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Enclosure 7
Hatch Staffing - Detailed Description and Technical Evaluation

This enclosure contains 19 pages.

This License Amendment Request (LAR) revises the current on-shift and augmented Emergency Response Organization (ERO) for Hatch Nuclear Plant (HNP) Unit 1 and Unit 2 Emergency Plan to incorporate a standard on-shift and augmented ERO staffing plan for the Southern Nuclear Operating Company (SNC) Fleet. This proposed change to the ERO will result in an SNC Fleet standard definition of ERO augmentation time as well as an SNC Fleet standard complement of emergency response positions, titles, duties, and responsibilities.

EP Functions Impacted by the Proposed Change

The proposed change impacts the ERO as outlined in 10 CFR 50.47(b) Planning Standards 1 and 2. This change addresses the following Planning Standard Functions:

- 10 CFR 50.47(b) (1): The response organization has the staff to respond and augment on a continuing basis (24/7 staffing) in accordance with the Emergency Plan.
- 10 CFR 50.47(b) (2): Process for timely augmentation of on-shift staff is established and maintained.

The proposed change has been reviewed and continues to perform the functions required of 10 CFR 50.47(b) and the related requirements of 10 CFR 50 Appendix E.

Emergency Response Organization (ERO) Activation

HNP Unit 1 and Unit 2 Emergency Plan Revision 36.0 requires staffing of the augmented ERO at the Alert or higher classification "...ASAP, but not later than approximately 1 hour following the initial notification." It also states, "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."

The proposed SNC Fleet standard definition for ERO augmentation is 75 minutes from declaration. This proposed change redefines the SNC Fleet augmentation time without extension, since the 15-minute notification period will be incorporated in the overall definition of augmentation time. The proposed SNC Fleet definition also removes ambiguous wording such as "about" and "approximately" in order to clearly define the augmentation requirement.

Assignment of Responsibility/Organizational Control

The HNP Unit 1 and Unit 2 Emergency Plan maintains an on-shift organization as documented in the site Emergency Plan Revision 36.0. This Plan identifies the authority and responsibilities for emergency response and assigns major functional areas to on-site and offsite response facilities for augmented response. In the following analysis, the impact of consolidating ERO positions and reassigning responsibilities is assessed based on the capacity of on-shift staff to perform major tasks for each major functional area of HNP.

Plant Operations and Assessment of Operational Aspects

NUREG-0654/FEMA REP-01 Revision 1 guidance assumes the on-shift staff will provide the Plant Operations and Assessment of Operational Aspects functions throughout the emergency. The on-shift operations staffing as provided in the current HNP Unit 1 and Unit 2 Emergency Plan Revision 36.0 meets the operations staffing requirements of 10 CFR 50.54(m)(2)(i) and the HNP Unit 1 and Unit 2 Technical Specifications. In addition to these requirements, the HNP Unit 1 and Unit 2 Emergency Plan provides for a dedicated Shift Manager position to perform

the NUREG-0654/FEMA REP-01 Revision 1 function of Emergency Direction and Control. Per NUREG-0654/FEMA REP-01 Revision 1, this function may be performed as a collateral duty of one of the individuals performing the Plant Operations and Assessment of Operational Aspects function. However, providing a Shift Manager to fill this function as a standalone position enhances the ability of the HNP Unit 1 and Unit 2 control room staff to fulfill the Plant Operations and Assessment of Operational Aspects function while the dedicated ED addresses aspects of the Emergency Direction and Control function. This has been demonstrated and documented by performing a 10 CFR Part 50, Appendix E shift staffing evaluation.

In accordance with the current HNP Unit 1 and Unit 2 Emergency Plan, the on-shift staffing exceeds the requirements of NUREG-0654/FEMA REP-01 Revision 1 Table B-1, as well as those prescribed in the 1981 version of the HNP Unit 1 and Unit 2 Emergency Plan. The proposed SNC Fleet Emergency Plan will add another Reactor Operator to the HNP shift staff, ensuring further support of the Plant Operations and Assessment of Operational Aspects function at the start of an event and until the on-shift staff is properly augmented.

Emergency Direction and Control

NUREG-0654/FEMA REP-01 Revision 1 guidance provides that the Emergency Direction and Control function may be fulfilled by personnel assigned other functions. Per the 1981 version of the HNP Unit 1 and Unit 2 Emergency Plan, the Emergency Director (ED) function is was a collateral duty of an ED-qualified individual assigned to the Plant Operations and Assessment of Operational Aspects function until relieved by an augmented ED in the TSC within approximately one hour of notification of an emergency.

As provided in the current version of the HNP Unit 1 and Unit 2 Emergency Plan, the Shift Manager is designated as the on-shift ED to fulfill the function of Emergency Direction and Control until relieved by the Technical Support Center (TSC) ED within approximately one hour of notification of an Alert or higher emergency. With the proposed changes, the Shift Manager/ED is relieved within 75 minutes of declaration of an Alert or higher emergency by the ED in the TSC, who then assumes overall control of the response efforts. This remains unchanged in the proposed SNC Fleet Emergency Plan with the exception of redefining the augmentation time to include the time provided for notification of the ERO.

In addition to the augmentation of an ED in the TSC within 75 minutes of an Alert or higher declaration the proposed SNC Fleet Emergency Plan provides an additional ED will be augmented in the Emergency Operations Facility (EOF) within 75 minutes of an Alert or higher declaration. The aspects of the Emergency Direction and Control function assigned to the TSC and EOF EDs are clearly defined in the proposed SNC Fleet Emergency Plan. The primary role of the EOF ED will be to assume responsibility for state and local notifications and to approve of Protective Action Recommendations (PARs). This ensures that in the unlikely event of a Hostile Action Based (HAB) event in which the site is not accessible to the ERO, an ED would be available in the EOF within 75 minutes of an Alert or higher declaration to assume these aspects of the Emergency Direction and Control function to minimize the burden on the Shift Manager/ED.

There would be no undue burden on the Control Room staff or impact on the notification function from an addition of the EOF ED. (See table below.)

CONTROL ROOM	TSC	EOF
Shift Manager / Emergency Director	**TSC Emergency Director**	**EOF Emergency Director**
Classification →	Classification	
Notifications →		Notifications
PARS →		PARS
Emergency Exposure Controls →	Emergency Exposure Controls	

Finally, the proposed revision to the HNP Unit 1 and Unit 2 Emergency Plan requires augmentation of the following TSC and EOF positions, which support activation of the TSC and EOF, within 75 minutes of event classification:

- TSC Emergency Director
- TSC Manager
- TSC Operations Supervisor
- TSC Emergency Notification System (ENS) Communicator
- TSC Health Physics Network (HPN) Communicator
- TSC ERF Communicator
- TSC Radiation Protection (RP) Supervisor
- TSC Chemistry Support
- TSC Engineering Supervisor
- TSC Reactor Engineer
- TSC Engineering Support
- TSC Maintenance Supervisor
- EOF Emergency Director
- EOF Manager
- EOF Field Team Coordinator
- EOF Emergency Communications Coordinator
- EOF Security Coordinator
- EOF Offsite Response Coordinator
- EOF Emergency Notification Network (ENN) Communicator
- EOF ENS Communicator
- EOF HPN Communicator
- EOF ERF Communicator
- EOF Nuclear Spokesperson
- EOF Technical Assistant
- EOF News Writer
- EOF Field Team Communicator
- EOF Dose Assessment Supervisor

- EOF Dose Analyst
- EOF Technical Supervisor

Notification and Communication

NUREG-0654/FEMA REP-01 Revision 1 guidance requires one Communicator to be assigned on-shift. Revision 36.0 of the HNP Unit 1 and Unit 2 Emergency Plan provides for one Communicator or other trained personnel to perform this function. In the proposed SNC Fleet Emergency Plan staffing for HNP, this function will be modified by a note that indicates this function may be fulfilled by individuals assigned other functions. However, an additional Reactor Operator will be added to the HNP control room staff to ensure there will be sufficient appropriately trained personnel on-shift for the Communications function to be assigned to a member of the control room staff with no collateral tasks. This has been demonstrated and documented by performing a 10 CFR Part 50, Appendix E shift staffing evaluation.

In addition, the proposed SNC Fleet Emergency Plan provides for the transfer of state and local notifications, including authority to approve the content of the notification form, directly to the EOF from the control room. The proposed change includes both sufficient communications personnel to perform the communications and an ED with the authority to approve the content of the notification. This ensures that in the unlikely event of an HAB event in which the site is not accessible to the ERO, sufficient personnel will be available in the EOF within 75 minutes from time of declaration of an Alert or higher emergency classification to assume the Communications function t and minimize the burden on the Shift Manager/ED.

The ability to transfer the Communications function directly to the EOF, and provision of sufficient augmented personnel in the EOF to perform the Communicator function within 75 minutes ensure no additional burden is incurred by the on-shift staff.

Radiological Accident Assessment and Chemistry/Radio-Chemistry

The function of on-site radiological assessment is to: review radiological conditions onsite using data from available instrumentation, assess the impact of changing radiological conditions on emergency classification, assist in accident assessment based upon those changing radiological conditions, and recommend appropriate on-site protective measures.

Classification is performed by the Shift Manager/ED using NMP-EP-110, Emergency Classification Determination and Initial Action procedure, which uses readily available and easily recognized plant instrumentation to determine the appropriate emergency classification. Off-site and onsite surveys provide additional information, such as direct radiation measurements that can be directly applied to emergency classification. The on-shift Radiation Protection (RP) Technician takes direction from the Control Room to provide radiological assessment support until the OSC is activated.

As part of the Plant Operations and Assessment of Operational Aspects function, the operating crew uses symptom-based emergency operating procedures (EOPs) which minimize the need for specific accident assessment. The operating crew performs actions based on symptoms that are described in the EOPs, not based on specific accident assessment.

Similarly, the Shift Manager/ED uses flowcharts in NMP-EP-112, Protective Action Recommendations procedure, which prescribes the decision-making processes for directing on-site protective measures. The simple information needed to accomplish this for rapid decision making by the Shift Manager/ED using readily available information.

The Safety Parameter Display System (SPDS) provides the control room with a display of plant parameters from which the status of plant operation can be assessed. 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 coding.
- 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.

Therefore, with the proposed changes, the ERO structure continues to meet the intent of the requirements of Appendix E to 10 CFR Part 50 and the standards of 10 CFR 50.47(b).

This Functional Area includes three tasks: EOF Emergency Director; Off-Site Dose Assessment and Chemistry/Radiochemistry; and Off-site, On-Site (out of plant), In-Plant Surveys, and Radiation Protection.

Emergency Operations Facility (EOF) Emergency Director (ED)

The TSC ED is not assigned to the on-shift complement. In the current plan, the TSC ED arrives within approximately 60 minutes of notification of an Alert or higher emergency classification, and relieves the on-shift ED of overall emergency management as well as all off-site responsibilities including PARs and emergency notifications. The EOF is also staffed within this timeframe; however, there is currently no ED provided in the Emergency Operations Facility (EOF).

Under this proposal, within 75 minutes of classification the Shift Manager/ED is relieved in the TSC by the ED who then assumes overall control of the response efforts. The EOF ED arrives and relieves the TSC ED of overall emergency management and off-site responsibilities including PARs, dose assessment, and emergency notifications. This ensures that in the unlikely event of an HAB event in which the site is not accessible to the ERO, sufficient personnel to perform the Radiological Accident Assessment and Support of Operational Accident Assessment function will be available in the EOF within 75 minutes from time of an Alert or higher declaration and minimize the burden on the Shift Manager/ED.

As discussed earlier, the overall function is enhanced by providing a Shift Manager to fill this function as a standalone position beyond the collateral assignment as designated by NUREG-0654/FEMA REP-01 Revision 1 Table B-1, during the period prior to augmentation.

The proposed change presents no adverse impact to the ERO staffing because the TSC and EOF EDs will continue to provide timely relief to the on-shift ED from the duties and responsibilities for offsite functions.

Offsite Dose Assessment (ODA) / Chemistry

NUREG-0654/FEMA REP-01 Revision 1 does not provide for on-shift dose assessment capability. The current version of the HNP Unit 1 and Unit 2 Emergency Plan does provide

for an on-shift capability for performance of dose assessment and is currently assigned to a Reactor Operator. In the proposed change, on-shift dose assessment will be assigned to appropriately trained on-shift personnel (typically a chemistry technician) who will be dedicated to this task with no other collateral emergency response duties. This will in turn free the Reactor Operator to perform other control room related tasks.

With the improvements to the dose assessment software program, as well as plant status, meteorological, and radiation monitoring data, Chemistry can easily and rapidly perform dose assessments during emergency conditions. Enhancements in dose assessment software have reduced to the time required to perform dose assessment runs and provide the results to the ED. In addition, the dose assessment software is operational in a Windows operating system on the SNC Local Area Network (LAN) and as such can be readily accessed from any LAN computer on the SNC network.

A second Chemistry individual is provided as part of the minimum on-shift staffing so that any required chemistry samples may be collected without impacting the chemistry individual assigned to perform dose assessment. A review of the Emergency Operations Procedures (EOPs), Abnormal Operating Procedures (AOPs), HNP Unit 1 and Unit 2 Emergency Plan, and the procedures used by Operations for off-normal plant conditions did not identify any conflicts between completion of dose assessment and other on-shift Chemistry functions within the 75 minute augmentation time frame. An additional Chemistry support individual will be augmented in the TSC within 75 minutes, who will provide oversight for chemistry sampling and analysis activities. An additional Chemistry technician will be augmented in the OSC within 75 minutes to assist in performing chemistry sampling and analysis.

Augmentation by the RP Supervisor TSC within 75 minutes will relieve the Shift Manager/ED of the role of oversight of the on-shift dose assessor. The TSC will retain this task until relieved by the EOF dose assessment staff, which consists of the Dose Assessment Supervisor and Dose Analyst. There is no loss of function or impact on the timing for performing either of the tasks of dose assessment or required radiochemistry sampling by the proposed on-shift staffing provided in the SNC Fleet Emergency Plan.

Offsite/Onsite Surveys, In-Plant surveys and Radiation Protection (RP)

NUREG-0654/FEMA REP-01 Revision 1 identifies one on-shift RP Technician who is responsible for performing in-plant surveys. NUREG-0654/FEMA REP-01 Revision 1 does not provide for any on-shift personnel for on-site out of plant surveys or for off-site surveys. NUREG-0654 / FEMA REP-01 Revision 1 further identifies two RP technicians under the Protective Actions function for performing the tasks of Access Control, Radiation Protection coverage for repair, corrective actions, search and rescue, first aid, firefighting, personnel monitoring, and dosimetry. However, a note modification provides that these individuals may be assigned other functions, for example, the RP technician assigned to the in-plant surveys task and the individual assigned to the Chemistry/Radio-chemistry task under the Radiological Accident Assessment and Support of Operational Accident Assessment function.

Revision 36.0 of the HNP Unit 1 and Unit 2 Emergency Plan provides two individuals for the task of off-site survey and an additional individual for the task of on-site (out of plant) survey. Collectively, these individuals include one individual qualified to perform the survey, an assistant to drive the team vehicle, and an individual is to coordinate communications between the survey team and the dose assessor.

As part of the proposed SNC Fleet Emergency Plan the HNP on-shift staffing for the on-site out of plant survey will be performed by a single RP technician or other appropriately trained

personnel. SNC currently uses predesignated, readily accessible survey points around the HNP Unit 1 and Unit 2 plant site for collecting on-site survey data. Prior to dispatch of the on-site out of plant monitoring technician the dose assessor will brief the survey technician on the event conditions, direction of potential/actual plume path, potential radiological conditions, and so forth. The technician will be dispatched to one of the predesignated sample points in the downwind direction of the potential/actual plume path. The survey technician will then obtain the pre-staged on-site out of plant survey kit and vehicle and proceed to the designated location. The dose assessor and the survey technician will have the capability to maintain near continuous communications, which will allow the dose assessor to redirect the technician while in route if needed. Since the designated sample points are on-site and readily accessible from the HNP Unit 1 and Unit 2 plant site road system, there will be no immediate need for the survey technician to travel off-site and this survey can be performed by a single individual without impacting the accuracy or timeliness of the survey.

Additionally, the proposed SNC Fleet Emergency Plan HNP on-shift staffing will eliminate the on-shift individual coordinating communications between the out of plant survey technician and the dose assessor, and instead has the survey technician communicate directly with the dose assessor. This will expedite communication of field survey readings to the dose assessor for input into the dose assessment program, resulting in a shorter completion time of dose assessment runs using actual field survey results.

Revision 36.0 of the HNP Unit 1 and Unit 2 Emergency Plan provides for augmentation of two off-site survey teams as well as a Field Team Coordinator and Field Team Communicator at the EOF. The proposed staffing for the SNC Fleet Emergency Plan augments a single off-site survey team within 75 minutes of an Alert or higher declaration as well as maintaining the augmentation of the EOF Field Team Coordinator and Field Team Communicator positions currently provided.

Installed effluent radiation monitors and in-plant radiation monitors are able to detect any radioactive release quickly and accurately. The enhanced technology provided by the Safety Parameters Display System (SPDS) and the dose assessment computer model provides reliable visual indication of any radioactive plume and its calculated direction. Quantification of a radioactive release is determined by dose assessment, which is performed by dedicated on-shift personnel then augmented by additional dose assessment personnel in the TSC and EOF. On-site, out of plant field teams and off-site field teams are typically used to verify the status of a potential release and validate the dose assessment model. Dose assessment model validation strategies developed and implemented by the EOF staff typically include directing one team to track the leading edge of the radiological plume and one team to define the lateral edges of the plume and determine plume centerline radiological conditions. If the field team survey data indicates a departure from the dose assessment model, the radiation surveys and air samples collected by these two field teams can be used to perform dose assessment back calculations. SNC believes the two proposed field monitoring teams will be satisfactory for performing these surveys. To better support performing surveys off-site, the on-shift field team, which initially consisted of a single RP technician or appropriately trained individual, can be augmented by the on-shift dose assessor as a vehicle driver (once relieved by the EOF Dose Analyst). Sufficient instrumentation, communication equipment, and transportation will be maintained on-site for augmenting and dispatching additional teams if needed.

Regarding in-plant surveys, Revision 36.0 of the HNP Unit 1 and Unit 2 Emergency Plan provides for two RP technicians to perform in-plant surveys. The proposed SNC Fleet Emergency Plan HNP on-shift staffing provides one RP technician assigned to the task of

in-plant surveys under the Radiological Accident Assessment and Support of Operational Accident Assessment function. An additional RP technician will be provided for the Protective Actions function discussed later. However, since both of these individuals are qualified RP technicians, they will be available to collectively support either of these functions as needed. An additional two Radiation Protection technicians will respond within 75 minutes to support Radiological Accident Assessment (in-plant) function. This will provide sufficient Radiation Protection resources to address the Radiological Accident Assessment needs of both the on-shift and augmented ERO personnel.

With improved installed instrumentation, dose calculation computer modeling, and dedicated on-shift staffing for dose assessment and on-site out of plant surveys, there is no more than minimal impact to the performance of these tasks as a result of the proposed staffing alignments in the SNC Fleet Emergency Plan.

Plant System Engineering

This functional area includes two tasks: Technical Support, and Repair and Corrective Actions.

Technical Support

NUREG-0654/FEMA REP-01 Revision 1 guidance provided for a Shift Technical Advisor (STA) to be available on-shift to perform the Technical Support task including core/thermal hydraulics in response to the NUREG-0737 requirements resulting from the Three Mile Island accident. Revision 36.0 of the HNP Unit 1 and Unit 2 Emergency Plan provides an individual to fulfill the STA task. The performance of the Technical Support task includes use of the SPDS computer, which graphically displays the pertinent parameters with trending and graphing capabilities, alarm functions, and color-coded indication for changes in state for various critical safety parameters. This enhances critical parameter monitoring and the rapid identification and assessment of in plant conditions. This remains unchanged for HNP in the SNC Fleet Emergency Plan.

Repair and Corrective Actions

NUREG-0654/FEMA REP-01 Revision 1 Table B-1 specifies the functional area of Repair and Corrective Actions is to be provided on-shift by a total of two individuals who also "may be provided by shift personnel assigned other functions." It further states that the "position title or expertise" for the Repair and Corrective Actions task could be filled by Mechanical Maintenance / Radwaste Operator, Electrical Maintenance, or I&C Technician.

Due to the time needed to stabilize the plant and assess the event, the initial phase of an accident is not expected to involve a significant need for maintenance personnel. Once plant status is understood and the plant is in a stable condition, attention can be focused on corrective maintenance that may be needed to restore plant capabilities.

Typically, the initial stages of Corrective Actions will be minor or of limited scope, such as:

- Mechanical – Identification and operation of faulty valves, clogged filters, packing and seal adjustments, or troubleshooting,
- Electrical – Identification and correction of tripped breakers and overloads, or hands-off troubleshooting,
- I&C – Identification and correction of controller and set point adjustment, calibration, or hands-off troubleshooting.

Until the reactor is stabilized and the causal agents identified, actual repairs or realignment of plant equipment would not require large-scale maintenance support. The current version

of the HNP Unit 1 and Unit 2 Emergency Plan provides for one mechanical journeyman, two electrical journeymen, and one instrument and controls technician on-shift to support the Repair and Corrective Action task. The proposed SNC Fleet Emergency Plan on-shift maintenance staffing numbers will be reduced to one on-shift electrical journeyman. In addition to these personnel, a maintenance supervisor will be added to on-shift to provide supervisory oversight for repair and corrective actions, further enhancing the on-shift response capability. A 10 CFR 50 Appendix E shift staffing evaluation demonstrated that no maintenance personnel were assigned tasks during the 75 minutes prior to augmentation. Additionally, the proposed SNC Fleet Emergency Plan provides for augmentation of maintenance discipline specific leads in the OSC as well as an overall OSC Manager within 75 minutes of an Alert or higher emergency classification. With the described on-shift maintenance staffing, there is no impact on the repair and corrective action tasks described under the Plant System Engineering, Repair and Corrective actions function as the result of removing the one electrical journeyman.

The NRC Public Meeting on July 16, 2015 discussing proposed changes to guidance regarding ERO staffing and augmentation (ML15174A309) identified that the proposed change primarily meets or exceeds the current regulatory guidance of NUREG-0654/FEMA REP-01 Revision 1 Table B-1 and the proposed NUREG-0654/FEMA REP-01 Revision 2. Based on HNP Unit 1 and Unit 2 licensing basis (FSAR), the design philosophy with respect to Emergency Safety Features (ESF), and guidance for restoration, it is unnecessary to have additional Mechanical Maintenance, Electrical Maintenance and I&C Maintenance augmented within the 75 minute timeframe. ESF systems are redundant in trains (physical separation) and have diversity of subsystems. Therefore, the inoperability of different system components in different trains is not anticipated to result in a loss of function of the ESF. This allows flexibility in plant operations under circumstances where components in redundant subsystems may be inoperable.

Protective Actions (In-Plant)

For the Protective Actions (In-Plant) function, NUREG-0654/FEMA REP-01 Revision 1 specifies providing two personnel on-shift who "may be provided by shift personnel assigned other functions." The major tasks of this function are access control, RP coverage for repair, corrective actions, search and rescue, first aid, and firefighting, personnel monitoring, and dosimetry.

Revision 36.0 of the HNP Unit 1 and Unit 2 Emergency Plan provides four individuals for performing this function. However, this number is modified by a note stating "may be provided by shift personnel assigned other functions." Under the proposed SNC Fleet Emergency Plan staffing a single RP technician will support this function.

System Operators are typically dispatched prior to the call-out of augmented personnel. Normally the initial response phase involves search and rescue operations or manual manipulation of equipment. Maintenance actions in the initial response phase are anticipated to be minimal as discussed previously. Installed plant area radiation monitors are used to provide indication of in-plant radiation levels prior to dispatch of personnel into the plant. This allows for personnel to be assigned the appropriate dose and dose rate alarms for their electronic personal dosimetry prior to dispatch and to assign additional Radiation Protection technician support as needed.

Personnel accessing the Radiological Control Areas (RCA) at HNP Unit 1 and Unit 2 are required by procedure to obtain electronic personal dosimetry prior to entry. The same dosimetry is also used as a "key" to unlock turnstiles for access to the RCA. Radiation work permits (RWPs) establish the necessary preset warnings/alarms associated with the dosimetry.

During a declared emergency, the normal RCA entry process may use pre-prepared emergency RWPs using the Digital Alarming Dosimeters DADs. In the event the normal access system is non-functional an emergency reentry process has been developed to use the pre-prepared emergency RWP dose and dose rate alarms manually programed into the DADs. This ensures the teams dispatched to in-plant areas to perform any function during a declared emergency will be afforded ample warning/alarm prior to exceeding their allowed dose or dose rate. In-plant teams are briefed on radiological conditions prior to being dispatched, including plant event conditions, radiological conditions, dose and dose rate turn back values/alarms, and communications methods to be used if radiological conditions change or if unexpected radiological conditions are encountered. Thus, under emergency conditions, responding personnel will be knowledgeable of dose rates in the area, and radiation protection personnel may not be required to accompany all teams into the plant areas. Dosimeters also can be programmed at the OSC by RP personnel as needed prior to team dispatch. The proposed SNC Fleet Emergency Plan HNP on-shift staffing provides for a total of two Radiation Protection technicians between the Protective Actions (in-plant) and Radiological Accident Assessment (in-plant surveys) to ensure appropriate radiological protective measures are available to the on-shift staff.

An additional two Radiation Protection technicians and an RP/Chemistry OSC lead will be augmented in the OSC within 75 minutes to support the Protective Actions (in-plant) function. This will provide sufficient Radiation Protection resources to address the needs of both the on-shift and augmented ERO personnel for the Protective Actions (in-plant) function.

Fire Fighting

There are no proposed changes to this area. The on-shift Fire Brigade is assigned this task throughout the emergency with off-site support provided by local fire departments.

A staffing analysis meeting the requirements of 10 CFR 50 Appendix E.IV.A.9 for the proposed organization was performed. The results of that analysis showed that the required response functions could be conducted with parallel activation of the fire brigade for the subject scenarios.

Rescue Operations and First Aid

Per NUREG-0654/FEMA REP-01 Revision 1, the Rescue Operations and First Aid function "may be provided by shift personnel assigned other functions." There are no proposed changes to this area. The HNP Unit 1 and Unit 2 Emergency Plan provides appropriately trained on-shift personnel to fulfill this function as a collateral duty. There are no additional personnel augmented for this task. Local off-site support provides for any additional assistance. There are no proposed changes to this area.

Site Access Controls and Personnel Accountability

There are no proposed changes to this area. This function is part of the Security Contingency Plan and is staffed accordingly.

Onsite Emergency Response Organization (ERO) – 10 CFR 50.47(b) (2)

The current ERO provided in Revision 36.0 of the HNP Unit 1 and Unit 2 Emergency Plan was developed in response to NUREG-0654/FEMA REP-01 Revision 1. The ERO developed by NUREG-0654/FEMA REP-01 Revision 1 was developed without a specific technical basis. The Emergency Preparedness Enhanced Rulemaking of November 23, 2011 required the capabilities of the on-shift staff to be validated by a formal analysis. This requirement was

documented in 10 CFR 50 Appendix E.IV.A.9. In support of this submittal, the proposed ERO for the HNP Unit 1 and Unit 2 Site was analyzed and it was determined that the on-shift staff proposed is capable of performing the response functions required of the revised rule.

Reason for the Change

The proposed ERO in the SNC Fleet Emergency Plan provides a standard complement of emergency response positions, titles, duties, and responsibilities. This will result in a more effective interface between ERO members at the sites and their counterparts at the SNC Fleet EOF. Having a common ERO organization for the SNC Fleet will also support sharing of ERO resources between affected and non-affected stations during emergencies.

Establishing an appropriately staffed SNC Fleet standard on-shift and an augmented ERO staffing model with an SNC Fleet standard definition for ERO augmentation time is a practical and prudent alternate method to ensure effective and timely emergency response augmentation.

Details associated with the on-shift ERO, revised augmented ERO, and revised key responsibilities and tasks as identified in NUREG-0654/FEMA REP-01 Revision 1, are included in Enclosure 9.

Planning Basis for Augmented Emergency Response Organization (ERO)

Positions have been designated as 75 minutes responders in the TSC, OSC, EOF, and JIC. These positions perform major functions and supporting functions in each facility. The tables below outline these positions and functions as provided in the proposed HNP Unit 1 and Unit 2 Emergency Plan.

TSC 75 Minute Augmentation ERO		
Major Functional Area	**Major Task**	**Position Title**
Emergency Direction and Control		Emergency Director (ED)
		TSC Manager
		Operations Supervisor
		Security Supervisor*
		Support Coordinator**
Notification/Communication	Notify licensee, state, local, and federal personnel & maintain communication	Emergency Notification System (ENS) Communicator
		HPN Communicator
	Intra-facility Communications	Emergency Response Facility (ERF) Communicator
Radiological Accident Assessment and Support of Operational Accident Assessment	Offsite Dose Assessment	Radiation Protection (RP) Supervisor
	Offsite surveys	Not applicable for this facility
	Onsite and in-plant surveys	
	Chemistry/Radio Chemistry	Chemistry Support
Plant System Engineering, Repair and Corrective Actions	Technical Support	Engineering Supervisor
		Reactor Engineer
		Engineering Support (2)
	Repair and corrective actions	Maintenance Supervisor
Protective Actions	Access Control	Not applicable for this facility
	RP coverage for repair, corrective actions, search and rescue, first aid & firefighting	
	Personnel monitoring	
	Dosimetry	

*Security Supervisor filled by one of the on-shift Security Supervisors.

** Support Coordinator does not have a 75 minute augmentation time.

OSC 75 Minute Augmentation ERO		
Major Functional Area	**Major Tasks**	**Position Title**
Emergency Direction and Control		OSC Manager
Notification/Communication	Notify licensee, state, local and federal personnel & maintain communication	Not applicable for this facility
	Intra-facility communications	ERF Communicator
Radiological Accident Assessment and Support of Operational Accident Assessment	Offsite Dose Assessment	Not applicable for this facility
	Offsite surveys	Field Monitoring Team Personnel (2)
	Onsite and in-plant surveys	RP Technicians (2)
	Chemistry/Radio Chemistry	Chemistry Technician
Plant System Engineering, Repair and Corrective Actions	Technical Support	Not applicable for this facility
	Repair and corrective actions	Mechanical Maintenance Group Lead
		Electrical Maintenance Group Lead
		I&C Maintenance Group Lead
Protective Actions	Access Control	RP / Chemistry Group Lead
	• RP coverage for repair, corrective actions, search and rescue, first aid & firefighting • Personnel monitoring • Dosimetry	RP Technicians (2)

EOF 75 Minute Augmentation ERO		
Major Functional Area	**Major Task**	**Position Title**
Emergency Direction and Control	EOF Director	ED
		EOF Manager
		Support Coordinator*
		Emergency Communication Coordinator
		Security Coordinator
		Offsite Response Coordinator
		Administrative Support Staff *
		Liaisons (at EOCs)* - GA - AL - SC
Notification/Communication	Notify licensee, state, local and federal personnel & maintain communication	ENN Communicator
		ENS Communicator
		HPN Communicator
	Intra-facility Communications	ERF Communicator
		Nuclear Spokesperson
		Technical Assistant
		News Writer
		Field Team Communicator
Radiological Accident Assessment and Support of Operational Accident Assessment	Offsite Dose Assessment	Dose Assessment Supervisor
		Dose Analyst
	Offsite surveys	Field Team Coordinator
	Onsite and in-plant surveys	Not required in this facility
	Chemistry/Radio Chemistry	Not required in this facility
Plant System Engineering, Repair and Corrective Actions	Technical Support	Technical Supervisor
	Repair and corrective actions	Not required in this facility
Protective Actions	Access Control	Not required in this facility
	RP coverage for repair, corrective actions, search and rescue, first aid & firefighting	
	Personnel monitoring	
	Dosimetry	

* Support Coordinator, Administrative Support Staff, Liaisons (at EOCs) GA, AL, SC do not have a 75 minute augmentation time.

JIC 75 Minute Augmentation ERO		
Functional Area	**Major Task**	**Position Title**
Media Response	Media Response	Public Information Director
		ERF Communicator
		JIC Manager
		JIC Assistant*
		Facility Coordinator*
		Clerical Staff*
		Security*
		Public Response Coordinator
		Public Response Staff*
		Media Relations Representative

* JIC Assistant, Facility Coordinator, Clerical Staff, Security, and Public Response Staff do not have a 75 minute augmentation time.

Minimum staff positions have been identified for each facility. Facility activation may be completed upon filling of minimum staffing positions and completion of a briefing on the event to ensure personnel in these positions are ready to accept responsibility for their functions.

Minimum staffing positions for the TSC Organization are as follows:

- TSC Emergency Director (ED)
- TSC Emergency Response Facility (ERF) Communicator
- TSC Manager
- TSC Operations Supervisor
- TSC ENS Communicator
- TSC Radiation Protection (RP) Supervisor
- TSC Engineering Supervisor

Minimum staffing positions for the Operations Support Center (OSC) Organization are as follows:

- OSC Manager
- OSC Emergency Response Facility (ERF) Communicator
- OSC RP / Chemistry Group Lead

Minimum staffing positions for the EOF Organization are as follows:

- EOF Emergency Director (ED)
- EOF Emergency Response Facility (ERF) Communicator
- EOF Manager
- EOF Dose Assessment Supervisor
- EOF Dose Analyst
- EOF ENN Communicator

Minimum staffing positions for the Joint Information Center (JIC) Organization are as follows:

- Public Information Director (PID)
- Emergency Response Facility (ERF) Communicator

- JIC Manager
- Media Relations Representative
- Public Response Coordinator

In addition to the functional analysis provided, the key Emergency Response Facilities were analyzed to determine the minimum staffing (both numbers and positions) needed for the facilities to activate the facilities and begin facility operations. Any personnel determined to be required to support the minimum staff activation and initiation of activities were added to the revised augmented ERO.

Program Enhancements

The following section discusses technical changes in plant systems, dose assessment, procedures, and training which have been completed in order to better support on-shift functions and ease operator burden. Additional information regarding on-shift and augmented positions and their responsibilities as identified in NUREG-0654/FEMA REP-01 Revision 1 are outlined in Enclosure 9.

Plant Computer System

At the time of the original approval of the 1981 version of the HNP Unit 1 and Unit 2 Emergency Plan, the site used an Emergency Response Facility Computer System. The operator interface consisted of a small number of printers located in the control room and computer room.

In 1986, the Emergency Response Facility Computer System was housed in the TSC. The design criteria were based on the requirements of NUREG-0737, Supplement 1, for a Safety Parameter Display System (SPDS) and the upgrading of ERFs. The requirements were met or exceeded by a system of grouped displays of parameters from which plant safety status can be rapidly assessed, provided by Proteus software. The system upgrade included introduction of automatic updates to plant overview and system displays on the computer monitors, consolidated safety parameter displays, and increased frequency of parameter updates.

In 2008/2009, the site integrated SPDS into the plant process computer. This significantly improved plant monitoring capabilities in the control room as well as in the site's ERFs by integrating other independent standalone systems.

Benefits of the upgraded systems include:

- Programming capability for automated response such as indication of critical parameter alarms.
- Improved plant monitoring capability for ED functions.
- Fewer keystrokes required to switch between graphical displays.
- Real time plant data available through graphical displays.
- Functions are available to any desktop computer through the plant's site-wide intranet.

Computer basic functions are supported by instrument buses with back-up power provided by vital buses.

Dose Assessment

The original HNP dose assessment software used manual entry of basic meteorological data and either manual entry of radiological data or use of internally stored source terms. The HNP dose assessment capability was upgraded in the mid-1990s when the MIDAS dose assessment program was installed on the ERF Computer to provide HNP a full Class B dose assessment model.

Improvements have been made to the dose assessment program resulting in minimal user interface required to quickly produce results. Radiological dose assessment has benefited from technological advances that make dose assessment simpler and less time-consuming. Dose assessment is currently performed by on-shift operations personnel using the prompt dose assessment mode of the MIDAS-NU program, which is a Class A model. Once the TSC and EOF staff arrive, a full Class B model of the MIDAS-NU program is employed to perform dose assessment. This program supports multi-unit and multi-accident assessment of radiological releases. The MIDAS-NU program has minimal data entry needs and a minimal number of program windows the user needs to access to perform a dose projection. With the use of the dose assessment program, as well as plant status, meteorological, and radiation monitoring data, one person can easily and rapidly perform dose assessments during emergency conditions.

Specifically designed displays have been developed for obtaining the necessary plant, radiological effluent, area radiation monitor, and meteorological information for dose assessment personnel on-shift using the Meteorological Information Dose Assessment System – Nuclear (MIDAS-NU) program.

Automated Call-Out System

Automated call-out systems have been enhanced to streamline processes for activation of the ERO. A single phone call initiates rapid notification of ERO members, in lieu of individual calls to fill the ERO positions included in the Emergency Plan. The system includes a primary activation location as well as a remotely located back-up capability to ensure uninterrupted operation.

Procedure Improvements

Emergency Operations Procedures (EOPs)/Abnormal Operating Procedures)AOPs)

Since the original emergency plan approval, EOPs have been improved through industry initiatives. EOPs now use a symptom-based approach that demands less assessment and interpretation of plant conditions by the operating crews. EOPs interface well with new technology such as IPC. EOP curves are generated by IPC to graphically display plant conditions relative to limits or required actions.

Emergency Plan Implementing Procedures (EPIPs)

In 2008 (Reference NL-08-0160; Revision 27.0 of HNP Unit 1 and Unit 2 Emergency Plan) HNP Unit 1 and Unit 2 updated the classification methodology to NEI 99-01, Revision 4. EALs now incorporate guidance that has simplified the classification process, including the use of an overview matrix of EAL initiating conditions and threshold values, which streamlines the process of evaluating EALs against plant conditions.

Training Improvements

Operations Training

Training is used to strategically drive improved performance at HNP Unit 1 and Unit 2. Since NRC approval of the HNP Unit 1 and Unit 2 Emergency Plan, the application of the Systematic Approach to Training (SAT) has resulted in developing a task list for Operations personnel. The SAT process ensures training is conducted to industry-accepted standards and has led to accreditation of the Operations Training Programs by the National Academy for Nuclear Training.

A dynamic simulator is routinely used during Operations Training. Simulator evaluations include emergency response scenarios that periodically exceed 75 minutes in length and are part of the requalification cycle. Simulator scenarios are designed to be realistic and reflect a wide range of plant conditions, including emergency conditions. During evaluated simulator sessions, the control room staff is taken from normal operation to accident conditions resulting in declaration of at least one event, which can range from Unusual Event to General Emergency. The crew performs critical tasks, classification, accident mitigation, response prioritization, and communications without augmentation from additional responders. The proficiency of the control room staff to perform these functions while maintaining situational awareness, without additional support, is assessed in every training cycle.

The Licensed Operator Continuing Training (LOCT) Program includes licensed crew performance evaluations that consider the scenario guidance attributes of INPO Operations Department Standing Instruction, ODSI-3, and "Operations Department Guidance."

Attachment C of ODSI-3 provides guidance on the realistic integration of the emergency response into crew performance evaluations. The purpose is to ensure the crew performance evaluations realistically represent the additional challenges that the emergency plan responsibilities add to the crew's ability to manage an event. Representing the event as realistically as possible, which includes the additional challenges of emergency plan responsibilities, helps promote the situational awareness necessary during a real event.

STA Training

The Shift Technical Advisor (STA) was originally trained as an advisor to the operating shift per NUREG-0737. In 1990, additional guidelines were developed by INPO for the training of STAs. This is detailed in the document INPO 90-003, Guidelines for Training and Qualifications of Shift Technical Advisors.

The INPO Guidelines describe the role of the STA. The STA performs independent assessments of plant operating concerns, technical support, appropriate corrective actions, analysis of events and their effects, effectiveness of response(s) to emergent conditions, classifications of emergencies, development of recommendations to protect the public, and any other actions related to critical safety functions and plant safety during abnormal and emergency situations. By routinely monitoring equipment and plant operations, the STA can focus on preventive actions in order to mitigate the consequences of an accident and protect public health and safety.

Increases in On-Shift Staffing

There has been an increase in on-shift staffing from what was required in the 1981 Revision of the HNP Unit 1 and Unit 2 Emergency Plan, in order to ensure adequate performance of the major emergency plan functions and tasks. A total of 25 persons are identified for on-shift staffing in Revision 36.0 of the HNP Unit 1 and Unit 2 Emergency Plan, which is an increase from the total of 10 persons in the regulatory guidance provided by NUREG-0654/FEMA REP-01 Revision 1. A comparative chart depicting on-shift and augmented staffing based on NUREG-0654/FEMA REP-01 Revision 1, the 1981 version of the HNP Unit 1 and Unit 2 Emergency Plan, Revision 36.0 of the HNP Unit 1 and Unit 2 Emergency Plan, and proposed revisions are included in Enclosure 9.

Enhancements in Information Sharing with Offsite Agencies

There has been a dramatic increase in the ability of the site to share event-specific information with Offsite Response Organizations (OROs) from the one-to-one telephone systems at the time

of the 1981 Revision of the HNP Unit 1 and Unit 2 Emergency Plan. Real-time plant data is communicated to the Nuclear Regulatory Commission using the approved Emergency Response Data System (ERDS). Additionally, local OROs are provided real-time data with automated methods (currently WebEOC). These enhancements provide more timely and accurate information of actual plant conditions than was originally available.

Improvement Summary

The improvements to staffing, equipment, procedures, communication of plant information, and training since initial approval of the HNP Unit 1 and Unit 2 Emergency Plan have resulted in a significant increase in on-shift capabilities and knowledge. The ERO maintains the depth and capability for continuous 24-hour coverage of the Emergency Response for a protracted period.

Summary

Based on overall improvements in technology, procedures, training, and staffing levels available to ERO since the original implementation of the guidance contained in NUREG-0654/FEMA REP-01 Revision 1, the proposed Emergency Response Organization is capable of implementing the Emergency Plan in accordance with the requirements of 10 CFR 47 and 10 CFR 50 Appendix E.

Southern Nuclear Operating Company
Joseph M. Farley Nuclear Plant Units 1 and 2;
Edwin I. Hatch Nuclear Plant Units 1 and 2;
Vogtle Electric Generating Plant Units 1 and 2;
Vogtle Electric Generating Plant Units 3 and 4

Enclosure 8
Hatch Standard Emergency Plan Annex

This enclosure contains 27 pages.

Southern Nuclear Operating Company

STANDARD EMERGENCY PLAN ANNEX
for
Hatch Nuclear Plant
Units 1 and 2
Revision 0

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Section 1: Introduction (SEP)

This document serves as the Edwin I. Hatch Nuclear Plant (HNP) Units 1 and 2 Annex and contains information and guidance that is unique to HNP. This includes Emergency Action Levels (EALs) and facility geography.

In an emergency situation at HNP, the initial response would be made by the site staff and, if needed, by local support agencies. This Annex addresses the actions and responsibilities of the HNP plant staff and the offsite support agencies.

1.1 Facility Description

The Hatch Nuclear Plant (HNP) is a two-unit boiling water reactor. The plant is on a 2,100-acre site located in Appling County, Georgia, approximately 11 miles north of Baxley, Georgia, on U.S. Highway 1.

1.2 Emergency Planning Zones (SEP J.5)

1.2.1 Plume Exposure Pathway (SEP J.7)

The 10-mile Emergency Planning Zone (EPZ) for HNP approximates a 10-mile radius around the plant site and is depicted in Figure 1.2.A. Located within the EPZ are the Georgia counties of Appling, Jeff Davis, Tattnall, and Toombs.

1.2.2 Ingestion Pathway (SEP J.7)

The area between the 10-mile and 50-mile radius is considered the Ingestion Pathway Zone (IPZ). The 50-mile IPZ is depicted in Figure 1.2.B. Planning for the ingestion exposure pathway is a responsibility of the state of Georgia. More information about the IPZ can be obtained from the state's Radiological Emergency Plan.

1.3 State of Georgia (SEP A.2.2)

Upon notification of an emergency condition, the Georgia Emergency Management Agency will implement the "State of Georgia Radiological Emergency Plan." The Georgia Emergency Management Agency has the authority and responsibility for coordinating the efforts of local and state agencies in Georgia to provide for the health and safety of the general public in the event of a radiological incident.

An agreement is in place with the state of Georgia to provide available resources and equipment to support the mitigation and response to an emergency at Plant Hatch to include Hostile Action Based events. These resources include, but are not limited to, Local Law Enforcement Agency (LLEA) assets, fire fighting assets, medical support resources (including transportation), and coordination through an Incident Command Post. Requests for offsite resources and equipment will be communicated from the control room to the Burke County 911 center, the county EOC, or through the Incident Command Post, as applicable, based on the nature and timing of the event.

1.4 Local Organizations (SEP A.2, B.6.1)

Principal activities of Local Emergency Management Agencies (LEMA) and Local Law Enforcement Agencies (LLEA) in Georgia are described in the respective Emergency Operations Plans.

1.4.1 Georgia Counties (SEP A.2.4)

The area in the plume exposure pathway in the state of Georgia falls within Appling, Jeff Davis, Tattnall, and Toombs Counties. The responsibility for radiological emergency response planning rests with the Chairman of each County Board of Commissioners or the Mayor of a respective jurisdiction. It is this individual's responsibility to initiate actions and provide direction and control at a level consistent with the specific incident. Agencies within each county that have a primary role in radiological emergency planning and response include the EMA and local law enforcement agencies.

Principal activities of the LEMAs include the following:

- Receive notification from HNP and GEMA.
- Activate county resources, as necessary, to respond to the emergency.
- Maintain communications with HNP on emergency situation status.
- Provide information to other county response elements, the media, and the public.
- Activate the public notification system, if required.
- Activate the county EOC.
- Coordinate the county emergency response activities.
- Activate and direct operations at the designated reception and care facility.

1.5 Hostile Action Based Events (SEP H.1.4)

Agreements are in place with the state of Georgia and counties of Appling, Jeff Davis, Tattnall, and Toombs to provide available resources and equipment to support mitigation and response to an emergency at Edwin I. Hatch Nuclear Plant, including Hostile Action Based events. These resources include, but are not limited to, Local Law Enforcement Agency (LLEA) assets, firefighting assets, medical support resources (including transportation), and coordination through an Incident Command Post. Requests for offsite resources and equipment will be communicated from the control room or site security to Appling County 911 Center, the county EOCs, or through the Incident Command Post as applicable based on the nature of the event. Copies of these agreements are maintained in accordance with Emergency Plan procedures.

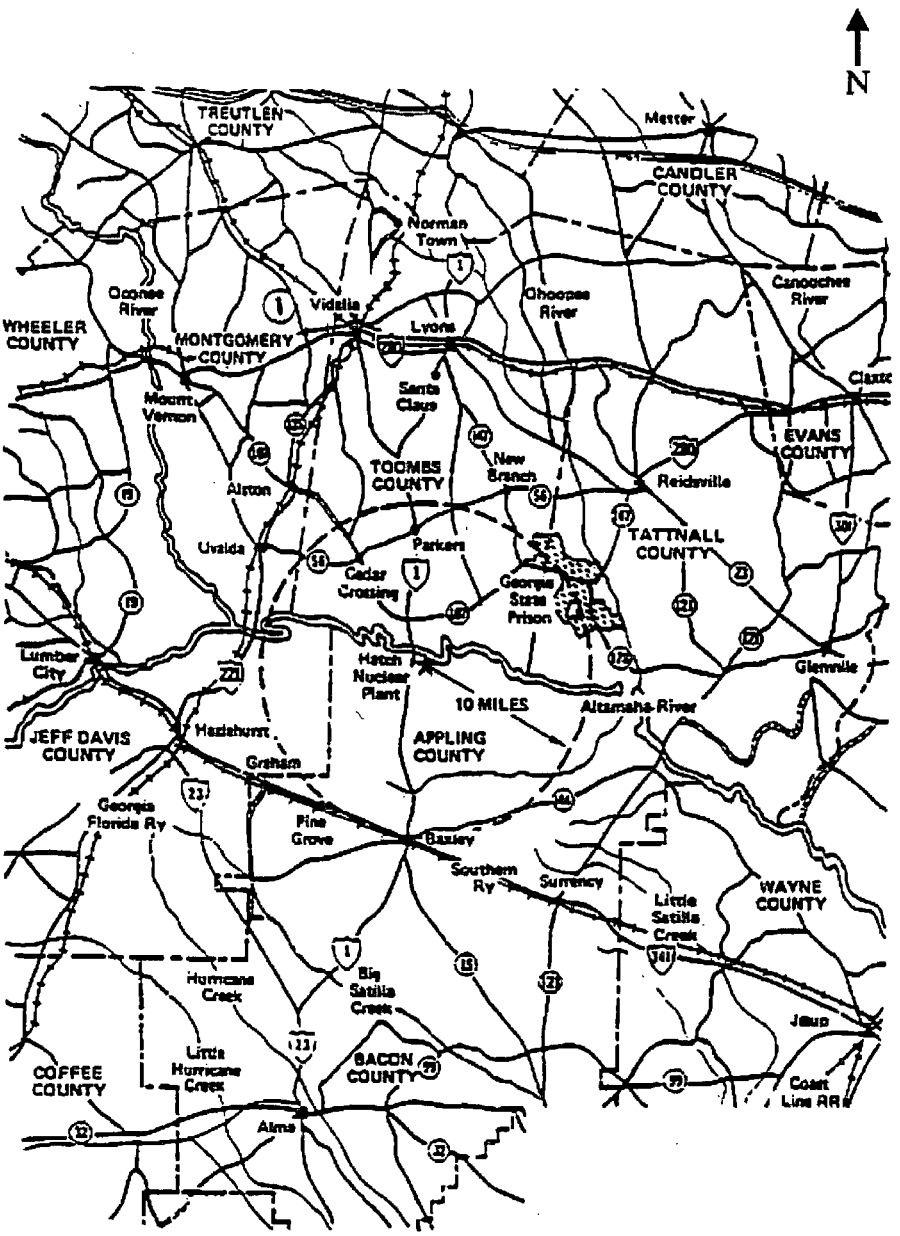

Figure 1.1.A – Location and Vicinity Map

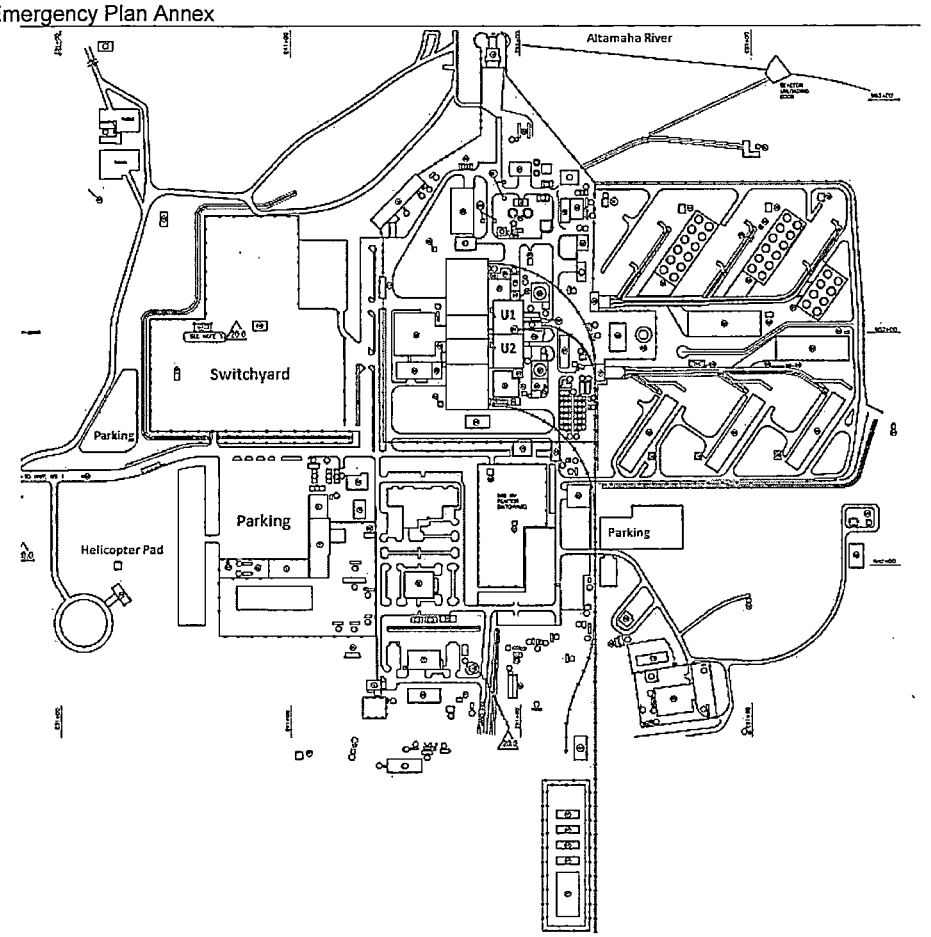

Figure 1.1.B – Edwin I. Hatch Nuclear Plant Site Plan

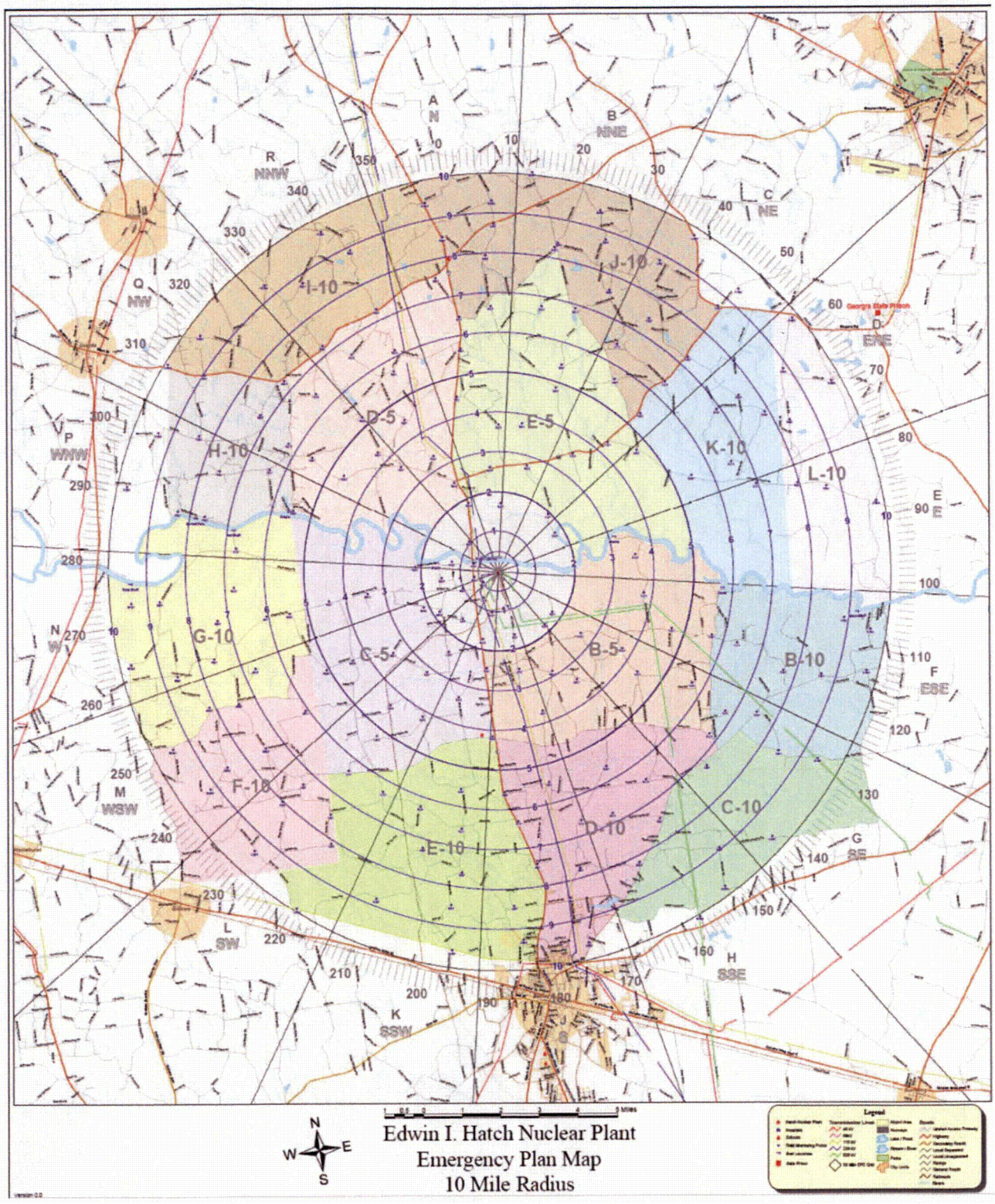

Figure 1.2.A – 10 Mile Emergency Planning Zone (EPZ)

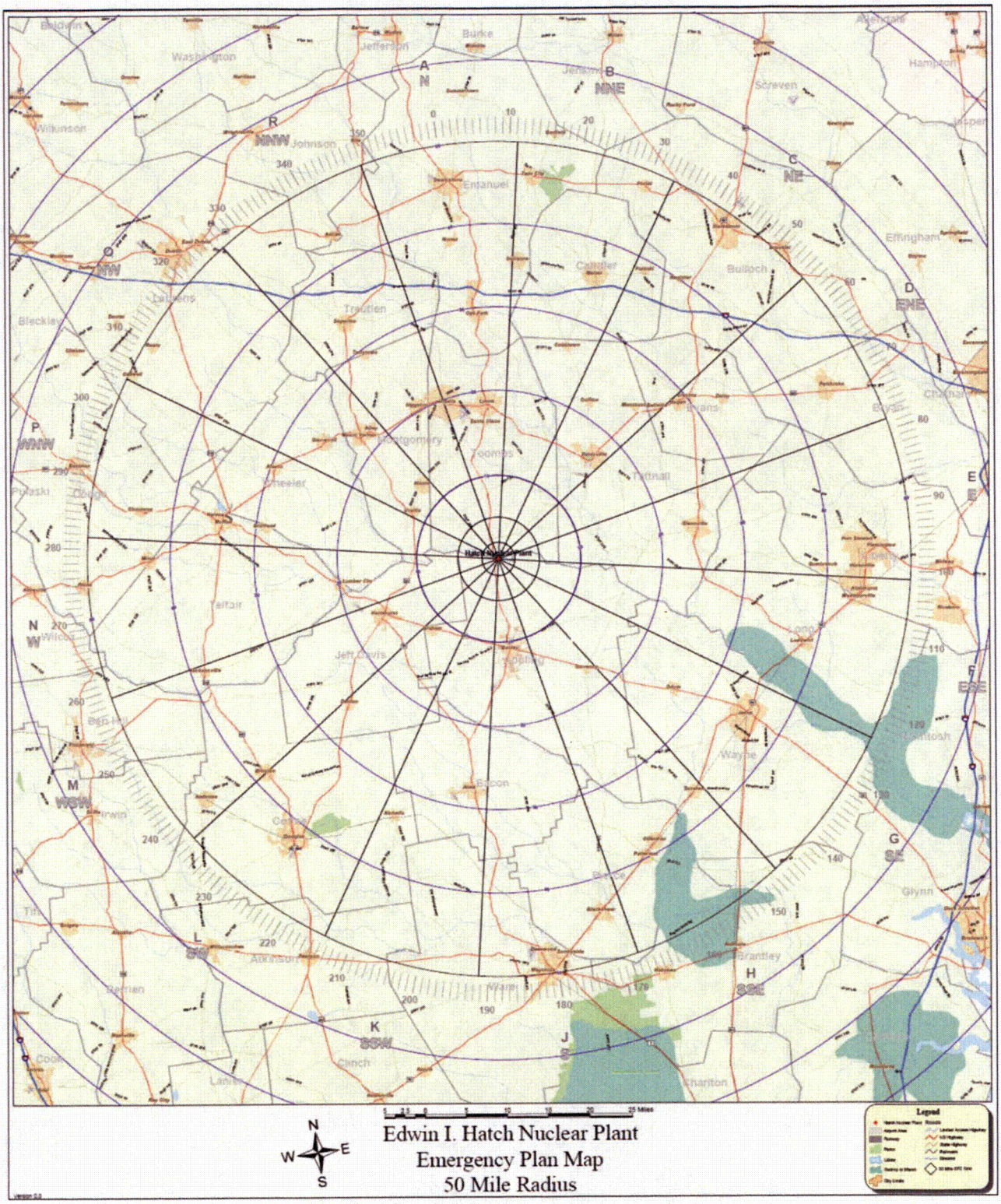

Figure 1.2.B – 50 Mile Ingestion Pathway IPZ

Section 2: Organizational Control of Emergencies (SEP B.1)

2.1 Normal Plant Organization (SEP B.1)

The normal plant operating crew is staffed and qualified to perform actions that may be necessary to initiate immediate protective actions and to implement the emergency plan, and is designated as the responsible group for such actions.

The normal plant organization is described in Section B.1 of the SNC Standard Emergency Plan.

2.2 Emergency Organization (SEP B.2, B.3)

2.2.1 The HNP On-Shift Emergency Response Organization is described in Table 2.2.A (SEP B.1).

2.2.2 The HNP Augmented Emergency Response Organization is described in Figures B.2.1.A, B.2.2.A, B.3.1.A, and B.3.2.A in the Emergency Plan (SEP B.2, B.3).

An On-Shift Staffing Analysis was completed in accordance with the requirements of 10 CFR 50 Appendix E IV.A.9. This analysis forms the basis for the on-shift staff as described in Table 2.2.A. A copy of the analysis is maintained in the SNC document management system.

Table 2.2.A – Hatch Nuclear Plant On-Shift Staffing

Major Functional Area	Major Tasks	Position	On-Shift
Emergency Direction and Control		Shift Manager (SM)/ Emergency Director (ED)	1
Plant Operations and Assessment of Operational Aspects		Shift Supervisor (SRO)	2
		Reactor Operator (RO)	4
		Shift Support Supervisor/Fire Brigade Leader (SRO/FBL) Note 1	1
		System Operator (SO) Note 1	7
Plant System Engineering, Repair and Corrective Actions	Technical Support	Shift Support Supervisor / Shift Technical Advisor (SRO/STA)	1
Notification/ Communication	Notify licensee, State local and Federal personnel & maintain communication	Licensed Operator (RO or SRO)	Note 2
Radiological Accident Assessment and Support of Operational Accident Assessment	Offsite Dose Assessment	Chemistry Technician or other trained personnel	1
	In-plant surveys	RP Technician or other trained personnel	1
	Offsite Surveys Onsite (out-of-plant)	RP Technician or other trained personnel	1
Protective Actions	Radiation Protection: a. Access Control b. RP Coverage for repair, corrective actions, search and rescue first-aid & firefighting c. Personnel monitoring d. Dosimetry	RP Technician	1
	Chemistry/Radio- chemistry	Chemistry Technician	1
Plant System Engineering Repair and Corrective Actions	Repair and Corrective Actions	Maintenance Supervisor	1
		Electrical Maintenance	1
		Mechanical Maintenance	1
		I&C Maintenance	1
		Total:	**25**
Fire Fighting		Fire Brigade Note 1	5
Rescue Operations and First Aid		Rescue Operations/First Aid Note 2	2
Site Access Control and Personnel Accountability		Security	Security Plan

Note 1 – Fire Brigade made up of FB Leader (SSS) and 4 System Operators not assigned safe shutdown responsibilities.
Note 2 – May be provided by shift personnel assigned other functions.

2.3 Non-SNC Support Groups (SEP B.4, B.5, B.6)

2.3.1 Fire Fighting (SEP B.6.4)

Plant Hatch has established an agreement with the Appling County EMA to provide, upon request, offsite fire support to the HNP Fire Brigade. Support provided includes, but is not limited to, firefighters and firefighting equipment. Request for fire support will be made by the control room or site security to the Appling County 911 center, Appling County EOC, or the Incident Command Post, as applicable, based on the nature and timing of the event.

2.3.2 Hospital and Medical Support (SEP B.6.3, K.1.3, L.1)

The detailed plans for the handling and care of injured personnel potentially contaminated and/or highly irradiated are contained in site procedures. A brief description of the facilities and services available for medical support is given below.

2.3.2.1 Appling Healthcare System

The Appling Healthcare System in Baxley, Georgia has agreed to receive and care for injured personnel that may be contaminated or irradiated. In addition to routine medical care, space has been provided for a decontamination and emergency treatment facility and for storage of emergency medical equipment, monitoring equipment and dosimeters.

2.3.2.2 Meadows Regional Medical Center

The Meadows Regional Medical Center in Vidalia, Georgia has agreed to receive and care for injured personnel that may be contaminated or irradiated. In addition to routine medical care, space has been provided for a decontamination and emergency treatment facility and for storage of emergency medical equipment, monitoring equipment and dosimeters.

2.3.3 Ambulance Services (SEP B.6.2, L.4)

Plant Hatch has established agreements with the Appling County EMS and Toombs-Montgomery County EMS for the transportation of injured personnel, including people who may be radioactively contaminated, to hospital facilities for treatment.

Request for medical support will be made by the control room or site security to the Appling County 911 center, Toombs County 911, or the Incident Command Post, as applicable, based on the nature and timing of the event.

2.3.4 Information for Transients (SEP G.8)

Several communications methods may be used to acquaint the public with plans for their protection during a Plan emergency. Effort will be concentrated on providing information to the public by written material that is likely to be available in local residences and in locations frequented by transients. The information will also provide instructions on which local media will be providing in additional information in the event of an emergency.

Section 3: Classification of Emergencies (SEP D.1)

3.1 Emergency Classifications: (SEP D.1)

There are four classes of Emergency Action Levels based on severity, taking into consideration both potential and actual, events in progress. They are, from the least to the most serious, Unusual Event, Alert, Site Area Emergency, and General Emergency. Initiating Conditions (ICs), which determine which level will be declared, are predetermined subsets of plant conditions where the potential exists for a radiological emergency, or such an emergency has occurred. Emergency Action Levels (EALs) are plant-specific indications, conditions, or instrument readings that are used to classify emergency conditions.

3.1.1 The described emergency classes and the emergency action levels are agreed on by SNC and state and local authorities. The emergency action levels will be reviewed by state and local officials annually.

3.2 Determination of Levels: (SEP D.1.2)

Appendix B to this Annex contains the matrix for Initiating Conditions used to determine an Emergency Action Level (EAL). They are part of the scheme established by NEI 99-01, Methodology for Development of Emergency Action Levels.

3.3 Operating Mode Applicability (SEP D.2.7)

The plant operating mode that existed at the time that the event occurred, prior to any protective system or operator action initiated in response to the condition, is compared to the mode applicability of the EALs. If an event occurs, and a lower or higher plant operating mode is reached before the emergency classification level can be declared, the emergency classification level shall be based on the mode that existed at the time the event occurred.

BWR Operating Modes at HNP 1&2

Mode	Mode Description	Rx Mode Switch Position	Avg. RCS Temperature (°F)
1	Power Operations	Rx Mode Switch in "Run" Position	N/A
2	Startup	Refuel[(a)] or Startup/Hot Standby	N/A
3	Hot Shutdown [(a)]	Shutdown	RCS > 212°F
4	Cold Shutdown [(a)]	Shutdown	RCS ≤ 212 °F
5	Refueling [(b)]	Shutdown or Refuel	N/A

(a) All reactor vessel head closure bolts fully tensioned.
(b) One or more reactor vessel head closure bolts less than fully tensioned

Section 4: Emergency Measures (SEP E)

4.1 Notification of Off-Site Agencies (SEP E.2.2)

4.1.1 Notification Process (SEP E.2.2.1)

State and local warning points are staffed 24 hours per day. State and county authorities to be notified within 15 minutes of the declaration of an emergency condition are:

State of Georgia:

- Georgia Emergency Management Agency (GEMA).

Georgia county authorities:

- Appling County warning point.
- Jeff Davis County warning point.
- Tattnall County warning point.
- Toombs County warning point.

4.2 Alert and Notification System (ANS) (SEP E.2.5)

Within the Plume Exposure Emergency Planning Zone (EPZ), there exist provisions for alerting and providing notification to the public. The state and/or local authorities are responsible for activation of this system.

Primary alerting is accomplished by use of a siren system. Each siren operates on battery power with battery charge maintained by an inverter that receives power from the local electrical grid or from a solar panel(s). Siren system activation, test, and monitoring capability are provided for Appling County, Georgia and for the state of Georgia.

Special alerting is accomplished through the use of a calling system. Special alerting is initiated in the event of a failure of the system to activate multiple sirens resulting in a loss of coverage in any area. Special alerting may be initiated for a predefined area, a user specified area, user defined groups, or the entire Emergency Planning Zone (EPZ). The calling system serves as a complete backup to the ANS. The system provides both alerting and notification of EPZ residents independent of the alerting capabilities provided by the installed siren system and notification capability of local radio and television stations through EAS. Capability for activation of the calling system is provided for Appling County, Georgia, and for the state of Georgia.

A full description of the Hatch ANS design is provided in the FEMA approved ANS Design Report located in the SNC document management system.

Residents in the plume exposure pathway EPZ have been instructed to tune to specific emergency alert radio or TV stations if the sirens are activated.

Following activation of the siren system, emergency notifications will be made to the public within the 10-mile plume exposure pathway EPZ by activation of the Emergency Alert System (EAS). State and local Emergency Management Agencies will initiate activation of the local EAS stations. Emergency messages are coordinated between the local Emergency Management Agencies and the State Emergency Management Agencies prior to activation of the local radio stations, as specified in the local area plans.

4.3 Protective Actions for Onsite Personnel (SEP J.4)

Protective response for onsite personnel (including visitors and contractor personnel) includes alerting, assembly and accountability, site evacuation, monitoring, and decontamination. Protective actions may also be taken for onsite personnel for emergencies such as fires, security related events or natural disasters where personnel safety is threatened.

4.3.1 Alerting (SEP E.2.1, J.1)

Section E of the Emergency Plan (EP), Notification Methods and Procedures, describes the methods to be used to alert on-site personnel of emergency conditions.

4.3.2 Assembly (SEP J.4.1)

Personnel assembly is mandatory at the Site Area Emergency or higher level classification. Upon activation of the plant emergency alarm, plant personnel assigned specific emergency responsibilities will proceed to their designated emergency response locations. Assembly of site personnel outside of the Protected Areas is accomplished by non-essential personnel reporting to designated assembly areas. Assembly may be initiated at any time site management deems it appropriate for personnel safety reasons.

Nonessential plant personnel located within the Protected Area will exit the protected area upon hearing the Site Area or the General Emergency alarm, and report to designated assembly areas. Visitors, contractors, and escorted personnel will leave the protected area during an Alert or higher declaration.

4.3.3 Security Events (SEP J.4)

On-site protection of employees during security events involves a combination of restricted movement, movement to safe locations, and site evacuation depending on the nature of the event and advance warning. Specific actions to be taken during such events are included in site procedures.

4.3.4 Monitoring and Decontamination (SEP K)

When an Alert is declared but no site evacuation 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 onsite locations.

For a Site Area Emergency or a General Emergency, or when site evacuation is expected and a release of radioactivity has occurred, monitoring is performed by portal monitors at the Plant Entry Security Building or by portable monitoring equipment at the rally point areas. The Rally Point Team establishes a control point at the rally point area and monitors evacuees before releasing them. The monitoring teams maintain the appropriate records.

4.4 Protective Actions for the Offsite Public (SEP J.5)

The Emergency Director will recommend the necessary protective actions to offsite authorities based on predetermined protective actions for a General Emergency Classification or results of offsite dose assessment. Upon activation of the EOF, the EOF Manager will be responsible for recommending protective actions for the offsite

population. Responsibility for carrying out the protective actions rests with offsite authorities.

4.4.1 Protective Action Recommendations (SEP J.5)

A range of Protective Actions have been developed and agreed on with State and Local authorities. They may include the following:

- Evacuation.
- Shelter in place.
- Monitor and prepare.
- Thyroid blocking agent (consider the use of KI (potassium iodide)) in accordance with state plans and policy.

Section 5: Emergency Facilities and Equipment (SEP H)

5.1 Emergency Response Facilities (SEP H.1, H.2)

5.1.1 Control Room (SEP H.1.1)

The Control Room contains the necessary instrumentation, both process and radiological, to evaluate plant conditions, as detailed in the plant Final Safety Analysis Report. Habitability is maintained by shielding and the Emergency Filtration Train (EFT) ventilation system, which is capable of operating in a cleanup or recycle mode. Designated emergency equipment is supplied power from the emergency diesel generators with vital instrumentation powered from inverters connected to the storage batteries located in the battery rooms.

5.1.2 Technical Support Center (SEP H.1.2)

The TSC, which is shared by both units, is located adjacent to the service building annex. A sample layout of the TSC is shown in Figure 5.1.A.

The TSC provides plant management and technical support personnel, including NRC personnel, with adequate space to assist plant operating personnel located in the Control Room during an emergency. The TSC is equipped with technical data displays and has ready access to plant records to allow TSC personnel to perform detailed analysis and diagnosis of abnormal plant conditions, including assessment of any release of radioactivity to the environment.

The TSC structure and ventilation system is designed to ensure that TSC personnel are protected from radiological hazards similar to that of the Control Room. An area radiation monitor, which alarms on abnormal radiation levels, is provided in the TSC. In addition, portable radiation monitors are available for personnel in transit from the TSC to other areas. Self-contained breathing apparatus (SCBA) are provided in the TSC. Anticontamination clothing is available at the nearby OSC.

The TSC normal lighting is supplied from normal site power through a motor control center backed up by the security diesel generator.

Power for the TSC vital equipment is provided either from the motor control center backed up by the security diesel generator, or from a battery-backed uninterruptible power supply system. Power to the DC power system is provided by battery chargers, one of which is powered from this same motor control center.

The TSC maintains access to drawings and records necessary for the response to an emergency event at HNP. These records can be accessed on a digital records system. This system is supplied backup power by an uninterruptible power supply to allow retrieval of records in the event of a loss of power. These records include but are not limited to:

- Technical Specifications.
- Plant Operating Procedures.
- Final Safety Analysis Report.
- Emergency Plan.
- Emergency Plan Implementing Procedures.
- Plant operating records.

- System piping and instrumentation diagrams; heating, ventilation, and air-conditioning (HVAC) flow diagrams.
- Electrical one-line, elementary, and wiring diagrams.
- Control logic and loop diagrams.

The above records are updated as necessary to ensure accuracy and completeness.

5.1.3 Operations Support Center (SEP H.1.3)

The OSC consists of the service building break room and other areas available for staging of support personnel. This includes groups such as Instrument and Control Technicians, Mechanics, Electricians, Nuclear Chemistry and Radiation Protection (RP) Technicians, System Operators, and oncoming shift personnel who assemble to aid in the response to an emergency. Briefings will be held with each team prior to being dispatched. A sample layout of the OSC is shown in Figure 5.1.B.

Emergency kits containing radiation monitoring equipment, first-aid supplies, decontamination supplies, breathing apparatus, portable lighting, and portable radios are available to the OSC. If the OSC is deemed uninhabitable, the OSA may be moved to other locations as deemed appropriate by the OSC Manager.

5.1.4 Alternative Facility (SEP H.1.4)

During a security-related event or other event that precludes onsite access, the TSC and OSC ERO will be directed to an alternative facility. This facility is located adjacent to the Georgia Power Company operating headquarters in Vidalia, Georgia and is approximately 22 miles from HNP. The alternative facility is equipped with the necessary communications and data links to support communications with the control room, site security, and the EOF.

The available communications and data links also provide access to SNC document management resources, and to work planning resources for performing engineering assessment activities including damage control team planning and preparation for return to the site. Guidance for use of the facility is in site procedures.

5.1.5 Emergency Operations Facility (SEP H.2.1)

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 a dedicated facility located in Birmingham, Alabama, and serves as the EOF for SNC sites (VEGP, FNP, and HNP). Additional details regarding the EOF are contained in section H.2.1 of the Emergency Plan.

A near site location is maintained at the Simulator Building with space for members of an NRC Site Team.

5.1.6 Joint Information Center (JIC) (SEP H.2.2)

The JIC is the central location for the coordination and dissemination of information to news media, and responses to media inquiries. Details of the JIC for VEGP are in section H of the Emergency Plan. If the decision is made to move the JIC function forward to a near site location from the

Atlanta/Birmingham location, the Atlanta/Birmingham facility will maintain media coordination until the JIC is operational at the near site location. The near site location is in Vidalia, Georgia, adjacent to the Georgia Power Company operating headquarters.

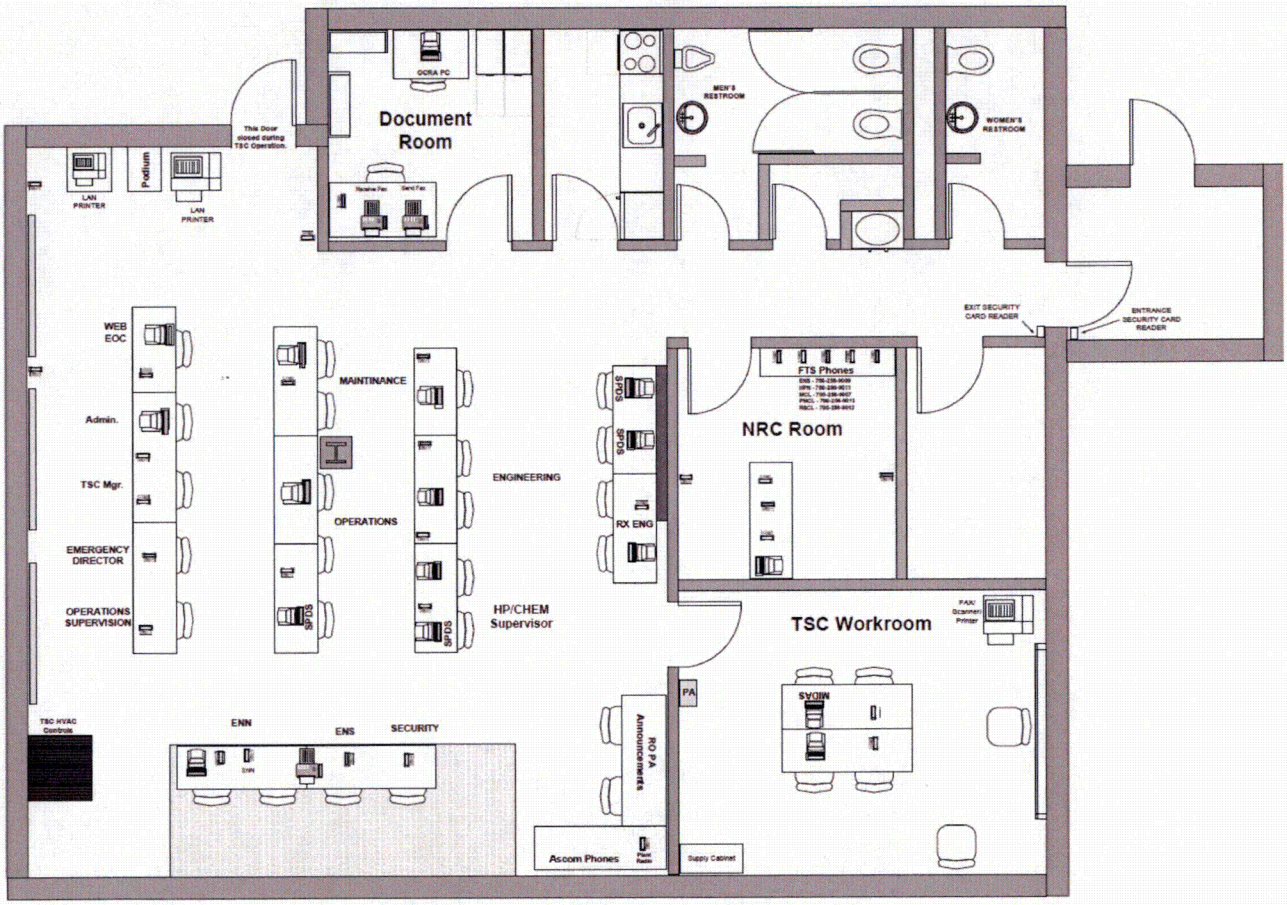

Figure 5.1.A – Sample Technical Support Center

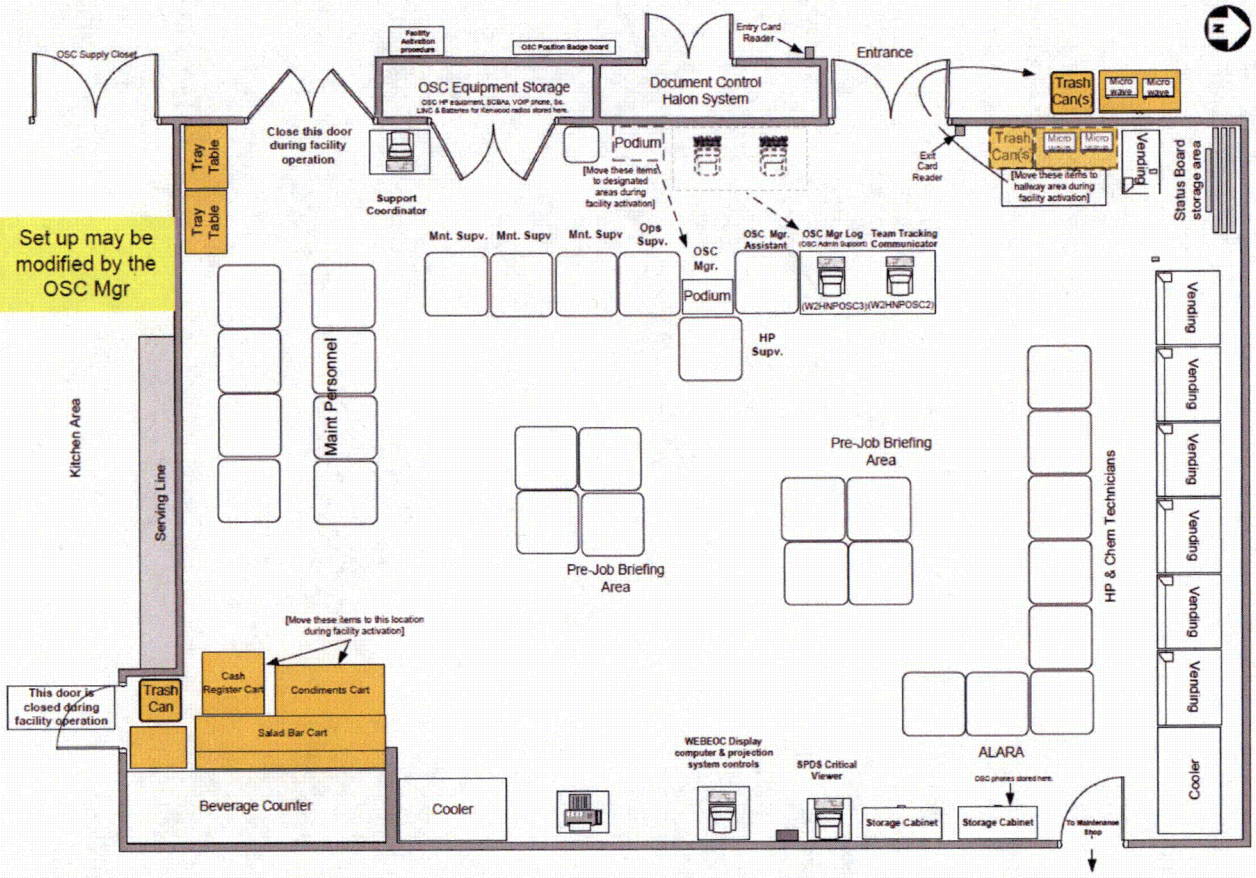

Figure 5.1.B – Sample Operations Support Center

5.2 On-Site Communications (SEP F.1)

Normal on-site communications is provided by the plant telephone system (network and commercial). The plant public address (PA) system may also be used for in-plant communications.

Portable radios are used for communications between individuals and base stations located in the Control Room, TSC, OSC EOF, and Security. There is also a plant intercom system. Intercom units are installed at selected plant locations primarily for specific task-related activities.

5.3 Offsite Communications (SEP F.1)

5.3.1 Communications with the State and Local Counties (SEP F.1.2)

The primary means of communication between HNP, the State of Georgia, and the local counties (Appling, Jeff Davis, Tattnall, and Toombs) is the Emergency Notification Network (ENN). The ENN is a dedicated communications system from the plant to the state and local warning points, which are staffed 24 hours per day. Extensions for this system are located in the Control Room, the TSC, and the EOF.

5.3.2 Alternate Offsite Communications (SEP F.1.1)

Commercial telephones or land lines provide backup for the ENN.

5.4 Communications System Testing (SEP F.3)

Communication channels with the state of Georgia, the plume exposure pathway EPZ counties, and the NRC (with the exception of ERDS) are tested each calendar month, using the extensions in the Control Room, the TSC, and the EOF. ERDS is tested each calendar quarter. Communications procedures and systems are also tested each calendar year.

5.5 Emergency Kits (SEP H.9)

Emergency supplies and equipment are located at various plant locations. 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.

5.6 Facilities and Equipment for On-site Monitoring (SEP H.5)

The plant instrumentation and monitors perform indicating, recording, and protective functions. The Reactor Protection System and associated plant instrumentation provide the ability to maintain plant safety from shutdown to full power operations, and to monitor and maintain key variables such as reactor power, flow, temperature, and radioactivity levels within predetermined safe limits at both steady state conditions and during plant transients. Plant instrumentation and control systems also provide means to cope with abnormal operating conditions. The control and display of information of these various systems are centralized in the unit Control Room. This instrumentation would provide the basis for initiation of protective actions.

5.6.1 Geophysical Phenomena Monitors (SEP H.5.1)

Meteorological (SEP H.5.1)

Meteorological monitoring is in place at HNP. The instruments are mounted on a 100-meter primary tower located to the south of the power block and on a 45-meter backup tower located to the southeast of the power block. Parameters measured and transmitted to the Control Room include:

- Windspeed
- Wind direction
- Vertical temperature difference
- Ambient temperature

A building that houses meteorological equipment is located near the base of each tower. The system is powered by an uninterruptible power supply for high availability. Additionally, meteorological information can be obtained from the National Weather Service to supplement onsite data and provide a backup to the plant meteorological monitoring program on an as-needed basis.

The important parameters for characterizing the transport of airborne radioactivity are wind speed, wind direction, and atmospheric stability (e.g., derived from the standard deviation of the horizontal wind direction or vertical temperature difference). These meteorological parameters are used in a calculation methodology to assess the offsite radiological consequences of accidental releases of airborne radioactivity. The methodology is described in Section I, Accident Assessment, of the SNC Standard Emergency Plan.

Hydrologic (SEP H.5.1)

The normal and emergency source of plant cooling water is the Altamaha River, which provides makeup to the cooling towers. The probable maximum flood level is approximately 105 ft msl.

Seismic (SEP H.5.1)

Seismic monitoring instrumentation for HNP consists of time-history accelerographs, peak recording accelerographs (PRAs), a response-spectrum recorder, and seismic switches.

One triaxial seismic switch, with a horizontal set point of 0.08 g, is installed on the drywell pedestal on the 87 ft level of the Unit 2 reactor building. A second seismic switch is located outside the biological shield on the 185 ft level of the Unit 2 reactor building and has a vertical set point of 0.063 g. They are backup devices that actuate visual and audible annunciators in the Control Room.

Activation of the seismic switches causes an audible and visual annunciation in the Control Room to alert the plant operator (PO) that an earthquake has occurred. These initial set points are based on experience in existing plants and may be changed once significant plant operating data, which indicate that a different set point will provide better strong-motion accelerometer (SMA) system operation, are obtained.

5.7 Protective Facilities and Equipment (SEP J)

In the event of a plant evacuation, the On-Site Assembly Areas (or Off-Site Assembly Areas, as appropriate) will be used. The function of the assembly area is to provide a center for personnel accountability and radiological contamination screening along with any other immediately necessary actions.

The assembly areas are located in various buildings throughout the site. Georgia Power Company facilities may be used as the off-site assembly area at the discretion of the Emergency Director. The off-site assembly area location will be announced over the public address system when the announcement of evacuation is made.

Protective actions including relocation of onsite personnel in the event of an attack or threat of hostile action against the site have been developed for that specific situation. Specific protective actions in this case are identified in site procedures not readily available to the public.

5.8 Medical Support (SEP B.6, SEP L)

5.8.1 Hospital and Medical Support (SEP B.6.3, L.1)

Arrangements for treating radiologically contaminated and/or irradiated patients have been made with the Appling Healthcare System, located approximately 11 miles south of the site, and Meadows Regional Medical Center, located approximately 22 miles north of the site. Each hospital has a radiation emergency area separate from the rest of the complex. Each area contains facilities and equipment for emergency surgery, personnel dosimetry, decontamination, radioactive waste recovery, and portable shields for attendant exposure control. These facilities enable the emergency treatment and the handling of contaminated individuals. Non-contamination injuries will be handled by the hospital with its routine facilities.

The medical staff of each hospital is trained to treat externally contaminated patients or individuals who have received high exposures. Trained plant radiation protection personnel assist hospital staff when plant personnel are being evaluated. Following decontamination, personnel suspected to have ingested radionuclides will undergo bioassay analysis for determination of internal contamination.

A medical consulting group will provide medical support services to coordinate the total radiological management of radiation accident victims. An emergency medical assistance program has been established to use available personnel, facilities, and material in an effective manner.

5.8.2 Ambulance Service (SEP B.6.2, L.4)

Injured/externally contaminated personnel who require medical attention will normally be transported by ambulance to the cooperating hospitals. Ambulance crews are trained to handle external contamination cases, and an RP technician accompanies any contaminated patients to the hospital. Support and backup ambulance service are provided by the Appling County EMS and Toombs Montgomery County EMS, respectively. These crews also receive sufficient training in handling contamination cases.

Appendix A – Evacuation Time Estimate Study and Map Reference (SEP J.6)

In order to ensure the safety of the public living in the vicinity of nuclear power plants in the nation, the U.S. Nuclear Regulatory Commission (NRC) requires licensees to develop and update evacuation time estimates (ETEs) for areas within the emergency planning zone (EPZ). Population reviews will be conducted annually using the most recent US Census and local information. Updates are required following the availability of data from the decennial census (10 years) or when the sensitivity factor for changes in population within the EPZ has been exceeded. This appendix contains information from the ETE update performed in 2012. This update implements the requirements of the revised regulations relevant to ETE updates in accordance with the guidance provided in NUREG/CR-7002, *Criteria for Development of Evacuation Time Estimate Studies* and the requirements in 10 CFR 50, Appendix E, Sections IV.3 and IV.4.

Southern Nuclear Operating Company (SNC) contracted Innovative Emergency Management (IEM) to estimate evacuation times for the 2012 populations within the 10-mile plume exposure pathway emergency planning zone (EPZ) surrounding the Edwin I. Hatch Nuclear Plant (HNP). This appendix provides a summary of the final report describing the methods used to obtain population data and to estimate evacuation times, population figures, evacuation road network information, and ETEs.

The report provides a breakdown of the population by geographic areas and protective action zones (PAZ). Five categories of population are identified in the report:

- Permanent residents
- Transient population
- Transit dependent permanent residents
- Special facility residents
- Schools

The permanent resident population is made up of individuals residing in the 10-mile EPZ. The total year 2012 permanent resident populations within the 10-mile EPZ for HNP are estimated to be 8,609. The transient population consists of workers employed within the area, recreational sportsmen, and visitors. The total transient population within the 10-mile EPZ is estimated to be 1,841, which includes 657 workers at HNP. The populations of two public schools and one state-sponsored special facility in the HNP EPZ were identified. In these analyses, the study team contacted the schools and the special facility within the EPZ area to collect current enrollment and staff figures. The total peak population for the schools is estimated at 977, and the special facility is estimated to be 66. Transit dependent permanent residents in the 10-mile EPZ are estimated to be 74. This study also considered the voluntary evacuees, who are also known as shadow evacuees that reside within 10 to 15 miles from HNP.

IEM utilized a computer traffic simulation model, PRV Vision VISUM, to perform the ETE analyses. For the analyses, the 10-mile plume exposure pathway EPZ was divided into 17 unique geographic areas based on 2-mile, 5-mile, and 10-mile radius rings, the 16 22.5-degree PAZs, as well as keyhole and staged evacuation logic. In order to represent the most realistic emergency scenarios, evacuations for the 17 geographic evacuation areas were modeled individually for the midweek daytime, midweek – weekend evening, and weekend daytime scenarios. Each of these scenarios was then considered under both normal and adverse weather conditions using the 2012 population estimations. A total of 102 evacuation scenarios were considered to represent different wind, temporal, seasonal, and weather conditions.

Both 100% and 90% ETEs for each scenario were collected. The 100% ETEs for 2012 normal weather conditions ranged from 2 hours 50 minutes to 3 hours 35 minutes. The 100% ETEs for

2012 adverse weather conditions ranged from 2 hours 55 minutes to 3 hours 55 minutes. The 90% ETEs for 2012 normal weather conditions ranged from 1 hour 35 minutes to 2 hours 45 minutes. The 90% ETEs for 2012 adverse weather conditions ranged from 1 hour 40 minutes to 3 hours. The factors that contributed to the variations in ETEs between scenarios include differences in the number of evacuating vehicles, the capacity of the evacuation routes used, or the distance from the origin zones to the EPZ boundary.

The factors that contributed to the variations in ETEs between scenarios include differences in the number of evacuating vehicles, the capacity of the evacuation routes used, or the distance from the origin zones to the EPZ boundary.

Based on the data gathered and the results of the evacuation simulations, the existing evacuation strategy was determined to be functional for the 2012 conditions, given the lack of severe congestion or very high ETEs. Recommendations were provided for enhancements to improve the evacuation time estimate.

Assumptions utilized in the ETE will be reviewed when evaluating changes to roadways or evacuation networks to ensure the results of the ETE remain valid. Changes in population will be evaluated utilizing the sensitivity factor developed during the ETE analysis.

The full Evacuation Time Estimate was submitted for NRC review in accordance with NRC regulations 10 CFR Part 50, Appendix E, Section IV.3. Following the NRC review, the results of the study and recommendations were reviewed with applicable offsite agencies. The review focused on the utilization of the results of the evacuation simulations provided in the ETE for comparison to existing protective action strategies. Modifications were incorporated as part of the ongoing emergency planning process. (Reference: Annual ETE Review document ETE-HNP-002; ETE document ETE-HNP-001).

Appendix B - Emergency Action Level (EAL) Scheme (SEP D.1)

HOLD FOR EAL SCHEME

Appendix C - Supporting Plans & Implementing Procedures (SEP P.3)

Supporting Plans

- State of Georgia Radiological Emergency Response Plan
- Appling, Jeff Davis, Tattnall, and Toombs County Emergency Response Plans.
- HNP Security Plan
- HNP Fire Protection Plan

Administrative and Emergency Plan Implementing Procedures (EPIP)

Placeholder for future EPIPs to be developed

Procedure #	Title	Applicable Plan Section