residents.
   - Annual distribution of an emergency information publication to all commercial establishments, hunt clubs, Creek and Cowden Plantations, and churches in the plume exposure pathway EPZ for distribution to nonresident employees, visitors, and members.
   - Display of posters/signs to communicate with the overall population in the plume exposure EPZ, but especially transients. These will be posted in, or at, public places where people may gather, such as commercial establishments, areas used by sportsmen, and Vogtle Visitors Center. Sign content and location distribution will be reviewed annually and revised and redistributed as needed.

A8R Procedures

Implementing procedures exist which will provide guidance and direction for carrying out the activities and responsibilities listed in this plan. These procedures cover, but are not limited to, emergency communications, facilities, development and issue of news releases, conduct of news briefings/media response, rumor control response and public education/information dissemination.

Table A8-3 Emergency Communications Organization Assignments

Emergency Position (a)	Designee
Facility Operations Coordinator	Information and Emergency Assistant, Nuclear
SNC News Writer	SNC Corporate Communication Staff
ENC News Writer	GPC and SCS Corporate Communication Staff
ERC News Writer	GPC and SCS Corporate Communication Staff
ENC Secretary	GPC and SCS Corporate Communication Staff
Corporate Media Relations Coordinator	GPC and SCS Corporate Communication Staff
Corporate Rumor Control Coordinator	GPC and SCS Corporate Communication Staff
Corporate Facility Coordinator	GPC and SCS Corporate Communication Staff
Corporate Rumor Response Team	GPC and SCS Corporate Communication Staff
Public Information Director	News and Corporate Information Manager, Corporate Communications Manager, Assistant to the Sr. VP, Account Executive, Senior Environmental Principal, Media Relations Coordinator
Emergency Communications Manager	News and Corporate Information Manager, Corporate Communications Manager, Assistant to the Sr. VP, Account Executive, Senior Environmental Principal, Media Relations Coordinator
Company Spokesperson	Designated Senior Supervisory Personnel
Media Relations Coordinator	GPC and SCS Corporate Communication Staff
ENC Rumor Control Coordinator	Visitors Center Supervisor (2); Administrative Assistant Sr., Local Manager
ENC Rumor Response Team	Corporate/Region/Area/Plant Staff
Community Relations Coordinator	Region/Area Management Staff

a. These are typical normal positions and are subject to change providing the new person qualifies for the emergency response position. This document will be revised at least annually to reflect these changes. In an emergency, qualified SCS system emergency response staff for other SNC plants may also be used.

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Appendix 9 Letter from State of Georgia

Letter follows on next page:

STATE OF GEORGIA
Department of Defense
Georgia Emergency Management Agency
P.O. Box 18055
Atlanta, Georgia 30316-0055
TEL: (404) 635-5500

BG JOSEPH M. GRIFFIN
THE ADJUTANT GENERAL,
DIRECTOR

BILLY J. BLACK
DEPUTY DIRECTOR

7 September 1984

Mr. William H. Ollinger
Nuclear Generating Department
Georgia Power Company
Post Office Box 4545
Atlanta, Georgia 30302

Dear Mr. Ollinger.

In accordance with criteria contained in NUREG-0654/FEMA-REP-1, Rev. 1, the 10 mile Emergency Planning Zone for Plant Vogtle will be limited to that area which is within Burke County, Georgia and will not include any portion of Richmond County. Specific reference is made to paragraph 1.D.2., page 11 and Table 1, page 17 of the cited document.

The area in Richmond County which is within 10 miles of the plant is limited to about two square miles and is nine miles or greater distance from the site. The area is primarily low-lying wetlands adjacent to the Savannah River and is uninhabited. According to latest available maps there are no roads within the area.

If future development should result in any significant change in the Richmond County area, the county may be incorporated into the Vogtle Plan.

Sincerely,

BILLY J. BLACK
Deputy Director

BJB/vjb

Southern Nuclear Operating Company

Vogtle Early Site Permit Application

Part 5
Emergency Plan
Annex V1

Revision 5

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Preface

This Annex contains those specific portions of the VEGP Emergency Plan that are applicable to Vogtle Electric Generating Plant (VEGP) Units 1and 2 only.

The VEGP Emergency Plan is designed to be compliant with 10 CFR 50.47 and 10 CFR 50 Appendix E. It is based on the guidance contained in NUREG 0654, Revision 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, with the exception of emergency action levels which are based on Nuclear Energy Institute (NEI) Guideline 99-01, Revision 4, Methodology for Development of Emergency Action Levels.

The VEGP Emergency Plan is designed to accommodate the unique features of the two unit designs used at the Site. A common VEGP Emergency Plan is supported by Annex V1 which contains the parts of the Emergency Plan that are unique to existing Units 1 and 2, and Annex V2 which contains the parts of the Emergency Plan that are unique to new Units 3 and 4 (i.e., the proposed Westinghouse Electric Company, LLC, AP1000 standard reactor plants). Each segment of the Emergency Plan is supported by Appendices that contain supporting information for each segment of the plan.

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V1A Assignment of Responsibilities

There are no specific features of Assignment of Responsibilities unique to Units 1 and 2. Refer to main section for details.

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V1B VEGP Emergency Organization

Specific features of the VEGP Emergency Organization unique to Units 1 and 2 are listed in the main section.

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V1C Emergency Response Support and Rescue

There are no specific features of Emergency Response and Support and Rescue unique to Units 1 and 2. Refer to the main section for details.

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V1D Emergency Classification System

V1D.1 Classification of Emergencies

There are no specific features of Classification of Emergencies unique to Units 1 and 2. Refer to the main section for details.

V1D.2 Classification Process

The Initiating Condition Matrix for modes 1, 2, 3, and 4 for Units 1 and 2 are shown in Table V1 D-1, and the Initiating Condition Matrix for modes 5, 6, and de-fueled are shown in Table V1 D-2.

Table V1D.2-1 Hot Initiating Condition Matrix, Modes 1, 2, 3, and 4

	Categories / Subcategories														
	Radiological		Fission Product Barriers	System Malfunctions					ISFSI	Hazards					
	Release	Rad Levels		AC/DC Power	Rx and Core	Annunciators	RCS	Communications		Natural/ Destructive	Fire/ Explosion	Toxic / Flammable	Security	CR Evacuation	ED Discretion
General Emergency	**RG1**- Offsite Dose Resulting from an Actual or Imminent Release of Gaseous Radioactivity Exceeds 1000 mR TEDE **OR** 5000 mR Thyroid CDE for the Actual or Projected Duration of the Release Using Actual Meteorology.		**FG1** - Loss of ANY Two Barriers **AND** Loss, or Potential Loss, of the Third Barrier	**SG1** - Prolonged Loss of All Offsite Power **AND** Prolonged Loss of All Onsite AC Power	**SG2** - Failure of the RPS to Automatic Trip **AND** Manual Trip, **AND** Indication of an Extreme Challenge to Cool the Core								**HG1** - Security Event Resulting in Loss Of Physical Control of the Facility		**HG2** - Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of General Emergency
Site Area Emergency	**RS1** - Offsite Dose Resulting from an Actual or Imminent Release of Gaseous Radioactivity that Exceeds 100 mR TEDE **OR** 500 mR Thyroid CDE for the Actual or Projected Duration of the Release.		**FS1** – Loss, or Potential Loss of, ANY Two Barriers	**SS1** - Loss of All Offsite Power **AND** Loss of All Onsite AC Power to Essential Busses **SS3** - Loss of All Vital DC Power	**SS2** - Failure of RPS to Automatic Trip **AND** Manual Trip **SS4** - Complete Loss of Heat Removal Capability	**SS6** - Inability to Monitor a SIGNIFICANT TRANSIENT in Progress							**HS1** - Confirmed Security Event in a Plant VITAL AREA **HS4** – Site Attack	**HS2** - Control Room Evacuation Has Been Initiated **AND** Plant Control Cannot Be Established	**HS3** - Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of Site Area Emergency
Alert	**RA1** - Any UNPLANNED Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds 200 Times the Radiological Effluent Technical Specifications for 15 Minutes or Longer.	**RA2** - Damage to Irradiated Fuel **OR** Loss of Water Level that Has Resulted, or Will Result, in the Uncovering of Irradiated Fuel Outside the Reactor Vessel **RA3** Release of Radioactive Material or Rises in Radiation	**FA1** - ANY Loss or ANY Potential Loss of **EITHER** Fuel Clad **OR** RCS	**SA5** - AC power to ESF busses reduced to a single power source for greater than 15 minutes.	**SA2** - Failure of RPS to Automatic Trip **AND** Manual Trip Was Successful	**SA4** - UNPLANNED Loss of Most or All Annunciation or Indication With **EITHER** a SIGNIFICANT TRANSIENT in Progress, **OR** Compensato				**HA1** - Natural and Destructive Phenomena Affecting the Plant VITAL AREA	**HA2** - FIRE **OR** EXPLOSION Affecting the Operability of Plant Safety Systems Required to Establish or Maintain Safe Shutdown	**HA3** - Release of Toxic Asphyxiant, or Flammable Gases Within VITAL AREAs Which Jeopardizes Operation of Systems Required to Maintain Safe Operations or Establish or Maintain Safe	**HA4** - Other Security Events As Determined From The Safeguards Contingency Plan. **HA7** – Notification of an Airborne Attack	**HA5** - Control Room Evacuation Has Been Initiated	**HA6** - Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of an Alert

Table V1D.2-1 (Cont.) Hot Initiating Condition Matrix, Modes 1, 2, 3, and 4

													HA8 – Notification of HOSTILE ACTION within the OCA		
Notification of Unusual Event	**RU1** - Any UNPLANNED Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds Two Times the Radiological Effluent Technical Specifications for 60 Minutes or Longer	**RU2** - Unexpected Rise in Plant Radiation	**FU1** - ANY Loss, **OR** ANY Potential Loss, of Containment	**SU1** - Loss of All Offsite Power to Essential Busses for GREATER THAN 15 Minutes	**SU2** - Inability to Reach Required Shutdown Within Technical Specification Limits **SU4** - Fuel Clad Degradation **SU8** - Inadvertent Criticality	**SU3** - UNPLANNED Loss of Most or All Safety System Annunciation or Indication in The Control Room for Greater Than 15 Minutes	**SU5** - RCS Leakage	**SU6** - UNPLANNED Loss of All Onsite **OR** Offsite Communications Capabilities	**None**	**HU1** - Natural and Destructive Phenomena Affecting the PROTECTED AREA	**HU2** - FIRE Within PROTECTED AREA Boundary Not Extinguished Within 15 Minutes of Detection	**HU3** - Release of Toxic, Asphyxiant, **OR** Flammable Gases Deemed Detrimental to Normal Operation of the Plant	**HU4** - Confirmed Security Event Which Indicates a Potential Degradation in the Level of Safety of the Plant		**HU5** - Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of a NOUE

Table V1D.2-2 Cold Initiating Condition Matrix Modes 5, 6, and De-Fueled

	Categories / Subcategories													
	Radiological		System Malfunctions					ISFSI	Hazards					
	Release	Rad levels	AC/DC Power	Rx and Core	Heat Removal	RCS	Communi-cations		Natural/ Destructive	Fire/ Explosion	Toxic / Flammable	Security	CR Evacuation	ED Discretion
General Emergency	**RG1**- Offsite Dose Resulting from an Actual or Imminent Release of Gaseous Radioactivity that Exceeds 1000 mR TEDE **OR** 5000 mR Thyroid CDE for the Actual or Projected Duration of the Release Using Actual Meteorology.			**CG1** - Loss of RPV Inventory Affecting Fuel Clad Integrity with Containment Challenged and Irradiated Fuel in the RPV.								**HG1** - Security Event Resulting in Loss Of Physical Control of the Facility		**HG2** - Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of General Emergency
Site Area Emergency	**RS1** - Offsite Dose Resulting from an Actual or Imminent Release of Gaseous Radioactivity Exceeds 100 mR TEDE **OR** 500 mR Thyroid CDE for the Actual or Projected Duration of the Release.			**CS2** - Loss of RPV Inventory Affecting Core Decay Heat Removal Capability with Irradiated Fuel in the RPV. **(Mode 6)**		**CS1** - Loss of RPV Inventory Affecting Core Decay Heat Removal Capability. **(Mode 5)**						**HS1** - Confirmed Security Event in a Plant VITAL AREA **HS4** – Site Attack	**HS2** - Control Room Evacuation Has Been Initiated **AND** Plant Control Cannot Be Established	**HS3** - Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of Site Area Emergency
Alert	**RA1** - Any UNPLANNED Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds 200 Times the Radiological Effluent Technical Specifications for 15 Minutes or Longer.	**RA2** - Damage to Irradiated Fuel **OR** Loss of Water Level that Has Resulted, or Will Result, in the Uncovering of Irradiated Fuel Outside the Reactor Vessel **RA3** - Release of Radioactive Material or Rises in Radiation Levels	**CA3** - Loss of All Offsite Power **AND** Loss of All Onsite AC Power to Essential Busses.	**CA2** - Loss of RPV Inventory with Irradiated Fuel in the RPV. **(Mode 6)**	**CA4** - Inability to Maintain Plant in Cold Shutdown with Irradiated Fuel in the RPV.	**CA1** - Loss of RCS Inventory. **(Mode 5)**			**HA1** - Natural and Destructive Phenomena Affecting the Plant VITAL AREA	**HA2** - FIRE **OR** EXPLOSION Affecting the Operability of Plant Safety Systems Required to Establish or Maintain Safe Shutdown	**HA3** - Release of Toxic, Asphyxiant, or Flammable Gases Within VITAL AREAs Which Jeopardizes Operation of Systems Required to Maintain Safe Operations or Establish or Maintain Safe Shutdown	**HA4** - Other Security Events As Determined From The Safeguards Contingency Plan. **HA7** - Notification of an Airborne Attack Threat	**HA5** - Control Room Evacuation Has Been Initiated	**HA6** - Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of an Alert

Table V1D.2-2 (Cont.) Cold Initiating Condition Matrix Modes 5, 6, and De-Fueled

												HA8 - Notification of HOSTILE ACTION within the OCA		
Notification of Unusual Event	**RU1** – Any UNPLANNED Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds Two Times the Radiological Effluent Technical Specifications for 60 Minutes or Longer.	**RU2** – Unexpected Rise in Plant Radiation	**CU3** – Loss of All Offsite Power to Essential Busses for Greater Than 15 Minutes. **CU7** - Unplanned Loss of Required DC Power for Greater than 15 Minutes.	**CU5** - Fuel Clad Degradation. **CU8** - Inadvertent Criticality	**CU4** - Unplanned Loss of Decay Heat Removal Capability with Irradiated Fuel in the RPV.	**CU1** - RCS Leakage **(Mode 5)** **CU2** - Unplanned Loss of RCS Inventory with Irradiated Fuel in the RPV **(Mode 6)**	**CU6** - UNPLANNED Loss of All Onsite **OR** Offsite Communications Capabilities	**None**	**HU1** - Natural and Destructive Phenomena Affecting the PROTECTED AREA	**HU2** - FIRE Within PROTECTED AREA Boundary Not Extinguished Within 15 Minutes of Detection	**HU3** - Release of Toxic, Asphyxiant, **OR** Flammable Gases Deemed Detrimental to Normal Operation of the Plant	**HU4** - Confirmed Security Event Which Indicates a Potential Degradation in the Level of Safety of the Plant		**HU5** - Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of a NOUE

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V1E Notification Methods and Procedures

There are no specific features of Notification Methods and Procedures unique to Units 1 and 2. Refer to the main section for details.

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V1F Emergency Communications

There are no specific features of Emergency Communications unique to Units 1 and 2. Refer to the main section for details.

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V1G Public Education and Information

There are no specific features of Public Education and Information unique to Units 1 and 2. Refer to the main section for details.

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V1H Emergency Facilities and Equipment

V1H.1 Emergency Facilities

V1H.1.2 Operations Support Center (OSC)

The OSC has been established to be consistent with NUREG 0696 guidelines as described below. The OSC is located on the second floor of the maintenance building in the lunch room. The lunch room is located in the southeast corner of the second floor and is accessed via the south stairwell or the east stairwell. The OSC is where operational support personnel (including instrument technicians, engineers, mechanics, electricians, chemical/radiation technicians, equipment operators, and incoming shift personnel) assemble to aid in the response to an emergency.

Status boards containing plant conditions and emergency classification will be available in the OSC. Emergency kits containing radiation monitoring equipment, first aid supplies, decontamination supplies, breathing apparatus, portable lighting, and hand-held radios are stored in the OSC. Emergency kit contents are listed in Appendix 1.

In the event that this facility becomes uninhabitable, the functions of the OSC will be conducted from the Outage Control Center (OCC) and Clearance and Tagging (C&T) located in the control building. Evacuation of the OSC will be conducted in accordance with administrative procedures. These procedures describe the method by which the OSC is evacuated and the movement of personnel to other facilities. The OSC manager will keep the TSC manager informed of the initiation, progress, and completion of the evacuation and relocation of the OSC personnel. Operations at this facility are directed by the OSC manager.

V1H.2 News Center Facilities

There are no specific features of News Center Facilities unique to Units 1 and 2. Refer to the main section for details.

V1H.3 Activation and Staffing of Emergency Facilities

There are no specific features of Activation and Staffing of Emergency Facilities unique to Units 1 and 2. Refer to the main section for details.

V1H.4 Plant Monitoring and Data Handling Systems

V1H.4.1 Geophysical Phenomena Monitors

V1H.4.1.1 Meteorological (Applicable for all four VEGP Units)

A meteorological monitoring program is in place at VEGP. Instruments are mounted on a 60-meter (m) high tower located to the south-southwest of the Unit 1 and 2 power block. Parame-

ters measured and transmitted to the control room include:

- Windspeed (at 10 m and 60 m)
- Wind direction (at 10 m and 60 m)
- Standard deviation of horizontal wind direction (at 10 m)
- Vertical temperature difference (between 10 m and 60 m)
- Ambient temperature (at 10 m)
- Dewpoint temperature (at 10 m)
- Precipitation (at the tower base)

An equipment building which houses the recording, calibration, and amplification equipment is located near the base of the tower. The system is powered by an uninterruptible power supply consisting of wet cell batteries, a charger, and an inverter for high availability.

The important parameters for characterizing the transport of airborne radioactivity are windspeed, wind direction, and atmospheric stability (derived from the standard deviation of the horizontal wind direction or vertical temperature difference). These meteorological parameters are used in a calculational methodology to assess the offsite radiological consequences of accidental releases of airborne radioactivity. The methodology is described in Section I, Accident Assessment.

V1H.4.1.2 Hydrologic

The normal source of plant makeup water to the secondary plant for Units 1 and 2 is the Savannah River, which provides makeup to the circulating water system cooling towers. The probable maximum flood level has been determined to be about 140 ft mean sea level (MSL). However, since the access elevations to safety- related structures are at 220 ft MSL, high river level is not relevant to plant safety. The ultimate heat sink for VEGP Units 1 and 2 is the nuclear service cooling water towers. Two 100-percent towers are provided for each unit, and the system will provide sufficient shutdown cooling for approximately 30 days with no makeup. Because of these design features, hydrologic monitors will not be required for initiation of emergency actions; therefore, there will be no emergency levels based on hydrologic monitors.

V1H.4.1.3 Seismic

Seismic monitoring instrumentation for VEGP consists of time-history accelerographs, a central control unit, and free-field ETNA. A strong-motion accelerometer (SMA) is installed in the containment tendon gallery on the basemat. The second SMA is located on the containment operating floor at elevation 220 feet.

Activation of the time history accelerographs causes visual and audible annunciation in the con-

trol room to alert the plant operator that an earthquake has occurred.

V1H.4.1.4 Fire Detection

The fire-detection system at VEGP includes smoke, flame, and temperature detectors and manual fire alarms. Fire-detection systems are provided in all areas with safe shutdown equipment, as well as other locations throughout the plant. In addition to initiating fire-suppression systems, indications from the fire-detection system are transmitted to the control room.

V1H.4.2 Process and Effluent Radiation Monitoring System (PERMS)

PERMS receives and processes radiological input readings during normal and abnormal operating and accident conditions; measures, evaluates, and reports radioactivity in designated areas; and monitors releases of radioactive materials in liquid and gaseous effluents. Data from PERMS are obtained for the Integrated Plant Computer (IPC). A more detailed description of PERMS is provided in FSAR Section 11.5.

PERMS consists of the following components:

- PERMS Display Computer: capable of nonvolatile mass data storage and provided with all necessary programming, communication, display, and hardware to serve as information manager for the PERMS
- Communications Display Computer: located in the control room, it polls individual data modules and updates alarm status and system radiation levels throughout the plant. Communicates with the IPC to provide data to general plant areas
- Safety-related display console: located in the control room, it provides remote control and status display of the safety-related channels from the safety data modules
- Data processing modules (DPMs): microprocessor-based data acquisition processors for local control and data processing; have two-way digital communication with the communication display computer, except safety related DPMs which have one way communications
- Radiation monitors: along with their associated DPMs, detect, compute, and indicate the radiation levels at selected plant locations and actuate alarms if these levels exceed predetermined values; include area, airborne, and liquid monitors
- Displays:
  - PERMS Display Computer
  - Communications Display Computer
- Printers:
  - Radiochemistry Lab

There are four types of radiation monitors in PERMS:

- Area radiation monitors;
- Airborne and air particulate radiation monitors;
- Liquid radiation monitors; and
- Post-accident radiation monitors.

The post-accident radiation monitors provide radiation monitoring after an accident. The monitors are comprised of area, airborne, and air particulate monitors. Area monitors respond to gamma radiation photons within any energy range from 60 keV to 3 MeV. Airborne monitors are capable of detecting and measuring radioactive gaseous effluent concentrations with compositions ranging from fresh equilibrium noble gas fission product mixtures to 10-day old mixtures. Power to post-accident monitors is diesel generator-backed to ensure against interruption of monitor operation and loss of data.

V1H.4.3 Integrated Plant Computer

The Integrated Plant Computer gathers, stores, and displays data used by TSC and EOF personnel to analyze plant conditions. The IPC performs this function independently of actions in the control room and without degrading or interfering with control room and plant functions. The IPC consists of workstations, printers, video copiers, and associated computer hardware and software.

The IPC serves as the primary data acquisition system for emergency response, acquiring, processing, and feeding data to the TSC and the Safety Parameter Display System (SPDS). In addition, data links are provided to other locations including the EOF. Overall system unavailability is 0.01 or less. All inputs originating from safety systems are individually isolated at specific locations before entering the IPC system.

The IPC has the required data storage capability to meet the guidelines of NUREG-0696, which specifies 2 hours of pre-events data, 12 hours of post event data, and 2 weeks of additional post-event data within reduced-time resolution.

The emergency response parameters provided to the IPC are listed in Table Annex V1 H-1. All the parameters in the IPC are available to all IPC workstations.

The IPC hardware and software are protected against unauthorized manipulation of, or interference with, input signals, data processing, data storage, and data output. This security is provided by way of key lock devices, integral program write protection, restricted authorized personnel access, and other administrative controls.

The required IPC equipment (processor, workstations, printer, video copiers, and network

devices) are powered by a battery system (uninterruptible power). Meteorological information is collected by a data recorder at the meteorological tower. The information is transmitted via microwave to the plant. In the plant, the data is provided to the IPC computer. The meteorological system power is provided with a wet cell battery backup.

In the event the data transmission system fails, data will be obtained by sending a person to the meteorological shack to collect the information and phone it back to the plant.

Fire detection information is provided via visual observation of the fire alarm panel by the control room personnel and an audible alarm. The fire alarm panels are discussed in VEGP Units 1 and 2 FSAR Subsection 9.5.1. Information of fire detection will be verbally transmitted to the other emergency response facilities (ERFs) by control room personnel. Fire main header pressure is provided by direct input to the IPC. Seismic panels are discussed in the VEGP Units 1 and 2 FSAR Subsection 3.7.4. Information on seismic motion will be verbally transmitted to other ERFs by control room personnel.

V1H.4.3.7 Process Effluent Radiation Monitoring System

Radiation inputs are scanned and transmitted to the IPC system via data links by PERMS.

V1H.4.4 Emergency Response Data System (ERDS)

In accordance with the requirements of 10 CFR 50, Appendix E, Section VI and NUREG 1394, Revision 1, means are provided to transmit critical plant variables from the onsite computer system to the Nuclear Regulatory Commission Operations Center via a dedicated communications link. The installed system consists of a computer which polls the Integrated Plant Computer for the required data, assigns the appropriate data quality value, formats the data stream, and periodically transmits the data stream over the dedicated telecommunications circuit to the NRC.

NUREG 1394, Revision 1, required submittal of a Plant Attribute Library (PAL) and Data Point Library (DPL) to the NRC. Vogtle Electric Generating Plant submitted the original PAL and DPL information to the NRC under a letter from C. K. McCoy to the USNRC (letter number ELV-03500). Changes to the computer configuration or data protocols (contained in the PAL) must be reported to the USNRC at least 30 days prior to installing the change. Changes to the information describing the specific computer data points transmitted must be reported to the USNRC within 30 days following the change. The specific plant parameters which are designated as ERDS points are shown in the FSAR in table 7.5.2-1. Typical plant modifications which might affect the DPL include:

- Software changes which affect calculated points on the IPC
- Rescaling or replacement of transmitters that are scanned by the IPC, PSMS, or PERMS and are associated with ERDS

V1H.4.5 Safety Parameter Display System

The SPDS provides a display of plant parameters from which the status of operation can be assessed, in the control room and TSC. The EOF accesses SPDS via the IPC gateway. The SPDS has the following functions:

- Aids the control room operators in the rapid detection and identification of abnormal operating conditions
- Provides additional specific information to analyze and diagnose the cause of abnormal operating conditions
- Monitors plant response to corrective actions
- Provides grouping of parameters to enhance the operators' capability to assess plant status quickly without surveying all control room displays concurrently
- Directs the operators' attention to other specific confirmatory non-SPDS control room displays
- Provides human factors engineered display formats in simple and consistent display patterns and codings
- Provides display information on a real-time basis, along with validation of data
- Provides generated selectable trend displays on a real-time basis for monitoring reactivity control, reactor core cooling and heat removal from the primary system, reactor coolant system integrity, radioactivity control, containment integrity, and other selected parameters

The SPDS in the control room consists of displays of sets of concentrated parameters from which plant safety status can be rapidly assessed. Duplicate SPDS displays are located in the TSC and EOF to maximize the exchange of information between these facilities and the control room. The SPDS in each facility is a peripheral of the IPC system. The SPDS is in operation during normal and abnormal operating conditions.

The selection of parameters to be displayed on the SPDS is based on the parameters required to monitor the critical safety functions identified by the Westinghouse Owners Group (WOG). These parameters will aid control room operators in determining the safety status of the plant. The justification for selecting these parameters is contained in the analyses and background information generated by the WOG to support the critical safety function restoration guidelines. The emergency response guidelines, which contain the critical safety function restoration guidelines and identify the parameters used to monitor the critical safety functions, have been submitted to the NRC by the WOG.

V1H.4.6 Post Accident Sampling

Liquid samples from the reactor coolant system and the containment sumps, and air samples from the containment atmosphere may be taken during accident conditions. Section I of this plan

contains a more detailed description of these capabilities.

V1H.4.7 Other Process Parameters

Several other process parameters, including reactor coolant system pressure and temperature, containment pressure and temperature, liquid levels and other system indications, are useful both for the initiation phase and continued assessment. The specific parameters monitored by the IPC are listed in Table H-1. Several of these are used in the classification process as discussed in section D, Emergency Classification System.

V1H.5 Out-of-Plant Monitoring

There are no specific features of Out-of-Plant Monitoring unique to Units 1 and 2. Refer to the main section for details.

V1H.6 Emergency Kits

There are no specific features of Emergency Kits unique to Units 1 and 2. Refer to the main section for details.

Table V1H-1 Integrated Plant Computer Inputs

- Neutron flux
- Pressurizer (pressure, level, temperature, valve position)
- Reactor coolant system (pressure, temperature, flow)
- Reactor coolant pump status
- Containment (pressure, temperature, H_2 concentration, water level)
- Containment spray system status
- Safety injection system status
- Residual heat removal (RHR) system status
- Chemical and volume control system (CVCS) status
- Nuclear service cooling water (NSCW) system status
- Component cooling water (CCW) system status
- Auxiliary component cooling water (ACCW) system status
- Steam generator (pressure, level, flow)
- Auxiliary feedwater system status
- Turbine status
- Generator status
- Condensate system status
- Feedwater system status
- Circulating water system status
- HVAC systems status
- Radiation monitoring systems (effluent, area, and process monitors)
- Meteorological system (primary and backup tower, wind speed, wind direction, indication of stability class, temperature) {Unit One IPC only}

V1I Accident Assessment

There are no specific features of Accident Assessment unique to Units 1 and 2. Refer to the main section for details.

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V1J Protective Response

There are no specific features of Protective Response unique to Units 1 and 2. Refer to the main section for details.

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V1K Radiological Exposure Control

There are no specific features of Radiological Exposure Control unique to Units 1 and 2. Refer to the main section for details.

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V1L Medical and Public Health Support

There are no specific features of Medical and Public Health Support unique to Units 1 and 2. Refer to the main section for details.

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V1M Recovery and Reentry Planning and Post-Accident Operations

There are no specific features of Recovery and Reentry Planning and Post Accident Operations unique to Units 1 and 2. Refer to the main section for details.

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V1N Exercises and Drills

There are no specific features of Exercises and Drills unique to Units 1 and 2. Refer to the main section for details.

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V1O Radiological Emergency Response Training

There are no specific features of Radiological Emergency Response Training unique to Units 1 and 2. Refer to the main section for details.

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V1P Responsibility for the Planning Effort

There are no specific features of Responsibility for the Planning Effort unique to Units 1 and 2. Refer to the main section for details.

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V1 Appendix 1 Index of Procedures

Table V1A1-1 Index of VEGP Units 1 and 2 Administrative, Nuclear Management and Emergency Implementing Procedures Cross Referenced to Sections of the VEGP Emergency Plan

Procedure No.	Title	Section of the Plan Implemented
	Administrative Procedures	
00051-C	Procedure Review and Approval	P
00402-C	Licensing Document Change Request	P
00910-C	VEGP ALARA Program	K
00920 -C	Radiation Exposure Limits and Administrative Guidelines	K
00930-C	Radiation and Contamination Control	K
00940-C	Bioassay Program	L
00950-C	Personnel Dosimetry Program	K
00960-C	Control of Radioactive Materials	L
00970-C	Respiratory	K
	Emergency Implementing Procedures	
91001-C	Emergency Classification and Implementing Instructions	A,D
91002-C	Emergency Notification	A,E
91101-C	Emergency Response Organization	B
91102-C	Duties of the Emergency Director	B
91103-C	Duties of the TSC Manager	B
91104-C	Duties of the OSC Manager	B
91106-C	Duties of the TSC Support Coordinator	B
91107-C	Duties of the Engineering Supervisor (TSC)	B
91108-C	Duties of the Maintenance Supervisor (TSC)	B
91109-C	Duties of the Operations Supervisor (TSC)	B
91110-C	Duties of the Health Physics Supervisor (TSC)	B
91111-C	Duties of the Chemistry Supervisor (TSC)	B
91201-C	Activation and Operation of the TSC	H
91202-C	Activation and Operation of the OSC	H
91204-C	Emergency Response Communications	A,F
91301-C	Emergency Exposure Guidelines	K
91302-C	In Plant Sampling and Surveys	I
91303-C	Field Sampling and Surveys	I
91304-C	Estimating Offsite Does	I
91305-C	Protective Action Guidelines	A,J
91306-C	Contamination Monitoring and Decontamination	K
91307-C	Contaminated Injury	L
91401-C	Assembly and Accountability	J

Table V1A1-1 (Continued)Index of VEGP Units 1 and 2 Administrative, Nuclear Management and Emergency Implementing Procedures Cross Referenced to Sections of the VEGP Emergency Plan

Procedure No.	Title	Section of the Plan Implemented
91403-C	Site Dismissal	J
91501-C	Recovery	M
91502-C	Core Damage Assessment	I
91503-C	Control Room Instrumentation Output for Assessment of Core Damage	I
91504-C	Core Inventory Determinations Using Reactor Power History	I
91601-C	Emergency Preparedness Training	O
91602-C	Emergency Drills and Exercises	N
91701-C	Preparation and Control of Emergency Preparedness Documents	P
91702-C	Emergency Equipment and Supplies	H
91704-C	Actions for Security During a Radiological Emergency	E,J
91705-C	Inventory and Testing of Emergency Preparedness Materials/ Equipment which are not Part of the Emergency Kits	H
91706-C	Alert Notification System	E
91801-C	Coordination of Emergency Responses and Planning Between Southern Nuclear Operating Company – Vogtle Electric Generating Plant and U.S. Department of Energy Savannah River Site	A,C,I
	Nuclear Management Procedures	
NMP-EP-101	EOF Activation	App. 7
NMP-EP-102	EOF Manager	App. 7
NMP-EP-103	Licensing Support Coordinator	App. 7
NMP-EP-104	Dose Assessment Supervisor	App. 7
NMP-EP-105	EOF Technical Supervisor	App. 7
NMP-EP-106	EOF Support Coordinator	App. 7

V1 Appendix 2 FSAR Postulated Transients

Table V1A2-1 FSAR-Postulated Transients

Transient	Emergency Classification[a]
Feedwater temperature reduction	No emergency declared
Excessive feedwater flow	No emergency declared
Excessive steam flow	No emergency declared
Inadvertent secondary side depressurization	NUE
Steam system piping failure	NUE, Alert
Turbine trip	No emergency declared
Loss of external load	No emergency declared
Inadvertent closure of a MSIV	No emergency declared
Loss of condenser vacuum	No emergency declared
Loss of non-emergency ac power	No emergency declared
Loss of normal feedwater	No emergency declared
Feedwater system pipe break	No emergency declared
Partial loss of forced RC flow	No emergency declared
Complete loss of forced RC flow	No emergency declared
Reactor coolant pump (RCP) locked rotor	No emergency declared
RCP shaft break	No emergency declared
Rod cluster control assembly (RCCA) bank withdrawal from subcritical	No emergency declared
RCCA bank withdrawal at power	No emergency declared
RCCA misalignment	No emergency declared
Inactive RCP startup	No emergency declared
Uncontrolled boron dilution	No emergency declared
Improper fuel loading	No emergency declared
RCCA ejection	Alert, Site Area Emergency
Inadvertent emergency core cooling system (ECCS) operation at power	No emergency declared
Increase in RCS inventory	No emergency declared
Inadvertent opening of pressurizer safety relief valve	NUE, Alert
Failure of small lines carrying primary coolant outside containment	NUE, Alert, Site Area Emergency
Steam generator tube failure	NUE, Alert, Site Area Emergency
Spectrum of loss-of-coolant accidents (LOCAs)	NUE, Alert, Site Area Emergency, General Emergency
Radioactive waste gas decay tank failure	NUE, Alert
Radiation release due to liquid tank failure	NUE, Alert
Fuel handling accidents	NUE, Alert

a. Classification will depend on the severity of the accident.

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Southern Nuclear Operating Company

Vogtle Early Site Permit Application

Part 5
Emergency Plan
Annex V2

Revision 5

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Preface

This section contains those specific portions of the VEGP Emergency Plan that are applicable to Vogtle Electric Generating Plant (VEGP) Units 3 and 4 only.

The VEGP Emergency Plan is designed to be compliant with 10 CFR 50.47 and 10 CFR 50 Appendix E. It is based on the guidance contained in NUREG 0654, Revision 1, *Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants*, with the exception of emergency action levels which are based on Nuclear Energy Institute (NEI) Guideline 99-01, Revision 4, *Methodology for Development of Emergency Action Levels* for Units 1 and 2 and NEI 07-01, Revision 0, *Methodology for Development of Emergency Action Levels Advanced Passive Light Water Reactors* for Units 3 and 4.

In addition, for Units 3 and 4, the VEGP Emergency Plan is designed to be compliant with 10 CFR 52.17(b)(1), 10 CFR 52.17(b)(2)(ii), and 10 CFR 52.17(b)(3). NUREG 0654, Supplement 2 is also used as guidance for the development of the VEGP Emergency Plan pertaining to Units 3 and 4 for the Early Site Permitting process.

The VEGP Emergency Plan is designed to accommodate the unique features of the two unit designs used at the Site. A common VEGP Emergency Plan is supported by Annex V1 which contains the parts of the Emergency Plan that are unique to existing Units 1 and 2, and Annex V2 which contains the parts of the Emergency Plan that are unique to new Units 3 and 4 (i.e., the proposed Westinghouse Electric Company, LLC, AP1000 standard reactor plants). Each segment of the Emergency Plan is supported by Appendices that contain supporting information for each segment of the plan.

In addition, the Appendices for Annex V2 contain a set of inspections, tests, analyses, and acceptance criteria (ITAAC) that contain those elements of the Emergency Plan pertaining to Units 3 and 4 that cannot be completed or verified prior to approval of the Emergency Plan as part of the Early Site Permitting Process and will be carried as COL action items. After Units 3 and 4 are operating, all references to ITAACs will be removed.

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V2A Assignment of Responsibilities

There are no specific features of Assignment of Responsibilities unique to Units 3 and 4. Refer to the main section for details.

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V2B VEGP Emergency Organization

The specific features of the VEGP Emergency Organization unique to Units 3 and 4 are listed in the main section.

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V2C Emergency Response Support and Rescue

There are no specific features of Emergency Response and Support and Rescue unique to Units 3 and 4. Refer to the main section for details.

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V2D Emergency Classification System

V2D.1 Classification of Emergencies

There are no specific features of Classification of Emergencies unique to Units 3 and 4. Refer to the main section for details.

V2D.2 Emergency Class Description and Response

The Initiating Condition Matrix for modes 1, 2, 3, and 4 for Units 3 and 4 are shown in Table Annex V2 D-1, and the Initiating Condition Matrix for modes 5, 6, and de-fueled are shown in Table Annex V2 D-2.

Table V2D.2-1 Hot Initiating Condition Matrix, Modes 1, 2, 3, and 4

	Categories / Subcategories														
	Radiological		Fission Product Barriers	System Malfunctions					ISFSI	Hazards					
	Release	Rad Levels		AC/DC Power	Rx and Core	Plant Monitoring	RCS	Communications		Natural/ Destructive	Fire/ Explosion	Toxic / Flammable	Security	CR Evacuation	ED Discretion
General Emergency	**RG1** - Offsite Dose Resulting from an Actual or IMMINENT Release of Gaseous Radioactivity Greater Than 1000 mrem TEDE or 5000 mrem Thyroid CDE for the Actual or Projected Duration of the Release Using Actual Meteorology		**FG1** - Loss of ANY Two Barriers **AND** Loss, or Potential Loss, of the Third Barrier	**SG1** - All Safety Related DC Batteries Not Being Charged for 72 Hours or longer Due to Loss of Power to PIP Busses	**SG2** - Automatic Trip and All Manual Actions Fail to Shutdown the Reactor and Indication of an Extreme Challenge to the Ability to Cool the Core Exists								**HG1** - HOSTILE ACTION Resulting in Loss Of Physical Control of the Facility		**HG2** - Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of a General Emergency
Site Area Emergency	**RS1** - Off-site Dose Resulting from an Actual or IMMINENT Release of Gaseous Radioactivity Greater Than 100 mrem TEDE or 500 mrem Thyroid CDE for the Actual or Projected Duration of the Release		**FS1** - Loss or Potential Loss of ANY Two Barriers	**SS1** - All Safety Related DC Batteries Not Being Charged for 24 Hours or Longer Due to Loss of Power to PIP Busses **SS3** - Loss of All Vital DC Power for 15 Minutes or Longer	**SS2** - Automatic Trip Fails to Shutdown the Reactor and Manual Actions Taken From the Reactor control Console are NOT Successful in Shutting Down the Reactor	**SS6** - Inability to Monitor a SIGNIFICANT TRANSIENT in Progress							**HS4** - HOSTILE ACTION within the PROTECTED AREA	**HS2** - Control Room Evacuation Has Been Initiated **AND** Plant Control Cannot Be Established	**HS3** - Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of a Site Area Emergency
Alert	**RA1** - Any Release of Gaseous or Liquid Radioactivity to the Environment Greater Than 200 Times the Offsite Dose Calculation Manual for 15 Minutes or Longer	**RA2** - Damage to Irradiated Fuel or Loss of Water Level that Has or Will Result in the Uncovering of Irradiated Fuel Outside the Reactor Vessel **RA3** - Rise in Radiation Levels Within the Facility That Impedes Operation of Systems Required to Maintain Plant Safety Functions	**FA1** - ANY Loss or ANY Potential Loss of **EITHER** Fuel Clad **OR** RCS	**SA1** - All Safety Related DC Batteries Not Being Charged for 60 Minutes or Longer Due to Loss of Power to PIP Busses	**SA2** - Automatic Trip Fails to Shutdown the Reactor and the Manual Actions Taken From the Reactor Control Console are Successful in Shutting Down the Reactor	**SA4** – Loss of Indicating and Monitoring Functions				**HA1** - Natural or Destructive Phenomena Affecting VITAL AREA	**HA2** - FIRE **OR** EXPLOSION Affecting the Operability of Plant Safety Systems Required to Establish or Maintain Safe Shutdown	**HA3** - Access To a VITAL AREA Is Prohibited Due To Release of Toxic, Corrosive, Asphyxiant or Flammable Gases Which Jeopardizes Operation of Operable Equipment Required to Maintain Safe Operations or Safely Shutdown the Reactor	**HA4** – HOSTILE ACTION within the OWNER CONTROLLED AREA or Airborne Attack Threat	**HA5** - Control Room Evacuation Has Been Initiated	**HA6** - Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of an Alert
Notification of Unusual Event	**RU1** - Any Release of Gaseous or Liquid Radio-activity to the Environment Greater Than Two Times the Offsite Dose Calculation Manual for 60 Minutes or Longer	**RU2** - UNPLANNED Rise in Plant Radiation	**FU1** - ANY Loss **OR** ANY Potential Loss of Containment	**SU1** - All Safety Related DC Batteries Not Being Charged for 30 Minutes or Longer Due to Loss of Power to PIP Busses	**SU2** - Inability to Reach Required Shutdown Mode Within Technical Specification Limits **SU4** - Fuel Clad Degradation **SU8** - Inadvertent Criticality		**SU5** - RCS Leakage	**SU6** - Loss of All Onsite **OR** Offsite Communications Capabilities	None	**HU1** - Natural or Destructive Phenomena Affecting the PROTECTED AREA	**HU2** - FIRE Within PROTECTED AREA Boundary Not Extinguished Within 15 Minutes of Detection OR EXPLOSION within the Protected Area Boundary	**HU3** - Release of Toxic, Corrosive, Asphyxiant, or Flammable Gases Deemed Detrimental to NORMAL PLANT OPERATIONS.	**HU4** - Confirmed SECURITY CONDITION or Threat Which Indicates a Potential Degradation in the Level of Safety of the Plant.		**HU5** - Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of a NOUE

Table V2D.2-1 Cold Initiating Condition Matrix, - Modes 5, 6 and De-fueled

	Categories / Sub-categories												
	Radiological		System Malfunctions					Hazards					
	Release	Rad levels	AC/DC Power	Rx and Core	Heat Removal	RCS	Communications	Natural/ Destructive	Fire/ Explosion	Toxic / Flammable	Security	CR Evacuation	ED Discretion
General Emergency	**RG1** - Offsite Dose Resulting from an Actual or IMMINENT Release of Gaseous Radioactivity Greater Than 1000 mrem TEDE or 5000 mrem Thyroid CDE for the Actual or Projected Duration of the Release Using Actual Meteorology			**CG1** - Loss of RCS Inventory Affecting Fuel Clad Integrity with Containment Challenged							**HG1** - HOSTILE ACTION Resulting in Loss Of Physical Control of the Facility.		**HG2** - Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of General Emergency
Site Area Emergency	**RS1** - Off-site Dose Resulting from an Actual or IMMINENT Release of Gaseous Radioactivity Greater Than 100 mrem TEDE or 500 mrem Thyroid CDE for the Actual or Projected Duration of the Release					**CS1** - Loss of RCS Inventory Affecting Core Decay Heat Removal Capability					**HS4** – HOSTILE ACTION within the PROTECTED AREA	**HS2** - Control Room Evacuation Has Been Initiated **AND** Plant Control Cannot Be Established	**HS3** - Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of Site Area Emergency
Alert	**RA1** - Any Release of Gaseous or Liquid Radioactivity to the Environment Greater Than 200 Times the Offsite Dose Calculation Manual for 15 Minutes or Longer	**RA2** - Damage to Irradiated Fuel or Loss of Water Level that Has or Will Result in the Uncovering of Irradiated Fuel Outside the Reactor Vessel **RA3** - Rise in Radiation Levels Within the Facility That Impedes Operation of Systems Required to Maintain Plant Safety Functions			**CA4** - Inability to Maintain Plant in Cold Shutdown	**CA1** - Loss of RCS Inventory		**HA1** - Natural or Destructive Phenomena Affecting VITAL AREA	**HA2** - FIRE **OR** EXPLOSION Affecting the Operability of Plant Safety Systems Required to Establish or Maintain Safe Shutdown	**HA3** - Access To a VITAL AREA Is Prohibited Due To Release of Toxic, Corrosive, Asphyxiant or Flammable Gases Which Jeopardizes Operation of Operable Equipment Required to Maintain Safe Operations or Safely Shutdown the Reactor	**HA4** - HOSTILE ACTION within the OWNER CONTROLLED AREA or Airborne Attack Threat	**HA5** - Control Room Evacuation Has Been Initiated	**HA6** - Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of an Alert
Notification of Unusual Event	**RU1** - Any Release of Gaseous or Liquid Radio-activity to the Environment Greater Than Two Times the Offsite Dose Calculation Manual for 60 Minutes or Longer	**RU2** - UNPLANNED Rise in Plant Radiation	**CU3** – All Safety Related DC Batteries Not Being Charged for Greater Than 30 Minutes Due to Loss of Power to PIP Busses **CU7** – UNPLANNED Loss of Required DC Power for 15 Minutes or Longer	**CU8** - Inadvertent Criticality	**CU4** - UNPLANNED Loss of Decay Heat Removal Capability	**CU2** - UNPLANNED Loss of RCS Inventory **Mode 6**	**CU6** - Loss of All Onsite **OR** Offsite Communications Capabilities	**HU1** - Natural or Destructive Phenomena Affecting the PROTECTED AREA	**HU2** - FIRE Within PROTECTED AREA Boundary Not Extinguished Within 15 Minutes of Detection **OR** Explosion within the Protected Area Boundary	**HU3** - Release of Toxic, Corrosive, Asphyxiant, or Flammable Gases Deemed Detrimental to NORMAL PLANT OPERATIONS.	**HU4** - Confirmed SECURITY CONDITION or Threat Which Indicates a Potential Degradation in the Level of Safety of the Plant.		**HU5** - Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of a NOUE

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V2E Notification Methods and Procedures

There are no specific features of Notifications Methods and Procedures unique to Units 3 and 4. Refer to the main section for details.

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V2F Emergency Communications

There are no specific features of Emergency Communications unique to Units 3 and 4. Refer to the main section for details.

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V2G Public Education and Information

There are no specific features of Public Education and Information unique to Units 3 and 4. Refer to the main section for details.

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V2H Emergency Facilities and Equipment

V2H.1 Emergency Facilities

The OSC has been established to be consistent with NUREG 0696 guidelines as described below. The OSCs are located on the second floor of the Annex building adjacent to the Unit 3 and 4 Control Rooms. The OSC is where operational support personnel (such as instrument technicians, engineers, mechanics, electricians, chemical/radiation technicians, equipment operators, and incoming shift personnel) assemble to aid in the response to an emergency.

Status boards containing plant conditions and emergency classification will be available in the OSC. Emergency kits containing radiation monitoring equipment, first aid supplies, decontamination supplies, breathing apparatus, portable lighting, and hand-held radios are stored in the OSC. Emergency kit contents are listed in Appendix 1.

In the event that this facility becomes uninhabitable, the functions of the OSC will be conducted from the designated back-up OSC space in the ALARA briefing room. Evacuation of the OSC will be conducted according to emergency implementing procedures. These procedure will describe the method by which the OSC is evacuated and the movement of personnel to other facilities. The OSC manager will keep the TSC manager informed of the initiation, progress, and completion of the evacuation and relocation of the OSC personnel. Operations at this facility will be directed by the OSC manager.

V2H.2 News Center Facilities

There are no specific features of News Center Facilities unique to Units 3 and 4. Refer to the main section for details.

V2H.3 Activation and Staffing of Emergency Facilities

There are no specific features of Activation and Staffing of Emergency Facilities unique to Units 3 and 4. Refer to the main section for details.

V2H.4 Plant Monitoring and Data Handling Systems

V2H.4.1 Geophysical Phenomena Monitors

V2H.4.1.1 Meteorological (Applies to all four Units)

A meteorological monitoring program is in place at VEGP. Instruments are mounted on a 60-meter (m) high tower located to the south-southwest of the Unit 1 and 2 power block. Parameters measured and transmitted to the control room include:

- Windspeed (at 10 m and 60 m)
- Wind direction (at 10 m and 60 m)

- Standard deviation of horizontal wind direction (at 10 m)
- Vertical temperature difference (between 10 m and 60 m)
- Ambient temperature (at 10 m)
- Dewpoint temperature (at 10 m)
- Precipitation (at the tower base)

An equipment building which houses the recording, calibration, and amplification equipment is located near the base of the tower. The system is powered by an uninterruptible power supply consisting of wet cell batteries, a charger, and an inverter for high availability.

The important parameters for characterizing the transport of airborne radioactivity are windspeed, wind direction, and atmospheric stability (derived from the standard deviation of the horizontal wind direction or vertical temperature difference). These meteorological parameters are used in a calculational methodology to assess the offsite radiological consequences of accidental releases of airborne radioactivity. The methodology is described in Section I, Accident Assessment.

V2H.4.1.2 Hydrologic

The normal source of plant makeup water to the secondary plant for Units 3 and 4 is the Savannah River, which provides makeup to the circulating water system cooling towers. The probable maximum flood level has been determined to be about 140 ft mean sea level (MSL). However, since the access elevations to safety- related structures are at 220 ft MSL, high river level is not relevant to plant safety. The ultimate heat sink for VEGP Units 3 and 4 is the atmosphere. Because of these design features, hydrologic monitors will not be required for initiation of emergency actions; therefore, there will be no emergency levels based on hydrologic monitors.

V2H.4.1.3 Seismic

Seismic monitoring instrumentation for VEGP Units 3 and 4 will include triaxial acceleration sensors and a time-history analyzer. One of the four triaxial acceleration sensors will be located in the free field, a second sensor will be located on the nuclear island basemat, a third sensor will be located on the shield building structure, and a fourth sensor will be located on the containment internal structure.

The triaxial acceleration sensors will provide a signal to the time-history analyzer located in a room near the control room. The time-history analyzer includes a dedicated computer for data storage, playback, and analysis. Activation of the time-history analyzer causes visual and audible annunciation in the control room to alert the plant operator that an earthquake has occurred.

V2H.4.1.4 Fire Detection

The fire-detection system at VEGP Units 3 and 4 will include smoke, flame, heat, and products of combustion detectors and manually activated fire alarms. Fire-detection systems are provided in all areas where required by the fire protection analysis. The fire detection system will provide audible and visual alarms in the main control room.

V2H.4.2 Radiation Monitoring System (RMS)

The radiation monitoring system (RMS) provides plant effluent monitoring, process fluid monitoring, airborne monitoring, and continuous indication of the radiation environment in plant areas where such information is needed. The radiation monitoring system is installed permanently and operates in conjunction with regular and special radiation survey programs to assist in meeting applicable regulatory requirements. The radiation monitoring system is designed in accordance with ANSI N13.1-1969, *Sampling Airborne Radioactive Materials.*

The radiation monitoring system is divided functionally into two subsystems:

- Process, airborne, and effluent radiological monitoring and sampling
- Area radiation monitoring
- The design objectives of the radiation monitoring system during postulated accidents monitoring. The scope of the radiation monitoring system for post-accident monitoring is set forth in General Design Criterion 64, *Monitoring Radioactive Releases*, and in the provisions of NRC Regulatory Guide 1.97, *Instrumentation for Light-Water-Cooled Nuclear Power Plants To Assess Plant and Environs Conditions During and Following an Accident*.

The radiation monitoring system is designed to support the requirements of 10 CFR 20 and to provide:

- Equipment to meet the applicable regulatory requirements for both normal operation and transient events
- Data to aid plant health physics personnel in limiting release of radioactivity to the environment and limiting exposure of operation and maintenance personnel to meet ALARA (as-low-as-reasonably-achievable) guidance
- Early indication of a system or equipment malfunction that could result in excessive radiation dose to plant personnel or lead to plant damage
- Data collection and data storage to support compliance reporting for the applicable NRC requirements and guidelines, such as General Design Criterion 64 and Regulatory Guide 1.21, *Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants*.

The radiation monitoring system uses distributed radiation monitors, where each radiation monitor consists of one or more radiation detectors and a dedicated radiation processor.

Each radiation processor receives, averages and stores radiation data and transmits alarms and data to the plant control system (protection and safety monitoring system for safety-related monitors) for control (as required), display and recording. These alarms include: low (fail), alert, and high. Selected channels have a rate-of-rise alarm. Storage of radiation readings is provided.

Radiation monitoring data, including alarm status, are provided to operators via the plant control system (and the protection and safety monitoring system for Class 1E monitors). The information is available in either counts per minute (count rate), microCuries/cc (activity concentration), or R/hr (radiation dose rate).

Safety-related channels are environmentally qualified and are powered from the Class 1E DC and uninterruptible power supply system. Nonsafety-related channels are powered from the non-Class 1E DC and uninterruptible power supply (UPS) system.

V2H.4.3 Process Monitoring

Monitoring of process variables is performed through the Qualified Data Processing System (QDPS). The QDPS, a subsystem of the Protection and Monitoring System (PMS), provides safety-related display of selected parameters in the control room.

The QDPS subsystems are a redundant configuration consisting of sensors, QDPS hardware, and qualified displays.

The qualified data processing subsystems perform the following functions:

- Provide safety-related data processing and display
- Provide the operator with sufficient operational data to safely shut the plant down in the event of a failure of the other display systems
- Provide qualified and nonqualified data to the real-time data network for use by other systems in the plant
- Process data for main control room display, and to meet Regulatory Guide 1.97 requirements
- Provide data to the main control room, the remote shutdown workstation, the plant computer, other nonsafety-related devices, and nonqualified emergency response facilities in conformance with NUREG-0696

The QDPS hardware consists of safety-related modular data gathering units. The QDPS receives inputs from process sensors and safety-related digital systems. The QDPS consolidates the input data, performs conversions to process units, and formats the data for data link transmission.

Power is provided to the QDPS from the Class 1E DC and UPS system for 72 hours after a loss of all AC power (station blackout). After 72 hours, the ancillary diesel generators provide power for the QDPS. The QDPS is a two-train subsystem (Divisions B and C). The PMS, including the QDPS, is diverse from the Diverse Actuation System (DAS). Sensors are not shared between PMS and DAS.

Processing and display function are performed by equipment which is part of the protection and safety monitoring system, plant control system, and the data display and processing system.

The qualified data processing subsystems are divided into two separate electrical divisions. Each of the two electrical divisions is connected to a Class 1E DC uninterruptible power system with sufficient battery capacity to provide necessary electrical power for at least 72 hours. If all AC power sources are lost for a period of time that exceeds 72 hours, the power supply system will be energized from the ancillary diesel generator or from AC power sources which are brought to the site from other locations.

The VEGP Units 3 and 4 instrument and control architecture is shown on Figure Annex V2 H-1.

A list of processes variables available for display through the QDPS system is shown on Table Annex V2 H-1

V2H.4.4 Emergency Response Data System (ERDS)

In accordance with the requirements of 10 CFR 50, Appendix E, Section VI and NUREG 1394, Revision 1, *Emergency Response Data System (ERDS) Implementation*, means will be provided to transmit critical plant variables from the onsite computer system to the Nuclear Regulatory Commission Operations Center via a dedicated communications link. The installed system will consist of a computer which polls the QDPS for the required data, assigns the appropriate data quality value, formats the data stream, and periodically transmits the data stream over the dedicated telecommunications circuit to the NRC.

V2H.4.5 Safety Parameter Display System

For Units 3 and 4, the Safety Parameter Display System functions are integrated into the QDPS.

V2H.4.6 Post Accident Sampling

Liquid samples from the reactor coolant system and the containment sumps, and air samples from the containment atmosphere may be taken during accident conditions. Section I of this plan contains a more detailed description of these capabilities.

V2H.5 Out-of-Plant Monitoring

There are no specific features of Out-of-Plant Monitoring unique to Units 3 and 4. Refer to the main section for details.

V2H.6 Emergency Kits

There are no specific features of Emergency Kits unique to Units 3 and 4. Refer to the main section for details.

Table V2H-1 Post Accident Monitoring Variables

Variable	Range/Status
RCS pressure	0-3,300 psig
RCS TH (Wide Range)	50-700°F
RCS TC (Wide Range)	50-700°F
Steam generator water level (wide range)	0-100% of span
Steam generator water level (narrow range)	0-100% of span
Pressurizer level	0-100% of span
Pressurizer reference leg temperature	50-420°F
Neutron flux	10^{-6}- 200% power
Control rod position	0-267 steps
Containment water level	El. 72 ft. to 110 ft. in discrete steps
Core exit temperature	200-2,300°F
PRHR HX inlet temperature	50-650°F
PRHR HX outlet temperature	50-500°F
PRHR flow	700-3,000 gpm
IRWST water level	0-100% of span
RCS subcooling	200°F Sub- cooling to 35°F super heat
Passive containment cooling water flow	0-150 gpm
PCS storage tank water level	5-100% of tank height
IRWST surface temperature	50-300°F
IRWST bottom temperature	50-300°F
Steam line pressure	0-1,200 psig
Startup feedwater flow	0-1,000 gpm
Startup feedwater control valve status	Open/ Closed
Containment pressure	-5 to 10 psig
Containment pressure (extended range)	0 to 240 psig
Containment area radiation (high range)	100-107 R
Reactor vessel hot leg water level	0-100% of span
Plant vent radiation level (3 monitors - gas)	1.0E-7 to 1.0E+5 ìCi/cc
Remotely operated containment isolation valve status	Open/Closed
Hydrogen concentration	0-20%
Class 1E dc switchboard voltages	0-150 VDC
Diesel generator status	On/Off
Diesel generator load	0-6,000 kW
Voltage for diesel-backed buses	0-8,600 V
Power supply to diesel-backed buses	On/Off

Table V2H-1 (Cont.) Post Accident Monitoring Variables

Variable	Range/Status
RCP bearing water temperature	70-450°F
RCP breaker status	Open/Closed
Reactor trip breaker status	Open/Closed
MCR air storage bottle pressure	0-5,000 psig
Turbine stop valve status	Open/Closed
Turbine control valve status	Open/Closed
Pressurizer pressure	1,700- 2,500 psig
Pressurizer safety valve status	Open/Closed
Pressurizer heater power (current)	0-800 amps
Steam generator PORV status	Open/Closed
Steam generator PORV block valve status	Open/Closed
Steam generator safety valve status	Open/Closed
Main feedwater isolation valve status	Open/Closed
Main feedwater flow	$0\text{-}9\times10^6$ lb/hr
Main feedwater control valve status	Open/Closed
Steam generator blowdown isolation valve status	Open/Closed
Steam flow	$0\text{-}9\times10^6$ lb/hr
Main steam line isolation valve status	Open/Closed
Main steam line isolation bypass valve status	Open/Closed
Main feedwater pump status	On/Off
Main to startup feedwater crossover valve status	Open/Closed
Startup feedwater pump status	On/Off
Circulating water pump status	On/Off
Condenser backpressure	0-1 atm
Startup feedwater Isolation valve status	Open/Closed
Condenser steam dump valve status	Open/Closed
Condensate storage tank water level	0-100% of span
PCS water storage tank isolation valve status (Non-MOV)	Open/Closed
PCS water storage tank series isolation valve status (MOV)	Open/Closed
Containment temperature	32-400°F
CCS surge tank level	0-100% of span
CCS flow	0-15,000 gpm
CCS pump status	On/Off

Table V2H-1 (Cont.) Post Accident Monitoring Variables

Variable	Range/Status
CCS flow to RNS valve status	Open/Closed
CCS flow to RCPs valve status	Open/Closed
CCS pump inlet temperature	50- 200°F
CCS heat exchanger outlet temperature	50-130°F
Containment fan cooler status	On/Off
Water-cooled chiller status	On/Off
Water-cooled chilled water pump status	On/Off
Water-cooled chilled water valve status	Open/Closed
Spent fuel pool pump flow	0-1,500 gpm
Spent fuel pool temperature	50-250°F
Spent fuel pool water level	0-100% of span
CMT discharge isolation valve status	Open/Closed
CMT inlet isolation valve status	Open/Closed
CMT upper water level switch	Above/Below
CMT lower water level switch	Above/Below
IRWST injection isolation valve (Squib)	Open/Closed
IRWST line isolation valve status (MOV)	Open/Closed
ADS: first, second and third stage valve status	Open/Closed
ADS fourth stage valve status (Non-MOV)	Open/Closed
ADS fourth stage valve status (MOV)	Open/Closed
PRHR HX inlet isolation valve status	Open/Closed
PRHR HX control valve status	Position
IRWST gutter bypass isolation valve status	Open/Closed
Accumulator pressure	100-800 psig
Accumulator isolation valve status	Open/Closed
Accumulator vent valve status	Open/Closed
Pressurizer spray valve status	Open/Closed
Auxiliary spray line isolation valve status	Open/Closed
Purification stop valve status	Open/Closed
Containment recirculation isolation valve status (Non-MOV)	Open/Closed
Containment recirculation isolation valve status (MOV)	Open/Closed
Purification return line stop valve status	Open/Closed
Boric acid tank level	0-100%
Demineralized water isolation valve status	Open/Closed
Boric acid flow	0-300 gpm

Table V2H-1 (Cont.) Post Accident Monitoring Variables

Variable	Range/Status
Makeup blend valve status	Position
Makeup flow	0-300 gpm
Makeup pump status	On/Off
Makeup flow control valve status	Position
Letdown flow	0-250 gpm
RNS hot leg suction isolation valve status	Open/Closed
RNS flow	0-3,000 gpm
IRWST to RNS suction valve status	Open/Closed
RNS discharge to IRWST valve status	Open/Closed
RNS pump status	On/Off
Reactor vessel head vent valve status	Open/Closed
MCR return air isolation valve status	Open/Closed
MCR toilet exhaust isolation valve status	Open/Closed
MCR supply air isolation valve status	Open/Closed
MCR differential pressure	-1" to +1" wg
MCR air delivery flowrate	0-80 cfm
MCR air delivery isolation valve status	Open/Closed
Instrument air header pressure	0-125 psig
Service water flow	0-10,000 gpm
Service water pump status	On/Off
Service water pump discharge valve status	Open/Closed
Service water pump discharge temperature	50-150°F
Main control room supply air radiation	1.0E-7 to 1.0E-2 µCi/cc
Plant vent air flow	0-110% design flow
Turbine island vent discharge radiation level	10^{-6} - 10^{+5} µCi/cc
Steam generator blowdown discharge radiation	10^{-6} - 10^{-1} µCi/cc
Steam generator blowdown brine radiation level	10^{-6} - 10^{-1} µCi/cc
Main steam line radiation level	10^{-1} - 10^{3} µCi/cc
Technical support center radiation	10^{-1} - 10^{4} mR/hr
Primary sampling station area radiation level	10^{-1} - 10^{7} mR/hr

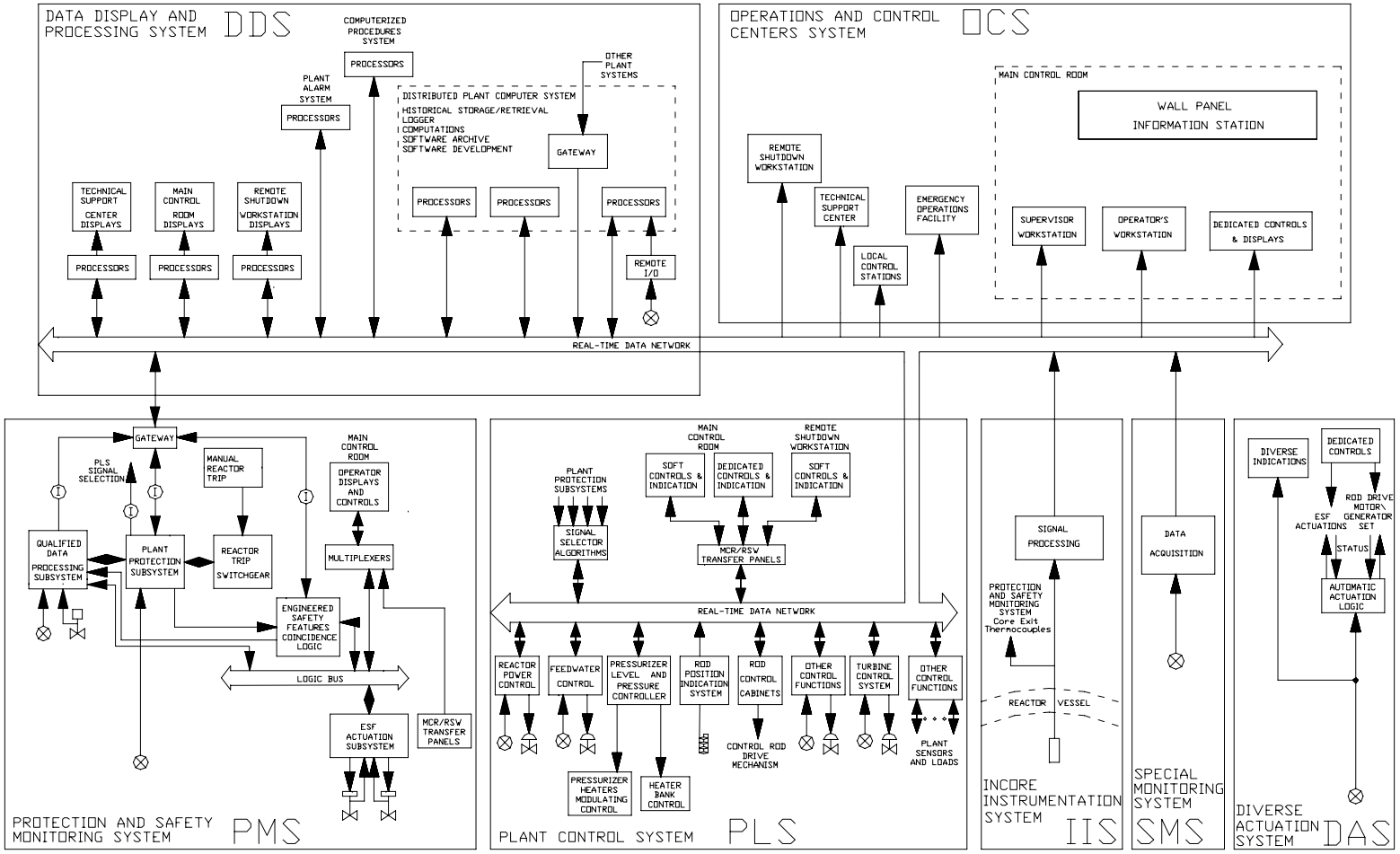

Figure V2H-1 ***Instrument and Control Architecture***

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V2I Accident Assessment

There are no specific features of Accident Assessment unique to Units 3 and 4. Refer to the main section for details.

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V2J Protective Response

There are no specific features of Protective Response unique to Units 3 and 4. Refer to the main section for details.

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V2K Radiological Exposure Control

There are no specific features of Radiological Exposure Control unique to Units 3 and 4. Refer to the main section for details.

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V2L Medical and Public Health Support

There are no specific features of Medical and Public Health Support unique to Units 3 and 4. Refer to the main section for details.

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V2M Recovery and Reentry Planning and Post-Accident Operations

There are no specific features of Recovery and Reentry Planning and Post Accident Operations unique to Units 3 and 4. Refer to the main section for details.

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V2N Exercises and Drills

There are no specific features of Exercise and Drills unique to Units 3 and 4. Refer to the main section for details.

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V2O Radiological Emergency Response Training

There are no specific features of Radiological Emergency Response Training unique to Units 3 and 4. Refer to the main section for details.

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V2P Responsibility for the Planning Effort

There are no specific features of Responsibility for the Planning Effort unique to Units 3 and 4. Refer to the main section for details.

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V2 Appendix 1 Index of Procedures

Title
Estimating Offsite Does
Protective Action Guidelines
Contamination Monitoring and Decontamination
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Core Damage Assessment
Control Room Instrumentation Output for Assessment of Core Damage
Core Inventory Determinations Using Reactor Power History
Emergency Preparedness Training
Emergency Drills and Exercises
Preparation and Control of Emergency Preparedness Documents
Emergency Equipment and Supplies
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Inventory and Testing of Emergency Preparedness Materials/Equipment which are not Part of the Emergency Kits
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Nuclear Management Procedures
EOF Activation
EOF Manager
Licensing Support Coordinator
Dose Assessment Supervisor
EOF Technical Supervisor
EOF Support Coordinator
EOF Security Coordinator
Offsite Response Coordinator

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V2 Appendix 2 FSAR Postulated Transients

Table V2A2-1 VEGP Units 3 and 4 SSAR Transient Table

Transient	Emergency Level
15.1 Increase in Heat Removal From the Primary System	
15.1.1 Feedwater System Malfunctions that Result in a Decrease in Feedwater Temperature	No emergency
15.1.2 Feedwater System Malfunctions that Result in an Increase in Feedwater Flow	No emergency
15.1.3 Excessive Increase in Secondary Steam Flow	No emergency
15.1.4 Inadvertent Opening of a Steam Generator Relief or Safety Valve	No emergency
15.1.5 Steam System Piping Failure	NUE, Alert
15.1.6 Inadvertent Operation of the PRHR Heat Exchanger	No emergency
15.2 Decrease in Heat Removal by the Secondary System	
15.2.1 Steam Pressure Regulator Malfunction or Failure that Results in Decreasing Steam Flow	Not applicable, not a valid transient for AP1000
15.2.2 Loss of External Electrical Load	Potential Alert if pressurizer safeties open as assumed in analysis
15.2.3 Turbine Trip	Potential Alert if pressurizer safeties open as assumed in analysis
15.2.4 Inadvertent Closure of Main Steam Isolation Valves	Potential Alert if pressurizer safeties open as assumed in analysis
15.2.5 Loss of Condenser Vacuum and Other Events Resulting in Turbine Trip	Potential Alert if pressurizer safeties open as assumed in analysis
15.2.6 Loss of AC Power to the Plant Auxiliaries	Potential NUE due to inability to achieve Cold Shutdown in specified time (i.e. loss of all AC for prolonged length of time
15.2.7 Loss of Normal Feedwater Flow	No emergency
15.2.8 Feedwater System Pipe Break	Alert – due to pressurizer safeties opening
15.3 Decrease in Reactor Coolant System Flow Rate	
15.3.1 Partial Loss of Forced Reactor Coolant Flow	No emergency
15.3.2 Complete Loss of Forced Reactor Coolant Flow	No emergency
15.3.3 Reactor Coolant Pump Shaft Seizure (Locked Rotor)	NUE, ALERT, and Site Area Emergency (If all conservative conditions of analysis occur)

Table V2A2-1 (Cont.) VEGP Units 3 and 4 SSAR Transient Table

Transient	Emergency Level
15.3.4 Reactor Coolant Pump Shaft Break	Potential Alert if pressurizer safeties open as assumed in analysis
15.4 Reactivity and Power Distribution Anomalies	
15.4.1 Uncontrolled Rod Cluster Control Assembly Bank Withdrawal from a Subcritical or Low-Power Startup Condition	NUE (Inadvertent criticality)
15.4.2 Uncontrolled Rod Cluster Control Assembly Bank Withdrawal at Power	No emergency
15.4.3 Rod Cluster Control Assembly Misalignment (System Malfunction or Operator Error)	No emergency
15.4.4 Startup of an Inactive Reactor Coolant Pump at an Incorrect Temperature	No emergency
15.4.5 A Malfunction or Failure of the Flow Controller in a Boiling Water Reactor Loop that Results in an Increased Reactor Coolant Flow Rate	Not applicable
15.4.6 Chemical and Volume Control System Malfunction that Results in a Decrease in the Boron Concentration in the Reactor Coolant	No emergency
15.4.7 Inadvertent Loading and Operation of a Fuel Assembly in an Improper Position	No emergency
15.4.8 Spectrum of Rod Cluster Control Assembly Ejection Accidents	Alert, Site Area Emergency, and General Emergency (if all conservative conditions of analysis occur)
15.5 Increase in Reactor Coolant Inventory	
15.5.1 Inadvertent Operation of the Core Makeup Tanks During Power Operation	Alert (Pressurizer safeties open)
15.5.2 Chemical and Volume Control System Malfunction That Increases Reactor Coolant Inventory	Alert (Pressurizer safeties open)
15.6 Decrease in Reactor Coolant Inventory	
15.6.1 Inadvertent Opening of a Pressurizer Safety Valve or Inadvertent Operation of the ADS	Alert
15.6.2 Failure of Small Lines Carrying Primary Coolant Outside Containment	Alert, Site Area Emergency, and General Emergency (based on conservative dose analysis)
15.6.3 Steam Generator Tube Rupture	Alert, Site Area Emergency, and General Emergency (based on conservative dose analysis)

Table V2A2-1 (Cont.) VEGP Units 3 and 4 SSAR Transient Table

Transient	Emergency Level
15.6.5 Loss-of-Coolant Accidents Resulting from a Spectrum of Postulated Piping Breaks Within the Reactor Coolant Pressure Boundary	NUE, Alert, Site Area Emergency, and General Emergency (based on conservative dose analysis)
15.7 Radioactive Release from a Subsystem or Component	
15.7.1 Gas Waste Management System Leak or Failure	No emergency
15.7.2 Liquid Waste Management System Leak or Failure (Atmospheric Release)	No emergency
15.7.4 Fuel Handling Accident	NUE, Alert, Site Area Emergency, and General Emergency (based on conservative dose analysis)
15.7.5 Spent Fuel Cask Drop Accident	Not applicable
15.8 Anticipated Transients Without Scram	
15.8 Anticipated Transients Without Scram	Not applicable (outside design bases)

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V2 Appendix 3 Unit 3 ITAAC

Table V2A3-1 Unit 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
1.0 Emergency Classification System			
10 CFR 50.47(b)(4) – A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.	1.1 An emergency classification and emergency action level (EAL) scheme must be established by the licensee. The specific instruments, parameters or equipment status shall be shown for establishing each emergency class, in the in-plant emergency procedures. The plan shall identify the parameter values and equipment status for each emergency class. [D.1]	1.1.1 An inspection of the control room, technical support center (TSC), and emergency operations facility (EOF) will be performed to verify that they have displays for retrieving system and effluent parameters specified in Table Annex V2 D.2-1, Hot Initiating Condition Matrix, Modes 1,2,3, and 4, Table V2 D.2-2, Cold Initiating Condition Matrix, Modes 5,6, and De-fueled, and emergency implementing procedures (EIPs).	1.1.1 The parameters specified in Table Annex V2 H-1, Post Accident Monitoring Variables, are retrievable in the control room, TSC, and EOF. The ranges encompass the values specified in the emergency classification and EAL scheme
		1.1.2 An analyses of the EAL technical bases will be performed to verify as-built, site specific implementation of the EAL scheme.	1.1.2 The EAL scheme is consistent with Regulatory Guide 1.101, Emergency Planning and Preparedness for Nuclear Power Reactors.

Table V2A3-1 (Cont.) Unit 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
3.0 Emergency Communications			
10 CFR 50.47(b)(6) Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public.	3.1 The means exists for communications between the control room, OSC, TSC, EOF, principal State and local emergency operations centers (EOCs), and radiological field monitoring teams. [F.1.d]	3.1 A test will be performed of the capabilities	3.1 Communications are established between the control room, OSC, TSC, and EOF. Communications are established between the control room, TSC, and Georgia Emergency Management Agency (GEMA) Operation Center; Burke County Emergency Operations Center (EOC); SRS Operations Center; South Carolina Warning Point; and Aiken, Allendale, and Barnwell County Dispatchers. Communications are established between the TSC and radiological monitoring teams.
	3.2 The means exists for communications from the control room, TSC, and EOF to the NRC headquarters and regional office EOC (including establishment of the Emergency Response Data System (ERDS) between the onsite computer system and the NRC Operations Center. [F.1.f]	3.2 A test will be performed of the capabilities	3.2 Communications are established between the control room, TSC, and EOF to the NRC headquarters and regional office EOCs and an access port for ERDS is provided.

Table V2A3-1 (Cont.) Unit 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
5.0 Emergency Facilities and Equipment			
10 CFR 50.47(b)(8) - Adequate emergency facilities and equipment to support the emergency response are provided and maintained.	5.1 The licensee has established a technical support center (TSC) and an onsite operations support center (OSC). [H.1]	5.1 An inspection of the as-built TSC and OSC will be performed, including a test of the capabilities	5.1.1 The TSC has at least 2,175 square feet of floor space 5.1.2 Communication equipment is installed in the TSC and OSC, and voice transmission and reception are accomplished 5.1.3 The plant parameters listed in Table Annex V2H-1, *Post Accident Monitoring Values*, can be retrieved and displayed in the TSC 5.1.4 The TSC is located within the protected area, and no major security barriers exist between the TSC and the control room 5.1.5 The OSC is located adjacent to the passage from the annex building to the control room 5.1.6 The TSC ventilation system includes a high- efficiency particulate air (HEPA) and charcoal filter, and radiation monitors are installed 5.1.7 A reliable and back-up electrical power supply is available for the TSC.

Table V2A3-1 (Cont.) Unit 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
	5.2 The Licensee has established an emergency operations facility (EOF). [H.2]	5.2 An inspection of the EOF will be performed, including a test of the capabilities.	5.2.1 Voice transmission and reception are accomplished between the EOF and the control room. 5.2.2 The plant parameters listed in Table Annex V2 H-1, *Post Accident Monitoring Values*, can be retrieved and displayed in the EOF
6.0 Accident Assessment			
10 CFR 50.47(b)(9) - Adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.	6.1 The means exist to provide initial and continuing radiological assessment throughout the course of an accident. [I.2]	6.1 A test of the emergency plan will be conducted by performing a drill to verify the capability to perform accident assessment.	6.1 Using selected monitoring parameters listed in Table Annex V2 H-1 of the VEGP emergency plan, simulated degraded plant conditions are assessed and protective actions are initiated in accordance with the following criteria: A. Accident Assessment and Classification 1. Demonstrate the ability to identify initiating conditions, determine emergency action level (EAL) parameters and correctly classify the emergency throughout the drill.

Table V2A3-1 (Cont.) Unit 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			B. Radiological Assessment and Control 1. Demonstrate the ability to obtain onsite radiological surveys and samples. 2. Demonstrate the ability to continuously monitor and control radiation exposure to emergency workers. 3. Demonstrate the ability to assemble and deploy field monitoring teams within 60 minutes from the decision to do so. 4. Demonstrate the ability to satisfactorily collect and disseminate field team data. 5. Demonstrate the ability to develop dose projections. 6. Demonstrate the ability to make the decision whether to issue radio-protective drugs, (KI), to emergency workers 7. Demonstrate the ability to develop appropriate protective action recommendations (PARs) and expeditiously notify appropriate authorities within 15 minutes of development.

Table V2A3-1 (Cont.) Unit 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
	6.2 The means exists to determine the source term of releases of radioactive material within plant systems, and the magnitude of the release of radioactive materials based on plant system parameters and effluent monitors. [I.3]	6.2 An analysis of the emergency plan implementing procedures and the Off Site Dose Calculation Manual (ODCM) will be completed to verify ability to determine the source term, magnitude of releases.	6.2 The EIPS and ODCM correctly calculate source terms and magnitudes of postulated releases.
	6.3 The means exists to continuously assess the impact of the release of radioactive materials to the environment, accounting for the relationship between effluent monitor readings, and onsite and offsite exposures and contamination for various meteorological conditions. [I.4]	6.3 An analysis of the emergency implementing procedures (EIPs) and the OffSite Dose Calculation Manual (ODCM) will be completed to verify the relationship between effluent monitor readings, and offsite exposures and contaminations, has been established.	6.3 The EIPs and ODCM calculate the relationship between effluent monitor readings and offsite exposure and contamination.
	6.4 The means exist to acquire and evaluate meteorological information. [I.5]	6.4 A test will be performed to verify the ability to access meteorological information in the TSC and control room.	6.4 The following parameters are displayed in the TSC and control room. • Windspeed (at 10 m and 60 m) • Wind direction (at 10 m and 60 m) • Standard deviation of horizontal wind direction (at 10 m) • Vertical temperature difference (between 10 m and 60 m) • Ambient temperature (at 10 m) • Dewpoint temperature (at 10 m) • Precipitation (at the tower base)

Table V2A3-1 (Cont.) Unit 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
	6.5 The means exist to make rapid assessments of actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways, including activation, notification means, field team composition, transportation, communication, monitoring equipment, and estimated deployment times. [I.8]	6.5 A test will be performed of the capabilities.	6.5 A drill or exercise is conducted demonstrating the capability for making rapid assessment of actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways.
	6.6 The means exists to estimate integrated dose from the projected and actual dose rates, and for comparing these estimates with the EPA protective action guides (PAGs). [I.10]	6.6 An analysis of the methodology contained in the emergency implementing procedures (EIPs) for estimating dose and preparing protective action recommendations (PARs); and in the Offsite Dose Calculation Manual (ODCM) will be performed to verify the ability to estimate an integrated dose from projected and actual dose rates.	6.6 The EIPs and ODCM estimate an integrated dose.

Table V2A3-1 (Cont.) Unit 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
7.0 Protective Response			
10 CFR 50.47(b)(10) A range of protective actions has been developed for the plume exposure pathway EPZ for emergency workers and the public. In developing this range of actions, consideration has been given to evacuation, sheltering, and, as a supplement to these, the prophylactic use of potassium iodide (KI), as appropriate. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed.	7.1 The means exists to warn and advise onsite individuals of an emergency, including those in areas controlled by the operator including: • Employees not having emergency assignments • Visitors • Contractor and construction personnel • Other persons who may be in the public access areas, on or passing through the site, or within the owner controlled area	7.1 A test of the onsite warning and communication capability emergency implementing procedures (EIPs) including protective action guidelines, assembly and accountability, and site dismissal will be performed during a drill.	7.1 The organization will satisfy the following objectives during the drill: 1. Demonstrate the capability to direct and control emergency operations. 2. Demonstrate the ability to transfer emergency direction from the Control Room (simulator) to the technical support center (TSC) within 30 minutes from activation. 3. Demonstrate the ability to prepare for around-the-clock staffing requirements. 4. Demonstrate the ability to perform assembly and accountability for all onsite individuals within 30 minutes of an emergency requiring protected area assembly and accountability. 5. Demonstrate the ability to perform site dismissal.

Table V2A3-1 (Cont.) Unit 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
8.0 Exercises and Drills			
10 CFR 50.47(b)(14) Periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities, periodic drills are (will be) conducted to develop and maintain key skills, and deficiencies identified as a result of exercises or drills are (will be) corrected.	8.1 The licensee conducts a full participation exercise to evaluate major portions of emergency response capabilities, which includes participation by each State and local agency within the plume exposure EPZ, and each State within the ingestion pathway EPZ.[N.1]	8.1 A full participation exercise (test) will be conducted within the specified time periods of 10 CFR Part 50, Appendix E.	8.1.1 The exercise is completed within the specified time periods of 10 CFR Part 50, Appendix E; onsite exercise objectives listed below have been met, and there are no uncorrected onsite exercise deficiencies. *A. Accident Assessment and Classification* 1. Demonstrate the ability to identify initiating conditions, determine emergency action level (EAL) parameters, and correctly classify the emergency throughout the exercise. Standard Criteria: a. Determine the correct highest emergency classification level based on events which were in progress, considering past events and their impact on the current conditions, within 15 minutes from the time the initiating condition(s) or EAL is identified.

Table V2A3-1 (Cont.) Unit 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			B. Notifications 1. Demonstrate the ability to alert, notify and mobilize site emergency response personnel. Standard Criteria: a. Complete the designated checklist and perform the announcement within 5 minutes of the initial event classification for an Alert or higher. b. Activate the emergency recall system within 5 minutes of the initial event classification for an Alert or higher. 2. Demonstrate the ability to notify responsible State, local government agencies within 15 minutes and the NRC within 60 minutes after declaring an emergency.

Table V2A3-1 (Cont.) Unit 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			Standard Criteria: a. Transmit information using the designated checklist, in accordance with approved emergency implementing procedures (EIPs) within 15 minutes of event classification. b. Transmit information using the designated checklist, in accordance with approved EIPs, within 60 minutes of last transmittal for a follow-up notification to State and local authorities. c. Transmit information using the designated checklist within 60 minutes of event classification for an initial notification of the NRC.

Table V2A3-1 (Cont.) Unit 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			3. Demonstrate the ability to warn or advise onsite individuals of emergency conditions. Standard Criteria: a. Initiate notification of onsite individuals (via plant page or telephone), using the designated checklist, within 15 minutes of notification.
			4. Demonstrate the capability of the Prompt Notification System (PNS), for the public, to operate properly when required. Standard Criteria: a. 90% of the sirens operate properly, as indicated by the Whelen feedback system. b. A NOAA tone alert radio is activated.

Table V2A3-1 (Cont.) Unit 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			C. Emergency Response 1. Demonstrate the capability to direct and control emergency operations. Standard Criteria: a. Command and control is demonstrated by the Control Room in the early phase of the emergency, and the technical support center (TSC) within 60 minutes from TSC activation. 2. Demonstrate the ability to transfer emergency direction from the control room (simulator) to the TSC within 30 minutes from activation. Standard Criteria: a. Evaluation of briefings that were conducted prior to turnover responsibility. Personnel document transfer of duties. 3. Demonstrate the ability to prepare for around the clock staffing requirements.

Table V2A3-1 (Cont.) Unit 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			Standard Criteria: a. Complete 24-hour staff assignments. 4. Demonstrate the ability to perform assembly and accountability for all onsite individuals within 30 minutes of an emergency requiring protected area assembly and accountability. Standard Criteria: a. Protected area (PA) personnel assembly and accountability completed within 30 minutes of an emergency requiring protected area assembly and accountability. *D. Emergency Response Facilities* 1. Demonstrate activation of the operational support center (OSC), and full functional operation of the TSC and EOF within 60 minutes of activation. Standard Criteria: a. The TSC, EOF and OSC are activated within about 60 minutes of the initial notification. 2. Demonstrate the adequacy of equipment, security provisions, and habitability precautions for the TSC, OSC, EOF, and Emergency News Center (ENC), as appropriate.

Table V2A3-1 (Cont.) Unit 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			Standard Criteria: a. Evaluation of the adequacy of the emergency equipment in the emergency response facilities including availability and general consistency with emergency implementing procedures (EIPs). b. The Security Shift Captain implements and follows applicable emergency implementing procedures (EIPs). c. The Health Physics Supervisor (TSC) implements the designated checklist if an onsite/offsite release has occurred.
		3. Demonstrate the adequacy of communications for all emergency support resources.	Standard Criteria: a. Emergency response communications listed in emergency implementing procedures (EIPs) are available and operational. b. Communications systems are tested in accordance with TSC, OSC, and EOF Activation Checklists. c. Emergency response facility personnel are able to operate all specified communication systems. d. Clear primary and backup communications links are established and maintained for the duration of the exercise.

Table V2A3-1 (Cont.) Unit 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			E. Radiological Assessment and Control 1. Demonstrate the ability to obtain onsite radiological surveys and samples. Standard Criteria: a. HP Technicians demonstrate the ability to obtain appropriate instruments (range and type) and take surveys. b. Airborne samples are taken when the conditions indicate the need for the information. 2. Demonstrate the ability to continuously monitor and control radiation exposure to emergency workers. Standard Criteria: a. Emergency workers are issued self-reading dosimeters when radiation levels require, and exposures are controlled to 10 CFR Part 20 limits (unless the ED authorizes emergency limits). b. Exposure records are available, either from the ALARA computer or a hard copy dose report. c. Emergency workers include Security and personnel within all emergency facilities. 3. Demonstrate the ability to assemble and deploy field monitoring teams within 60 minutes from the decision to do so.

Table V2A3-1 (Cont.) Unit 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			Standard Criteria: a. One Field Monitoring team is ready to be deployed within 60 minutes of being requested from the OSC, and no later than 90 minutes from the declaration of an Alert or higher emergency.
			4. Demonstrate the ability to satisfactorily collect and disseminate field team data.
			Standard Criteria: a. Field team data to be collected is dose rate or counts per minute (cpm) from the plume, both open and closed window, and air sample (gross/net cpm) for particulate and iodine, if applicable. b. Satisfactory data dissemination is from the field team to the Dose Assessment Supervisor via the field team communicator and field team coordinator.

Table V2A3-1 (Cont.) Unit 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			5. Demonstrate the ability to develop dose projections. Standard Criteria: a. The on-shift HP/Chemistry Shared foreman or Dose Assessment Supervisor performs timely and accurately dose projections in accordance with emergency implementing procedures (EIPs). 6. Demonstrate the ability to make the decision whether to issue radioprotective drugs (KI) to emergency workers. Standard Criteria: a. KI is taken (simulated) if the estimated dose to the thyroid will exceed 25 rem committed dose equivalent (CDE).

Table V2A3-1 (Cont.) Unit 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			7. Demonstrate the ability to develop appropriate protective action recommendations (PARs) and notify appropriate authorities within 15 minutes of development. Standard Criteria: a. Total effective dose equivalent (TEDE) and CDE dose projections from the dose assessment computer code are compared to emergency implementing procedures (EIPs). b. PARs are developed within 15 minutes of data availability. c. PAR's are transmitted via voice or fax within 15 minutes of event classification and/or PAR development. *F. Public Information* 1. Demonstrate the capability to develop and disseminate clear, accurate, and timely information to the news media in accordance with EIPs. Standard Criteria: a. Media information (e.g., press releases, press briefings, electronic media) are made available within 60 minutes of notification of the On-Call Media Representative. b. Follow-up information is provided, at a minimum, within 60 minutes of an emergency classification or PAR change.

Table V2A3-1 (Cont.) Unit 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			2. Demonstrate the capability to establish and effectively operate rumor control in a coordinated fashion. Standard Criteria: a. Calls are answered in a timely manner with the correct information, in accordance with EIPs. b. Calls are returned or forwarded, as appropriate, to demonstrate responsiveness. c. Rumors are identified and addressed. *G. Evaluation* 1. Demonstrate the ability to conduct a post-exercise critique, to determine areas requiring improvement and corrective action. Standard Criteria: a. An exercise time line is developed, followed by an evaluation of the objectives. b. Significant problems in achieving the objectives are discussed to ensure understanding of why objectives were not fully achieved. c. Recommendations for improvement in non-objective areas are discussed.

Table V2A3-1 (Cont.) Unit 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			8.1.2 Onsite emergency response personnel are mobilized in sufficient number to fill the emergency positions identified in emergency plan Section B, *VEGP Emergency Organization*, and they successfully perform their assigned responsibilities as outlined in Acceptance Criterion 8.1.1.D, *Emergency Response Facilities*. 8.1.3 The exercise is completed within the specified time periods of 10 CFR Part 50, Appendix E; offsite exercise objectives have been met; and there are no uncorrected offsite deficiencies, or a license condition requires offsite deficiencies to be corrected prior to operation above 5% of rated power.
9.0 Implementing Procedures			
10 CFR Part 50, Appendix E.V – No less than 180 days prior to the scheduled issuance of an operating license for a nuclear power reactor or a license to possess nuclear material, the applicant's detailed implementing procedures for its emergency plan shall be submitted to the Commission.	9.1 The licensee has submitted detailed implementing procedures for its emergency plan no less than 180 days prior to fuel load.	9.1 An inspection of the submittal letter will be performed.	9.1 The licensee has submitted detailed emergency implementing procedures (EIPs) for the onsite emergency plan no less than 180 days prior to fuel load.

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V2 Appendix 4 Unit 4 ITAAC

Table V2A4-1 Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
1.0 Emergency Classification System			
10 CFR 50.47(b)(4) – A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.	1.1. An emergency classification and emergency action level (EAL) scheme must be established by the licensee. The specific instruments, parameters or equipment status shall be shown for establishing each emergency class, in the in-plant emergency procedures. The plan shall identify the parameter values and equipment status for each emergency class. [D.1]	1.1.1 An inspection of the control room will be performed to verify that it has the displays for retrieving system and effluent parameters specified in Table Annex V2 D.2-1, *Hot Initiating Condition Matrix, Modes 1,2,3, and 4*; Table V2 D.2-2, *Cold Initiating Condition Matrix, Modes 5,6, and De-fueled*; and emergency implementing procedures (EIP)s.	1.1 .1 The parameters specified in Table Annex V2 H-1, *Post Accident Monitoring Variables*, are retrievable in the control room. The ranges encompass the values specified in the emergency classification and EAL scheme.
		1.1.2 An analysis of the EAL technical bases will be performed to verify as-built, site-specific implementation of the EAL scheme.	1.1.2 The EAL scheme is developed consistent with Regulatory Guide 1.101, *Emergency Planning and preparedness for Nuclear Power Reactors*.
3.0 Emergency Communications			
10 CFR 50.47(b)(6) Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public.	3.1 The means exists for communications between the control room, OSC, TSC, and EOF. [F.1.d]	3.1 A test will be performed of the capabilities	3.1 Communications are established between the control room, OSC, TSC, and EOF. Communications are established between the control room, Georgia Emergency Management Agency (GEMA) Operation Center; Burke County Emergency Operations Center (EOC); SRS Operations Center; South Carolina Warning Point; and Aiken, Allendale, and Barnwell County Dispatchers.

Table V2A4-1 (Cont.) Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
	3.2 The means exists for communications from the control room to the NRC headquarters and regional office EOC. [F.1.f]	3.2 A test will be performed of the capabilities	3.2 Communications are established from the control room, TSC, and EOF, to the NRC headquarters and regional office EOCs, and an access port for the Emergency Response Data System (ERDS) is provided.
5.0 Emergency Facilities and Equipment			
10 CFR 50.47(b)(8) - Adequate emergency facilities and equipment to support the emergency response are provided and maintained.	5.1 The licensee has established an onsite operations support center (OSC). [H.1]	5.1 An inspection of the as-built OSC will be performed, including a test of the capabilities	5.1.1 Communication equipment is installed in the and OSC, and voice transmission and reception are accomplished 5.1.2 The plant parameters listed in Table Annex V2-H-1, *Post Accident Monitoring Values*, can be retrieved and displayed in the TSC. 5.1.3 The OSC is located adjacent to the passage from the annex building to the control room
	5.2 The Licensee has established an emergency operations facility (EOF). [H.2]	5.2 An inspection of the EOF will be performed, including a test of the capabilities.	5.2.1 Voice transmission and reception are accomplished between the EOF and the control room. 5.2.2 The plant parameters listed in Table Annex V2H-1, *Post Accident Monitoring Values*, can be retrieved and displayed in the EOF

Table V2A4-1 (Cont.) Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
6.0 Accident Assessment			
10 CFR 50.47(b)(9) - Adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.	6.1 The means exists to provide initial and continuing radiological assessment throughout the course of an accident. [I.2]	6.1 A test of the emergency plan will be conducted by performing a drill to verify the capability to perform accident assessment.	6.1 Using selected monitoring parameters listed in Table Annex V2 H-1 of the VEGP emergency plan, simulated degraded plant conditions are assessed and protective actions are initiated in accordance with the following criteria: A. Accident Assessment and Classification 1. Demonstrate the ability to identify initiating conditions, determine emergency action level (EAL) parameters, and correctly classify the emergency throughout the drill. B. Radiological Assessment and Control 1. Demonstrate the ability to obtain onsite radiological surveys and samples. 2. Demonstrate the ability to continuously monitor and control radiation exposure to emergency workers.

Table V2A4-1 (Cont.) Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			3. Demonstrate the ability to assemble and deploy field monitoring teams within 60 minutes from the decision to do so. 4. Demonstrate the ability to satisfactorily collect and disseminate field team data. 5. Demonstrate the ability to develop dose projections. 6. Demonstrate the ability to make the decision whether to issue radio-protective drugs (KI) to emergency workers 7. Demonstrate the ability to develop appropriate protective action recommendations (PARs), and notify appropriate authorities within 15 minutes of development.
	6.2 The means exists to determine the source term of releases of radioactive material within plant systems, and the magnitude of the release of radioactive materials based on plant system parameters and effluent monitors. [I.3]	6.2 An analysis of the emergency implementing procedures (EIPs) and the Off Site Dose Calculation Manual (ODCM) will be completed to verify ability to determine the source term magnitude of releases.	6.2 The EIPs and ODCM correctly calculate source terms and magnitudes of postulated releases.

Table V2A4-1 (Cont.) Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
	6.3 The means exists to continuously assess the impact of the release of radioactive materials to the environment, accounting for the relationship between effluent monitor readings, and onsite and offsite exposures and contamination for various meteorological conditions. [I.4]	6.3 An analysis of the emergency implementing procedures (EIPs) and the Off Site Dose Calculation Manual (ODCM) will be completed to verify that the relationship between effluent monitor readings, and offsite exposures and contaminations, has been established.	6.3 The EIPs and ODCM calculate the relationship between effluent monitor readings, and offsite exposure and contamination.
	6.4 The means exist to acquire and evaluate meteorological information. [I.5]	6.4 A test will be performed to verify the ability to access meteorological information in the TSC and control room.	6.4 The following parameters are displayed in the TSC and control room. • Windspeed (at 10 m and 60 m) • Wind direction (at 10 m and 60 m) • Standard deviation of horizontal wind direction (at 10 m) • Vertical temperature difference (between 10 m and 60 m) • Ambient temperature (at 10 m) • Dewpoint temperature (at 10 m) • Precipitation (at the tower base)
	6.5 The means exists to make rapid assessments of actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways, including activation, notification means, field team composition, transportation, communication, monitoring equipment, and estimated deployment times. [I.8]	6.5 A test will be performed of the capabilities.	6.5 A drill or exercise is conducted demonstrating the capability for making rapid assessment of actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways.

Table V2A4-1 (Cont.) Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
	6.6 The means exists to estimate integrated dose from the projected and actual dose rates, and for comparing these estimates with the EPA protective action guides (PAGs). [I.10]	6.6 An analysis of the methodology contained in the emergency implementing procedures (EIPs) for estimating dose and preparing protective action recommendations (PARs), in the Offsite Dose Calculation Manual (ODCM) to verify the ability to estimate an integrated dose from projected and actual dose rates will be performed.	6.6 The EIPs and ODCM estimate an integrated dose.
7.0 Protective Response			
10 CFR 50.47(b)(10) A range of protective actions has been developed for the plume exposure pathway EPZ for emergency workers and the public. In developing this range of actions, consideration has been given to evacuation, sheltering, and, as a supplement to these, the prophylactic use of potassium iodide (KI), as appropriate. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed.	7.1 The means exists to warn and advise onsite individuals of an emergency, including those in areas controlled by the operator including: • Employees not having emergency assignments • Visitors • Contractor and construction personnel • Other persons who may be in the public access areas, on or passing through the site, or within the owner controlled area [J.1]	7.1 A test of the onsite warning and communication capability emergency implementing procedures (EIP)s including protective action guidelines, assembly and accountability, and site dismissal will be performed during a drill.	7.1 The organization will satisfy the following objectives during the drill: 1. Demonstrate the capability to direct and control emergency operations. 2. Demonstrate the ability to transfer emergency direction from the control room (simulator) to the technical support center (TSC) within 30 minutes of activation. 3. Demonstrate the ability to prepare for around-the-clock staffing requirements. 4. Demonstrate the ability to perform assembly and accountability for all onsite individuals within 30 minutes of an emergency requiring protected area assembly and accountability. 5. Demonstrate the ability to perform site dismissal.

Table V2A4-1 (Cont.) Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
8.0 Exercises and Drills			
10 CFR 50.47(b)(14) - Periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities, periodic drills are (will be) conducted to develop and maintain key skills, and deficiencies identified as a result of exercises or drills are (will be) corrected.	8.1 The licensee conducts a limited participation exercise to evaluate portions of emergency response capabilities, which includes participation by each State and local agency within the plume exposure EPZ, and each State within the ingestion pathway EPZ that have not been tested in a previous exercise. [N.1]	8.1 A limited participation exercise (test) will be conducted within the specified time periods of 10 CFR Part 50, Appendix E.	8.1.1 The exercise is completed within the specified time periods of 10 CFR Part 50, Appendix E; onsite exercise objectives listed below have been met; and there are no uncorrected onsite exercise deficiencies. *A. Accident Assessment and Classification* 1. Demonstrate the ability to identify initiating conditions, determine emergency action level (EAL) parameters, and correctly classify the emergency throughout the exercise. Standard Criteria: a. Determine the correct highest emergency classification level based on events which were in progress, considering past events, and their impact on the current conditions, within 15 minutes from the time the initiating condition(s) or EAL is identified.

Table V2A4-1 (Cont.) Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			B. Notifications 1. Demonstrate the ability to alert, notify, and mobilize site emergency response personnel. Standard Criteria: a. Complete the designated checklist and perform the announcement within 5 minutes of the initial event classification for an Alert or higher. b. Activate the emergency recall system within 5 minutes of the initial event classification for an Alert or higher. 2. Demonstrate the ability to notify responsible State, local government agencies within 15 minutes, and the NRC within 60 minutes after declaring and emergency.

Table V2A4-1 (Cont.) Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			Standard Criteria: a. Transmit information using the designated checklist in accordance with approved emergency implementing procedures (EIPs) within 15 minutes of event classification. b. Transmit information using the designated checklist in accordance with approved EIPs within 60 minutes of last transmittal for a follow-up notification to State and local authorities. c. Transmit information using the designated checklist within 60 minutes of event classification for an initial notification of the NRC.

Table V2A4-1 (Cont.) Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			3. Demonstrate the ability to warn or advise onsite individuals of emergency conditions. Standard Criteria: a. Initiate notification of onsite individuals (via plant page or telephone) using the designated checklist within 15 minutes of notification. *C. Emergency Response* 1. Demonstrate the capability to direct and control emergency operations. Standard Criteria: a. Command and control is demonstrated by the control room in the early phase of the emergency and by the TSC within 60 minutes from activation. 2. Demonstrate the ability to transfer emergency direction from the control room (simulator) to the TSC within 30 minutes from activation. Standard Criteria: a. Evaluation of briefings that were conducted prior to turnover responsibility. Personnel document transfer of duties.

Table V2A4-1 (Cont.) Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			3. Demonstrate the ability to prepare for around-the-clock staffing requirements. Standard Criteria: a. Complete 24-hour staff assignments. 4. Demonstrate the ability to perform assembly and accountability for all onsite individuals within 30 minutes of an emergency requiring protected area assembly and accountability. Standard Criteria: a. Protected area personnel assembly and accountability completed within 30 minutes of the Alert or higher emergency declaration via public address announcement.

Table V2A4-1 (Cont.) Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			D. Emergency Response Facilities 1. Demonstrate timely activation of the Operations Support Center (OSC). Standard Criteria: a. The OSC is activated within about 60 minutes of the initial notification. 2. Demonstrate the adequacy of equipment, security provisions, and habitability precautions for the OSC, as appropriate. Standard Criteria: a. Evaluation of the adequacy of the emergency equipment in the emergency response facilities, including availability and general consistency with EIPs. b. The Security Shift Captain implements and follows applicable emergency implementing procedures (EIPs). c. The Health Physics Supervisor (TSC) implements the designated checklist if onsite/offsite release has occurred. 3. Demonstrate the adequacy of communications for all emergency support resources.

Table V2A4-1 (Cont.) Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			Standard Criteria: a. Emergency response communications listed in emergency implementing procedures (EIPs) are available and operational. b. Communications systems are tested in accordance with the OSC activation checklist. c. ERF personnel are able to operate all specified communication systems. d. Clear primary and backup communications links are established and maintained for the duration of the exercise.

Table V2A4-1 (Cont.) Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			E. Radiological Assessment and Control 1. Demonstrate the ability to obtain onsite radiological surveys and samples. Standard Criteria: a. HP Technicians demonstrate the ability to obtain appropriate instruments (range and type) and take surveys. b. Airborne samples are taken when the conditions indicate the need for the information. 2. Demonstrate the ability to continuously monitor and control radiation exposure to emergency workers. Standard Criteria: a. Emergency workers are issued self-reading dosimeters when radiation levels require, and exposures are controlled to 10 CFR Part 20 limits (unless the emergency director authorizes emergency limits). b. Exposure records are available, either from the ALARA computer or a hard copy dose report. c. Emergency workers include Security and personnel within all emergency facilities.

Table V2A4-1 (Cont.) Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			3. Demonstrate the ability to assemble and deploy field monitoring teams within 60 minutes from the decision to do so. Standard Criteria: a. One Field Monitoring team is ready to be deployed within 60 minutes of being requested from the OSC, and no later than 90 minutes from the declaration of an Alert or higher emergency. 4. Demonstrate the ability to satisfactorily collect and disseminate field team data. Standard Criteria: a. Field team data to be collected is dose rate or counts per minute (cpm) from the plume, both open and closed window, and air sample (gross/net cpm) for particulate and iodine, if applicable. b. Satisfactory data dissemination is from the field team to the Dose Assessment Supervisor, via the field team communicator and field team coordinator.

Table V2A4-1 (Cont.) Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			5. Demonstrate the ability to develop dose projections. Standard Criteria: a. The on-shift HP/Chemistry Shared Foreman or the Dose Assessment Supervisor performs timely and accurate dose projections, in accordance with emergency implementing procedures (EIPs).
			7. Demonstrate the ability to develop appropriate protective action recommendations (PARs), and notify appropriate authorities within 15 minutes of development. Standard Criteria: a. Total effective dose equivalent (TEDE) and CDE dose projections from the dose assessment computer code are compared to emergency implementing procedures (EIPs). b. PARs are developed within 15 minutes of data availability. c. PAR's are transmitted via voice or fax within 15 minutes of event classification and/or PAR development.

Table V2A4-1 (Cont.) Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

Planning Standard	EP Program Elements (From NUREG 0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			8.1.2 Onsite emergency response personnel are mobilized in sufficient number to fill the emergency positions identified in emergency plan Section B, *VEGP Emergency Organization*, and they successfully perform their assigned responsibilities, as outlined in Acceptance Criterion 8.1.1.D, *Emergency Response Facilities*. 8.1.3 The exercise is completed within the specified time periods of 10 CFR Part 50, Appendix E; offsite exercise objectives have been met; and there are no uncorrected offsite deficiencies, or a license condition requires offsite deficiencies to be corrected prior to operation above 5% of rated power.
9.0 Implementing Procedures			
10 CFR Part 50, Appendix E.V - No less than 180 days prior to the scheduled issuance of an operating license for a nuclear power reactor or a license to possess nuclear material, the applicant's detailed implementing procedures for its emergency plan shall be submitted to the Commission.	9.1 The licensee has submitted detailed implementing procedures for its emergency plan no less than 180 days prior to fuel load.	9.1 An inspection of the submittal letter will be performed.	9.1 The licensee has submitted detailed emergency implementing procedures (EIPs) for the onsite emergency plan no less than 180 days prior to fuel load.

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