



South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

March 30, 2020
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U. S. Nuclear Regulatory Commission
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South Texas Project
Units 1 & 2
Docket Nos. STN 50-498 & 50-499
License Amendment Request to Revise
South Texas Project Electric Generating Station (STPEGS) Emergency Plan

Pursuant to 10 CFR 50.90, STP Nuclear Operating Company (STPNOC) hereby requests a license amendment for South Texas Units 1 & 2, seeking approval of changes to the South Texas Project Electric Generating Station (STPEGS) Emergency Plan.

Federal requirements 10 CFR 50.47(b) and 10 CFR 50, Appendix E, establish emergency planning standards that require: 1) adequate staffing, 2) satisfactory performance of key functional areas and critical tasks, and 3) timely augmentation of the response capability. STPNOC is requesting NRC approval of proposed changes to the STPEGS Emergency Plan. The proposed STPEGS Emergency Plan was developed based upon the updated NRC guidance contained in NUREG-0654/FEMA-REP-1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support Nuclear Power Plants, Revision 2. This includes revisions to align staffing with the functions and major task delineations, specifically the on-shift and minimum augmenting ERO assigned within these functional areas. Consistent with NUREG-0654, Revision 2, the proposed changes would remove references to non-minimum augmented ERO positions from the STPEGS Emergency Plan while retaining appropriate positions in the applicable implementing procedures.

An evaluation of the proposed changes pursuant to 10 CFR 50.54, *Conditions of licenses*, paragraph (q), *Emergency plans*, has determined that the proposed changes result in a potential reduction of effectiveness of the STPEGS Emergency Plan and, therefore, require prior NRC approval. A pre-submittal call was held with NRC staff on December 3, 2019 and a pre-submittal meeting was held on February 6, 2020.

Enclosure 1 contains the results of analyses conducted in support of this application, specifically an evaluation of the proposed changes, which includes a detailed description, technical and regulatory evaluation supporting a no significant hazards consideration, and environmental consideration. Enclosure 2 of this submittal is the full proposed Emergency Plan. Enclosure 3 contains information related to the review of proposed changes by the affected State and County.

STPNOC is requesting approval of the proposed license amendment by March 31, 2021, and will implement the amendment within 12 months of the NRC approval date.

In accordance with 10 CFR 50.91(b), STPNOC is notifying the State of Texas and Matagorda County of this license amendment request for these license amendments by transmitting a copy of this letter and Enclosures to the designated officials. The proposed amendment has been

reviewed by the STPNOC Plant Operations Review Committee and has undergone an independent organizational unit review.

There are no regulatory commitments in this license amendment request.

If there are any questions or if additional information is needed, please contact Ali Albaaj at (361) 972-8949 or me at (361) 972-7697.

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

Executed on: March 30, 2020



Aldo Capristo
Executive VP and CAO

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Enclosure 1: Evaluation of Proposed Changes

Enclosure 2: South Texas Project Electric Generating Station (STPEGS) Emergency Plan

Enclosure 3: Concurrence Letters with STPNOC Emergency Plan Change Proposal

cc:

Regional Administrator, Region IV
U. S. Nuclear Regulatory Commission
1600 E. Lamar Boulevard
Arlington, TX 76011-4511

Enclosure 1

Evaluation of Proposed Changes

Enclosure 1

License Amendment Request

**South Texas Project, Unit 1 and Unit 2
Facility Operating License Nos. NPF-76 and NPF-80**

EVALUATION OF PROPOSED CHANGES

Subject: License Amendment Request for Approval of South Texas Project Emergency Plan

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1.0 SUMMARY DESCRIPTION

Pursuant to 10 CFR 50.90, South Texas Project Nuclear Operating Company (STPNOC) requests amendments to the Operating Licenses for South Texas Project (STP) Units 1 and 2. Specifically, the proposed changes would revise the Operating Licenses to adopt the proposed South Texas Project Electric Generating Station (STPEGS) Emergency Plan. The proposed STPEGS Emergency Plan establishes an updated licensing basis for STP that complies with current NRC regulations in 10 CFR 50.47 and 10 CFR 50 Appendix E, and is based upon the guidance in NUREG-0654/FEMA-REP-1, *Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants*, Revision 2.

STPNOC has developed the proposed STPEGS Emergency Plan using the NUREG-0654, Revision 2, outline and is organized such that each evaluation criterion (or planning element) is explicitly stated, followed by a description of how the STPEGS Emergency Plan will address that criterion.

The proposed STPEGS Emergency Plan provides the basis for response actions that would be implemented in an emergency and the requirements for maintenance and administration of the emergency preparedness program.

The formal STPEGS Emergency Plan consists of the following separately maintained Emergency Preparedness (EP) licensing basis documents, all of which are subject to the requirements of 10 CFR 50.54(q):

- Emergency Plan
- On-Shift Staffing Analysis
- Emergency Action Level Technical Basis Document
- Evacuation Time Estimate Study
- Protective Action Recommendation Strategies
- Alert and Notification System Design Report

This license amendment request is limited to changes to the STPEGS Emergency Plan and the On-Shift Staffing Analysis, of which only the proposed STPEGS Emergency Plan requires NRC approval. The results of the On-Shift Staffing Analysis are described in Section 3.5 of this change evaluation. The remaining Emergency Plan licensing basis documents are not affected by the re-baselining of the STPEGS Emergency Plan.

2.0 DETAILED DESCRIPTION

2.1 Proposed Changes

The proposed STPEGS Emergency Plan was developed based upon the updated NRC guidance contained in NUREG-0654, Revision 2.

This re-baselining of the Emergency Plan includes revisions to align staffing with the functions and major task delineations, specifically the on-shift and minimum augmenting Emergency Response Organization (ERO) assigned within these functional areas. Consistent with the NUREG-0654, Revision 2, the proposed changes will also remove reference to non-minimum augmenting ERO positions from the Emergency Plan while retaining appropriate positions in the applicable implementing procedures.

Changes in the proposed STPEGS Emergency Plan that could be considered a reduction in effectiveness (RIE) from the updated NUREG-0654, Revision 2, guidance or from the current STPEGS Emergency Plan have been identified in this document as RIEs. Detailed justification is provided for those RIEs in Section 3, Technical Evaluation, and demonstrates that the proposed STPEGS Emergency Plan continues to provide an adequate response to radiological emergencies.

- Section 3.1 documents the technical advancements and program enhancements implemented after the original Emergency Plan was approved or are included in the proposed Emergency Plan
- Section 3.2 documents and dispositions the RIEs determined in the ERO functional analysis
- Section 3.3 documents and dispositions the RIEs determined in the ERO augmentation analysis
- Section 3.4 documents and dispositions the RIE determined in the ERO task analysis
- Section 3.5 documents the results of the ERO on-shift staffing analysis
- Section 3.6 documents and dispositions the RIEs determined in the approved Emergency Plan to current Emergency Plan comparison analysis
- Section 3.7 documents and dispositions the RIEs determined in the proposed Emergency Plan to current Emergency Plan comparison analysis
- Section 3.8 documents and dispositions the RIEs determined in the proposed Emergency Plan to NUREG-0654, Revision 2, criterion comparison analysis
- Section 3.9 documents the results of the STPNOC commitment analysis

Additionally, an Emergency Plan to 10 CFR 50 Appendix E comparison analysis was developed. The results of this analysis are documented in Appendix 3 of the proposed STPEGS Emergency Plan (Enclosure 2).

2.2 Reason for the Proposed Changes

The recent revision to NUREG-0654 reflects changes to NRC regulations, guidance, and policies, as well as advances in technology and operating experience best practices that have been identified since NUREG-0654, Revision 1, was issued in November 1980. The proposed STPEGS Emergency Plan is being revised based on the NUREG-0654, Revision 2, guidance.

3.0 TECHNICAL EVALUATION

The evaluation of the proposed changes is discussed below.

3.1 Technical Advancements and Program Enhancements

The discussions below describe the improvements implemented since the last revision of the NUREG-0654 guidance and initial approval of the STPEGS Emergency Plan or are proposed improvements to the STPEGS Emergency Plan. Specifically, technical changes in plant systems, procedures, Emergency Preparedness (EP) equipment/programs and training, which have been completed to better support ERO functions, ease operator burden, and improve augmented ERO efficiency.

The improvements to equipment, procedures, and training that have occurred since initial approval of the STPEGS Emergency Plan have resulted in a significant increase in the on-shift and augmented ERO knowledge and capabilities. These improvements collectively support the overall conclusion that there would be no degradation or loss of function resulting from the changes in the proposed STPEGS Emergency Plan.

3.1.1 EOF Minimum Augmenting ERO and Turnover of Key Functions

NUREG-0654, Revision 2, states that the minimum augmented ERO assigned to the Emergency Operations Facility (EOF) must be capable of performing their required functions within 60 minutes of a Site Area Emergency or greater emergency classification level. STPEGS is currently approved to activate the EOF within 90 minutes of a Site Area Emergency or greater emergency classification level.

The proposed STPEGS Emergency Plan requires activation of the EOF concurrent with the Technical Support Center (TSC) at an Alert or greater emergency classification level. By activating both the TSC and the EOF at the Alert emergency classification level, the turnover of key EP functions need only occur one time, which allows the TSC to focus on onsite response and mitigation activities and the EOF to focus on communications and offsite response and mitigation activities.

The turnover of key EP functions typically occurs simultaneously through a conference line between the Control Room (CR), TSC, and EOF. This ensures there is no delay in transferring functions from the CR to the respective Emergency Response Facility (ERF) (i.e., TSC or EOF).

This change exceeds the facility response requirements of the current STPEGS Emergency Plan and NUREG-0654, Revision 2.

3.1.2 Minimum Staffing Drill Once per Cycle

There is no requirement to perform minimum augmenting ERO drills.

The proposed STPEGS Emergency Plan has a voluntarily added requirement to conduct a drill each 8-year cycle to verify that the minimum augmenting ERO positions identified in the STPEGS Emergency Plan can effectively implement the Emergency Plan without additional support personnel.

Specific objectives will include timely facility activation, transfer of command and control, event assessment and classification, notification and response activities.

This change exceeds the ERO drill requirements of the current STPEGS Emergency Plan and NUREG-0654, Revision 2.

3.1.3 Information Gathering and Display Systems

STP's Plant Computer System was upgraded to an Integrated Computer System (ICS) in 1997. ICS graphically displays pertinent parameters with trending and graphing capabilities, alarm functions, and color-coded Critical Safety Function Status Trees. ICS provides the capability to monitor and trend plant parameters in real-time, including primary coolant system parameters, reactor core thermal performance parameters, emergency core cooling system (ECCS) parameters, meteorological data, containment isolation status, and radiation monitor readings.

The ICS user interface was designed to be more intuitive, require fewer inputs, and allow for active monitoring of real-time plant data via system diagrams and Critical Safety Function displays. The ICS computer system is powered via Vital AC Power with a DC battery backup.

Benefits of the upgraded ICS system include:

- Programming capability for automated response, such as indication of critical parameter alarms
- Improved plant monitoring capability for Emergency Director and STA functions
- Fewer inputs required to switch between graphical displays
- Real-time plant data available through graphical displays

The Emergency Response Facilities Data Acquisition and Display System (ERFDADS) is a distributed subsystem of the STP ICS that provides plant and environmental data used to assess abnormal operating conditions and mitigate the consequences of an accident. ERFDADS performs the following functions:

- Implementation of the Safety Parameter Display System as described in NUREG-0696 and NUREG-0737, Supplement 1.
- Data acquisition and signal processing for the Engineered Safety Features Status Monitoring System.
- Data acquisition and signal processing for the normal plant monitoring systems, including portions of the plant annunciator system.
- Data processing for offsite datalinks to the NRC Emergency Response Data system (ERDS).

ERFDADS workstations are provided in the Control Rooms, Auxiliary Shutdown Panels (ASP), TSCs, and EOF.

3.1.4 Dose Assessment and Protective Action Recommendations

The original STP dose assessment program was a Disk Operating System (DOS) based program called South Texas Assessment Model Projecting Estimated Dose Evaluation (STAMPEDE). The current version of STAMPEDE is a Windows-based application and supports multi-unit / multi-accident assessment of radiological releases. Radiological dose assessment has benefited from technological advances that make dose assessment less time consuming. STAMPEDE displays have been developed to obtain the necessary plant, radiological effluent, area radiation monitor, and meteorological near-real time information that is used by on-shift and augmenting ERO personnel to perform dose assessment. The STAMPEDE program has simplified data entry requirements and dose assessment can be performed with minimal data input. Thus, software enhancements have reduced the time required to perform dose assessment and to provide the results to the Emergency Director.

Dose assessment results and field monitoring readings assist in evaluating appropriate Emergency Classification Levels (ECLs) based on radiological Emergency Action Levels (EALs) and developing Protective Action Recommendations (PARs).

The overall improvements in technology and information availability over the years have enabled the on-shift staff to assess plant conditions quickly, efficiently, and with less distraction. Modern computers allow for calculation of dose projections within seconds rather than minutes.

The ERO uses NUREG-0654, Revision 1, Supplement 3 based flowcharts to determine the appropriate PAR to provide offsite authorities. This method facilitates a rapid determination of a PAR based on plant, radiological and meteorological conditions.

3.1.5 Procedural Improvements

a. Emergency Operating Procedures (EOPs)

Since the original STPEGS Emergency Plan approval, EOPs have been developed and improved through industry initiatives. EOPs generally use a symptom-based approach that demands less assessment and interpretation of plant conditions by the operators. In addition, the EOPs are better human factored, and have an improved layout allowing for more consistent implementation.

EOPs interface well with new technology such as the ICS. The ICS is capable of graphically displaying plant conditions to assist in EOP execution.

b. Emergency Action Levels (EALs)

STPNOC has updated their EAL scheme to the latest NRC endorsed scheme published in NEI 99-01, "Development of Emergency Action Levels for Non-Passive Reactors," Revision 6. The STP EALs incorporate the new guidance that has simplified the classification process, including the use of a matrix of EAL initiating conditions that streamlines the process of evaluating EALs against plant conditions.

3.1.6 Training

a. Operations Training

Training is used to strategically drive improved performance at STP. Since NRC approval of the STPEGS Emergency Plan, the Systematic Approach to Training has resulted in developing a task list for Operations personnel. This process ensures training is conducted to industry-accepted standards and has led to accreditation of the Operations Training Programs by the Institute of Nuclear Power Operations (INPO) National Academy for Nuclear Training.

The simulator is routinely used during Operations training. Simulator evaluations that include emergency response scenarios are part of requalification. Simulator scenarios are designed to be realistic and reflect a wide range of plant conditions, including emergency conditions. During simulator-evaluated sessions the Control Room staff is taken from normal operations to accident conditions which require evaluation against EALs and may result in an ECL up to a General Emergency. The operations crew performs emergency plan critical functions, such as classification, core damage assessment, accident mitigation, response prioritization, and communications without augmentation from additional responders. The proficiency of the Control Room staff in performing these functions, while maintaining situational awareness, without additional support is assessed during evaluated simulator sessions.

The Licensed Operator Requalification program includes licensed operations crew performance evaluations that are to consider the scenario guidance attributes of INPO Operations Department Standing Instruction, ODSI-3, Operations Department Guidance for Conducting Crew Performance Evaluations.

INPO ODSI-3 provides guidance on the realistic integration of the emergency response into crew performance evaluations. The purpose is to ensure the challenges the Emergency Plan responsibilities add to the crew's ability to manage an event are realistically represented in crew training and performance evaluations.

b. Shift Technical Advisor Training

The Shift Technical Advisor (STA) was originally trained as an advisor to the operating shift per NUREG-0737, Clarification of TMI Action Plan Requirements. In 2014, additional guidelines were developed by INPO for the training of STAs. This is detailed in the document ACAD 14-002, Guidelines for the Training and Qualification of the Shift Technical Advisor.

The ACAD 14-002 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, protection of the public and any other actions related to critical safety functions and plant safety during abnormal and emergency situations. By routine monitoring of equipment and plant operations, the STA can focus on preventative actions in order to mitigate the consequences of an accident. The STA also assists the Shift Manager with operability, risk and reportability determinations, and EAL classification.

The STA training and qualification program adheres to the requirements of INPO 90-003 and is implemented by training program procedures.

3.1.7 Radiation Protection (RP) Improvements

There have been many improvements in RP since the STP staffing was established under NUREG-0654, Revision 1, guidance. There have been advances in technology for currently available equipment such as portal monitors, self-alarming dosimeters, and automated access control points.

Some RP Technician (RPT) support functions associated with in-plant protective actions such as access control, personnel monitoring, dose assessment, and dosimetry, now require less dedicated support time since they are performed using newer technology, tools, and plant process enhancements. The following summarizes these enhancements:

a. Access Control and Dosimetry

When the STPEGS Emergency Plan was originally issued, radiological access control was a labor-intensive task. Dedicated RPTs were required to ensure workers read and understood their Radiation Work Permit (RWP). Issuance of dosimetry was a manual process requiring RPTs to calibrate and issue dosimeters, verify worker training, and verify and track radiation dose margins.

Radiological access control is now automated using computerized radiation protection work processes. Radiological access control is primarily completed using electronic dosimetry, which is obtained prior to entry into Radiologically Controlled Areas (RCAs). The electronic dosimeter is also used as a "key" to unlock turnstiles to gain access to RCAs. Electronic RWPs establish the necessary preset electronic dosimeter warning and alarm parameters. Using electronic dosimeters eliminates the need for access control and dosimetry oversight by an RPT. Electronic RWP access control and electronic dosimeter computer systems provide a fully integrated system allowing workers to sign-in to their RWP and to self-issue electronic dosimeters. These systems have been routinely used by plant workers for numerous years. Additionally, emergency electronic dosimeters are available for use when expedited entrance to an RCA is required.

b. Personnel Monitoring

Automated whole-body monitors provide contamination monitoring. All radiation workers are qualified to use the automated whole-body monitors without RPT support or direction.

When the automated whole-body monitors are not available, handheld friskers can be used for personnel contamination monitoring. All radiation workers are qualified to use the hand-held friskers without RPT support or direction.

3.1.8 Automated Call-Out Systems

Since initial approval of the STPEGS Emergency Plan, STP has implemented enhancements to the ERO mobilization process, including updated technology capable of rapidly notifying the entire ERO. The original process used a pager network and in-home tone alert radios, while the current process uses a multi-line automated callout system that notifies ERO members via cell phones and home phones via a single activation call from any telephone. For redundancy, the automated notification system has a primary and backup facilities located in different geographic locations.

3.2 ERO Functional Analysis

The NRC has provided a technical basis for the NUREG-0654, Revision 2, ERO guidance to assist licensees in their development of site-specific staffing plans. The technical basis document contains discussions on why each key function is important for effective emergency response and a basis for the positions selected to fulfill those functions. This document was used to develop the STP ERO functional analysis.

The ERO functional analysis compares and evaluates, by key functional area, the proposed STPEGS Emergency Plan on-shift and minimum augmenting ERO positions against those in the current STPEGS Emergency Plan and in NUREG-0654, Revision 2. Staffing deviations from the current STPEGS Emergency Plan and NUREG-0654, Revision 2, are categorized as RIEs and evaluated to determine that the capability to perform the function is sustained (no degradation or loss of function).

The summary of the ERO functional analysis is as follows:

3.2.1 [RIE 1-1] Command and Control Function On-shift Staffing

NUREG-0654, Revision 2, provides one Operations Shift Manager.

The current STPEGS Emergency Plan provides one Shift Manager as the Emergency Director until relieved, and one Shift Manager to assist the Shift Manager/Emergency Director, if needed.

The proposed STPEGS Emergency Plan provides one Shift Manager as the Emergency Director until relieved, and one dedicated on-shift SRO to assist the Shift Manager/Emergency Director, if needed.

This change deviates from the current STPEGS Emergency Plan but exceeds the NUREG-0654, Revision 2, on-shift ERO staffing guidance.

Qualification requirements for the dedicated on-shift SRO are equivalent to the Shift Manager regarding EP tasks, thus there is no impact on the existing capability or timeliness to perform this function. This change would provide administrative shift staffing flexibility consistent with operations technical specification staffing requirements based on unit operating mode(s).

This function has been assessed through an on-shift staffing analysis conducted in accordance with 10 CFR 50, Appendix E, Section IV.A.9, and has determined that it continues to be performed as needed without overlap or overburden from competing tasks.

3.2.2 **[RIE 1-2]** Communications Function Augmentation Staffing

NUREG-0654, Revision 2, provides one TSC Offsite Communicator minimum augmenting ERO position.

The current STPEGS Emergency Plan provides one TSC Offsite Communicator minimum augmenting ERO position.

The proposed STPEGS Emergency Plan does not provide a TSC Offsite Communicator minimum augmenting ERO position.

This change deviates from the current STPEGS Emergency Plan and the NUREG-0654, Revision 2, augmenting ERO staffing guidance.

The NUREG-0654, Revision 2, technical basis for the ERO guidance states that:

This function should consist of 2 staff members to fulfill the communication needs, at a minimum: 1 for the NRC and 1 for ORO notification and status updates. Additional communicators may be called upon as needed, and at the discretion of the licensee. These are typically located in the TSC. For an SAE ECL, or greater, at least 1 additional communicator should be staffed in the EOF.

Note – NRC Communicator augmentation and staffing is not changed.

NUREG-0654, Revision 2, guidance designates the Offsite Response Organization (ORO) (State/County) communication location as ‘typically’ in the TSC based on staggered activation of the emergency response facilities.

The proposed STPEGS Emergency Plan Offsite Communicator minimum augmenting ERO position is in the EOF. The proposed STPEGS Emergency Plan requires EOF activation at the Alert and higher emergency classification levels. By activating both the TSC and EOF at an Alert emergency classification level, the proposed STPEGS Emergency Plan minimum augmenting ERO meets the intent of the NUREG-0654, Revision 2, minimum augmenting ERO position guidance for the Communications function. The major task is aligned with that stated in NUREG-0654, Revision 2, guidance.

The proposed STPEGS Emergency Plan provides one dedicated on-shift Offsite Communicator ERO position. Thus, the proposed STPEGS Emergency Plan provides a total of two dedicated Offsite Communicator ERO positions, which are equivalent to the NUREG-0654, Revision 2, guidance for the ORO aspect of the Communications function. The TSC Offsite Communicator minimum augmenting ERO position is not needed as the dedicated on-shift Offsite Communicator ERO position may continue to perform this function in the event an EOF Offsite Communicator is not available.

3.2.3 **[RIE 1-3]** Dose Assessments / Projections Function Augmentation Staffing

NUREG-0654, Revision 2, provides one TSC Dose Assessor minimum augmenting ERO position.

The current STPEGS Emergency Plan provides one TSC Dose Assessor minimum augmenting ERO position.

The proposed STPEGS Emergency Plan does not provide a TSC Dose Assessor minimum augmenting ERO position.

This change deviates from the current STPEGS Emergency Plan and the NUREG-0654, Revision 2, augmenting ERO staffing guidance.

The NUREG-0654, Revision 2, technical basis for the ERO guidance states that:

The augmentation (relief) of this function should occur within 60-minutes of an Alert ECL, or greater, and is typically staffed in the TSC. For an SAE ECL, or greater, this position should be staffed in the EOF as the EOF is primarily intended to coordinate with offsite response officials when developing protective action strategies for the public.

NUREG-0654, Revision 2, designates one individual in the TSC at the Alert emergency classification level, to be replaced by one individual in the EOF at the Site Area Emergency classification level. NUREG-0654, Revision 2, guidance was developed based on the premise that the TSC is activated at the Alert emergency classification level or higher and the EOF is activated at the Site Area Emergency classification level or higher.

The proposed STPEGS Emergency Plan assigns the on-shift Dose Assessments / Projections function as a collateral duty that can be performed by any qualified on-shift individual, which primarily is the Lead RPT (two or more on-shift ERO RPTs are task-qualified to perform dose assessment). The staffing of the on-shift Lead RPT provides adequate resources to perform dose assessment tasks over the extended augmentation period.

The proposed STPEGS Emergency Plan requires EOF activation at an Alert or higher emergency classification level, making it unnecessary to staff a TSC Dose Assessor position (transfer of responsibilities from the Control Room go directly to the EOF). By activating the EOF and the TSC at an Alert emergency classification level, the proposed STPEGS Emergency Plan minimum augmenting ERO meets the intent of the NUREG-0654, Revision 2, minimum augmenting ERO position guidance for the Dose Assessments / Projections function. Additionally, the TSC RP Coordinator and the EOF RP Coordinator minimum augmenting ERO positions are qualified to perform dose assessment and projections, which provides additional resources for the Dose Assessments / Projections function.

The proposed STPEGS Emergency Plan EOF Dose Assessor minimum augmenting ERO position meets the intent of the NUREG-0654, Revision 2, guidance for the Dose Assessments / Projections function at the Alert emergency classification level. The major task is aligned with that stated in NUREG-0654, Revision 2, guidance.

3.2.4 **[RIE 1-4] Field Monitoring Function On-shift Staffing**

NUREG-0654, Revision 2, does not assign the Field Monitoring Teams (FMTs) function to an on-shift ERO position.

The current STPEGS Emergency Plan provides one on-shift Onsite Radiation Monitor ERO position.

The proposed STPEGS Emergency Plan does not assign the Field Monitoring Teams (FMTs) function to an on-shift ERO position.

This change deviates from the current STPEGS Emergency Plan but meets the NUREG-0654, Revision 2, on-shift ERO staffing guidance.

The original basis for establishing the on-shift Onsite Field Monitor ERO position was to remove the need for a 60-minute minimum augmentation ERO position. The onsite Field Monitoring Technician 60-minute ERO position has been added in the proposed STPEGS Emergency Plan. This change affords STP flexibility in assignment of the Field Monitoring Teams (FMTs) function. That is, if a dedicated Field Monitoring Technician ERO position is not present on-shift, then it must be available within 60-minutes.

3.2.5 **[RIE 1-5] Field Monitoring Function Augmentation Staffing**

NUREG-0654, Revision 2, provides one onsite Field Monitoring Driver minimum augmenting ERO position.

The current STPEGS Emergency Plan does not provide an onsite Field Monitoring Driver minimum augmenting ERO position.

The proposed STPEGS Emergency Plan does not provide an onsite Field Monitoring Driver minimum augmenting ERO position.

This change, although consistent with the current STPEGS Emergency Plan, deviates from the NUREG-0654, Revision 2, augmenting ERO staffing guidance.

The NUREG-0654, Revision 2, technical basis for the ERO guidance states that:

An onsite FMT should be staffed, consisting of a monitor and a driver. This onsite FMT is responsible for radiological monitoring of the site's Protected Area. ...

- i. The monitor should be qualified to assess radiation and contamination levels, but need not be an ANSI qualified RP Technician as long as the FMT is under the direct supervision of senior staff in the TSC or EOF.*
- iii. The driver should be knowledgeable about the vehicle and the proposed routes to be traversed.*

On-site survey and sampling activities are performed without a vehicle since the site Protected Area boundaries are relatively small and plume tracking is not applicable. The Protected Area can be easily and efficiently traversed on foot or in a utility vehicle. The monitoring equipment is portable and does not require two individuals for transport or operation. Thus, there is no need for an on-site Field Monitoring Driver.

The onsite field monitoring augmentation requiring no driver was approved by the NRC in 2018 and is currently in place at STP.

3.2.6 **[RIE 1-6] Supervision of Repair Team Activities Function On-shift Staffing**

NUREG-0654, Revision 2, does not assign an on-shift position to the Supervision of Repair Team Activities function.

The current STPEGS Emergency Plan provides one on-shift OSC Coordinator ERO position.

The proposed STPEGS Emergency Plan does not assign an on-shift position to the Supervision of Repair Team Activities function.

This change deviates from the current STPEGS Emergency Plan but meets the NUREG-0654, Revision 2, on-shift ERO staffing guidance.

The original basis for establishing the on-shift OSC Coordinator ERO position was to remove the need for a 60-minute minimum augmenting ERO position. A 60-minute OSC Coordinator ERO augmentation position (now titled Maintenance Coordinator) has been established in the proposed STPEGS Emergency Plan. This change affords flexibility in assignment of the Supervision of Repair Team Activities function. If a dedicated Maintenance Coordinator ERO position is not present on-shift, then it must be available within 60-minutes.

This function has been assessed through an on-shift staffing analysis conducted in accordance with 10 CFR 50, Appendix E, Section IV.A.9, and has determined that no maintenance personnel were called upon to perform an activity from the emergency procedures or assigned an activity from non-emergency procedures that impacted the ability of another on-shift ERO member to perform their function.

NUREG-0654, Revision 2, provides one 60-minute OSC Coordinator ERO position.

The proposed STPEGS Emergency Plan provides one 60-minute Maintenance Coordinator ERO position.

The proposed STPEGS Emergency Plan 60-minute Maintenance Coordinator ERO position meets the NUREG-0654, Revision 2, guidance for the Supervision of Repair Team Activities function. The major task is aligned with that stated in NUREG-0654, Revision 2, guidance.

3.2.7 **[RIE 1-7] Repair Team Activities Function On-shift Staffing**

NUREG-0654, Revision 2, does not assign on-shift positions to the Repair Team Activities function.

The current STPEGS Emergency Plan provides two Electricians, one Mechanic, and one I&C Technician on-shift ERO positions.

The proposed STPEGS Emergency Plan does not assign on-shift positions to the Repair Team Activities function.

This change deviates from the current STPEGS Emergency Plan but meets the NUREG-0654, Revision 2, on-shift ERO staffing guidance.

The original basis for the on-shift maintenance staff was to remove the need for the 60 minute minimum augmentation ERO repair team positions by crediting the normal operations on-shift maintenance crew. The Electrician and Mechanic 60 minute ERO positions and the I&C Technician 90 minute ERO position have been restored in the proposed STPEGS Emergency Plan. This change affords STP flexibility in assignment of the normal operations on-shift maintenance crew. That is, if the required maintenance ERO positions are not present on-shift, then they must be available within 60-minutes.

The NUREG-0654, Revision 2, technical basis for the ERO guidance states that:

Revision 1 of NUREG-0654/FEMA-REP-1 did not describe why maintenance personnel were expected to be on-shift. This has led to issues related to consistency in interpretation and the expected qualification of these personnel, primarily on-shift. The NRC has determined that, from an EP perspective, the ability to get emergency core cooling system (ECCS) equipment operational was the primary basis for necessitating maintenance expertise while on-shift. Maintenance staff expertise may be advantageous for licensees to consider for other reasons, and at their discretion; however, for the purposes of NUREG-0654/FEMA-REP-1, the only area where maintenance availability should typically be necessary on-shift is for ECCS issues. However, a licensee's ECCS is designed to be redundant and diverse such that common mode failures are very unlikely. As a result, the need to accommodate maintenance functionality on-shift is unnecessary.

STP units have a robust design which include three independent trains of safety equipment. This provides continued emergency core cooling system (ECCS) capability with less reliance on the need for equipment restoration and repair.

Maintenance personnel are not required for the operation of the ECCS or other safety related systems at STP. Minor repairs (such as reset breakers and replace fuses, etc.) are performed by on-shift operations personnel qualified to perform the actions as part of normal, abnormal and emergency operating procedure activities. Major repair activities are not necessary to support the emergency operations procedures which ensure the plant can be placed in a safe shutdown condition.

Use of maintenance personnel for beyond design basis tasks, such as FLEX and/or Severe Accident Management Guideline (SAMG) activities, is documented and controlled outside the scope of the emergency preparedness program and are governed under other applicable regulations and guidance.

Use of maintenance personnel for fire brigade or rescue activities are outside the scope of the emergency preparedness program and are governed under other applicable requirements, such as the site fire protection plan and technical specifications for that function.

Maintenance personnel are not trained or used to perform EP functions (such as offsite communications). Emergency Plan Implementing Procedures do not assign any on-shift response actions to maintenance personnel.

This function has been assessed through an on-shift staffing analysis conducted in accordance with 10 CFR 50, Appendix E, Section IV.A.9, and has determined that no maintenance personnel were called upon to perform an activity from the emergency procedures or assigned an activity from non-emergency procedures that impacted the ability of another on-shift ERO member to perform their function.

NUREG-0654, Revision 2, provides one 60-minute Electrician, one 60-minute Mechanic, and one 90-minute I&C Technician minimum augmenting ERO positions.

The proposed STPEGS Emergency Plan provides one 60-minute Electrician, one 60-minute Mechanic, and one 90-minute I&C Technician minimum augmenting ERO positions, which results in the elimination of one Electrician from the ERO.

The proposed STPEGS Emergency Plan 60 and 90-minute maintenance ERO positions meet the NUREG-0654, Revision 2, guidance for the Repair Team Activities function. The major task is aligned with that stated in NUREG-0654, Revision 2, guidance.

3.2.8 **[RIE 1-8]** IT Function Augmentation Staffing

NUREG-0654, Revision 2, provides one TSC Information Technology (IT) Technician minimum augmenting ERO position.

The current STPEGS Emergency Plan provides one TSC IT Technician minimum augmenting ERO position.

The proposed STPEGS Emergency Plan does not provide a TSC IT Technician minimum augmenting ERO position.

This change deviates from the current STPEGS Emergency Plan and the NUREG-0654, Revision 2, augmenting ERO staffing guidance.

The emergency facilities contain and/or use multiple network, computer, sensor and communications systems which support EP functions.

Per NUREG-0654, Revision 2, minimum augmenting ERO IT positions are only required to be described in the Emergency Plan if critical digital assets (CDAs) are identified per 10 CFR 73.54, Protection of digital computer and communication systems and networks. The STPEGS Emergency Plan relies on ERFDADS for monitoring plant parameters, which has been determined to be a CDA. The IT process for addressing issues with CDAs operates full time outside the STPEGS Emergency Plan on an around-the-clock basis. Additionally, STPNOC maintains an IT Help Desk 24 hours per day, 7 days a week. Many computer issues are addressed remotely with an IT specialist through the Help Desk.

Each of the EP related digital assets were evaluated as part of implementation of the Cyber Security Rule, 10 CFR 73.54(b). Under NEI 13-10, Cyber Security Control Assessments, EP Critical Digital Assets have been assessed and controls have been put in place to protect the assets against cyber-attack. In conjunction with these controls, alternate administrative, non-digital, or adequately independent means have been put in place for performing each EP function, should the digital component or program fail.

Performance of digital equipment used by EP has shown to be acceptable during drills and exercises, and through routine inventory and surveillance checks. Performance of digital assets is monitored through either the Corrective Action Program (CAP) or the EP Drill and Exercise critique process. Performance trends are monitored, corrective actions are issued, and compensatory measures are taken as necessary.

With the IT department process for around-the-clock coverage and built-in redundancy for communication systems and digital EP assets, STPNOC has identified that there is no need to maintain a TSC IT Coordinator ERO position.

Providing an IT support resource in the EOF (and JIC, which is in the same building) as a minimum augmenting ERO position remains appropriate as additional equipment not standard to the site is used in those facilities.

3.3 **ERO Augmentation Analysis**

NUREG-0654, Revision 2, establishes 60 and 90-minute minimum augmentation ERO time requirements for the TSC and OSC positions at the Alert emergency classification level; and a 60-minute minimum augmentation ERO time requirement for the EOF at the Site Area Emergency classification level.

The current STPEGS Emergency Plan follows a 60 and 90-minute augmentation scheme as approved by the NRC in 2018, prior to the issuance of NUREG-0654, Revision 2, with the following characteristics:

- STPEGS calls out all ERO positions in each emergency response facility at the Alert emergency classification level.
- The TSC and OSC are activated at the Alert emergency classification level.
- The EOF is activated at the Site Area Emergency classification level.
- The JIC is activated in conjunction with the offsite agencies.

The proposed STPEGS Emergency Plan follows a 60 and 90-minute augmentation scheme with the following characteristics:

- The TSC, OSC and EOF are activated at the Alert emergency classification level.
- STP implements JIS practices that are capable of performing the media information function at all emergency classification levels.
- The JIC is activated in conjunction with the offsite agencies.

Changes to the proposed STPEGS Emergency Plan ERO staffing and augmentation have been incorporated in consideration of the EOF activation changes. However, several deviations from NUREG-0654, Revision 2, staffing and augmentation guidance, that were approved in 2018, are retained in the proposed STPEGS Emergency Plan. Augmentation timing deviations from the current STPEGS Emergency Plan and NUREG-0654, Revision 2, are categorized as RIEs and evaluated to determine that the capability to perform the function is sustained (no degradation or loss of function).

Refer to Attachment 1 for the on-shift and minimum augmenting ERO comparison table.

The summary of the ERO augmentation analysis is as follows:

3.3.1 **[RIE 2-1] Command and Control Function Augmentation Time**

NUREG-0654, Revision 2, provides one TSC Emergency Coordinator 60-minute ERO position at the Alert emergency classification level.

The current STPEGS Emergency Plan provides one TSC Manager 90-minute ERO position at the Alert emergency classification level.

The proposed STPEGS Emergency Plan provides one TSC Manager 90-minute ERO position at the Alert emergency classification level.

This change, although consistent with the current STPEGS Emergency Plan, deviates from the NUREG-0654, Revision 2, augmenting ERO response time guidance.

The proposed STPEGS Emergency Plan provides one Shift Manager and one dedicated SRO for the on-shift Command and Control function. Qualification requirements for the dedicated on-shift SRO are equivalent to the Shift Manager regarding EP tasks. Staffing a dedicated on-shift SRO ERO position provides adequate resources to perform related activities over the extended augmentation period.

Based on the extra staffing resources maintained on-shift, this 90-minute augmentation staffing arrangement for the Command and Control function was approved by the NRC in 2018 and is currently in place at STPEGS.

The NEI 10-05 based On-shift Staffing Analysis performed for the proposed STPEGS Emergency Plan on-shift ERO identified no task overlap or overburden of the Command and Control function.

Maintaining the 90-minute augmentation requirement in the proposed STPEGS Emergency Plan does not impact the capability or timeliness to perform the Command and Control function.

3.3.2 **[RIE 2-2] Emergency Classifications Function Augmentation Time**

NUREG-0654, Revision 2, provides one TSC Emergency Classification Advisor 60-minute ERO position at the Alert emergency classification level.

The current STPEGS Emergency Plan does not provide a minimum augmenting ERO position for the Emergency Classifications function.

The proposed STPEGS Emergency Plan provides one EOF Operations Advisor 90-minute ERO position at the Alert emergency classification level.

This change, although exceeding the current STPEGS Emergency Plan, deviates from the NUREG-0654, Revision 2, augmenting ERO response time guidance.

The proposed STPEGS Emergency Plan provides one on-shift SRO and on-shift STA available to perform the Emergency Classifications function as a collateral duty. Availability of additional on-shift ERO positions for the Emergency Classifications function provides adequate resources to perform related activities over the extended augmentation period.

Based on the extra staffing resources maintained on-shift, a 90-minute augmentation ERO position for the Emergency Classifications function was approved by the NRC in 2018 and is currently in place at STP.

The NEI 10-05 based On-shift Staffing Analysis performed for the proposed STPEGS Emergency Plan on-shift ERO identified no task overlap or overburden of the Emergency Classifications function.

Maintaining the 90-minute augmentation requirement in the proposed STPEGS Emergency Plan does not impact the capability or timeliness to perform the Emergency Classifications function.

Regarding position location, the TSC and EOF are staffed and activated simultaneously at the Alert emergency classification level and the Emergency Director position is transferred directly from the Control Room to the EOF. Thus, the location of the Operations Advisor position in the EOF is appropriate for the STPEGS Emergency Plan.

The Operations Advisor has been added as a 90-minute ERO position for the Emergency Classifications function, which enhances the capability and timeliness to perform the Emergency Classifications function at STP.

3.3.3 **[RIE 2-3]** Communications Function Augmentation Time

NUREG-0654, Revision 2, provides one Offsite Communicator 60-minute ERO position at the Alert emergency classification level.

The current STPEGS Emergency Plan provides two Offsite Communicator 90-minute ERO positions at the Alert emergency classification level. **Note** – The change in augmenting ERO positions from 2 to 1 is documented in **[RIE 1-2]**.

The proposed STPEGS Emergency Plan provides one Offsite Communicator 90-minute ERO position at the Alert emergency classification level.

This change deviates from the NUREG-0654, Revision 2, augmenting ERO response time guidance.
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The proposed STPEGS Emergency Plan provides one dedicated on-shift Offsite Communicator ERO position for the Communications function. The staffing of a dedicated on-shift Offsite Communicator ERO position for the Communications function provides adequate resources to perform related activities over the extended augmentation period.

The NEI 10-05 based On-shift Staffing Analysis performed for the proposed STPEGS Emergency Plan on-shift ERO identified no task overlap or overburden of the Communications function.

Additionally, the proposed STPEGS Emergency Plan provides for the transfer of Communications responsibilities from the Control Room directly to the EOF at the Alert emergency classification level. The TSC Offsite Communicator minimum augmenting ERO position is not needed as the dedicated on-shift Offsite Communicator ERO position may continue to perform this function if the EOF Offsite Communicator is not available.

The proposed STPEGS Emergency Plan exceeds the NUREG-0654, Revision 2, augmentation guidance by staffing one dedicated ORO Communicator on shift and one dedicated ORO Communicator within 90-minutes of an Alert emergency classification level.

3.3.4 **[RIE 2-4]** Supervision of RP Staff and Site RP Function Augmentation Time

NUREG-0654, Revision 2, provides one TSC RP Coordinator 60-minute ERO position at the Site Area Emergency classification level.

The current STPEGS Emergency Plan provides one TSC Radiological Manager 90-minute ERO position at the Alert emergency classification level.

The proposed STPEGS Emergency Plan provides one TSC RP Coordinator 90-minute ERO position at the Alert emergency classification level.

This change, although consistent with the current STPEGS Emergency Plan, deviates from the NUREG-0654, Revision 2, augmenting ERO response time guidance.

STP activates the TSC and the EOF at the Alert emergency classification level so that the turnover of key EP functions and tasks need only occur one time.

- The TSC RP Coordinator focus is on site related response activities which includes direction of all site radiation protection activities, and evaluation / assessment of radiological data in the development of onsite protective actions. The TSC RP Coordinator will also provide relevant radiological information to EOF personnel for communications with offsite agencies.
- The EOF RP Coordinator focus is on offsite related response activities which includes; direction of dose assessment methods, direction of FMTs and evaluation of offsite radiological data in the development of offsite PARs.

The proposed STPEGS Emergency Plan provides one dedicated on-shift Lead RPT for the Supervision of RP Staff and Site RP function. The staffing of a dedicated on-shift ERO position for the Supervision of RP Staff and Site RP function provides adequate resources to perform related activities over the extended augmentation period.

Based on the extra staffing resources maintained on-shift, the 90-minute augmentation of the TSC RP Coordinator position was approved by the NRC in 2018 and is currently in place at STP.

The NEI 10-05 based On-shift Staffing Analysis performed for the proposed STPEGS Emergency Plan on-shift ERO identified no task overlap or overburden of the Supervision of RP Staff and Site RP function.

Maintaining the 90-minute augmentation requirement in the proposed STPEGS Emergency Plan does not impact the capability or timeliness to perform the Supervision of RP Staff and Site RP function.

3.3.5 **[RIE 2-5]** Dose Assessments / Projections Function Augmentation Time

NUREG-0654, Revision 2, provides one TSC Dose Assessor 60-minute ERO position at the Alert emergency classification level.

The current STPEGS Emergency Plan provides one TSC Dose Assessor 90-minute ERO position and one EOF Dose Assessor 90-minute ERO position at the Alert emergency classification level. **Note** – The change in augmenting ERO positions from 2 to 1 is documented in **[RIE 1-3]**.

The proposed STPEGS Emergency Plan provides one EOF Dose Assessor 90-minute ERO position at the Alert emergency classification level.

This change deviates from the current STPEGS Emergency Plan and the NUREG-0654, Revision 2, augmenting ERO staffing guidance.

The proposed STPEGS Emergency Plan assigns the on-shift Dose Assessments / Projections function as a collateral duty that can be performed by any qualified on-shift individual, which primarily is the Lead RPT (two or more on-shift ERO RPTs are task-qualified to perform dose assessment). The staffing of an on-shift Lead RPT, which is in addition to the two on-shift RPTs, provides adequate resources to perform dose assessment tasks over the extended augmentation period. Additionally, the TSC RP Coordinator and the EOF RP Coordinator minimum augmenting ERO positions are qualified to perform dose assessment and projections, which provides significant resources for the Dose Assessments / Projections function.

Based on the extra staffing resources maintained on-shift and the multiple minimum augmenting ERO positions qualified to perform dose assessment, a 90-minute augmentation ERO position for the Dose Assessments / Projections function was approved by the NRC in 2018 and is currently in place at STPEGS.

The NEI 10-05 based On-shift Staffing Analysis performed for the proposed STPEGS Emergency Plan on-shift ERO identified no task overlap or overburden of the Dose Assessments / Projections function.

Maintaining the 90-minute augmentation requirement in the proposed STPEGS Emergency Plan does not impact the capability or timeliness to perform the Dose Assessments / Projections function.

Regarding position location, the TSC and EOF are staffed and activated simultaneously at the Alert emergency classification level and the Emergency Director position is transferred directly from the Control Room to the EOF. Thus, the location of the Dose Assessor position in the EOF is appropriate for the STPEGS Emergency Plan.

3.3.6 **[RIE 2-6] Field Monitoring Team Function Augmentation Time**

NUREG-0654, Revision 2, provides one offsite Field Monitoring Technician 60-minute ERO position and one Field Monitoring Driver 60-minute ERO position.

The current STPEGS Emergency Plan provides two offsite Field Monitoring Technician 90-minute ERO positions, two Field Monitoring Driver 90-minute ERO positions.

The proposed STPEGS Emergency Plan provides two offsite Field Monitoring Technician 90-minute ERO positions, two Field Monitoring Driver 90-minute ERO positions, and one Field Monitoring Coordinator 90-minute ERO position.

This change alters the current STPEGS Emergency Plan and deviates from the NUREG-0654, Revision 2, augmenting ERO response time guidance.

The proposed STPEGS Emergency Plan maintains two on-shift RPTs and one on-shift Lead RPT. The Lead RPT performs RP supervisory tasks for the Shift Manager and performs in-plant, onsite, and offsite radiological assessment by utilizing the plant area radiation monitoring system and dose assessment. The Lead RPT can brief on-shift operators and response teams on area conditions and determine areas that may require follow-up radiological surveys. This provides an on-shift capability to quickly determine and communicate radiological conditions and coordinate radiological assessment and response actions.

The proposed STPEGS Emergency Plan adds one Field Monitoring Coordinator 90-minute ERO position for the Field Monitoring Teams function which expedites performance of offsite field monitoring tasks, should they be needed in the early stage of an event.

Based on the STPEGS automated dose assessment capability, the use of installed plant radiological monitoring instrumentation, the on-shift complement of two RPTs and one Lead RPT, and the addition of a 90-minute Field Monitoring Coordinator, maintaining the 90-minute augmentation requirement for the offsite Field Monitoring Team positions in the proposed STPEGS Emergency Plan do not impact the capability or timeliness to perform the Field Monitoring Teams function.

3.3.7 **IRIE 2-7** Engineering Function Augmentation Time

NUREG-0654, Revision 2, provides one Nuclear Engineer, one Electrical Engineer, and one Mechanical Engineer 60-minute ERO positions.

The current STPEGS Emergency Plan provides one Nuclear Engineer, one Electrical Engineer, and one Mechanical Engineer 90-minute ERO positions.

The proposed STPEGS Emergency Plan provides one Nuclear Engineer, one Electrical Engineer, and one Mechanical Engineer 90-minute ERO positions.

This change, although consistent with the current STPEGS Emergency Plan, deviates from the NUREG-0654, Revision 2, augmenting ERO response time guidance.

The proposed STPEGS Emergency Plan maintains one dedicated on-shift STA (dedicated meaning it is not a collateral duty assigned to the Shift Manager or dedicated SRO – it is a separate on-shift individual). The on-shift Shift Technical Advisor is a licensed Senior Reactor Operator and holds a Technical or Engineering degree. During an emergency event, the on-shift Shift Technical Advisor monitors the critical safety functions of the plant and provides advisory technical support to the Shift Manager/Emergency Director in the areas of thermal dynamics, reactor engineering, classification, and plant analysis. The ability to perform the engineering function on-shift remains enhanced through training and the use of computer parameters to efficiently monitor core conditions and plant operations.

EOPs are based upon internal operating experience, industry initiatives, and use a symptom-based approach that demands less assessment and interpretation of plant conditions by the operators. In addition, the EOPs are better human factored, and have an improved layout allowing for more consistent implementation. The current EOPs interface with in-place technology, such as the ICS, the Qualified Data Processing System (QDPS), and their associated displays in the Control Room.

STP units have a robust design which include three independent trains of safety equipment. This provides continued ECCS capability with less reliance on the need for equipment restoration and repair.

In total, on-shift staffing, ops procedures and plant design capabilities provide the site-specific basis for the 90-minute augmentation response time requirement for the Nuclear, Electrical, and Mechanical Engineer positions in the proposed STPEGS Emergency Plan. The response time of 90-minutes does not impact the capability or timeliness to perform the Engineering or Repair Team Activities functions.

Additionally, the proposed STPEGS Emergency Plan provides one Operations Coordinator and one Technical Advisor 90-minute ERO positions for the Engineering and Plant Monitoring function.

The engineer 90-minute augmentation staffing arrangement was approved by the NRC in 2018 based on on-shift staffing resources and functional capabilities and is currently in place at STP.

Maintaining the 90-minute augmentation requirement in the proposed STPEGS Emergency Plan does not impact the capability or timeliness to perform the Engineering function.

3.3.8 **RIE 2-8** Security Function Augmentation Time

NUREG-0654, Revision 2, provides one Security Liaison 60-minute ERO position.

The current STPEGS Emergency Plan provides one Security Supervisor 90-minute ERO position.

The proposed STPEGS Emergency Plan provides one Security Coordinator 90-minute ERO position.

This change, although consistent with the current STPEGS Emergency Plan, deviates from the NUREG-0654, Revision 2, augmenting ERO response time guidance.

Consistent with the current STPEGS Emergency Plan, the on-shift security personnel perform the Security function tasks per the Security Plan, and no change is made in the proposed STPEGS Emergency Plan in this regard. The Security Force Supervisor has no collateral duties and can fulfill the Security function until augmented by the TSC Security Coordinator within 90-minutes of the declaration of an Alert or higher ECL.

The Security Coordinator 90-minute augmentation staffing arrangement was approved by the NRC in 2018 based on on-shift staffing resources and functional capabilities, and is currently in place at STP.

This function has been assessed through an on-shift staffing analysis conducted in accordance with 10 CFR 50, Appendix E, Section IV.A.9, and has determined that it continues to be performed when needed without overlap or overburden from competing tasks.

Maintaining the 90-minute augmentation requirement in the proposed STPEGS Emergency Plan does not impact the capability or timeliness to perform the Security function.

3.4 **ERO Task Analysis**

NUREG-0654, Revision 2, does not require non-minimum augmenting ERO positions to be included in the STPEGS Emergency Plan. Non-minimum augmenting ERO positions are those that provide assistance but are not required for facility activation or essential response activities.

A detailed ERO task analysis has been performed to verify; necessary tasks, meaning those associated with a response function, assigned to non-minimum augmenting ERO positions were not eliminated with the position, and tasks added to minimum augmenting ERO positions did not result in overlap or overburden of the position.

- 3.4.1 **[RIE 3-1]** Non-minimum augmenting ERO positions contained in the current STPEGS Emergency Plan are not included in the proposed STPEGS Emergency Plan, being either retained in the implementing procedures or eliminated from the ERO.

The non-minimum augmenting ERO positions eliminated from the ERO are as follows:

TSC	EOF
• Assistant TSC Manager • Assistant Ops Manager • Assistant Rad Manager • Engineering Supervisor • Chem/Rad Chemical Manager • Operations Communicator • Rad Status Board Keeper • Administrative Staff	• Deputy EOF Director • EOF Liaison • Engineering Assistant • Site Public Affairs Coordinator • Radiological Staff • Administrative Staff • Records Supervisor • Support Orientation Coordinator
OSC	
• Resource Coordinator • Security Coordinator • Mechanical Maintenance Planner • Electrical Maintenance Planner • I&C Maintenance Planner • Chemistry Discipline Lead • OSC Communicator • Materials Handler	• IT Technician • Employee Support • EOF Director Admin Assistant • Technical Staff • Assistant Licensing Director • Public Affairs Specialist • Radiological Status Board Keeper • Procurement/Resources Supervisor • Federal Response Agency Liaison • Materials Engineer • Purchaser

The non-minimum augmenting ERO positions (support positions) remaining in the implementing procedures are as follows:

TSC	EOF
• Engineering Coordinator • I&C Engineer • Administrative Assistant • Status Board Keeper	• State of Texas EOC Liaison • Matagorda County EOC Liaison • Status Board Keeper • Licensing Advisor • HPN Communicator • Administrative Assistant
OSC	
• OSC Coordinator • Team Coordinator • Ops Supervisor	

The non-minimum augmenting ERO positions that remain in the implementing procedures will continue to be notified at an Alert or higher emergency classification level at the same time as the minimum augmenting ERO. However, the remaining non-minimum augmenting ERO positions are not required to be present to activate the Emergency Response Facilities (ERFs) or relieve the on-shift ERO of any EP responsibilities. Non-minimum augmenting ERO positions have no augmentation time requirement.

The ERO task analysis indicates that the capability to perform the Emergency Plan functions is maintained and continues to be met without task overlap or overburden to any remaining ERO position.

3.5 **On-Shift Staffing Analysis (OSA)**

Regulatory Issue Summary (RIS) 2016-10, "License Amendment Requests for Changes to Emergency Response Organization Staffing and Augmentation," states that an on-shift staffing analysis under 10 CFR 50, Appendix E, Section IV.A.9 should not be used to provide the primary basis to support the Technical Evaluation of a License Amendment Request (LAR). The OSA, however, may be utilized as part of the overall evaluation of staffing changes. The RIS states:

...an evaluation performed using only the guidance of NEI 10-05 does not satisfy the requirement to identify and evaluate changes to ERO augmentation timing or ERO augmentation staffing that reduces the capability to perform an Emergency Planning function.

In conjunction with this License Amendment Request, STP has performed and documented an OSA per 10 CFR 50, Appendix E, Section IV.A.9 following the guidance of NEI 10-05.

The results of the OSA conclude there are no task overlap or overburden of the on-shift staff; however, STP understands that the OSA comprises a select set of identified scenarios and is not used as the sole basis for the conclusions in the technical evaluation supporting this amendment request.

3.6 **Approved to Current E-Plan Comparison Analysis**

This comparison analysis identifies the differences between the approved STPEGS Emergency Plan and the current STPEGS Emergency Plan. The approved STPEGS Emergency Plan consists of the following:

- Revision 3 is the original NRC approved Plan
 - Historic revision 0 file contains all original sections
 - Historic revision 1 file contains RAI updated sections
 - Historic revision 2 file contains RAI updated sections
- Interim Change Notice (ICN) 20-18 contains latest NRC approved EAL scheme
- ICN 20-21 contains NRC approved ERO Staffing Section C

Differences between the content of those NRC-approved documents and the current STPEGS Emergency Plan were evaluated to determine whether any reductions in effectiveness were introduced by changes made to what was originally approved by the NRC.

The results of the comparison between the approved STPEGS Emergency Plan and the current STPEGS Emergency Plan revealed the following changes identified as reductions in effectiveness:

3.6.1 **[RIE 5-1] Bechtel Power Corporation Support Organization Removed**

Approved Emergency Plan	Current Emergency Plan
<u>A.2.I</u> Bechtel Power Corporation <u>B.5.a</u> Bechtel Power Corporation Bechtel Power corporation has established an agreement with Houston Lighting & Power Co. to provide engineering and construction services which may be required following an accident. Bechtel's assistance will not be required during the early stages of the emergency response but is more likely to be requested during recovery activities.	N/A
Disposition A support agreement is no longer maintained with Bechtel Power Corporation. STPEGS Emergency Plan use of Bechtel Power Corporation was specified as a potential support resource in the recovery phase. Current agreements are based on support provided during the emergency phase of an event. This change was previously evaluated under 50.54(q) as no decrease in effectiveness. Detailed recovery plans are not required. Support resources obtained during the recovery phase are identified and acquired as determined by the specific needs of the event. The proposed STPEGS Emergency Plan will not reference specific agreements or support organizations that are used only during the recovery phase.	

3.6.2 **[RIE 5-2] Normal Working Hours Medical Staff Removed**

Approved Emergency Plan	Current Emergency Plan
<u>G.11</u> A first aid station is located onsite near Unit Two and has provision for treatment of most injuries. This facility is normally staffed by a registered medical staff during day shift, Monday through Friday.	<u>G.11</u> A first aid station is located on the first floor of the Nuclear Support Center (NSC) Building and has provisions for treatment of minor injuries.
Disposition STP normally has a Registered Nurse in NSC during dayshift. STPEGS also maintains an EMT (registered with the State) inside the Protected Area 24/7. The reference to registered medical staff in the approved STPEGS Emergency Plan is based on routine site administrative practices. There are no licensing basis site specific requirements or commitments to maintain registered medical staff (nurse or EMT) onsite outside the reference in the approved STPEGS Emergency Plan. This change was previously evaluated under 50.54(q) as no decrease in effectiveness. STPEGS Emergency Plan commitment is to maintain an onsite first aid capability - trained and qualified to the level required by regulatory guidance (refer to Element M.8) and available 24/7 – which will be continued in the proposed STPEGS Emergency Plan.	

3.6.3 **[RIE 5-3] Reducing ERF Communications Systems Test Frequency**

Approved Emergency Plan	Current Emergency Plan
<u>G.16.5</u> All communications systems in the designated Emergency Response Facilities shall be tested on a monthly basis and noted deficiencies shall be corrected in a timely manner.	<u>Addendum E-1 3.2</u> Station procedures OPGP05-ZV-0002, Emergency Response Activities Schedule, and OPGP07-ZA-0011, Communication Systems, provide details on the maintenance and testing requirements for the communication systems.
Disposition (Row 325) Multiple changes have been made such that communications systems test frequency is now contained in OPGP05-ZV-0014. OPGP05-ZV-0014 requires monthly testing of the State and County contact points, and the ENS and HPN lines. Other ERF communications systems testing is performed quarterly. The test frequency for ERF communications systems was moved from the approved STPEGS Emergency Plan to the implementing procedures (guidance calls for the periodicity to be stated in the Emergency Plan). While at the procedure level, the periodicity was reduced to quarterly for non-initial notification lines, which is consistent with guidance, but a reduction in the site-specific commitment test frequency. Communications systems used to support the Emergency Plan have a high level of availability, redundancy and backup capability. Changing test frequency to align with guidance requirements is administrative and has no impact on the capability to perform the function. This change was previously evaluated under 50.54(q) as no decrease in effectiveness. The proposed STPEGS Emergency Plan will contain the communications test frequency requirements in conformance with 10 CFR 50 Appendix E.	

3.6.4 **[RIE 5-4] Station Reentry Process Changed**

Approved Emergency Plan	Current Emergency Plan
<u>I.3</u> Personnel reentering the Station use the normal access computer for continuous accountability. Personnel making reentry shall do so only with the approval of the Emergency Director and shall remain in voice communication with the Radiological Manager or his designee during the reentry period.	N/A
Disposition Specific criterion of station reentry no longer stated in the STPEGS Emergency Plan. Personnel making station reentry into previously evacuated areas are controlled by the OSC team dispatch process. Emergency Director approval for reentry is not required unless emergency exposure controls are used. A requirement for continuous voice communications with the Radiological Manager is not required as communications are determined on a per team basis as part of OSC team dispatch process. This change was previously evaluated under 50.54(q) as no decrease in effectiveness. The proposed STPEGS Emergency Plan will maintain OSC team communications and exposure control requirements in conformance with NUREG-0654, Revision 2, guidance.	

3.6.5 **[RIE 5-5] Public Information Material no Longer Published in Spanish**

Approved Emergency Plan	Current Emergency Plan
<u>K.1.3</u> This information will be printed in English and Spanish to reach all residents of the area.	<u>K.1.3</u> Public information material is available to residents along with a Spanish information number.
Disposition The information materials disseminated annually to the general public is no longer printed in Spanish. STP follows applicable Federal and State rules and guidance involving language access for the general public. Emergency preparedness regulations and guidance do not address requirements or guidance for language access regarding public education information. This change was previously evaluated under 50.54(q) as no decrease in effectiveness. The proposed STPEGS Emergency Plan will continue to describe the content and process used to disseminate public education information related to STP in conformance with the applicable rules and guidance for language access.	

3.6.6 **[RIE 5-6] Utility Bill Inserts no Longer used for Public Education Information**

Approved Emergency Plan	Current Emergency Plan
<u>K.4</u> Media advertisements, utility bill inserts, telephone tape messages, news releases, and public information seminars may be utilized as necessary to achieve an effective information and education program.	<u>K.4 Education and Information Program Resources</u> Media advertisements, telephone messages, news releases, and public information seminars may be utilized as necessary to achieve an effective information and education program.
Disposition Utility bill inserts are no longer used as a means to disseminate STP related public information. As part of deregulation, STPNOC was no longer involved in the transmission, distribution or consumer billing of electricity. The use of utility bill inserts was one of several identified means to disseminate public education information related to STPEGS. This change was previously evaluated under 50.54(q) as no decrease in effectiveness. The proposed STPEGS Emergency Plan will continue to describe several means to disseminate public education information related to STP in conformance with NUREG-0654, Revision 2, guidance.	

3.6.7 **[RIE 5-7] News Conferences not Held in JIC at the Alert Classification Level**

Approved Emergency Plan	Current Emergency Plan
<u>K.8</u> News conferences will be held periodically at the Media Information Center during a declared emergency classification at the Station involving an ALERT emergency classification declaration or higher.	<u>K.8 News Conferences</u> News conferences will be held periodically at the Joint Information Center during a declared emergency at the Station involving a Site Area Emergency or General Emergency.
Disposition Holding periodic JIC news conferences was changed from the Alert emergency classification level to the Site Area Emergency classification level. The JIC is a multi-organizational facility which is activated by agreement of stakeholders. While the ability to conduct a news conference at the JIC remains possible at any emergency classification level, the decision to perform a news conference in the JIC at the Alert level is dependent on whether State and County public information officers are in agreement. STP, via STPNOC, continues to maintain a process to develop and communicate company and site information to the public through traditional and social media processes consistent with modern technology and JIS principles during non-emergency and any emergency classification level. This capability is described in other sections of the STPEGS Emergency Plan. This change was previously evaluated under 50.54(q) as no decrease in effectiveness. The proposed STPEGS Emergency Plan will continue to describe the means to disseminate public information at all emergency classification levels.	

3.6.8 **[RIE 5-8] Altered Description of Emergency Medical Team**

Approved Emergency Plan	Current Emergency Plan
<u>M.8</u> Emergency Medical Teams shall have training equivalent to Red Cross Multi-Media First Aid Techniques.	<u>M.8 Emergency Medical Teams</u> At least one member of an Emergency Medical Team shall, as a minimum, have training equivalent to Red Cross Standard First Aid techniques.
Disposition The statement that all members of Emergency Medical Teams are qualified to Red Cross standards was revised to specify that a minimum of one member of the Emergency Medical Team be qualified. This change was made to clarify that not all members of an Emergency Medical Team need to be first aid qualified. In practice, if an individual is injured and potentially contaminated, then an RP technician is included with the response team to provide radiological coverage. The change was not intended to reduce the number of qualified first aid responders. This change was previously evaluated under 50.54(q) as no decrease in effectiveness. The proposed STPEGS Emergency Plan will include a statement that all first aid responders are qualified to Red Cross (or equivalent) standards to properly describe guidance conformance while providing allowance for other personnel to be included as part of the response team when needed.	

3.6.9 **[RIE 5-9] Removed EAL Scheme Change Submittal Requirement**

Approved Emergency Plan	Current Emergency Plan
<u>O.2.9</u> Emergency Action Levels used for classification of Emergencies shall be submitted to the Nuclear Regulatory commission for approval.	N/A
Disposition STPEGS Emergency Plan wording that calls for submittal of an EAL scheme change to the NRC for prior approval was removed from the STPEGS Emergency Plan. The intent of this change was not to remove the requirement for submittal of EAL scheme changes for approval prior to implementation. Prior understanding was that the STPEGS Emergency Plan was bound under administrative regulations whether the specific regulation was stated directly in the plan or not. This change was previously evaluated under 50.54(q) as no decrease in effectiveness. The proposed STPEGS Emergency Plan will restore explicit wording regarding the submittal of an EAL scheme change consistent with 10 CFR 50 Appendix E.	

3.7 **Proposed to Current E-Plan Comparison Analysis**

This comparison analysis identifies the differences between the current STPEGS Emergency Plan (Revision 20-22) and the proposed STPEGS Emergency Plan.

Differences between the content of proposed STPEGS Emergency Plan and the current STPEGS Emergency Plan were evaluated to determine whether any reductions in effectiveness were introduced by changes made.

The results of the comparison analysis between the current STPEGS Emergency Plan and the proposed STPEGS Emergency Plan identified the following changes as reductions in effectiveness.

3.7.1 **[RIE 6-1] ENS Communicator no Longer a Licensed Reactor Operator**

Proposed Emergency Plan	Current Emergency Plan
B.1.a.1.D. <u>State & County and ENS Communicators</u> • ERO notification • State & county event notification • NRC communications • ERDS verification C.5.b The ERO is staffed for and capable of maintaining continuous communications with the NRC. When requested, open communication lines will be staffed by knowledgeable personnel (i.e., personnel with operations background for the ENS line, and radiological background for the HPN line) to ensure efficient and effective information flow.	C.1.2.1 ENS Communicator Upon entry into the Emergency Plan, the onsite ENS Communicator reports to the Control Room. The ENS Communicator is an NRC Licensed Reactor Operator.
Disposition Regulation does not specify the qualification level of the NRC Communicator. Numerous NRC communications have stated; <i>Licenses have a responsibility to provide enough on-shift personnel knowledgeable about plant operations and Emergency Plan implementation to enable timely, accurate, and reliable reporting of operating events without interfering with plant operation.</i> Current STPEGS Emergency Plan wording limits the ability of the Shift Manager to assign personnel as conditions warrant. STP is a bargaining unit facility. The proposed STPEGS Emergency Plan wording allows the use of SROs, NLOs, or other shift personnel knowledgeable about plant operations and Emergency Plan implementation for NRC communications consistent with the correspondence guidance.	

3.7.2 **[RIE 6-2] Removed Letters of Agreement with Nearby Industrial Facilities**

Proposed Emergency Plan	Current Emergency Plan
N/A	B.5.3 Lyondell Chemicals, LP and OXEA Corporation Lyondell Chemicals, LP (Matagorda Operations) and OXEA Corporation (Bay City Plant) - by separate Letters of Agreement, will notify the Station of emergencies occurring at their plants which could involve offsite chemical releases, on a 24 hour a day basis.
Disposition Matagorda County has established agreements with industrial complexes in or near the county (including Lyondell Chemicals and OXEA Corporations) that they will notify the county through the 911 center of any release of chemical or other hazardous event that may affect areas outside the immediate area. The County will then notify all members of the Local Emergency Planning Committee of the event. STPNOC is a member of this planning committee. The current LOAs with these facilities stated that they would contact STP or attempt to contact them, if the facility had a release that potentially affected STP. The new process eliminates the need for a separate LOA between STP and these facilities.	

3.7.3 **[RIE 6-3] Removed Gel Laboratories**

Proposed Emergency Plan	Current Emergency Plan
C.4 STPEGS has radiological and radiochemistry laboratories located in each unit. The facilities are designed to provide quick and efficient analyses of samples from process systems, Reactor Coolant System, and secondary systems. Environmental monitoring sample analysis can also be performed in either unit's facilities. The physical separation of the units allow the facilities in the unaffected unit to be used as a backup. STPEGS maintains an onsite environmental lab capable of analyzing samples as a backup to the unit labs when needed. An offsite mobile radiological laboratory set up at the staging area at the Bay City Civic Center and operated by the Department of State Health Services is available for use by STPEGS when requested. The DOE, through the Radiological Assistance Program (RAP) has access to any national laboratory. Refer to section B.5.2. for details on the private offsite laboratory support facilities.	B.5.10 GEL Laboratories LLC GEL Laboratories LLC; by Letter of Agreement will provide assistance in the radioanalyses of environmental samples or personnel dosimetry as requested. G.9 Laboratory Facilities The radiological station and radiochemical laboratory facilities may be supplemented by the use of the following: • Gel Laboratories LLC;

Disposition

STP maintains two fully equipped radiological/radiochemistry laboratories onsite, one for each unit. It also maintains an onsite environmental lab and assist the Department of State Health Services in maintaining a mobile radiological laboratory.

Per a LOA with the Comanche Peak Nuclear Power Plant, they will perform selected radiological analysis in case a loss of onsite analysis capabilities occurs at STPEGS.

The agreement with Gel Laboratories LLC was to perform radiochemical analysis of environmental samples. This analysis can be performed by any of the 5 available labs identified in the proposed STPEGS Emergency Plan in a timelier manner than shipping samples to Gel labs located in Wilmington, N.C or Charleston, S.C.

3.7.4 **[RIE 6-4] Removed Reference to the Maintenance Jack System**

Proposed Emergency Plan

N/A

Current Emergency Plan

Addendum E-1 Emergency Response Facilities Communications
3.1.1.3 Maintenance Jack System
Telephone jack stations are provided throughout the plant for operating convenience during repair, operation, and maintenance of equipment required for safe shutdown.

Disposition

The Maintenance Jack System continues to be described in the UFSAR. It is used to support safe shutdown equipment and procedures. The system has not been identified as being Important to the emergency preparedness program and is not called out in the EALs as an onsite communications system. The system is not called out in any procedures to be used by the ERO. Testing and maintenance of the system is controlled by departments and procedures outside of the emergency preparedness program.

3.7.5 **[RIE 6-5] Separated Communications tests and Communications Drills**

Proposed Emergency Plan	Current Emergency Plan
F.3 Communications tests will be conducted and documented on the following: • Systems used to communicate with State and County warning points within the plume exposure pathway EPZ will be tested monthly. • Systems used to communicate from the CRs, TSCs, and EOF to NRC headquarters will be tested monthly. • The ERDS will be verified to transmit data on a quarterly basis. • Systems used to communicate between STPEGS ERFs will be tested annually. • Systems used to communicate between STPEGS, State EOC, County EOC, and field monitoring teams will be tested annually. • Systems used to communicate with Federal emergency response organizations will be tested annually. N.4.f STPEGS will conduct communications drills once per calendar year. Communications tests described in Element F.3 can be performed as drills provided, they include the aspect of understanding the content of messages.	Addendum N-1, Drills and Exercises 3.0 COMMUNICATION TESTS - Communication tests with State and County governments within the Plume Exposure Pathway Emergency Planning Zone will be conducted monthly. Communications with Federal emergency response organizations and State within the ingestion pathway will be tested on a quarterly basis. Communications between the nuclear facility, State and County emergency response facilities, and field assessment teams shall be tested annually. Communications tests shall also include the aspect of understanding the content of messages.
Disposition There is no requirement that communications tests require the aspect of understanding message content. Communications test frequency requirements are aligned and conform to 10 CFR 20 Appendix E. The aspect of message understanding is performed during drills and exercises involving more than one facility. Documentation of communications drills will be required at least annually consistent with other drill requirements. The revised wording of the proposed STPEGS Emergency Plan aligns with the NUREG-0654, Revision 2, elements.	

3.8 **Proposed E-Plan to NUREG-0654, Revision 2 Criteria Comparison Analysis**

Each element of NUREG-0654, Revision 2, is clearly stated in the proposed plan. The proposed plan deviates from the following Revision 2 elements:

3.8.1 **[RIE 7-1] Biennial Report-in-Drills**

Proposed Emergency Plan	NUREG-0654, Revision 2
STPEGS will conduct an off-hours unannounced ERO report-in drill at least once within an eight-year cycle. The scope of the off-hours unannounced ERO report-in drill will require actual response to the assigned facility and the ability to perform turnover of responsibilities from the on-shift ERO.	N.4.h <u>Off-Hours Report-In Drills</u>. Off-hours report-in drills are conducted biennially and are unannounced.
Disposition The current STPEGS Emergency Plan has no requirement for off-hours report-in drills. NUREG-0654, Revision 2, Element N.4.h requires that off-hours report-in drills be unannounced and conducted biennially. The proposed STPEGS Emergency Plan specifies that an unannounced off-hours report-in drill be performed once per 8-year cycle. Establishing the period for the off-hours report-in drill as once per 8-year cycle is based on the NUREG-0654, Revision 2, Element N.1.c requirement for a 6:00 p.m. and 4:00 a.m. drill or exercise to be performed once per cycle (which is off-hours). In addition to the requirement of Element N.1.c, every biennial exercise requires demonstration of ERO response and ERF activation following declared emergencies. Requiring additional biennial off-hours report-in drills is a burden to the organization without a commensurate level of benefit to the emergency preparedness program. Performance of the Element N.4.h call-in drill within the cycle periodicity provides sufficient demonstration of off-hours augmentation capability without significant impact on employees during late non-working hours.	

3.8.2 **[RIE 7-2] Quarterly Call-in-Drills**

Proposed Emergency Plan	NUREG-0654, Revision 2
STPEGS ERO notification is an all-call process. STPEGS will conduct an off-hours unannounced ERO call-in drill biennially to validate each ERO member's response time. The scope of the off-hours unannounced ERO call-in drill will require collection of the estimated response times to the applicable facility. Completion of an Element N.4.h off-hours unannounced ERO report-in drill satisfies the requirements of the off-hours unannounced ERO call-in drill in this element.	N.4.i <u>Off-Hours Call-In Drills</u>. Off-hours call-in drills are conducted quarterly, such that each ERO member's normally expected response time is assessed at least biennially based on call-in drill responses or an alternate means for determining response time. Some drills are unannounced.
Disposition The current STPEGS Emergency Plan has no requirement for call-in drills. NUREG-0654, Revision 2, Element N.4.h requires that off-hours call-in drills be conducted at least quarterly, such that each ERO member's response time is validated at least biennially (with some drills being unannounced). The proposed STPEGS Emergency Plan specifies that off-hours call-in drill be performed biennially. Additionally, the non-period specific requirement for some drills to be unannounced has been established as a biennial frequency. STP ERO notification is an all-call process, which for call-in drills will collect response time estimates from the entire ERO. This process validates all ERO members' response time each time it is used. Removing the quarterly requirement to test a portion of the ERO response and retaining the biennial requirement for a complete ERO response meets the intent of the element.	

3.9 **Site Specific EP Commitment Analysis**

This analysis identified the historical STPEGS Emergency Plan commitments and confirmed that they either continue to be met in the proposed plan or are not applicable.

STP reviewed NRC correspondence and Condition Reports documenting responses made to the NRC, then determined if they were one-time commitments or on-going commitments that required changes to the STPEGS Emergency Plan to ensure compliance.

The results of the site specific EP commitment analysis revealed there are no outstanding site specific EP commitments that are not contained in the proposed STPEGS Emergency Plan.

There are no new commitments in this analysis.

3.10 Impact of Proposed Changes on State Emergency Plan

STPEGS sent a draft copy of the proposed STPEGS Emergency Plan to emergency preparedness representatives at the Texas Department State Health Services and Matagorda County to inform them of the proposed changes and solicit comments.

Texas Department State Health Services and Matagorda County provided information via electronic mail stating that the agency concurs with STP's plan to revise the STPEGS Emergency Plan. Further concurrence will be acquired upon NRC approval of the proposed STPEGS Emergency Plan and revisions to the ORO emergency preparedness programs will be conducted during the requested implementation period.

Refer to Enclosure 3, Correspondence from State Agencies, for agency response regarding proposed changes to the STPEGS Emergency Plan.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

The proposed STPEGS Emergency Plan establishes an updated licensing basis for STP that complies with current NRC regulations in 10 CFR 50.47(b) and 10 CFR 50, Appendix E. In addition, the proposed STPEGS Emergency Plan is formatted and uses the NRC-generated guidance in NUREG-0654/FEMA-REP-1, Revision 2.

STP also reviewed RIS 2016-10, License Amendment Requests for Changes to Emergency Response Organization Staffing and Augmentation (Reference 6.13), in support of this submittal.

STP has evaluated the proposed changes against the applicable regulatory requirements and guidance criteria. Each section of the proposed STPEGS Emergency Plan lists applicable regulations (all 10 CFR 50.47(b) planning standards are addressed) and Appendix 3 of the plan includes a cross reference to the 10 CFR 50 Appendix E Section IV criteria. The proposed STPEGS Emergency Plan continues to assure that regulatory requirements and Emergency Planning standards associated with emergency response are met.

4.2 Precedent

NUREG-0654/FEMA-REP-1, Revision 2, issued December 2019, reflects changes to both NRC and FEMA regulations, guidance, policies, and doctrine, as well as advances in technology and best practices that have occurred since the document was originally issued in November 1980. This update also incorporates the four supplemental documents and addenda that have been issued in the intervening years and is intended to modernize and consolidate the guidance making it easier for users to understand.

There is no industry precedent for licensees requesting an entire change of the Emergency Plan based on NUREG-0654, Revision 2, guidance.

4.3 No Significant Hazards Consideration Determination Analysis

Pursuant to 10 CFR 50.90 and 10 CFR 50.54(q), South Texas Project (STP) Nuclear Operating Company (STPNOC) requests amendment to the licenses for STP Units 1 and 2. Specifically, the proposed changes would revise the STP Operating Licenses to adopt the proposed STP Electric Generating Station (STPEGS) Emergency Plan.

The requested license amendment support changes to the STPEGS Emergency Plan based upon supporting evaluations. The proposed changes will help align the STPEGS Emergency Plan to NUREG-0654, *Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants*, Revision 2.

The proposed changes have been reviewed considering the applicable requirements of 10 CFR 50.47, 10 CFR 50 Appendix E, and other applicable NRC guidance criteria. STPNOC has evaluated whether or not a significant hazards consideration is involved with the proposed amendments by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed changes do not increase the probability or consequences of an accident previously evaluated. The proposed changes do not impact the function of plant Structures, Systems, or Components (SSCs). The proposed changes do not affect accident initiators or accident precursors, nor do the changes alter design assumptions. The proposed changes would establish a revised STPEGS Emergency Plan and modify the Emergency Response Organization (ERO). The proposed STPEGS Emergency Plan would continue to meet applicable NRC requirements and standards as well as provide for effective emergency response. The proposed STPEGS Emergency Plan would continue to provide necessary response staff for emergencies as demonstrated by functional and augmentation analyses, and the on-shift staffing analysis performed in accordance with 10 CFR 50 Appendix E Section IV.A.9.

Therefore, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed changes do not create the possibility of a new or different kind of accident from any previously evaluated. The proposed changes would have no impact on the design function or operation of any plant SSCs and do not affect plant equipment or accident analyses. The proposed changes do not involve a physical alteration of the plant (i.e., no new or different type of equipment will be installed), a change in the method of plant operation, or new operator actions. The proposed changes do not introduce failure modes that could result in a new accident, and the proposed changes do not alter assumptions made in the safety analysis. The proposed STPEGS Emergency Plan continues to meet applicable requirements and standards as well as provide for effective emergency response. The proposed STPEGS Emergency Plan continues to provide necessary response staff for emergencies as demonstrated by functional and augmentation analyses, and the on-shift staffing analysis performed in accordance with 10 CFR 50 Appendix E Section IV.A.9.

Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No.

Margin of safety is associated with confidence in the ability of the fission product barriers (i.e., fuel cladding, reactor coolant system pressure boundary, and containment structure) to limit the level of radiation dose to the public.

The proposed changes do not adversely affect existing plant safety margins or the reliability of the equipment assumed to operate in the safety analyses. There are no changes being made to safety analysis assumptions, safety limits, or limiting safety system settings that would adversely affect plant safety as a result of the proposed changes. Margins of safety are unaffected by the proposed changes to the STPEGS Emergency Plan.

The proposed changes do not impact operation of the plant or its response to transients or accidents. The proposed changes do not affect Technical Specifications. The proposed changes do not involve a change in the method of plant operation, and no accident analyses will be affected by the proposed changes. Safety analysis acceptance criteria are not affected by these proposed changes. The proposed changes will continue to provide effective emergency response as well as the necessary onsite ERO response staff.

Based on the above, STP concludes that the proposed amendments do not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92, and, accordingly, a finding of "no significant hazards consideration" is justified.

4.4 Conclusions

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

5.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or a significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

6.0 REFERENCES

- 6.1 10 CFR 50.47, Emergency Plans
- 6.2 10 CFR 50.54(q), Conditions of licenses – Emergency Plans
- 6.3 10 CFR 50.90, Application for amendment of license, construction permit, or early site permit
- 6.4 10 CFR 50, Appendix E, Emergency Planning and Preparedness for Production and Utilization Facilities
- 6.5 Regulatory Guide 1.219, Guidance on Making Changes to Emergency Plans for Nuclear Power Reactors, Revision 1, July 2016
- 6.6 NSIR/DPR-ISG-01, Interim Staff Guidance, Emergency Planning for Nuclear Power Plants, Revision 0, November 2011
- 6.7 NUREG-0654/FEMA-REP-1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, Revision 1, November 1980
- 6.8 NUREG-0654/FEMA-REP-1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, , Revision 2, December 2019 (ML19347D139)
- 6.9 NUREG-0654/FEMA-REP-1 Supplement 3, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants – Guidance for Protective Action Strategies, November 2011 (ML113010596)
- 6.10 Technical Basis for the Proposed Guidance in NUREG-0654/FEMA-REP-1, Section II.B, “Emergency Response Organization” (ML16117A427)
- 6.11 NUREG-0696, Functional Criteria for Emergency Response Facilities, February 1981 (ML051390358)
- 6.12 NUREG-0737, Supplement 1, Clarification of TMI Action Plan Requirements – Requirements for Emergency Response Capability, January 1983 (ML102560009)
- 6.13 RIS 2016-10, License Amendment Requests for Changes to Emergency Response Organization Staffing and Augmentation, August 2016 (ML16124A002)
- 6.14 NEI 10-05, Assessment of On-Shift Emergency Response Organization Staffing and Capabilities, Revision 0, June 2011
- 6.15 NEI 99-01, Development of Emergency Action Levels for Non-Passive Reactors, Revision 6, November 2012
- 6.16 STPEGS Updated Final Safety Analysis Report (UFSAR)

Function	Position Title (Aligned to Proposed Titles)	NUREG-0654, Revision 2				Approved E-Plan			Proposed E-Plan		
		Shift	Alert 60 Min	Alert 90 Min	SAE 60 Min	Shift	Alert 60 Min	Alert 90 Min	Shift	Alert 60 Min	Alert 90 Min
Command and Control	Shift Manager	1				2			1		
	SRO								1		
	EOF Manager (EOF)				1			1			1
	TSC Manager (TSC)		1					1			1
Emergency Classifications	Classification Advisor	1(a)				1(a)			1(a)		
	Operations Advisor (EOF)		1								1
Communications	Shift Communicator	1(a)				1			1		
	S/C Communicator (TSC)		1					1			
	S/C Communicator (EOF)				1			1			1
	NRC Communicator		1			1			1		
Supervision RP Activities	Lead RP Technician	1(a)				1			1		
	RP Coordinator (TSC)		1					1			1
	RP Coordinator (EOF)				1			1			1
Radiation Protection	RP Technician	2	3	3		2	3	3	2	3	3
Dose Assessments / Projections	Dose Assessor	1(a)				1(a)			1(a)		
	Dose Assessor (TSC)		1					1			
	Dose Assessor (EOF)				1			1			1
Field Monitoring Teams	Onsite FM Technician		1			1		1		1	
	Onsite FM Driver		1								
	FM Coordinator (EOF)										1
	Offsite FM Technician		1	1				2			2
	Offsite FM Driver		1	1				2			2
Supervision of Repair Team Activities	Maintenance Coordinator (TSC)		1			1		1		1	
	Electrical Supervisor (OSC)			1				1			1
	Mechanical Supervisor (OSC)			1				1			1
	I&C Supervisor (OSC)			1				1			1
	RP Supervisor (OSC)			1				1			1

Function	Position Title (Aligned to Proposed Titles)	NUREG-0654, Revision 2				Approved E-Plan			Proposed E-Plan		
		Shift	Alert 60 Min	Alert 90 Min	SAE 60 Min	Shift	Alert 60 Min	Alert 90 Min	Shift	Alert 60 Min	Alert 90 Min
Repair Team Activities	Electrical Technician (OSC)		1			2				1	
	Mechanical Technician (OSC)		1			1				1	
	I&C Technician (OSC)			1		1					1
Engineering and Plant Monitoring	STA	1(a)				1(a)			1		
	Electrical Engineer (TSC)		1					1			1
	Mechanical Engineer (TSC)		1					1			1
	Nuclear Engineer (TSC)		1					1			1
	OPs Coordinator (TSC)										1
	Technical Advisor (EOF)										1
Security	Security Force Supervisor					1			1		
	Security Force	(b)				(b)			(b)		
	Security Coordinator (TSC)		1					1			1
Media Information	JIS / JIC Staff		(c)		(c)			(c)		(c)	(c)
Administration	Admin Coordinator (EOF)										1
Information Technology (IT)	IT Coordinator (TSC)			1				1			
	IT Coordinator (EOF)				1			1			1
ERO Totals – Full Breakdown		3	20	11	5	14	3	27	9	7	28
ERO Totals – On-shift and Minimum Staffing		3	36			14	30		9	35	
ERO Totals – All Required Positions Filled		39				44			44		

- (a) Individuals assigned to these positions may have collateral duties. On-Shift Staffing Analysis confirmed that assigned individuals can adequately perform collateral functions without having competing priorities.
- (b) Per the site Security Plan
- (c) Does not need to be performed in the TSC, OSC or EOF, but function needs to be established at this point.

Enclosure 2

South Texas Project Electric Generating Station (STPEGS) Emergency Plan



South Texas Project Electric Generating Station (STPEGS) Emergency Plan

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INTRODUCTION

1.0 Site Description

South Texas Project Electric Generating Station (STPEGS) is operated and managed by the STP Nuclear Operating Company (STPNOC), acting as project manager on behalf of NRG South Texas LP, The City Public Service Board of San Antonio (CPS), and the City of Austin Texas (COA) under the South Texas Project Operations Agreement.

STPEGS is located entirely in south-central Matagorda County, west of the Colorado River, approximately 89 air miles southwest of Houston, Texas, 12 air miles north-northeast of Palacios, and approximately 14 air miles north of the Gulf of Mexico. Matagorda County is located on a coastal plain rising from sea level to approximately 70 feet above mean sea level. The county seat, Bay City, is one of two incorporated cities within the County.

STPEGS consists of two 3853 megawatt thermal Westinghouse Pressurized Water Reactor Nuclear Steam Supply electrical generating units. The units are essentially independent with separate Control Rooms. The site sits on a land area of approximately 12,000 acres, with a cooling reservoir utilizing 7000 acres of site property. STPEGS facilities occupy approximately 65 acres of the property. The figure below illustrates the onsite emergency response facilities on the site layout map.

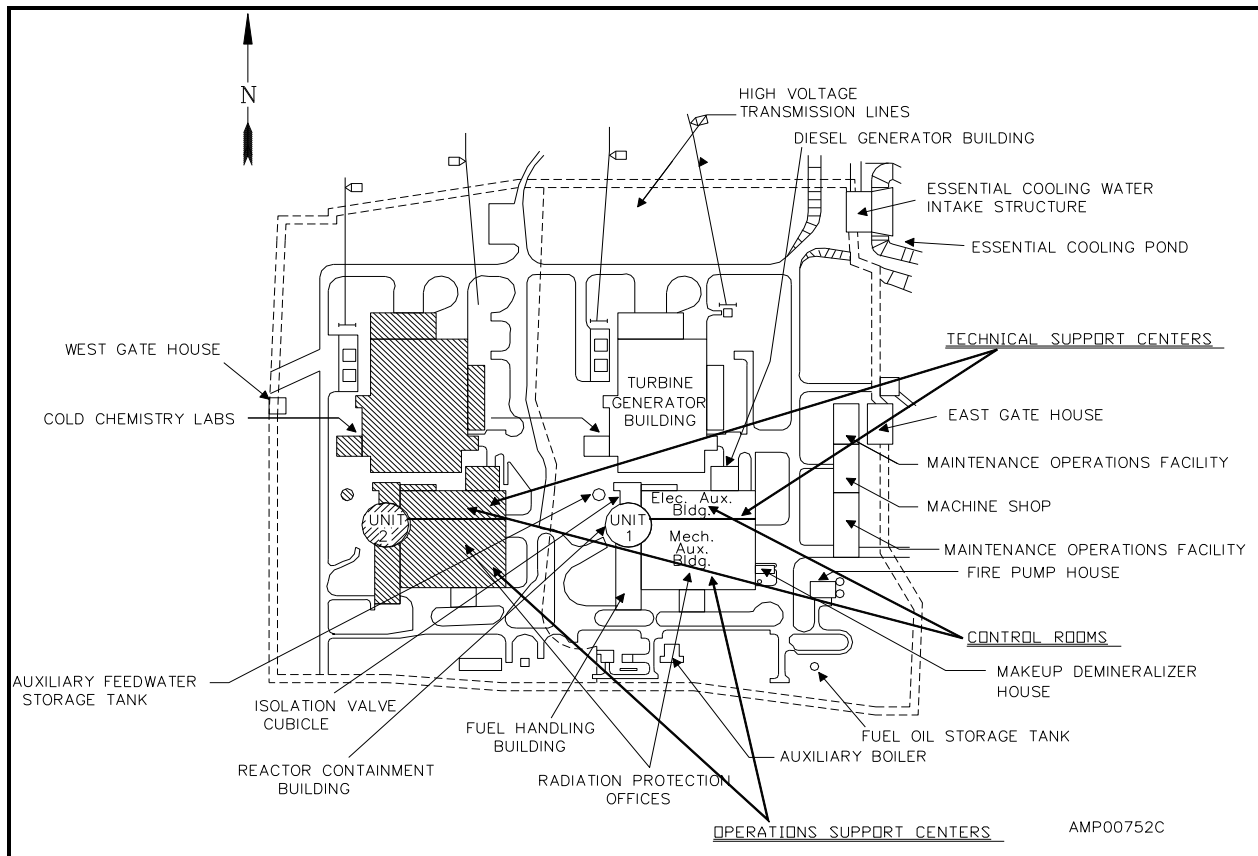


Figure 2: Onsite Emergency Response Facility Locations

2.0 Integrated Planning and Emergency Plan Structure

The STPEGS emergency preparedness program is designed in accordance with the requirements of 10 CFR 50.47 and §50 Appendix E, and the guidelines of the U.S. Nuclear Regulatory Commission (NRC) as established in NUREG-0654, FEMA-REP-1, Rev 2.

The emergency preparedness programs supporting STPEGS are contained in three separate, but interrelated plans. These plans are the State of Texas Emergency Management Plan, the Emergency Management Plan for Matagorda County (which includes plans for Bay City and the City of Palacios) and the STPEGS Emergency Plan. These plans contain coordinated emergency response and preparedness instructions for declared emergencies at STPEGS. Each plan has been prepared and is maintained by its respective organization, and is coordinated as appropriate with the other plans. In addition to radiological emergency planning, the plans for the State of Texas and Matagorda County address supplemental all hazards planning programs.

The STPEGS Emergency Plan is formatted using the outline numbering style of NUREG-0654 R2 to document how the Emergency Plan meets each of the §50.47(b) planning standards, the requirements of §50 Appendix E and elements of NUREG-0654. That formatting provides a direct cross-reference to the elements of NUREG-0654 R2.

The formal STPEGS Emergency Plan consists of the following documents:

- Emergency Plan – The Emergency Plan identifies and describes the methods for responding to emergencies and maintaining emergency preparedness.
- On-Shift Staffing Analysis – The on-shift staffing analysis documents that the minimum shift crew can perform the actions required by Emergency Operating Procedures (EOP) and those required by the Emergency Plan, without task overlap or overburden, prior to Emergency Response Organization (ERO) augmentation. The on-shift staffing analysis fulfills requirements of §50 Appendix E.IV.A.9.
- Emergency Action Level (EAL) Technical Basis Manual (TBM) – The EAL TBM establishes the classification scheme used to declare emergencies. The EAL TBM documents references and inputs used to determine values or events that would result in declaration of an emergency. The EAL TBM fulfills requirements of §50 Appendix E.IV.B.1.
- Evacuation Time Estimate (ETE) Study – The ETE study defines the Plume Exposure (~10 Mile) Emergency Planning Zone (EPZ). It documents the population within defined areas of the EPZ and establishes evacuation routes and ETEs for different scenarios for those populations. The ERE study fulfills requirements of §50 Appendix E.IV paragraphs 2-7.
- Protective Action Recommendation (PAR) Strategies – The PAR strategies document the bases used to develop site-specific protective action recommendation procedures. The PAR strategies document fulfills requirements of §50 Appendix E.IV paragraph 3.
- Prompt Notification System (PNS) Design Report – The PNS Design Report is the FEMA-approved document that contains the specific design, testing, and maintenance of the system. The EAL TBM fulfills requirements of §50 Appendix E.IV.D.3.

A: Assignment of Responsibility

Primary responsibilities for emergency response by the nuclear facility licensee, and by state and local organizations within the EPZs have been assigned, the emergency responsibilities of the various supporting organization have been specifically established, and each principal response organization has staff to respond and to augment its initial response on a continuous basis.

Regulatory References: 10 CFR 50.47(b)(1); 44 CFR 350.5(a)(1);
10 CFR Part 50, Appendix E.IV.A

A.1	The federal, state, local, tribal, licensee, and other private sector organizations that comprise the overall response for the EPZs are identified.
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Element A.1.a.1 below provides a summary of the STPEGS organization as it relates to the overall concept of operations for event response.

The other elements below identify the Offsite Response Organizations (OROs), federal, State and County and other organizations that encompass the overall response organization for an event at the STPEGS site.

A detailed description of the STPEGS Emergency Response Organization (ERO) is contained in Section B.

A.1.a	The organizations having an operational role specify their concept of operations and relationship to the total effort.
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1. STPEGS

The STPEGS concept of operations and overall responsibilities for event response are as follows:

- Recognize, classify and declare an emergency.
- Notify appropriate STPEGS personnel and offsite authorities.
- Request additional support from County, State, Federal and private organizations.
- Establish and maintain effective communications with onsite and offsite entities.
- Continuously assess the consequences of the accident, and periodically communicate response status and assessment information to the appropriate groups and authorities.
- Take protective actions onsite and recommend protective actions to offsite authorities.
- Monitor and control radiation exposure of personnel responding to STPEGS during an emergency.
- In conjunction with State and County officials, provide emergency information to the public through periodic press briefings.
- Inform STPEGS owners of the situation at the site.

2. Federal Organizations

Control, responsibility and interface of federal organizations is governed by the National Response Framework (NRF) and the Nuclear/Radiological Incident Annex to the NRF when they are called to respond to an event at a nuclear power plant. The main federal organizations that may be involved in an emergency at STPEGS are as follows:

A. Nuclear Regulatory Commission (NRC)

The NRC acts as the lead federal agency with regard to technical matters during a nuclear incident, including providing radiological assistance. The NRC maintains an Incident Response Plan (IRP). The IRP objectives are to provide for protection of the public health and safety, property, and the environment, from the effects of radiological incidents that may occur at licensed facilities. The objectives of the agency plan set forth the organizational and management concepts and responsibilities needed to assure that NRC has an effective emergency response program. The NRC is prepared to recommend appropriate protective actions for the public and technical actions to the licensee. FEMA acts as the lead federal agency for offsite, non-technical concerns.

During an incident, the Chairman of the Commission is the senior NRC authority for all aspects of a response. The Chairman transfers control of emergency response activities to the Director of Site Operations when deemed appropriate.

All NRC regions as well as headquarters are prepared to respond to potential emergencies. All regions and headquarters have developed plans and procedures for responding to radiological incidents involving NRC licensees. Headquarters has developed the NRC Incident Response Plans and Implementing Procedures. Each NRC Region has developed Regional Supplements that detail how the region will fulfill all of the responsibilities assigned in the NRC Incident Response Plan.

Each region and headquarters have established and maintain an Incident Response Center designed to centralize and coordinate the emergency response function. The NRC Region IV Response Team is located in Arlington, Texas. All of the necessary supplies and equipment needed for emergency response will be provided and maintained by the NRC. Adequate communications are established to link the licensee, headquarters and the region. The NRC has established lines of communications with state and local government, other federal agencies, Congress and the White House.

B. Federal Emergency Management Agency (FEMA)

FEMA Region VI is responsible for overall coordination of the offsite Federal response effort. The Region VI Emergency Response Team will, in addition to the region office response, provide support to State and County authorities in the area of resource coordination, logistics, and telecommunications. The senior FEMA official, or designee, will notify the appropriate Federal agency capable of meeting a Specific State or County government need.

C. Department of Homeland Security (DHS)

DHS coordinates preparedness activities within the United States to respond to and recover from terrorist attacks, major disasters, and other emergencies. As part of these responsibilities, the Secretary coordinates with federal entities to provide for federal unity of effort for domestic incident management.

D. U.S. Department of Energy (DOE)

With regard to an event at a nuclear power plant, in cooperation with other federal and state agencies, DOE will manage the Federal Radiological Monitoring and Assessment Center (FRMAC) to provide monitoring data and interpretations, including exposure rate contours, dose projections, and other requested radiological assessments, to the primary authority and the states. DOE also arranges consultation and support services through appropriate federal agencies to all other entities (e.g., private contractors) with radiological monitoring functions and capabilities, as well as technical and medical expertise for handling radiological contamination and population monitoring.

In cooperation with other federal and state agencies, DOE also provides personnel and equipment to perform radiological monitoring in support of other response activities, support for treatment of radiologically injured or contamination personnel and modeling of atmospheric dispersion.

If STPEGS, the NRC or the State deem that assistance from DOE is necessary or desirable, Texas would notify the appropriate DOE operations office.

E. Federal Bureau of Investigation (FBI)

Support from the FBI is available through its statutory responsibility based in Public Law and the US code, and through a memorandum of understanding for cooperation with the NRC. Notification to the FBI of emergencies in which they would have an interest will be through provisions of the nuclear site's Security Plan, or by the NRC.

F. United States Coast Guard (USCG)

The USCG respond to requests from the Matagorda County Sheriff's Office to provide vessel traffic control on the Colorado River and other navigable waters in the vicinity of STPEGS by the use of marine warnings, and if necessary, aircraft and surface craft.

G. National Weather Service (NWS)

The NWS provides local (Bay City) meteorological information during emergencies, if requested. Data available will include existing and forecasted surface wind directions, wind speed with azimuth variability, and ambient surface air temperature.

The NWS provides Matagorda County 24 hour per day Emergency Alert System (EAS) access, including activation of the NWS radios. Local radio stations broadcast emergency messages as required by the Federal Communication Commission.

H. U.S. Geological Survey (USGS)

The USGS maintains the National Earthquake Information Center (NEIC), which can be reached at the USGS website. The NEIC rapidly determines the location and size of all destructive earthquakes worldwide and immediately disseminates this information to concerned national and international agencies, scientists, and the general public. The NEIC is used as an offsite source of seismic event information that may impact the site.

I. Environmental Protection Agency (EPA)

Assists with field radiological monitoring/sampling and non-plant related recovery and reentry guidance.

3. State Organizations

The State of Texas maintains a Radiological Emergency Management Plan as an integral part of the State of Texas Emergency Management Plan, which outlines their emergency organization. A detailed discussion of the State's response is contained in the Texas Emergency Management Plan.

The duties and responsibilities of the principal and support agencies of the State of Texas are summarized below.

A. Texas Division of Emergency Management (TDEM)

The TDEM is responsible for coordinating state-level response and recovery activities during emergencies and disasters regardless of cause. TDEM has broad legal authority to take actions deemed necessary to protect the health and safety of the public. This authority includes, but is not limited to, control of public and private transportation corridors, and utilization of all public facilities in support of efforts to protect life and property.

The TDEM manages the State Operations Center (SOC), which is located at the Department of Public Safety Headquarters (DPSH) in Austin, Texas. The SOC is operational 24 hours a day, seven days a week.

TDEM, upon notification of an emergency at STPEGS, will notify key governmental member agencies.

B. Texas Department of Public Safety (DPS)

Texas DPS provides the State with law enforcement services in support of local government, which includes but is not limited to disaster reconnaissance, emergency traffic control, execution of evacuation control, and statewide communications service for direction of disaster operations.

Texas DPS Sub District Office is the local headquarters of the Disaster District serving the area around the site. Requests for assistance from the County Emergency Operations Center (EOC) are forwarded to the DPS Sub District Office. Requests that exceed the Sub District's ability to respond will be forwarded to the State Operations Center (SOC) in Austin.

C. Department of State Health Services (DSHS)

The DSHS is the lead state agency responsible for responding to radiological emergencies throughout Texas under the procedure established by the Texas Emergency Management Plan. Specifically, the DSHS is responsible for the assessment of radiological impact and damage to the environment.

Once notified of an emergency which involves or is likely to involve an offsite release, the DSHS will establish communications from their office in Austin, Texas with STPEGS dose assessment personnel. The DSHS is able to make dose projections from data provided by the STPEGS. DSHS has the capability to dispatch Radiological Emergency Response Teams to STPEGS.

4. Matagorda County Organizations

A. County Government

Matagorda County is the lead local governmental entity and has developed an Emergency Management Plan to provide for emergency operations within Matagorda County, Texas, including Bay City, Palacios, and the unincorporated areas within the County. The Matagorda County Emergency Management Plan is a stand-alone document that supports the State of Texas Emergency Management Plan and the STPEGS Emergency Plan. Under the Matagorda County Emergency Management Plan, County elected officials are responsible for all emergency measures within their respective jurisdictions, including recommending shelter and or evacuation of members of the public, and establishing and operating of reception center(s) for registration of evacuated individuals and site employees.

Matagorda County, by LOA, provides transportation service to support site evacuation at STPEGS when requested.

Existing agencies of government in Matagorda County, Bay City, and Palacios will perform emergency activities related to those performed in normal operations. The basic functions of County/City officials are to coordinate activities and assure that any skills not normally available in existing County/City governments are obtained from other resources.

Should the need arise for State assistance, the County Emergency Management Director has the authority to request assistance from State Disaster Sub District Office. A detailed assignment of emergency response actions and responsibilities are defined in the Matagorda County Emergency Management Plan.

B. Matagorda County Airport Facilities

The nearest airport with an associated control zone is at Palacios, 21 road miles to the west-southwest. Palacios Airport supports no commercial passenger operations and has no other passenger facilities (i.e., rental cars, buses, etc.). The runway at Palacios can accommodate larger service aircraft. The Bay City Airport is a small aircraft field located approximately 28 road miles to the northeast of STPEGS.

The Texas Gulf Coast Regional Airport located in Lake Jackson has limited airport service and is located 54 road miles from STPEGS.

The nearest full service airport providing commercial passenger services is Houston Hobby Airport located approximately 97 road miles from STPEGS.

C. Matagorda County Sheriff's Office

The Emergency Management Plan for Matagorda County identifies the Sheriff's Office responsibilities as law enforcement, evacuation/traffic control, communications, warning/notifications and maintenance of the Matagorda County Emergency Operations Center.

The Matagorda County Sheriff's Office, by LOA, responds to requests for assistance at STPEGS. The Matagorda County Sheriff's Office has the capability to respond in approximately thirty minutes, on a 24 hours a day basis.

Coordination of additional law enforcement resources (from the Bay City Police Department, the City of Palacios Police Department, or other law enforcement agencies), if needed, would be coordinated under the National Incident Management System (NIMS) Incident Command System (ICS) or Unified Command System (UCS) through the Matagorda County Sheriff's Office.

D. Matagorda County Volunteer Fire Departments

Matagorda County Volunteer Fire Departments, by Memorandum of Understanding (MOU) with Matagorda County, will respond to a request for firefighting personnel, basic firefighting equipment, and firefighting vehicles at STPEGS. These departments will be coordinated by ICS or UCS.

5. Local Organizations

A. Bay City Police Department

The Bay City Police Department, by LOA, will respond to a request for support at STPEGS. This response includes armed law enforcement officers and law enforcement vehicles. Under the control and coordination of the Matagorda County Sheriff's Office or the National Incident Management System (NIMS) Incident/Unified Command System (ICS) (UCS), officers will perform law enforcement protective actions, assist in traffic/access control, evacuations, and route alerting.

Bay City Police headquarters office is approximately 17 road miles northeast of STPEGS. Officers can respond to the STPEGS in approximately one hour 24 hours per day.

B. Bay City Volunteer Fire Department

The Bay City volunteer fire department, by LOA, will respond to a request for fire-fighting support and rescue services at STPEGS. This response includes firefighters, firefighting equipment, and properly equipped vehicles under ICS or UCS coordination.

The Bay City volunteer fire department is located approximately 17 road miles from STPEGS. Fire-fighting support and rescue services can respond in approximately one-hour 24 hours per day.

C. City of Bay City

The City of Bay City, by LOA, will rent the Bay City Civic Center for use by the Texas Department of State Health Services and for use as a federal response center.

6. Private Sector Organizations

Private sector organizations are not used to provide additional personnel for positions on the STPEGS ERO or perform an operational role. Contractor and private organizations may be requested to provide technical assistance or logistics support. Those organizations are described in Element B.5.

A.1.b	Each organization's emergency plan illustrates these interrelationships in a block diagram.
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Figure B-4 illustrates the interrelationships between the STPEGS ERO and the of State of Texas, local and civil authorities' Emergency Management Organizations.

A.1.c	Each organization identifies the individual, by title/position, who will be in charge of the emergency response.
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The title of the individual who will be in charge of the emergency response is provided in Element B.2.

A.2	References to the applicable acts, codes, or statutes that provide the legal basis for emergency response-related authorities, including those that delegate responsibility and authority to state, local, and tribal governments are included. Each emergency plan indicates who may declare a "State of Emergency" and the powers that ensue.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

A.3	Each organization specifies the key individual(s), by title/position, responsible for the following functions, applicable to their organizations: command and control, alerting and notification, communications, public information, accident assessment, public health and sanitation, social services, fire and rescue, traffic control, emergency medical services, law enforcement, transportation, protective response (including authority to request federal assistance and to initiate other protective actions), and radiological exposure control.
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Refer to the list of primary responsibilities of each ERO position in Element B.1.a and Table B-1 for a list of key individuals responsible for command and control, alerting and notification, communications, public information, accident assessment, protective response (including authority to request federal assistance and to initiate other protective actions), and radiological exposure control.

A.4	Written agreements with the support organizations having an emergency response role within the EPZs are included. The agreements describe the concept of operations, emergency measures to be provided, mutually acceptable criteria for their implementation, and arrangements for exchange of information.
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Assistance will be provided, as necessary, by federal, state and county agencies that are mandated by charter, regulation or law to protect public health and safety. Federal, State and county organizations cooperate with STPEGS and have developed radiological emergency plans and procedures in an integrated manner. Letters of Agreement (LOAs) are not required with these agencies.

Support agreements are necessary when an agency, organization or individual is expected to provide assistance to STPEGS and is not required otherwise to do so. To that extent, LOAs have been developed between STPEGS and several entities to provide emergency response support and services consistent with this plan.

Specifically, the agreement minimum content includes the following:

- A description of the concept of operations, meaning the mutually accepted criteria for implementation
- When the support will be provided (as a minimum, the agreement states that the support provider will offer its services during an emergency at the affected site(s), including during a Hostile Action).
- Identification of the support to be provided.
- Arrangements for exchange of information.

A contract/purchase order with a private contractor is considered acceptable in lieu of a LOA for the specified duration of the contract. The current signature copies of applicable LOAs and contracts, maintained in the STPEGS records management system, are with the following organizations:

- Bay City Police Department
- Bay City Volunteer Fire Department
- Comanche Peak Nuclear Power Plant
- Matagorda County (which includes Bay City and Palacios agreement)
- Matagorda County EMS
- Matagorda County Sheriff's Department
- Memorial Hermann Health Systems
- Palacios Community Medical Center
- Matagorda County Hospital District

A.5	Each principal response organization is capable of continuous operations for a protracted period. The principal response organization specifies the individual, by title/position, who is responsible for ensuring continuity of resources (technical, administrative, and material).
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STPEGS maintains a depth to the ERO that is capable of providing continuous (24 hour/day) operation for an extended period of time. Key functions will be maintained throughout a declared emergency by providing relief of the on-shift and augmenting ERO positions by qualified individuals. The shift rotations for protracted periods will be designated by the Emergency Director (e.g., 8 or 12 hour shifts) during the emergency.

The Emergency Director is the individual responsible for assuring continuity of resources (technical, administrative, and material) within the ERO.

B: Emergency Response Organization

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

Regulatory References: 10 CFR 50.47(b)(2); 44 CFR 350.5(a)(2);
10 CFR Part 50, Appendix E.IV.A

B.1	The emergency plan specifies how the requirements of 10 CFR 50.47(b)(2) and the applicable sections of Appendix E to 10 CFR Part 50 are met.
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1. 10 CFR 50.47(b)(2) Compliance

In December of 2019, the NRC issued NUREG-0654/FEMA-REP-1, R2, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants. The scope of NUREG-0654/FEMA-REP-1, R2 states "NPP applicants and licensees may voluntarily use the guidance in this document to demonstrate compliance with the underlying NRC regulations." This STPEGS Emergency Plan is based on the criteria provided in the NUREG-0654/FEMA-REP-1, R2.

2. 10 CFR 50 Appendix E Compliance

Refer to the 10 CFR 50 Appendix E.IV.A cross-reference in Appendix 3 of this emergency plan.

B.1.a	The site-specific emergency response organization (ERO) is developed. Note that while other site programs, such as operations, fire response, rescue and first aid, and security, may be controlled via other licensing documents, it is only when these personnel are assigned EP functions that they become part of this regulatory standard. Consideration is given to ensure that EP functions are not assigned to individuals who may have difficulties performing their EP function(s) simultaneously with their other assigned (non-EP) duties. Appendix E to 10 CFR Part 50 requires licensees to perform an on-shift staffing analysis to ensure on-shift staff can support the EP functions assigned, as well as other assigned duties.
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The STPEGS day-to-day operating organization is described in Section 13.1.2 of the Updated Final Safety Analysis Report (UFSAR).

The requirements for on-shift operations staff, security force staff, and fire brigade/first aid staff are controlled by Technical Specifications and other licensing and administrative documents. Positions from these departments are described in the emergency plan only when assigned an emergency preparedness function that is performed during an emergency.

The STPEGS on-shift staffing analysis report has been developed in accordance with 10 CFR 50 Appendix E.IV.A.9 and NEI 10-05 and is maintained as part of the emergency plan.

The on-shift ERO and minimum augmenting ERO is composed of the following positions, which are assigned the following primary EP responsibilities (organized by facility):

1. Control Room (CR)

A. Shift Manager

- Command and control
- Federal support and resources
- Event classification and declaration
- ERO notifications
- Offsite emergency notifications to State and County authorities
- Notifications and ENS communications with the NRC
- News releases, statements, and messages
- Mitigation strategies and contingency plans
- Site assembly, accountability, and search & rescue activities
- Site evacuation
- Use of KI
- Offsite Protective Action Recommendations
- Emergency exposures
- Onsite protective actions
- Beyond Design Basis/extreme measures
- ERO response to a security event

B. Senior Reactor Operator (SRO)

A dedicated on-shift SRO is trained and qualified equivalent to the Shift Manager position regarding ERO responsibilities and is capable of providing on-shift assistance with the Command & Control and Emergency Classifications functions. This ERO position may be filled by a second shift manager, or an SRO present on shift that is above the Technical Specification requirement for unit operations.

C. Shift Technical Advisor (STA)

- Event classification and declaration
- Event and response assessment
- Core damage assessment
- Mitigation strategies and contingency plans

D. State & County and ENS Communicators

- ERO notification
- State & County event notification
- NRC communications

- ERDS verification

E. Shift Lead Radiation Protection Technician

- Coordinate activities with offsite response agencies
- Manage assigned group emergency response activities
- Assist with emergency classification
- Status of radiological release
- Dose assessment/projection
- Onsite radiation monitoring teams
- RP coverage for emergency teams
- Support and logistics for site evacuation activities
- Use of KI
- Offsite Protective Action Recommendations
- Emergency exposure controls
- Ensure radiological conditions are known for occupied areas
- Emergency worker exposure and dose extensions
- Monitoring of site evacuees
- Habitability for occupied areas
- Contamination controls for occupied areas

F. Shift Radiation Protection Technician

- Radiological sampling and surveys
- Radiation protection for emergency teams
- Contamination controls for occupied areas

G. Security Force Supervisor

- Manage assigned group emergency response activities
- Emergency activities with law enforcement agencies
- Assist with emergency classification
- Site evacuation, assembly, accountability, and search & rescue activities
- Facility/site access controls activities
- First aid activities
- Coordinate security activities

2. Technical Support Center (TSC)

A. TSC Manager

- Response activities with offsite response agencies

- ERO/facility shift turnover
- Onsite and TSC emergency response activities
- Integration of the NRC site team
- External assistance
- Assist with emergency classification
- Information flow within and between the emergency response facilities
- Emergency PA announcements
- Facility activation
- Facility relocation
- Site response priorities
- Mitigation strategies and contingency plans
- OSC Team task priorities
- Site assembly, accountability, and search & rescue activities
- Site evacuation
- Use of KI
- Emergency exposures
- Monitoring of site evacuees
- Recovery plans
- Beyond Design Basis/extreme measures
- SAFER and FLEX support
- Facility briefs and updates

B. Maintenance Coordinator

- ERO/facility shift turnover
- Equipment and supply resources
- Information flow within and between the emergency response facilities
- Current/projected staff needs
- Facility relocation
- OSC Team task priorities

C. Operations Coordinator

- Status of the Emergency Operations Procedures
- Facility emergency response activities
- Assist with emergency classification
- Current/projected staff needs
- Facility relocation

- Mitigation strategies and contingency plans
- Accident detection, assessment, and response priorities
- Site response priorities
- OSC Team task priorities
- Activities of Ops personnel
- Site assembly, accountability, and search & rescue activities
- First aid activities
- Recovery plans

D. Radiation Protection Coordinator

- Manage assigned group emergency response activities
- Integration of the NRC site team
- Assist with emergency classification
- Information flow within and between the emergency response facilities
- Communicate key information to facility staff
- Emergency PA announcements
- Current/projected staff needs
- Status of radiological release
- Radiological sampling and survey data
- Site assembly activities
- Site evacuation activities
- Use of KI
- Emergency exposure controls
- Radiological conditions in occupied areas
- Emergency worker exposure and dose extensions
- Habitability for occupied onsite areas
- Contamination controls for occupied areas
- Beyond Design Basis/extreme measures

E. Nuclear Engineer

- Mitigation strategies and contingency plans
- Accident detection, assessment, and response priorities
- Analysis of core damage and fission product release potential

F. Electrical Engineer

- Event detection and assessment activities
- Mitigation strategies and contingency plans

G. Mechanical Engineer

- Event detection and assessment activities
- Mitigation strategies and contingency plans

H. Security Coordinator

- Response activities with offsite response agencies
- OSC Team dispatch and control
- Site, evacuation, assembly, accountability, and search & rescue activities
- Site access controls activities

3. Operations Support Center (OSC)

A. Radiation Protection Supervisor

- Response activities with offsite response agencies
- ERO/facility shift turnover
- Manage assigned group emergency response activities
- Determine current/projected staff needs
- Onsite radiation monitoring teams
- OSC Team dispatch and control
- Radiological sampling and survey data
- Radiation protection coverage for emergency teams
- Support and logistics for site assembly and evacuation activities
- Use of KI
- Emergency exposure controls
- Radiological conditions for occupied areas
- Emergency worker exposure and dose extensions
- Habitability for occupied areas
- First aid activities

B. Radiation Protection Technician

- OSC Team dispatch and control
- Radiological sampling and surveys
- Radiation protection for emergency teams
- Contamination controls for occupied areas

C. Craft Supervisors (Mechanical, Electrical and I&C)

- Manage assigned group emergency response activities
- OSC Team dispatch and control

D. Craft (Mechanical, Electrical and I&C)

- OSC Team dispatch and control

4. Emergency Operations Facility (EOF)

A. EOF Manager

- Response activities with offsite response agencies
- Interface with executive officers of station owners
- Command and control
- Manage facility emergency response activities
- Integration of the NRC site team
- Requests for external assistance
- Expenditures for response to the event
- Event classification and declaration
- Offsite emergency notifications to State and County authorities
- NRC Notifications and communications
- Information flow within and between the emergency response facilities
- News releases
- Current/projected staff needs
- Activate the facility
- Determination of site response priorities
- Site assembly, accountability, and search & rescue activities
- Use of KI
- Offsite Protective Action Recommendations
- Emergency exposures
- Emergency event termination
- Recovery plans
- Beyond Design Basis/extreme measures
- Security activities
- Facility briefs and updates

B. Technical Advisor

- Manage assigned group emergency response activities
- Coordinate external assistance
- Assist with emergency classification
- Event detection and assessment activities
- Site response priorities

- Analysis of core damage and fission product release potential
- Develop offsite Protective Action Recommendations
- Recovery plans
- Facility briefs and updates

C. Operations Advisor

- Assist with emergency classification
- Event detection and assessment activities
- Recovery plans

D. State & County Communicator

- Offsite emergency notifications to State and County authorities
- Emergency PA announcements

E. Radiation Protection Coordinator

- Response activities with offsite response agencies
- Manage assigned group emergency response activities
- Integration of the NRC site team
- Assist with emergency classification
- HPN event data and plant information
- Information flow within and between the emergency response facilities
- Event detection and assessment activities
- Dose assessment/projection
- Offsite field monitoring team activities
- Receipt, analysis, storage, and transfer of field monitoring samples
- Site evacuation activities
- Use of KI
- Offsite Protective Action Recommendations
- Emergency exposure controls
- Monitoring of site evacuees
- Recovery plans
- Post-accident environmental sampling and exposure activities
- Facility briefs and updates

F. Dose Assessor

- Assist with emergency classification
- HPN event data and plant information

- Dose assessment/projection
- Offsite Protective Action Recommendations

G. Field Monitoring Coordinator

- Manage assigned group emergency response activities
- Integration of the NRC site team
- Offsite field monitoring team activities
- External agency field monitoring teams
- Emergency worker exposure and dose extensions

H. Field Monitoring Technician

- Radiological sampling and surveys

I. Field Monitoring Driver

- Drive field monitoring vehicle
- Assist with offsite monitoring activities

J. Administrative Coordinator

- Response activities with offsite response agencies
- ERO shift turnover
- Manage assigned group emergency response activities
- Facility activation
- Integration of the NRC site team
- Facility briefs and updates

K. IT Coordinator

- Coordinate information and activities with offsite agency personnel in the facility
- Monitor facility equipment (computer, communications, etc.) for proper operation

5. Joint Information System (JIS) / Joint Information Center (JIC)

STPEGS maintains a program and process for Corporate Communications and key business unit staff to operate in the Joint Information Center or within a Joint Information System for any event that can impact the company. This organization provides media and public information and communications for the ERO during all declared events.

Refer to Section G for JIC/JIS details.

B.2	An individual is designated as the on-shift emergency coordinator (individual title may vary) who has the authority and responsibility to immediately and unilaterally initiate any emergency response measures, including approving protective action recommendations (PARs) to be disseminated to authorities responsible for implementing offsite emergency response measures.
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The Emergency Director is the STPEGS individual who has overall command and control of the emergency.

The Shift Manager is the individual who is on-shift at all times and who has the authority and responsibility to immediately and unilaterally initiate any emergency actions, including providing protective action recommendations (PARs) to authorities responsible for implementing offsite emergency measures, and assumes the role of Emergency Director upon emergency declaration.

The Shift Manager is responsible for providing ERO command and control until relieved.

B.2.a	The functional responsibilities assigned to the ERO are established and the responsibilities that may not be delegated to other members of the ERO are clearly specified in the emergency plan.
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The Shift Manager is responsible for performing the following non-delegable responsibilities until relieved:

- Event declaration
- Notification of offsite authorities
- PARs for the general public
- Emergency Exposure (Dose limits and KI)

When the Shift Manager is relieved of overall command and control of emergency response, the non-delegable responsibilities of classification, notification and PARs and the role of Emergency Director are passed to the EOF Manager. Approving departures from license conditions per 10CFR50.54(x) for Control Room Operator actions AND equipment manipulations remains with the Shift Manager throughout the emergency event.

Responsibility for emergency radiation exposure controls is split between onsite and offsite areas. The TSC Manager takes responsibility for onsite radiation emergency exposure controls and the EOF Manager takes responsibility for offsite emergency radiation exposure controls for workers under the control of STPEGS (such as field monitoring personnel). While the responsibility is split between the TSC Manager and EOF Manager, approval authority cannot be delegated.

B.3	A table is developed depicting the site-specific on-shift staffing plan, as well as the ERO staffing augmentation plan.
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The ERO is composed of;

- (1) on-shift personnel located at the site at all times, and
- (2) augmenting personnel who are on duty at all times.

Refer to Table B-1 for the on-shift and augmenting ERO staffing plan.

Table B-1: On-Shift and Augmenting ERO Staffing Plan

Emergency Preparedness Function	On-Shift	TSC OSC		EOF JIC/JIS
		Alert or Greater – Augment within		Alert or Greater – Augment within
		60 min.	90 min.	90 min.
Command and Control - Provide overall ERO command and control. - Approve ECLs and PARs. - Authorize personnel dose extensions.	(1) Shift Manager (1) SRO	Not applicable	(1) TSC Manager–TSC	(1) EOF Manager–EOF
Emergency Classifications Evaluate plant conditions and recommend ECLs.	Classification Advisor ^(a)	Not applicable	Not applicable	(1) Ops Advisor–EOF
Communications Communicate ECLs and PARs to OROs, including the NRC.	(1) S/C Communicator (1) ENS Communicator	Not applicable	Not applicable	(1) S/C Communicator–EOF
Supervision of RP Staff and Site Radiation Protection - Evaluate and assess plant and offsite rad data in the development of onsite protective actions and offsite PARs. - Recommend onsite protective actions and offsite PARs. - Direct all RP activities including FMTs. - Provide information to personnel communicating offsite PARs to OROs.	(1) Lead RP Technician	Not applicable	(1) RP Coordinator–TSC	(1) RP Coordinator–EOF
Dose Assessments/ Projections Perform dose assessments and projections and provide input to PAR decision-maker.	Dose Assessor ^(a)	Not applicable	Not applicable	(1) Dose Assessor–EOF
Radiation Protection - Provide RP coverage for accessing potentially unknown radiological environments. - Provide in-plant surveys. - Control dosimetry and RCA access.	(2) RP Technician	(3) RPT–OSC	(3) RPT–OSC	Not applicable

Emergency Preparedness Function	On-Shift	TSC OSC		EOF JIC/JIS
		Alert or Greater – Augment within		Alert or Greater – Augment within
		60 min.	90 min.	90 min.
Field Monitoring Teams Provide onsite (out of plant) and offsite surveys.	Not applicable	Onsite (1) FM Technician	Offsite (2) FM Technician (2) FM Driver	(1) FM Coordinator–EOF
Engineering Provide engineering coverage related to the specific discipline of the assigned engineer.	(1) STA	Not applicable	(1) Electrical Eng–TSC (1) Mech Eng–TSC (1) Nuclear Eng–TSC (1) Ops Coord–TSC	(1) Technical Advisor–EOF
Supervision of Repair Team Activities Direct in-plant event response and repair activities.	Not applicable	(1) Maint Coord–TSC	(1) Elect Supv–OSC (1) Mech Supv–OSC (1) I&C Supv–OSC (1) RP Supervisor–OSC	Not applicable
Repair Team Activities	Not applicable	(1) Electrician–OSC (1) Mechanic–OSC	(1) I&C Technician–OSC	Not applicable
Security	(1) Security Force Supv Security staff ^(b)	Not applicable	(1) Security Coord–TSC	Not applicable
Media Information Manage and coordinate media information related to the event.	Not applicable	JIC/JIS staff ^(c, d)	Not applicable	JIC/JIS staff ^(c)
Administration	Not applicable	Not applicable	Not applicable	(1) Admin Coordinator–EOF
Information Technology (IT) Ensure IT equipment is operable.	(e)	(e)	(e)	(1) IT Coordinator–EOF
Totals	(9)	(7)	(19)	(9)

(a) Assigned as a collateral function.

(b) Per the site specific security plan.

(c) JIS per STPNOC Communications Emergency Response Plan. STPEGS staffing of the JIC is concurrent with other ERFs (although facility activation is coordinated with the joint offsite agencies and has no time requirement).

(d) Does not need to be performed in the TSC/OSC, but does need to be established at this point.

(e) IT personnel monitor critical digital assets remotely and respond any time an issue is identified.

B.4	The interfaces between and among the licensee functional areas of emergency activity, local services support, and state, local, and tribal government organizations are identified. The information includes all licensee emergency response facilities. A block diagram is preferred for ease of use, but not required.
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Figure B.4 illustrates the interface between the ERO, State and County OROs, and local support organizations (such as fire and law enforcement). Liaisons provide face-to-face interface. Phone and radio communications provide voice interface and the internet provides non-verbal information exchange interface.

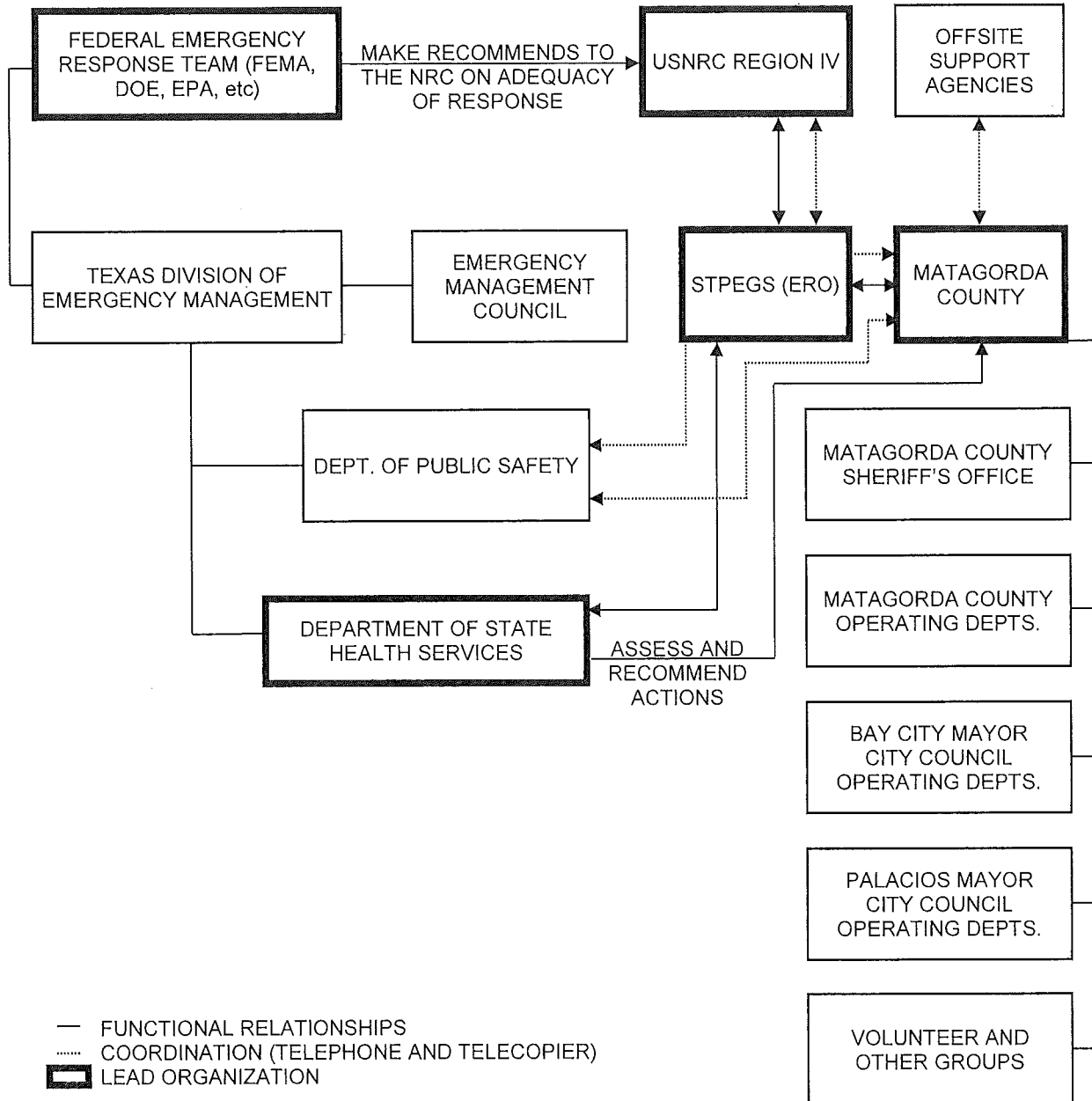


Figure B.4: Interrelationship of Emergency Response Organizations

An Incident Command Post (ICP) is established and staffed by offsite agencies for a large area fire or security event, and will interface with the TSC, site security, and various offsite response facilities/organizations (based on event type). STPEGS provides the appropriate liaison (Security, Operations or Radiation Protection) to the ICP.

B.5	The external organizations, including contractors, that may be requested to provide technical assistance to and augmentation of the ERO, as applicable, are specified.
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1. Private Organization Support

A. Institute of Nuclear Power Operations (INPO)

INPO has an emergency response plan that enables it to provide the assistance in locating sources of emergency personnel, equipment, and operational analysis. INPO, Electric Power Research Institute (EPRI), and Nuclear Energy Institute (NEI) maintain a coordination agreement on emergency information with their member utilities. INPO provides an electronic communications system to its members, participants, NEI, and EPRI to coordinate the flow of media and technical information about the emergency. INPO maintains the following emergency support capabilities:

- A dedicated emergency call number.
- Designated INPO representative(s) who can be quickly dispatched to the utility to coordinate INPO support activities and information flow.
- The 24-hour per day operation of an emergency response center at INPO headquarters.

B. American Nuclear Insurers (ANI)

In the event of an extraordinary nuclear occurrence (as defined in the Price-Anderson Law), ANI and Mutual Atomic Energy Liability Underwriters (MAELU) have plans prepared to provide prompt emergency funding to affected members of the public. The pools' emergency assistance arrangements contemplate the mobilization and dispatch of emergency claims teams to directly dispense emergency assistance funds to affected members of the public. Mutual Atomic Energy Liability Underwriters.

Pre-established lines of communication exist between each utility and ANI in order to exchange all required information during a developing emergency. ANI maintains 24-hour coverage of an emergency notification number. ANI is notified as soon as possible after the declaration of an Alert, Site Area Emergency, or General Emergency, or if the insured believes that offsite persons may be affected and financial assistance may be required.

2. Contractor Support

Private sector organizations are not used to provide additional personnel for positions on the STPEGS ERO or to perform an operational role. Contractor and private organizations that may be requested to provide technical assistance are as follows:

A. Westinghouse Electric Company

Westinghouse Electric Company has established a contract with STPEGS to provide general services related to nuclear steam supply operation during and following an emergency. Westinghouse provides a capability to respond on a 24 hour a day basis.

B. Comanche Peak Nuclear Power Plant

Comanche Peak Nuclear Power Plant, by LOA, will perform selected radiological analysis in case a loss of onsite analysis capabilities occurs at STPEGS.

C: Emergency Response Support and Resources

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

Regulatory References: 10 CFR 50.47(b)(3); 44 CFR 350.5(a)(3); 10 CFR Part 50, Appendix E, Sec. IV.A and E

C.1	Emergency response support and resources provided to the licensee's EOF, as agreed upon, are described.
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The EOF contains dedicated work areas and logistics resources for Federal and State response personnel. Federal and State personnel respond to the EOF in accordance with their emergency response plans and procedures. Although no written agreements have been developed between Federal and State personnel who respond to the STPEGS EOF, mutually supportive emergency plans and response procedures have been developed.

C.2	Provisions made for additional emergency response support and resources are described and include the following:
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C.2.a	The individual(s), by title/position, authorized to request emergency response support and resources from responding organizations.
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The individual authorized to request assistance and resources from responding organizations is the Emergency Director.

Refer to Element B.2.a for greater detail regarding command & control.

C.2.b	(1) Each organization from which emergency response support and/or resources may be requested, (2) the circumstance(s) in which the emergency response support and/or resources would be required, (3) the process for requesting needed emergency response support and/or resources, (4) categories of capabilities and/or resources expected to be provided, (5) when the expected emergency response support and/or resources would be available once requested, and (6) how integration would occur.
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Refer to Elements A.1.a and A.4 for the description and details of the provisions made for additional assistance and resources.

C.2.c	Coordination of NPP site access and support for external organizations that have agreed to provide requested emergency response support and resources.
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Site access is controlled at all times by the Security organization in accordance with the site security plan and procedures. The TSC Security Coordinator is responsible for coordination with on-shift personnel when site access is needed for non-badged offsite agency and support personnel.

C.2.d	Agreements between licensees and local agencies for law enforcement, medical and ambulance services, fire, hospital support, and other support.
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OROs may be called to assist onsite for events requiring firefighting, medical, or law enforcement. Immediate assistance with firefighting, medical, and law enforcement at the sites is initiated using the 911 emergency system. When the ERO is activated, coordination of these activities will be performed by response personnel in the TSC.

If an emergency requires establishment of a near site Incident Command Post (ICP), the site will provide liaison(s) to the ICP to assist in coordinating response efforts.

Agreements with state and county response organizations have been established through the integrated development of their respective emergency plans.

Agreements with other entities have been formally developed and documented through memorandums of understanding (MOUs), contracts, and/or letters of agreement (LOAs).

Refer to Element A.4 for details on agreements.

C.3	The capability of each principal organization to coordinate with other principal organizations leading the incident response is described.
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In addition to coordination between individuals in command and control of each organization, STPEGS liaisons are typically dispatched to State and County EOCs. The STPEGS liaisons clarify information contained in emergency notifications and provide a communications link between the site and the EOCs. Information for these liaisons is typically obtained via telephone with the EOF. If the STPEGS liaisons are not dispatched to the State or County EOCs, information is exchanged by having representatives from the State and Counties contacted by ERO personnel. This is done as requested by the State or County.

When State and NRC representatives are present in the STPEGS emergency facilities, additional coordination occurs directly between those representative and the STPEGS ERO. Coordination with these representatives prior to their arrival occurs via telephone.

C.4	Radiological laboratories, their general capabilities, and expected availability to provide radiological monitoring analysis services that can be used in an emergency are described. Plans to augment the identified radiological laboratories are described.
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STPEGS has radiological and radiochemistry laboratories located in each unit. The facilities provide quick and efficient analyses of samples from process systems, Reactor Coolant System, and secondary systems. Environmental monitoring sample analysis is performed in either unit's facilities. The physical separation of the units allow the facilities in the unaffected unit to be used as a backup.

STPEGS maintains an onsite environmental laboratory capable of analyzing samples as a backup to the unit laboratories if needed.

An offsite mobile radiological laboratory set up at the staging area at the Bay City Civic Center and operated by the Department of State Health Services is available for use by STPEGS, if requested.

The DOE, through the Radiological Assistance Program (RAP) has access to any national laboratory.

Refer to section B.5.2 for details on the private offsite laboratory support facility.

C.5	Arrangements are described for integrating the licensee's response with the NRC Headquarters and regional incident response centers and, when dispatched, the NRC's site response team.
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The TSC Manager and the EOF Manager are the initial primary contact positions for the NRC site response team personnel sent to those facilities.

Dedicated areas within the EOF and TSCs are established for NRC site response teams that including:

- (1) Space for members of an NRC site team
- (2) Additional space for conducting briefings with emergency response personnel
- (3) Communication with other STPEGS and offsite emergency response facilities
- (4) Access to plant data and radiological information
- (5) Access to copying equipment and office supplies

C.5.a	The activation process for the NRC's emergency response data system (ERDS) during an emergency is described.
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The STPEGS ERDS is continuously online. When an emergency occurs ERO, personnel will verify ERDS operation as soon as possible but not later than one hour after an alert or higher emergency classification level is declared, in accordance with 10 CFR 50.72(a)(4).

C.5.b	Provisions to continuously maintain open communications lines with the NRC, when requested, are described.
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The ERO is staffed for and capable of maintaining continuous communications with the NRC. When requested, open communication lines will be staffed by knowledgeable personnel (i.e., personnel with operations background for the ENS line, and radiological background for the HPN line) to ensure efficient and effective information flow.

D: Emergency Classification System

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

Regulatory References: 10 CFR 50.47(b)(4); 44 CFR 350.5(a)(4);
10 CFR Part 50 Appendix E.IV.B and C

D.1	A standard emergency classification and action level scheme is established and maintained. The scheme provides detailed EALs for each of the four ECLs in Section IV.C.1 of Appendix E to 10 CFR Part 50.
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STPEGS has established and maintains a standard emergency classification and emergency action level scheme. The spectrum of postulated emergency events is categorized into the following four (4) emergency classification levels (ECLs):

- Unusual Event
- Alert
- Site Area Emergency
- General Emergency

The four ECLs are described as follows:

1. Unusual Event (UE)

Events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.

2. Alert

Events are in progress, or have occurred, which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life-threatening risk to site personnel or damage to site equipment because of hostile action. Any releases are expected to be small fractions of the EPA Protective Action Guideline exposure levels.

3. Site Area Emergency (SAE)

Events are in progress or have occurred which involve actual or likely major failures of plant functions needed for protection of the public or hostile action that results in intentional damage or malicious acts; 1) toward site personnel or equipment that could lead to the likely failure of or; 2) that prevent effective access to, equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA PAG exposure levels beyond the site boundary.

4. General Emergency (GE)

Events are in progress or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity or hostile actions that result in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA PAG exposure levels offsite for more than the immediate site area.

D.1.a	The EALs are developed using guidance provided or endorsed by the NRC that is applicable to the reactor design.
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Emergency Action Levels (EALs) have been developed in accordance with NEI 99-01 Revision 6, Development of Emergency Action Levels for Non-Passive Reactors. This guidance and the STPEGS EAL scheme have been approved by the NRC.

The STPEGS EALs and their technical bases are considered as part of the overall Emergency Plan by extension. Refer to Introduction Section 2.0.

If the entire EAL scheme is to be changed, then the new EAL scheme will be submitted to the NRC for approval prior to implementation.

D.1.b	The initial emergency classification and action level scheme is discussed and agreed to by the licensee and OROs, and approved by the NRC. Thereafter, the scheme is reviewed with OROs on an annual basis.
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The NRC approved STPEGS EAL scheme has been agreed to by State and County authorities.

The current EAL scheme is reviewed with State and County authorities on an annual basis.

D.2	The capability to assess, classify, and declare the emergency condition within 15 minutes after the availability of indications to NPP operators that an EAL has been met or exceeded is described.
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STPEGS has and maintains the capability to assess, classify, and declare an emergency condition within 15 minutes after the availability of indications to plant operators that an EAL threshold has been met or exceeded.

The 15 minute time requirement to declare events will not be construed as a grace period to attempt to restore conditions to avoid declarations.

After the initial declaration of an emergency classification, the Emergency Director continually assesses the situation to determine whether the emergency classification level must be upgraded.

Response actions deemed necessary to protect public health and safety will be performed by plant operators, which may result in slight delays in declaration. No delay is acceptable for events affecting offsite areas if the delay would deny State and County authorities the opportunity to implement measures to protect the public.

D.3	A summary of emergency response measures to be taken for each ECL is provided. The detailed emergency response measures are described in implementing procedures.
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STPEGS maintains procedures that include immediate actions to be taken that are consistent with any declared ECL.

Emergency Operating Procedures provide instructions to Control Room personnel for coping with abnormal and emergency conditions and are used to confirm and mitigate process related emergency conditions and events. These procedures are based on guidelines developed by the Westinghouse Owners Group and require the monitoring of critical safety functions and a diagnostic evaluation to classify the emergency.

Summary of actions taken at each ECL:

1. Unusual Event Classification (UE)

Events in this classification will initiate notification of the State, County and NRC, and activation of the Emergency Notification and Response System (ENRS) to notify Emergency Response Organization (ERO) Personnel. This is an information only notification and does not require activation of emergency facilities. Any Emergency Response Facility may be activated at the discretion of the Emergency Director.

2. Alert Classification

Events in this classification will initiate notification of the State, County and NRC, and activation of the Technical Support Center, Operations Support Center and Emergency Operations Facility. The Joint Information Center shall be staffed as a precautionary action and may be activated in coordination with the offsite agencies.

3. Site Area Emergency Classification

Events in this classification will initiate notification of the State, County and NRC, and activation of the Technical Support Center, Operations Support Center, Emergency Operations Facility and the Joint Information Center. Although Protective Action Recommendations are not necessarily required, situations classified under the Site Area Emergency classification are those for which it may be prudent to provide early warning to the general public within the ten (10) mile Emergency Planning Zone to provide an increased state of readiness should the emergency become more serious. Declaration of a Site Area Emergency will require initiation of emergency response actions by STPEGS personnel and State and County authorities.

4. General Emergency Classification

Events in this classification will initiate notification of the State, County and NRC, and activation of the Technical Support Center, Operations Support Center, Emergency Operations Facility and the Joint Information Center. Declaration of a General Emergency will require initiation of emergency response actions by STPEGS personnel. Protective Action Recommendations will be made by STPEGS personnel to State and County authorities.

Emergency response procedures describe in detail required onsite and offsite protective actions, activation of the ERO, notification to the supporting State and County agencies, and notification to the NRC (Refer to Table P.7-1).

D.4	Emergency response measures based on the ECL declared by the licensee and applicable offsite conditions are described.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

E: Notification Methods and Procedures

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

Regulatory References: 10 CFR 50.47(b)(5); 44 CFR 350.5(a)(5);
10 CFR Part 50 Appendix E.IV.D

E.1	The mutually agreeable process for direct and prompt notification of response organizations, aligned with the emergency classification and action level scheme, is described.
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1. ERO Notification

The Shift Manager will direct or perform notification of the ERO for all emergency classification levels. Activation of the ERO is required at the Alert emergency classification level or higher, and discretionary at the Unusual Event emergency classification level.

The means for alerting and notifying ERO members are described in Element F.1.c.

Emergency response personnel report to their assigned emergency response facilities when directed. In the event of a security threat, personnel may be instructed to respond to alternative facilities, or seek cover of on-site.

2. State and County Event Notification

The process and systems used for event notification is coordinated with State and County representatives.

Notifications are made simultaneously via dedicated automatic ringdown lines to State personnel in the Department of Public Safety Communication Center located at the Sub District Office and to county personnel located in the Matagorda County Sheriff's Office.

Follow-up messages are provided to offsite authorities. Typically, follow-up messages are provided every hour to two hours. For long duration events with little change in information between messages, the follow-up message time interval can be increased as agreed upon by all affected agencies. However, changes in event information that do not meet the requirements for an initial notification may warrant a follow-up message at any time.

3. NRC Event Notification

STPEGS will notify the NRC using ENS as soon as possible after notification of State and County agencies, and not later than 60 minutes after event declaration.

An accelerated call to the NRC will be made following discovery of an imminent threat or attack against STPEGS. The accelerated NRC notification will be completed after or concurrent with notification of local law enforcement agencies. The goal will be to initiate the notification within 15 minutes of discovery of an imminent threat or attack against the site. The information provided in the accelerated notification will be limited to the following:

- Site name.
- ECL if determined prior to the accelerated notification.
- Nature of the threat and the attack status.

E.1.a	Provisions for notification of response organizations are established, including the means for verification of messages.
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The provisions for notification of response organizations are described above in Element E.1.

Initial notification to State and County agencies includes a means of verification or authentication.

E.1.b	The capability to notify responsible OROs within 15 minutes and the NRC within 60 minutes is described.
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Initial notifications to the State and County are made within 15 minutes of ECL declaration or upgrade, or changes are made to PARs (evacuate, and/or shelter).

The NRC will be notified within 60 minutes of ECL declaration or upgrade.

E.2	The alert and notification systems (ANSs) used to alert and notify the general public within the plume exposure pathway EPZ and methods of activation are described. This description includes the administrative and physical means, the time required for notifying and providing prompt instructions to the public within the plume exposure pathway EPZ, and the organizations or titles/positions responsible for activating the system.
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In the event public notification is required, both transient and resident populations within the ten-mile EPZ will be initially notified through the Prompt Notification System (PNS) and by the Matagorda County officials.

- The general public (resident and transient population) are notified of an Unusual Event through press releases, radio broadcasts, and other news media.
- The general public are notified of Alert or higher declarations through news advisories and/or Emergency Alert System messages prepared by Matagorda County Emergency Management officials.

During emergencies that may require the implementation of protective actions, the general public will be alerted by the PNS, which consists of systems and methods as detailed in the FEMA PNS Design Report. This system is designed to enable the County authorities to notify essentially all of the population within the EPZ within about fifteen minutes. The PNS is initiated from the Matagorda County Sheriff's Office by County officials.

Additional notification and information will be provided to the transient and resident populations as well as the general public outside the ten-mile EPZ through the Emergency Alert System. The NOAA weather alert radio channel and local radio stations are the local sources for information regarding public emergency response actions.

STPEGS is responsible for maintenance and routine testing in accordance with the PNS Design Report.

E.3	The licensee, in conjunction with state, local, and tribal organizations, establishes the contents of the initial and follow-up emergency notifications to be sent from the NPP.
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The content of, and any changes to, initial and follow-up messages are coordinated with State and County representatives.

The content of the initial notification will include the following:

- Station name
- Date/time of incident
- The ECL
- Whether a release is taking place
- Meteorological conditions
- If in a General Emergency, any offsite protective action recommendations
- Name and point of contact of caller

Content of the follow-up messages will include additional information regarding event conditions and response actions (such as radiological release details, offsite support, event prognosis, etc.).

E.4	Each organization establishes the contents of the initial and follow-up messages to the public including, as applicable, instructions for protective actions.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

E.5	Provisions are made to provide timely supplemental information periodically throughout the radiological incident to inform the public.
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The public receives periodic instructions to tune to their NOAA weather radio channel or other local public radio station for emergency instructions whenever the PNS is activated. The Emergency Alert System messages originate from Matagorda County officials. STPEGS assists with appropriate instructions and message content.

F: Emergency Communications

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

Regulatory References: 10 CFR 50.47(b)(6); 44 CFR 350.5(a)(6);
10 CFR Part 50, Appendix E.IV.E

F.1	Each principal response organization establishes redundant means of communication and addresses the following provisions:
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The communications systems are designed to provide rapid and efficient onsite and offsite means to exchange information. System diversity provides redundant means of onsite and offsite communications to support plant operations and response actions, and communications with State and County agencies, and the NRC.

Refer to UFSAR Section 9.5.2 for details on other communications systems.

1. Onsite Communications Systems

- A. Telephone System – The telephone system consists of an onsite telephone switch, private business lines, and trunk connections with the local telephone utility central office, and multiplexed telephone circuits through the private regional microwave system. The onsite telephone switch consists of two separate electronic switches. Both switches are interconnected with fiber optic cable in addition to trunk connections with the local telephone utility central office. Phone distribution is designed to load each switch with one-half the emergency or essential telephones in any given power block area. Therefore, some emergency or essential telephones in any one area will be operable in the event of a major failure of either switch.
- B. Public Address/Alarm System – The public address and alarm system transmits routine messages and emergency signals, such as fire, plant evacuation, and radiation emergency alarms. In areas where noise levels are too high for audible alarms to be heard, flashing lights are supplied in addition to audible alarms for emergency warning.
- C. Two-Way Radio System – Radio repeater base stations provide communication between control base stations, mobile units, and hand-held portable radios.
- D. Digital Integrated Communications Electronic System – Operator Control Panels (OCPs) provide plant personnel with access to onsite/offsite telephone systems, two-way radio channels, radio pager system, activation of the plant emergency and fire alarm signals, and the public address system. OCPs are provided in both Control Rooms, both auxiliary shutdown panels, both TSCs, the EOF, CAS, SAS, the training facility, and other areas as needed.

2. Offsite Communications Systems

- A. Telephone System – The offsite telephone system access is provided through the local telephone utility central office. Private business lines from the central office terminate at designated plant instruments which bypass the onsite telephone switch. Additional offsite telephones bypass both the telephone switch and the local utility central office. These telephones are provided with access to the private microwave network. This network provides PBX gateways distributed throughout the regional private telephone system.
- B. Dedicated Automatic Ringdown Lines – Dedicated automatic ringdown lines allow immediate and direct contact with the Matagorda County Sheriff's Office and the Texas Department of Public Safety, Sub District Office.
- C. Satellite Telephone – A satellite telephone is maintained in each CR. This phone operates on AC or battery power and provides worldwide access in the event of a total loss of all other phone capability to STPEGS and/or surrounding area. Additional satellite phones are maintained in the EOF for backup communications.
- D. Two-Way Radio System – Designated security radio OCPs include local law enforcement frequencies that enable site radio communications with the Matagorda County Sheriff's Office.
- E. NRC Communications Links – The Federal Telephone System (FTS) 2001 is a dedicated telephone system for establishing contact with the Nuclear Regulatory Commission Operations Center in Rockville, Maryland. Extensions designated for NRC communications are located in the CRs, TSCs, and EOF.

Telephones have been designated for the following NRC communications:

- 1. NRC Emergency Notification System (ENS) – The ENS provides a communications link to the NRC Operations Center in Rockville, Maryland, and is used for initial notifications and continuous communications in a classified emergency.
- 2. NRC Health Physics Network (HPN) – This communications line provides a communications link with the NRC to provide radiological information. Normal available from the TSCs and the EOF.
- 3. NRC Reactor Safety Counterpart Link (RSCL) – This communications line provides a communications link for the NRC to conduct internal NRC discussions on plant equipment conditions separate from the licensee.
- 4. Protective Measures Counterpart Link (PMCL) – This communications line provides a communications link for the NRC to conduct internal NRC discussions on radiological releases, meteorological conditions, and the need for protective actions.
- 5. Management Counterpart Link (MCPL) (Executive Bridge Line) – This communications line provides a communications link for any NRC internal discussions between the NRC Executive Team Director or Executive Team members and the NRC response team leader or top-level licensee management at the site.

3. Communications Systems Interface

The telephone system provides interface between incoming telephone lines, the microwave system, plant voice paging system, radio-paging system, communications consoles and other associated equipment. The communications consoles interface with the telephone system, the radio system, and the plant voice paging system. Radio and telephone equipment used in the TSCs are powered from separate non-Class 1E diesel generator-backed busses. Radio and telephone equipment used in the EOF are backed by a generator in the event of loss of normal electrical power.

F.1.a	Continuous capability for notification to, and activation of, the emergency response network, including a minimum of two independent communication links.
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Provisions exist for continuous communications capability with State and County agencies and the NRC. Refer to Element F.1 for communications system descriptions and redundancies.

F.1.b	Communication with applicable organizations to include a description of the methods that may be used when contacting each organization.
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The methods for notification of response organizations are described in Element E.1.

F.1.c	Systems for alerting or activating emergency personnel in each response organization.
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Personnel within the Protected Area are notified of the emergency classification via the Public Address (PA) paging system. The sounding of alarms and announcement of the emergency classification and other pertinent data relating to the emergency classification are made over the PA paging system.

Notification of personnel located onsite, but outside the Protected Area, is accomplished through PA paging system announcements, wireless communication devices, administrative controls, and by Security Force personnel.

Inside plant buildings, where hearing is difficult due to high ambient noise levels, flashing lights are used to supplement the PA paging system.

The Emergency Notification & Response System (ENRS) is used for notifying ERO members during a declared emergency and consists of offsite primary and backup computer systems. The systems are capable of autodialing and communicating a message on ERO member phones and by text.

F.2	Systems for coordinated communication methods for applicable fixed and mobile medical support facilities are described.
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Communications to local medical facilities is via private telephone lines. Radio communications are possible through the county communications centers to their respective ambulance and hospital facilities.

F.3	The testing method and periodicity for each communication system used for the functions identified in evaluation criteria E.2, F.1, and F.2 are described.
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Communications tests will be conducted and documented on the following frequency:

- Systems used to communicate with State and County warning points within the plume exposure pathway EPZ will be tested monthly.
- Systems used to communicate from the CRs, TSCs, and EOF to NRC headquarters will be tested monthly.
- The ERDS will be verified to transmit data on a quarterly basis.
- Systems used to communicate between STPEGS ERFs will be tested annually.
- Systems used to communicate between STPEGS, State EOC, County EOC, and field monitoring teams will be tested annually.
- Systems used to communicate with Federal emergency response organizations will be tested annually.
- PNS testing frequency is described in the PNS Design Report.

G: Public Education and Information

Emergency planning information is made available to the public on a periodic basis and includes information on how they will be notified and what actions they may be asked to take (e.g., listening to a local broadcast station, remaining indoors, etc.). Information will also be provided to the news media to include principle points of contact to receive information (including the physical location(s)) and information about the coordinated dissemination of information from all agencies engaged in the response.

Regulatory References: 10 CFR 50.47(b)(7); 44 CFR 350.5(a)(7);
10 CFR Part 50, Appendix E.IV.A

G.1	Provisions are made for a coordinated annual dissemination of information to the public within the plume exposure pathway EPZ, including transient populations and those with access and functional needs, regarding how they will be notified and what actions should be taken. The information is disseminated using multiple methods, to include non-English translations per current Federal guidance.
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Education/Training of the public on emergency planning and how the public should respond in case of an emergency is primarily the responsibility of STPEGS in conjunction with local authorities. Annually, STPEGS will disseminate information to the public within the ten-mile EPZ regarding how the public will be alerted in case of an emergency and what actions should be taken.

Information disseminated to the public is in the form of printed or electronic materials. The materials for general public information will be provided by methods such as:

- Dissemination to residents in the ten-mile EPZ.
- General distribution to areas where the general public visits on a regular basis, to be picked up as needed.
- Posters, bulletins and other visible postings in the immediate towns and unincorporated population settlements.
- Personal distribution.

The content of the printed materials include, but are not limited to:

- Educational information on radiation
- Respiratory protection
- Sheltering
- Evacuation routes
- Mail-in cards for persons with special needs to ensure extra precautions are taken
- Plume Exposure Pathway EPZ map
- Contacts and telephone numbers for additional information, along with a Spanish information number.

Information for residents with special needs and non-English translations is made available in accordance with current federal guidance.

In addition, meetings may be held with the public in the ten-mile EPZ to discuss specific STPEGS emergency preparedness information.

Informing the transient population is achieved by posting information in public areas and by placing supplies of prepared written materials in areas where the general populace frequents. Transient locations will be identified by EP personnel and State and County emergency management officials. These locations may include, but are not limited to, motels, hotels, marinas, and water access areas. The list of transient locations will be reviewed annually and updated as needed. Locations will be contacted annually to ensure adequate copies of materials are available.

G.2	Methods, consistent with JIS concepts, are established for coordinating and disseminating information to the public and media. Plans include the physical location(s) for interacting with the media.
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STPEGS Communications and Public Affairs Personnel and STPNOC Co-Owners maintain plans and processes regarding the coordination of information with other organizations and the methods and means by which it is released to the media and the public using JIS concepts, which integrate emergency information and public affairs into a cohesive organization designed to provide consistent, coordinated, accurate, accessible, timely, and complete information during emergencies. The mission of the JIS is to provide a structure and system for developing and delivering coordinated interagency messages; developing, recommending, and executing public information plans and strategies on behalf of the Incident Commander; advising the Incident Commander concerning public affairs issues that could affect a response effort; and controlling rumors and inaccurate information that could undermine public confidence in the emergency response effort.

Media and public inquiries will be handled by the STP Communications and Public Affairs Personnel and STPNOC Co-Owners prior to Joint Information Center (JIC) activation. The Co-Owners will be contacted and provided information to answer media and public inquiries and to direct the media to the Joint Information Center (JIC).

The JIC is located at 4000 Avenue F in Bay City, Texas, approximately 18 road miles north-northeast of the site. The JIC is equipped with telephone and media monitoring capabilities to support response actions.

The JIC is staffed at an Alert emergency classification level and may be activated at the discretion of the Emergency Director. The JIC is activated at a Site Area Emergency or General Emergency classification level.

The JIC functions as a single authoritative source for disseminating information to the news media and the public, where STPNOC and Co-Owners, State, County and Federal public information personnel will coordinate information, issue news bulletins and participate jointly in news briefings. After the activation, all news releases concerning the emergency at STPEGS are issued from the JIC. These information releases are the basis for information provided to employees, government groups, other utilities, and industry groups, as well as media outlets and the media representatives located at the JIC. Once activated, the Joint Information Center will be capable of operating 24 hours per day for the duration of the emergency.

News releases are issued from the JIC under the direction of the Company Spokesperson. Information will be drafted into news releases and coordinated with Federal, State and County public information officers for release.

News conferences will be held at the JIC during a Site Area Emergency or General Emergency.

- Federal, State, and County authorities are invited to have representatives and spokespersons present at news conferences.
- Prior to each news conference representatives of STPEGS, station owners, Federal, State, and local public information officers have the information to be released available for review.
- Media kits, containing maps, photographs, and STPEGS historical background may be available for distribution at news conferences as needed.

G.3	Organizations designate news media points of contact and a spokesperson(s) with access to necessary information.
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A Company Spokesperson is designated as the primary spokesperson for STPEGS and is responsible for the consistency of the information released. The Company Spokesperson may select individuals to address the public on behalf of STPEGS as their respective expertise is needed.

G.3.a	Arrangements are made for the timely exchange of information among the designated spokespersons representing the entities involved in incident response.
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Arrangements are made for the timely exchange of information among the designated spokespersons that use various means and technologies (i.e., face-to-face, phone, text, email, faxes, conference bridge lines, etc.) as agreed upon by the particular agencies. STPEGS will provide information and updates to address the emergency to include plant conditions and associated response actions. State and County representatives will address public response and actions.

G.4	Organizations establish coordinated arrangements for identifying and addressing public inquiries and inaccurate information.
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The following rumor control program is established when the JIC is activated or earlier, if deemed necessary.

1. Rumor Control

Personnel monitor media sources and telephone calls to utility service telephone operators and district offices for misleading or erroneous information and answer public inquiries.

- Personnel collect and consolidate rumors/misinformation and inform the applicable position or agency.
- Rumor/misinformation is interpreted and discussed to coordinate appropriate responses and for immediate knowledge of what information is being released to the public from all parties.

2. Misinformation Handling

State and County representatives address misinformation relating to offsite conditions, including protective action directives.

STPEGS addresses misinformation regarding station/utility rumors. Rumors and incorrect information are addressed at news conferences when necessary.

G.5	Organizations conduct programs to acquaint news media with the emergency plans at least annually.
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At least annually, the news media will be invited to participate in a program to acquaint them with emergency planning effort at STPEGS. Typical topics include information concerning radiation, and points of contact for release of information to the media in case of an emergency, or for plant specific material sent to the media.

H: Emergency Facilities and Equipment

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

Regulatory References: 10 CFR 50.47(b)(8); 44 CFR 350.5(a)(8);
10 CFR Part 50, Appendix E.IV.D

H.1	A TSC is established, using current Federal guidance, from which NPP conditions are evaluated and mitigative actions are developed.
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The Technical Support Center (TSC), located on the 72' elevation of the Electrical Auxiliary Building of each unit, is used to provide management and technical support to operations personnel and to relieve the reactor operators of peripheral duties and communications not directly related to reactor system manipulations. The TSC is used to monitor plant conditions, control onsite protective actions, and plan corrective and recovery actions. The TSCs are sized to accommodate ERO responders and NRC representatives. State and County personnel are not expected to report to the TSC.

Each respective TSC diesel generator has the capability of continuous operation for a minimum of seven days.

The TSC provides reliable voice and electronic communications to the CRs, OSC, EOF, NRC, and State and County warning points or EOCs.

The TSC has access to drawings and other records, including general arrangement diagrams, piping and instrumentation diagrams (P&IDs), electrical schematics and plant procedures.

Radiation and smoke indications and alarms are provided in each respective TSC. Detection of high airborne levels of radioactive materials causes each respective TSC Heating, Ventilation and Air Conditioning (HVAC) to automatically switch over to activated charcoal filtration. High levels of smoke cause the system to automatically isolate. The TSC HVAC is designed to provide a suitable environment during normal and post-accident operation, including protection from post-accident radiological releases.

Personal dosimeters (dose of legal record and self-reading) capable of monitoring emergency radiation exposure are stored and available for personnel assigned to the TSC.

Each TSC contains radiological monitoring equipment to detect radiation and contamination in the facility. Should the affected unit's TSC become uninhabitable, personnel relocate to the other TSC and resume their assigned functions.

The Unit 1 TSC is activated for a site-wide emergency, Otherwise, the TSC in the affected unit will be activated. The TSC is required to be activated within 90 minutes following the declaration of an Alert or higher classification. TSC activation at the Unusual Event emergency classification level is optional.

H.2	An OSC is established, using current Federal guidance, from which repair team activities are planned and teams are dispatched to implement actions.
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The Operations Support Centers (OSC), located on the 41' elevation of the Mechanical Auxiliary Building of each unit, is used for briefing, dispatch, and coordinating emergency response teams.

Communications systems are provided between the OSC, TSCs, Control Room, and the EOF.

Personal dosimeters (dose of legal record and self-reading) capable of monitoring emergency radiation exposure are stored and available for personnel assigned to the OSC.

Radiation and contamination levels in and around the OSC are assessed during emergencies. If an OSC must be evacuated, the personnel from the affected OSC relocate to the OSC of the unaffected unit.

The Unit 1 OSC is activated for a site-wide emergency. Otherwise, the OSC in the affected unit will be activated. An OSC is required to be activated within 90 minutes following the declaration of an Alert or higher classification. OSC activation at the Unusual Event emergency classification level is optional.

H.3	An EOF is established, using current Federal guidance, as the primary base of emergency operations for the licensee during a radiological incident. The EOF facilitates the management and coordination of the overall emergency response, including the sharing of information with Federal, state, local, and tribal government authorities.
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The Emergency Operations Facility (EOF) is a dedicated facility located in Bay City, Texas at 4000 Avenue F, approximately 18 miles north-northeast of the site, and is used for management of overall STPEGS emergency response. Specifically, the EOF serves as the primary location for the following functions:

- Event notifications to State and County agencies.
- Development and issuance of offsite protective actions recommendations.
- Coordination of emergency response activities with Federal, State, and County authorities.
- Coordination of radiological and environmental assessment activities with offsite agencies.
- Coordination of support activities performed by personnel brought in to assist STPEGS personnel.

Figure H.3-1 depicts the EOF location compared to the site.

The EOF provides space for NRC, FEMA, State, County, and STPEGS ERO personnel. Additional space is provided for STPEGS owners and ANI within the building complex that houses the EOF and JIC.

Because the EOF is located outside the plume exposure EPZ, specialized ventilation systems and radiological monitoring are not required. The EOF ventilation system is consistent in design with standard building codes.

The EOF has a backup power source that provides full load capability should power be lost.

The EOF has the capability for the acquisition, display, and evaluation of plant, radiological and meteorological conditions necessary to perform accident assessment and determine protective measures.

The EOF provides reliable voice and electronic communications to the CRs, TSC, OSC, field monitoring teams, NRC, and State and County warning points and EOCs.

The EOF is required to be activated within 90 minutes following the declaration of an Alert or higher emergency classification level. EOF activation at an Unusual Event emergency classification level is optional.

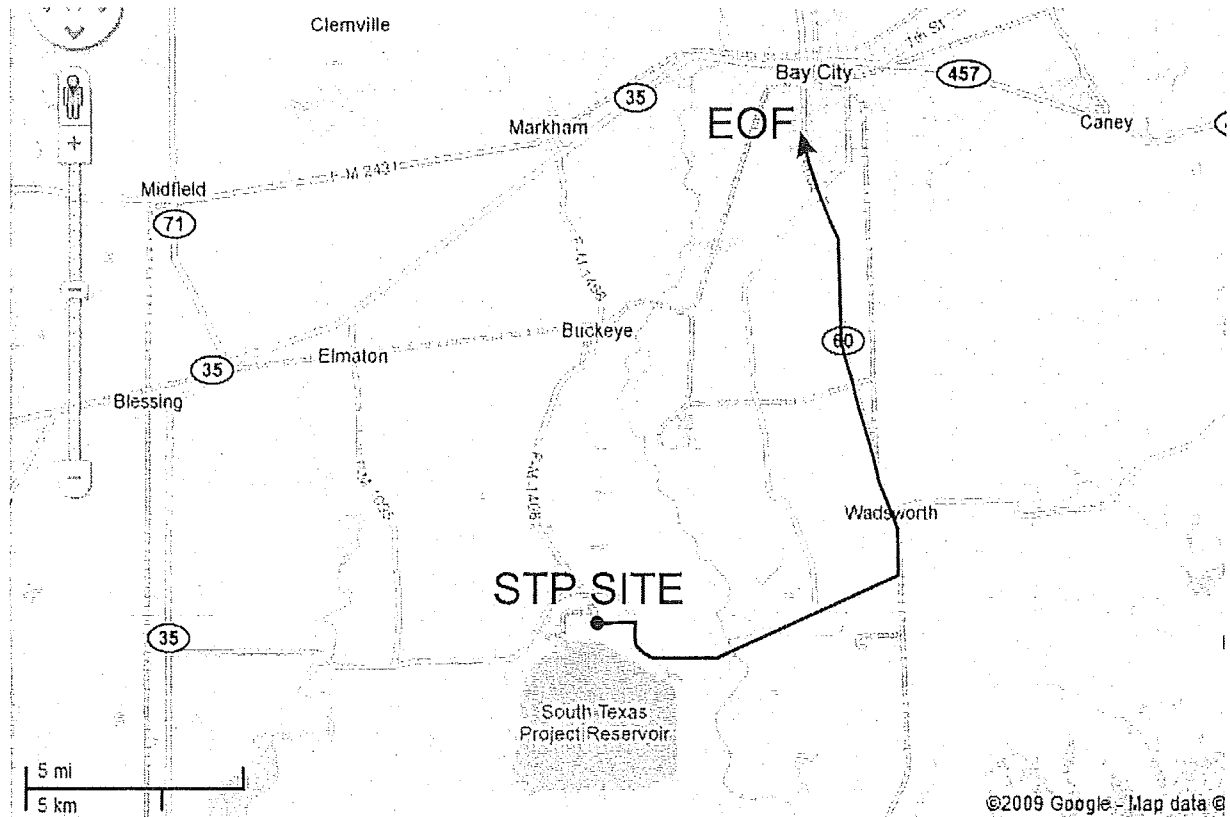


Figure H.3-1: Location of EOF Relative to STPEGS

H.3.a	For an EOF that is located more than 25 miles away from the NPP site, provisions are made for locating NRC and offsite responders closer to the NPP site.
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This element does not apply as the STPEGS EOF is not located more than 25 miles from the site.

H.4	An alternative facility (or facilities) is established, using currently provided and/or endorsed guidance, which would be accessible even if the NPP site is under threat of or experiencing hostile action.
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The Alternative Facility is located in the same building as the EOF.

The Alternative Facility can communicate with the CRs, site security, and EOF. The functions of offsite notification and PARs will be performed from the EOF should the Alternative Facility be used. Engineering assessment activities including damage control team planning and preparation can be performed from the Alternative Facility.

H.5	A JIC is established, and its location is identified, to coordinate communication from Federal, state, local, and tribal government authorities and licensee personnel with the public and media.
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Refer to Section G for details regarding the STPEGS JIC and JIS.

H.6	Each organization establishes an emergency operations center (EOC) for use in directing and controlling response functions. For an EOC located within the plume exposure pathway EPZ, an alternate EOC or location outside the plume exposure pathway EPZ is identified to continue response functions in the event of an evacuation.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

H.7	Onsite monitoring systems used to initiate emergency response measures in accordance with the emergency classification scheme, as well as those to be used for conducting assessment, are identified. Monitoring systems consist of geophysical phenomena monitors, including meteorological, hydrologic, and seismic instrumentation; radiation monitors and sampling equipment; plant process monitors; and fire, toxic gas, and combustion products detectors.
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STPEGS has monitoring instrumentation used to assess conditions and initiate emergency response measures.

1. Emergency Response Facilities Data Acquisition and Display System (ERFDADS)

ERFDADS is a distributed subsystem of the STPEGS Integrated Computer System (ICS) that provides plant data, Radiation Monitoring System data and meteorological data used to assess abnormal operating conditions and aid in mitigating an emergency. ERFDADS performs the following functions:

- Implementation of the Safety Parameter Display System (SPDS) as described in NUREG-0696 and NUREG-0737, Supplement 1.
- Data acquisition and signal processing for the Engineered Safety Features Status Monitoring System.
- Data acquisition and signal processing for the normal plant monitoring systems, including portions of the plant annunciators.
- Data processing for offsite datalinks to the NRC ERDS.

ICS workstations are provided in the Control Room, Auxiliary Shutdown Panel (ASP), TSC, and EOF.

ERFDADS is further described in UFSAR Chapter 7.

2. Meteorological Monitoring

STPEGS has two permanent meteorological towers within the OCA for collection of current meteorological data.

The primary tower is a 60-meter (196.9 feet) structure with instrumentation and computerized data output. The primary tower instrumentation includes sensors to measure wind direction, wind speed, air temperature, dew point, solar radiation, precipitation, and calculated differential temperatures between elevations. Data from the primary tower is relayed to the ICS workstations.

The backup system consists of a 10-meter (32.8 feet) structure with sensors that measure air temperature, wind speed, and wind direction.

Refer to UFSAR Chapter 2 for a description the meteorological monitoring system.

3. Seismic Monitoring

The seismic instrumentation is a digital triaxial seismograph unit with programmable alarm, trigger, memory, recording and data retrieval capabilities and personal computer interface. The capabilities, location and description of in-plant seismic equipment is described in UFSAR 3.7.4.

4. Hydrologic Monitoring

STPEGS monitors reservoir level through operational procedures. The design basis flood, probable maximum precipitation, and other extremes in hydrologic natural phenomena are described in UFSAR Chapter 2.

5. Process and Area Radiation Monitors

The Radiation Monitoring System and consists of process, effluent and area radiological monitoring instrumentation for monitoring radiation throughout the station.

Process Radiation Monitors (PRMs) are used for the measurement of radioactive noble gas, iodine, and particulate concentrations in gaseous effluent pathways, and for gross radioactivity in gaseous and liquid effluent pathways. Location of detectors for the process/effluent radiation monitoring system is provided in table form in UFSAR Chapter 11.

Area Radiation Monitors (ARMs) are used for remote monitoring of in-plant dose rates. Refer to UFSAR Chapters 11 and 12 for descriptions the process and area radiation monitoring systems.

Process, effluent and area radiation monitoring systems applicable to the Emergency Plan are identified in the EAL and dose assessment technical bases manuals.

6. Portable Radiation Monitors

Portable radiation monitoring equipment is available for uses such as area monitoring, sampling, personnel surveys, and accident assessment.

7. Sampling Systems

Liquid and gaseous sampling systems consist of normal sampling systems and panels located throughout the units. Sampling points are established at permanently installed locations or can be identified when needed to permit reactor coolant and containment atmosphere sampling under normal and severe accident conditions. Various chemical analyses and radiological measurements of these samples can be performed, including the determination of radionuclide concentrations.

Refer to UFSAR Chapter 9 for a description the sampling systems.

Refer to Element C.4 for a description of laboratory capabilities.

8. Fire Detection Systems

The fire detection system consists primarily of fire/smoke detectors, control panel units, and annunciator panels designed to detect products of combustion or heat in designated areas of the plant. The fire alarm communication systems and subsystems are located at strategic points throughout the plant to warn personnel.

The fire detection equipment, alarms, and suppression equipment are described in detail in UFSAR Section 9.5 and in the STPEGS Fire Hazard Analysis Report.

H.8	Provisions are made to acquire data from offsite monitoring and analysis equipment, including data on geophysical phenomena (e.g., meteorological, hydrologic, and seismic monitors) and radiological data (e.g., from FMTs, environmental dosimeters, and laboratory analyses).
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1. Meteorological Monitoring

Weather forecasts are available from the National Weather Service. STPEGS has the option of using a contracted commercial weather service.

2. Seismic Monitoring

Seismic information from offsite sources can be obtained from the National Earthquake Information Center. A considerable array of seismometers is located in the region. A central point of contact to obtain information about a seismic event is the USGS in Golden, CO.

3. Hydrologic Monitoring

STPEGS reservoir is not monitored by offsite means.

4. Radiological Environmental Monitoring

Offsite programs and processes are developed within the Radiological Environmental Assessment Program (REMP) as described in the Offsite Dose Calculation Manual (ODCM). The Radiological Environmental Assessment Program includes:

- Fixed continuous air samplers
- Routine sampling of water, vegetation, consumable products
- A fixed TLD monitoring network

The locations of the normal onsite and offsite environmental monitoring stations are described in the ODCM. Additional predetermined emergency offsite monitoring locations are contained in procedures.

Site specific details of the radiological environmental assessment program are provided in the ODCM.

5. Laboratory facilities, fixed or mobile

Refer to Element C.4 for details on facilities for counting and analyzing samples.

H.9	Organizations directly responsible for offsite radiological monitoring provide for radiological monitoring equipment. This includes equipment that is located or stored near the NPP site, as well as additional equipment that may be brought to the site.
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STPEGS maintains a sufficient supply of emergency equipment (such as portable survey, counting, air sampling instrumentation, and other radiological monitoring equipment and supplies) to supply one onsite and two offsite Field Monitoring Teams.

H.10	Instrumentation is provided to obtain current meteorological information. Additional provisions are made to obtain representative meteorological information from other sources as needed by the NPP's radiological assessment models for site-specific characterization of plume dispersion and transport. Meteorological information is provided to the control room, TSC, EOF (or backup EOF), and NRC (via ERDS).
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Refer to Element H.7.2 for a description of the onsite meteorological monitoring capabilities.

Refer to Element H.8.1 for a description of the offsite meteorological monitoring capabilities.

Site meteorological information is available on OCS workstations in the Control Rooms, TSCs and EOF.

The ERDS, supplied through ERFDADS, provides the NRC with selected meteorological data points on a near real-time basis.

Meteorological inputs for the STAMPEDE dose assessment model are taken from ICS workstations which display meteorological tower data. Primary meteorological input parameters include wind speed, wind direction and delta T (used to determine stability class).

H.11	Provisions are made to ensure that emergency equipment and supplies are tested, maintained, and available in sufficient quantities, to include reserves and replacements, when needed. This includes:
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STPEGS emergency facilities and emergency kits are inventoried to verify adequate supplies and materials, inspect condition, and operationally check equipment/instruments quarterly.

Requirements to operationally check emergency equipment and instruments prior to use, if needed, are contained in procedures.

Sufficient reserves of instruments and equipment are maintained to replace those removed from emergency kits or lockers for calibration or repair.

H.11.a	Identification of the organization(s) responsible for the testing and maintenance of emergency equipment.
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EP personnel are responsible for oversight of maintenance and testing of emergency equipment.

H.11.b	Calibration and operational checks of emergency equipment per national standards or the manufacturer's instructions, whichever is more frequent.
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Requirements to calibrate emergency equipment and instruments are specified in procedures.

H.12	Emergency kits are identified by general category. Contents and quantity of each emergency kit are specified in the emergency plan or other document(s) referenced in the emergency plan.
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STPEGS emergency equipment and supplies are maintained by location as follows:

- TSC Emergency Equipment and Supplies
- OSC Emergency Equipment and Supplies (each OSC contains a damage control kit)
- EOF Emergency Equipment and Supplies
- Control Room Envelope Emergency Equipment and Supplies
- Matagorda Regional Medical Center and Palacios Community Medical Center Emergency Rooms
- Field Monitoring Vehicle Equipment and Supplies

The applicable procedures to maintain facilities and equipment are listed in Table P.7-1.

H.13	Each organization identifies the location(s) for the receipt and analysis of field monitoring data and coordination of sample media, and identifies the organization(s) responsible for assessing radiological data.
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The EOF is the primary location for receipt of field monitoring team sample data. The EOF is responsible for direction and coordination of field monitoring sample analyses, and for assessing the radiological data obtained from the Field Monitoring Teams.

Sampling and analysis equipment are available (see Element C.4) for quantitative activity determination of liquid and air samples, and qualitative activity determination of terrestrial samples.

I: Accident Assessment

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

Regulatory References: 10 CFR 50.47(b)(9); 44 CFR 350.5(a)(9);
10 CFR Part 50, Appendix E.IV.D

I.1	Capabilities for performing radiological assessment for all reactor core and spent fuel pool sources, individually and collectively, including response to events occurring simultaneously at all units on the NPP site, are described. These capabilities include:
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I.1.a	Methods for determining the magnitude and isotopic composition of an ongoing release of radioactive material through waterborne or airborne release pathways, or estimating these parameters for a potential release.
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The magnitude of a release of radioactive material to the environment is primarily identified directly by effluent monitors. Survey and sample analysis may also be used to determine the magnitude of a release. Indirect means such as core damage estimates and release pathway assumptions may be used to estimate the magnitude of a release of radioactive material.

The isotopic composition of a release of radioactive material to the environment may be determined by; (1) effluent gaseous monitors, (2) survey and sample analysis, or (3) source term estimates based on core damage and release pathway assumptions.

Dose assessment model methods are capable of estimating source term and magnitude of gaseous releases from effluent monitors or plant parameter data and release rate projections.

I.1.b	A radiological assessment model for airborne releases that provides estimates of offsite radiation exposures and contamination levels using a dispersion model that is representative of the plant release points, topographical features, and meteorological regimes at the NPP site.
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STPEGS uses the site-specific South Texas Assessment Model Projecting Estimated Dose Evaluation (STAMPEDE) offsite dose projection computer model. STAMPEDE provides offsite radiological dose and dose rate estimates based on near real-time or hypothetical inputs. Projected dose is based on EPA-400 dose conversion factors and provided as; (1) the total effective dose equivalent, or TEDE (the sum of the effective dose equivalent from immersion, 4 days of ground deposition, and the committed effective dose equivalent from inhalation), and (2) the committed dose equivalent to the thyroid (CDE thyroid).

STAMPEDE dose projection results are given for various locations from the site boundary to 10 miles. The STAMPEDE software automatically sums the results from all release paths entered into the user interface.

STAMPEDE dose projection results which use effluent monitors, containment radiation, main steam line monitors, or field monitoring readings are used in assessing radiological EALs and PARs.

I.1.c	A capability to coordinate and implement in-field radiological assessments by FMTs and/or sampling teams and to assess the data obtained.
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On-site (inside the protected area) out of plant environmental monitoring is performed by qualified field monitoring team personnel under the direction of the OSC RP Supervisor or TSC RP Coordinator.

Offsite (outside the protected area) environmental monitoring is performed by qualified field monitoring team personnel under the direction of the EOF Field Monitoring Coordinator.

Offsite field monitoring teams use dedicated vehicles and equipment. Field monitoring surveys and sampling may be performed at pre-identified locations or other geographic locations within the EPZ determined during the event. Field monitoring teams are directed to track and evaluate a radioactive plume by monitoring radiation levels and by obtaining and analyzing air samples. Samples taken by the offsite monitoring teams will be evaluated further by one of the available laboratory facilities described in Element C.4.

I.2	Methods for assessing contamination of drinking water through liquid release pathways or deposition of airborne materials for NPP sites located on or near bodies of water from which public drinking water is drawn.
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STPEGS is not located on or near any bodies of water from which public drinking water is drawn.

I.3	The capability and responsibility for monitoring the following parameters, which provide input to radiological assessments during an emergency, are described: 1. Status of reactor fuel (e.g., no fuel damage, technical specification activity, clad failure, core melt.). 2. Status of containment integrity. 3. Leakage of leakage of radioactive material from plant systems, structures and components. 4. Status of engineered safety features used to mitigate the release of radioactive material to the environment (e.g., filters, containment spray, etc.). 5. Onset and duration of an actual release of radioactive material to the environment, or estimating these parameter for a potential release.
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The ERO monitors plant parameters (i.e., radiation monitors, core exit thermocouples, reactor water level, containment hydrogen concentration) using information provided by the ICS/ERFDADS Subsystem to assess the status of reactor fuel (e.g., no fuel damage, fuel clad damage, core melt) using core damage assessment procedures.

The ERO also monitors ICS to evaluate the status of containment integrity, systems used to mitigate the release of radioactive material to the environment (e.g., filters, containment spray, etc.) and to identify leakage of radioactive material from plant systems, structures, and components.

By observing effluent and process monitors, the onset and duration of an actual release of radioactive material to the environment can be determined, or these parameters estimated for a potential release.

I.4	The methods, techniques, and responsibility for determining the source term present in reactor coolant, containment (including drywell and wet well) air spaces, and fuel storage area air spaces are described.
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The source term present in reactor coolant, containment atmosphere, and spent fuel pool area atmosphere are estimated using the following potential inputs into the dose assessment and core damage assessment processes: effluent, process, and area radiation monitor readings; comparison of plant conditions against design basis event scenarios; sample analysis and environmental survey results; and plant parameter indications.

I.4.a	The contingency arrangements to obtain and analyze highly radioactive samples from the reactor coolant system, containment atmosphere and sump, and spent fuel pool storage area are described.
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The NRC issued Amendments No. 133 (to Facility Operating License No. NPF-76) and No. 122 (to Facility Operating License No. NPF-80) on 11/07/01. These amendments deleted Technical Specification Section 6.8.3.d, Post Accident Sampling, and thereby eliminated the requirements to have and maintain Post Accident Sampling Systems (PASS). The amendments also revised TS 6.8.3.a, Primary Coolant Sources Outside Containment, to reflect the elimination of PASS.

Consistent with the requirements of the NRC safety evaluation, contingency plans for obtaining and analyzing highly radioactive samples of reactor coolant, containment sump, and containment atmosphere are maintained in plant procedures.

I.5	The organizations responsible for FMT activities, and necessary resources, are identified.
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Responsibility for State field monitoring team activities remains with State ORO. Responsibility for STPEGS field monitoring team activities remains with STPEGS. State radiological personnel may co-locate in the EOF to coordinate field monitoring team activities.

STPEGS field monitoring team activities are coordinated with environmental monitoring efforts performed by teams from the Texas Department of State Health Services.

I.6	Each organization, where appropriate, provides methods, equipment, and expertise to make timely assessments of the actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways, including development of post-plume PARs for comparison to current Federal guidance.
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STPEGS uses the site-specific STAMPEDE dose model to make timely assessments of the actual or potential magnitude and locations of any radiological hazards through gaseous release pathways. Personnel qualified in dose assessment are available on shift and in the EOF. Dose assessment results and field monitoring readings assist in evaluating appropriate ECLs based on radiological EALs, and for developing any related PARs.

The actual or potential magnitude of liquid radiological releases with regard to event classification are determined by liquid effluent monitors, direct area surveys, or sample analyses.

With regard to the ingestion pathway, the potential impact of liquid releases to offsite areas is described in Element I.2.

I.7	The capability to detect and measure radioiodine concentrations in air in the plume exposure pathway EPZ as low as 1E-7 $\mu\text{Ci/cc}$ (microcuries per cubic centimeter) under field conditions is described. The sample collection process takes into account the sample flow rate, collection efficiency of the sample media used to collect the sample, duration of the sample, counter efficiency, and background radiation, including interference from the presence of noble gases.
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STPEGS field monitoring equipment has the capability to detect and measure airborne radioiodine concentrations as low as 1E-7 $\mu\text{Ci/cc}$ in the presence of noble gases. Air samples will be taken with portable air sampling equipped with a Silver Zeolite or equivalent cartridge and particulate filter. Interference from the presence of noble gas and background radiation is minimized by ensuring that monitoring teams move to areas of low background prior to analyzing the sample cartridge.

Air sample results can be estimated in the field through the use of a portable single channel analyzer or a count rate meter. The samples can be subsequently analyzed for greater precision by one of the available laboratory facilities described in Element C.4.

I.8	A means is established for relating the various measured parameters (e.g., exposure rates, contamination levels, and air activity levels) to dose or dose rates. Provisions are made for estimating integrated dose from the projected and actual dose rates and for comparing these estimates with current federal guidance. In addition, provisions are established to validate dose projections with field data and compare projections with other organizations also calculating dose projections. The detailed provisions are described in implementing procedures.
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STPEGS field monitoring teams will track the plume from any radiological release by monitoring radiation levels and by obtaining and analyzing air samples. Field monitoring team environmental survey and air sample results are compared with dose assessment results to validate or adjust projections. Additionally, field monitoring results can be input into the STAMPEDE dose assessment model to develop projections at different locations.

I.9	Arrangements to locate and track the airborne radioactive plume are made using available resources, which includes federal, state, and tribal governments, and/or licensee resources. Provisions are made to characterize the plume including taking peak plume measurements. Identification of the plume, includes determining a measurement that is high enough to be reasonably above background radiation readings and sufficient enough to indicate submersion within the plume.
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STPEGS provides dedicated vehicles and equipment for the field monitoring teams. Methods to monitor a radioactive plume include establishing peak centerline values and immersion areas. Monitoring strategies may include the traversing of plumes when road networks and exposure rate permit. Additionally, local field sampling and monitoring points are specified to support pre-positioning of teams or use in comparison with dose projection results.

Data from the STPEGS field monitoring teams is compared to data provided by any Department of State Health Services teams that may be dispatched into the area. Data collected before Texas Department of Health teams are in the field is provided to the Department of State Health Services dose assessment personnel as soon as possible.

Assistance from the DOE Radiological Assistance Team can be requested by STPEGS through the State.

I.10	Organizations directly responsible for radiological monitoring, analysis, and dose projections describe the capability for coordinating monitoring efforts, tracking and trending data, and sharing analytical results with other organizations performing radiological assessment functions.
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STPEGS personnel coordinate environmental radiological monitoring and assessment efforts with the Texas Department of State Health Services.

Accommodations are provided for State agency representatives to co-locate in the EOF in order to directly coordinate field monitoring team activities and compare dose projection results.

NRC site team representatives are also provided space to co-locate in the EOF to share dose assessment results.

J: Protective Response

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

Regulatory References: 10 CFR 50.47(b)(10); 44 CFR 350.5(a)(10);
10 CFR Part 50, Appendix E.IV.D

J.1	The means and time required to alert, notify, and provide a range of protective actions for onsite individuals and individuals who may be in areas controlled by the licensee (including members of the public) during a radiological incident are described.
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STPEGS maintains procedures to provide for a range of protective actions for all areas controlled by station. Protective actions have been developed for radiological incidents and to protect personnel during hostile actions directed at the site.

Sitewide notifications and announcements are routinely made using the Public Address (PA) system. Personnel on site are notified of a declared emergency through the PA system within 15 minutes of declaration.

Visitors within the Protected Area are escorted by badged individuals. The escort is responsible for controlling and directing their assigned visitors regarding actions required by any announcements and alarms.

Security personnel with portable loudspeakers may be used, as available, to augment PA announcements and to check outlying areas for individuals who may be on or passing through the OCA.

J.1.a	Provisions are made for evacuation of onsite non-essential personnel at an SAE/General Emergency (GE).
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Site evacuation may be called for at any time, and is performed after assembly and accountability occurs following a Site Area Emergency or General Emergency. The sounding of an alarm over the Public Address Paging System occurs for both classifications.

When assembly occurs, ERO and other essential personnel respond to their designated response facilities/areas. Non-essential personnel inside the Protected Area typically exit to the OCA by following RP and Security processes and proceed to a designated assembly for accountability.

Site evacuation for non-radiological events may send personnel home using the most direct route. Site evacuation under other conditions call for personnel to proceed to designated Offsite Reception Center(s).

A process is in place to perform a rapid evacuation of the Protected Area without monitoring and assembly if conditions warrant.

J.2	Provisions are made and coordinated with appropriate offsite entities for evacuation routes and transportation for onsite individuals to a suitable offsite location. Selection of location considers the potential for inclement weather, high traffic density, and potential radiological conditions. Alternate location(s) and route(s) are identified.
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Offsite Reception Center(s) designated for site evacuees, and the process to use them, have been identified through coordination with County emergency management personnel.

The site evacuation process takes into consideration meteorological and radiological data, weather and other travel hazards, and facility readiness in determining the appropriate evacuation route and destination. Reception Center(s) may be activated by the Matagorda County Emergency Management Director, for radiological monitoring and decontamination, if required.

On-site personnel will evacuate the site when directed using transportation that was employed to arrive at the site. Personnel without transportation will be identified during the assembly phase and provided transportation.

J.3	Provisions for radiological monitoring and decontamination, if necessary, of personnel evacuated from the NPP site are described.
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Personnel evacuating from within the Protected Area are monitored for contamination, and typically decontaminated before leaving the site. If conditions do not allow for decontamination of personnel on site, they will report to designated Offsite Reception Center(s) for radiological monitoring and decontamination, if required.

Personnel evacuating from outside the Protected Area will be monitored, and decontaminated if necessary, at an offsite Reception Center, as required by radiological conditions.

J.4	The capability to account for all individuals inside the NPP Protected Area following declaration of an SAE or GE is described. The names of missing individuals are ascertained within 30 minutes following the emergency declaration and accountability is maintained for the duration of the incident. This capability includes provisions for prompt accountability following events that may preclude completion within 30 minutes (e.g., hostile action).
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The assembly alarm, together with the Public Address Paging System are used to alert and notify on-site personnel of the need for assembly at a Site Area or General Emergency classification level (or earlier at the discretion of the Emergency Director).

During assembly, non-essential personnel report to a designated assembly area outside the Protected Area. ERO personnel report to their assigned emergency response facility.

Personnel assembled inside the Protected Area are accounted for within 30 minutes of event declaration using the security computer system. Backup means of accountability is available if the primary system fails. Accountability may be delayed if the movement of personnel creates safety or security concerns. If delayed for safety or security concerns, then accountability will be performed as soon as conditions permit.

Missing individual(s) will be identified by Security. Appropriate actions will be taken to locate missing individual(s). When necessary, search and rescue team(s) will be dispatched to locate and, if necessary, rescue missing individual(s).

After initially completed, accountability will be maintained continuously throughout the emergency for personnel inside the Protected Area.

J.5	Provisions are made for personal radiological protection for individuals arriving or remaining onsite during the incident.
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Protective equipment and supplies are available to personnel remaining on site or arriving on site during the emergency to minimize the effects of radiological exposures or contamination in accordance with radiation protection procedures. Protective measures include the following:

1. Individual Respiratory Protection

Respiratory protection equipment is used by qualified personnel when called for by exposure control procedures. Radiological use respiratory protection equipment is maintained by RP.

Self-contained breathing apparatus is used in areas that are deficient in oxygen or when fighting fires. Self-contained breathing apparatus are available with other firefighting equipment for use by the site fire brigade.

2. Individual Thyroid Protection

All efforts should be made to utilize respiratory protective equipment to minimize ingestion and/or inhalation of radionuclides and to maintain internal exposure below the limits specified in 10 CFR 20, Appendix B. However, if an emergency involves the accidental or potential ingestion or inhalation of radioactive iodine, Potassium Iodide tablets (KI) are maintained and available for distribution.

3. Protective Clothing

Protective clothing will be issued when needed to limit personal contamination and minimize the spread of contamination.

J.6	The basis and methodology are established for the development of PARs for the responsible OROs, including evacuation, sheltering, and, if appropriate, radioprotective drug use, for the plume exposure pathway EPZ. Current Federal guidance is used.
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STPEGS has developed PARs, in accordance with agreements made with the Texas Department of State Health Services, for the plume exposure pathway EPZ that include evacuation and sheltering, based on the following:

- NUREG-0654/FEMA-REP-1, Supplement 3, *Guidance for Protective Action Strategies*, November 2011
- EPA-400-R-92-001, *Manual of Protective Action Guides and Protective Actions for Nuclear Incidents*, May 1992

It is the position of the State of Texas to not use radioiodine blocking drugs such as potassium iodide for the general public. It is the State's responsibility to acquire and stockpile the drug and disseminate it if it is to be distributed to the general public during an accident. STPEGS is responsible for maintaining and providing to the Department of State Health Services, upon request, a quantity of potassium iodide sufficient for State and local emergency workers.

PARs for the general public will be based on plant conditions and/or offsite dose assessment results.

PARs beyond the 10-mile EPZ will be developed on an "ad hoc basis" from projected or measured dose in excess of EPA PAGs. Because dose projection accuracy is limited by distance, actual field measurements are used to corroborate projections before issuing PARs in areas outside the 10-mile EPZ.

J.7	A site-specific protective action strategy or decision-making process, informed by the ETE study, is coordinated between the licensee and OROs. Current Federal guidance is used.
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STPEGS offsite protective action recommendation strategies, informed by the ETE report, have been developed using guidance provided in NUREG-0654, Supplement 3, Guidance for Protective Action Strategies, in coordination with the State and County agencies.

The decision to use sheltering as an alternative to evacuation for real time impediments and special populations is one that will be made by offsite officials.

J.8	The latest ETEs are:
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J.8.a	Incorporated either by reference or in their entirety into the emergency plan.
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The most recent ETEs are incorporated by reference into this emergency plan. Refer Introduction Section 2.0 for specific reference to the ETE Study.

Updated ETE analyses will be submitted to the NRC under §50.4 no later than 365 days after STPEGS determines that the criteria for updating the ETE have been met and at least 180 days before using it to form protective action recommendations and providing it to state and county governmental authorities for use in developing offsite protective action strategies.

The criteria for determination that an updated ETE analysis is required is as follows:

1. The availability of the most recent decennial census data from the U.S. Census Bureau;
OR
2. If at any time during the decennial period, the EPZ permanent resident population increases such that it causes the longest ETE value for the 2-mile zone or 5-mile zone, including all affected Emergency Response Planning Areas, or for the entire 10-mile EPZ to increase by 25 percent or 30 minutes, whichever is less, from the currently NRC approved or updated ETE.

During the years between decennial censuses STPEGS will estimate EPZ permanent resident population changes once a year, but no later than 365 days from the date of the previous estimate, using the most recent U.S. Census Bureau annual resident population estimate and state/county government population data, if available. STPEGS will maintain these estimates so that they are available for NRC inspection during the period between decennial censuses and will submit these estimates to the NRC with any updated ETE analysis.

J.8.b	Incorporated either by reference or as a summary of the latest ETE analysis into the emergency plan.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

J.9	PARs are provided, in a timely manner, directly to the designated ORO(s) responsible for making protective action decisions (PADs) within the plume exposure pathway EPZ.
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Applicable plume exposure pathway EPZ PARs of evacuate and shelter are developed at the General Emergency classification level and provided to the ORO personnel responsible for making protective action decisions.

It is the position of the State of Texas to not use radioiodine blocking drugs such as potassium iodide for the general public. It is the State's responsibility to acquire and stockpile the drug and disseminate it if it is to be distributed to the general public during an accident. STPEGS is responsible for maintaining and providing to the Department of State Health Services, upon request, a quantity of potassium iodide sufficient for State and local emergency workers, and for any mobility impaired or institutionalized members of the general public who cannot be evacuated.

Prior to ERO activation, the Shift Manager is responsible for making these recommendations. Following ERO activation, the EOF Manager assumes the responsibility for PARs.

PARs are communicated using the initial notification form and process. See Section E for a discussion of emergency notification.

J.10	Plans include maps, charts, or other information that demonstrate the following for the plume exposure pathway EPZ:
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J.10.a	Evacuation routes, evacuation areas, reception centers in host areas, and shelter areas.
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Details on evacuation routes, evacuation areas, reception centers in host areas, and shelter areas are provided in the ETE Report which is considered part of the STPEGS Emergency Plan.

J.10.b	Population distribution around the NPP site by evacuation areas.
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Details on population distribution around the STPEGS site, by evacuation areas, are provided in the ETE Report which is considered part of the STPEGS Emergency Plan.

J.11	A capability for implementing protective actions based on current Federal guidance is established. The process ensures coordinated implementation of PADs with all appropriate jurisdictions. The process for implementing protective actions for the plume exposure pathway EPZ is described and includes the following:
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J.11.a	Means for identifying and protecting residents who would have difficulty in implementing protective actions without assistance. This includes those with access and functional needs, transportation-dependent residents, those in special facilities, and those in correctional facilities. These means include notification, support, and assistance in implementing protective actions where appropriate.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

J.11.b	The decision-making methodologies for use of radioprotective drugs and the provisions for administration to the general public, emergency workers, and institutionalized persons within the plume exposure pathway EPZ. This includes the means of determining quantities, maintaining and managing supplies, communicating recommendations, and distributing.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

J.11.c	Means of evacuation informed by the updated ETEs. The evacuation routes and transportation resources to be utilized are described and include projected traffic capacities of evacuation routes and implementation of traffic control schemes during evacuation.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

J.11.d	The locations of pre-identified reception centers beyond the boundaries of the plume exposure pathway EPZ, organizations responsible for managing reception centers, arrangements for handling service animals and pets, and provisions for radiological monitoring/decontamination.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

J.11.e	Means for the initial and ongoing control of access to evacuated areas and organizational responsibilities for such control, including identifying pre-selected control points.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

J.11.f	Identification of and means for dealing with potential impediments to the use of evacuation routes (e.g., seasonal impassability of roads) and contingency measures. The resources available to clear impediments and responsibility for re-routing traffic, as necessary, are described.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

J.11.g	Identification of and means to implement precautionary protective actions (e.g., actions taken at an SAE).
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

J.12	Protective actions to be used for the ingestion exposure pathway EPZ are specified, including the methods for protecting the public from consumption of contaminated foodstuffs, and are based on current Federal guidance.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

J.13	The means for registering, monitoring, and decontaminating evacuees, service animals, pets, vehicles, and possessions at reception centers in host areas are described. The personnel and equipment available are capable of monitoring 20 percent of the plume exposure pathway EPZ population, including transients, assigned to each facility within a 12-hour period.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

J.14	General plans for the removal or continued exclusion of individuals from restricted areas are developed. Relocation plans include:
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J.14.a	Process for implementing current federal guidance for relocation.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

J.14.b	Means to identify and determine the boundaries of relocation areas, including a buffer zone.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

J.14.c	Prioritization of relocation based on projected dose to an individual and the timeframe for relocation.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

J.14.d	Control of access to and egress from relocation areas and security provisions for evacuated areas.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

J.14.e	Contamination control during relocation.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

J.14.f	Means for coordinating and providing assistance during relocation.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

K: Radiological Exposure Control

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

Regulatory References: 10 CFR 50.47(b)(11), 10 CFR Part 50, Appendix E.IV.D

K.1	The radiation protection controls for emergency workers to be implemented during emergencies are described. These controls address the following aspects:
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If emergency workers are expected to receive dose in excess of 10 CFR 20 occupational dose limits, approval is required. ALARA practices are utilized during emergencies as much as practical.

K.1.a	Onsite emergency exposure guidelines for emergency workers consistent with their assigned duties and current Federal guidance and the conditions under which the guidelines apply.
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1. Onsite exposure guidelines for emergency workers, consistent with EPA 400-R-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, U.S. Environmental Protection Agency, May 1992, Table 2-2, "Guidance on Dose Limits for Workers Performing Emergency Services," have been established as follows:

TEDE Limit (Rem)	Activity
5	All activities during the emergency.
10	Protecting valuable property when lower dose is not practicable.
25	Lifesaving or protection of large populations when lower dose is not practical per EPA-400-R-92-001.
Greater Than 25	Lifesaving or protection of large populations, only if individuals receiving exposure is a volunteer, and fully aware of risks involved.

NOTES

- Emergency exposure limits are exclusive of current occupational exposure.
- Only one emergency exposure is allowed per lifetime.
- Dose to lens of the eye is limited to three times listed value.
- Dose to other organs, including skin and body extremities, is limited to ten times listed value.

2. The administration of potassium iodide (KI) to STPEGS and vendor personnel may be used to mitigate the consequences of inhalation of radioiodine during an emergency. EPA-400/R-17/001, PAG Manual: Protective Action Guides and Planning Guidance for Radiological Incidents, January 2017, Table 2-2, "Threshold Thyroid Radioactive Exposures and Recommended Doses of KI for Different Risk Groups," is used to determine recommended doses of KI for different risk groups. The process for administration of radioprotective drugs is described in Emergency Plan Implementing Procedures.

	Predicted Thyroid gland exposure (rem)	KI dose (mg)	Number or fraction of 130 mg tablets	Number or fraction of 65 mg tablets
Adults over 40 years	≥ 500	130	1	2
Adults over 18 through 40 years	≥ 10			

K.1.b	The capability to evaluate emergency worker dose (i.e., the sum of the effective dose equivalent and the committed effective dose equivalent) at the time of exposure when direct measurement is not feasible.
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Emergency worker exposure is monitored at the time of exposure by the use of electronic dosimeters. If direct measurement of airborne concentrations is not available at time of exposure, workers will be provided respiratory protection, when feasible, and total exposures will be calculated after the fact using follow up survey data and whole body counting equipment.

K.1.c	The capability to monitor and assess the radiation doses received by emergency workers for the duration of the incident.
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Personnel dosimeters (such as DLRs, SRDs, extremity dosimetry) are issued to and worn by STPEGS Radiation Worker qualified personnel who may be required to work in Radiological Controlled Areas in accordance with radiation protection procedures.

Radiation protection personnel in the OSC and TSC have the responsibility to monitor and assess the radiation doses received by ERO personnel on a 24-hour per day basis throughout a declared event.

Personnel dose records are documented and managed using a computerized system. Should this system not be readily accessible or available, personnel dose is manually recorded.

Dosimeters are available and will be provided to offsite agency responders if they are required to enter a Radiological Controlled Area, or are expected to receive a dose in excess of 100 mRem in a year.

K.1.d	The capability to implement onsite contamination control measures.
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Radiation safety controls are established 24 hours per day to contain the spread of loose surface radioactive contamination. Contamination control limits are defined in radiation protection procedures. Personnel leaving the contaminated areas are monitored to ensure that they and their clothing are not radioactively contaminated. Contaminated clothing or personal articles will be decontaminated or replaced.

Under emergency conditions when a radiological release has occurred, eating, drinking, smoking, and chewing will be not permitted until the facility manager, with input from Radiation Protection, has determined that it is safe to do so. If drinking water is contaminated above acceptable levels, uncontaminated water will be brought into the plant for personnel to drink.

Contamination on personnel will be removed in accordance with established radiation protection procedures. If normal decontamination procedures do not reduce contamination to acceptable levels, the case will be referred to a competent medical authority.

K.1.e	The capability to decontaminate emergency workers, equipment, and vehicles.
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Personnel decontamination facilities are located near the Radiologically Controlled Area (RCA) egress point. Personnel decontamination is performed using normal radiation protection procedures.

Equipment will be released for use outside of the contaminated areas only if radioactive contamination is within acceptable limits. All equipment must be checked for contamination before being taken from a known contaminated area. Equipment and material decontamination is performed using normal radiation protection procedures.

K.1.f	Appropriate radiation protection briefings for repair teams that are being dispatched into the plant, and FMTs being sent onsite and offsite, the scope of which is consistent with the expected risk to the team.
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Emergency teams that must enter areas where they might be expected to receive higher than normal doses will be briefed on the task assigned, the planned route to destination, allowed dose and dose rates, stay time, protective clothing/equipment and other hazards or conditions as applicable. The team members will be instructed not to deviate from the planned route unless required by unanticipated conditions, such as rescue or performance of an operation that would eliminate or reduce a hazard.

During dispatch, if the monitored dose or dose rates, or stay times exceed the limits set for the task, the team will communicate with the OSC for further direction or will return to the area from where they were dispatched. Once their task has been completed, team personnel will follow monitoring and personnel decontamination as specified by radiation protection procedures.

Offsite Field Monitoring Teams will be briefed regarding their duties, actions, and what they are to do while in the field. They will also be briefed as to potential dose rates and protective clothing requirements.

K.1.g	The process for NPP site access and dosimetry issuance to personnel from OROs arriving to assist with the onsite response.
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Non-STPEGS emergency workers supporting on-site activities will be issued dosimetry and/or be monitored by radiation protection personnel when responding to areas where a radiation dose may be received. The site access process will be implemented by site security personnel.

K.2	Individual(s) who can authorize personnel to receive radiation doses in excess of the occupational dose limits in accordance with the minimum standards set forth in 10 CFR Part 20 or 29 CFR 1910.1096, as applicable to the organization, are identified by title/position. Such authorizations are documented.
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Section B.2.a describes the responsibility for authorization of exposures to radiation in excess of 10 CFR 20 limits. Such authorizations are documented as part of the emergency exposure controls process provided in Element K.1.c.

K.2.a	The process for allowing onsite volunteers to receive radiation exposures in the course of carrying out lifesaving and other emergency activities is described.
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All personnel dispatched into radiation areas or areas of unknown radiation levels are briefed on the task and environmental conditions and are provided appropriate monitoring and personnel protective equipment.

Refer to Element K.1.a for the description of activities and their exposure thresholds and considerations.

K.2.b	The process for authorizing emergency workers to incur exposures that may result in doses in excess of the current Federal guidance is described.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

K.3	The capability to determine the doses received by emergency workers involved in any commercial NPP radiological incident is described. Each organization makes provisions for distribution of direct-reading dosimeters (DRDs) and permanent record dosimeters (PRDs).
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

K.3.a	Provisions to ensure that DRDs are read at designated intervals and dose records are maintained for emergency workers are described.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

K.4	Action levels for determining the need for decontamination are specified and the means for radiological decontamination are established for emergency workers and the general public, as well as equipment, vehicles, and personal possessions. The means for disposal of contaminated waste created by decontamination efforts are also established.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

L: Medical and Public Health Support

Arrangements are made for medical services for contaminated injured individuals.

Regulatory Reference: 10 CFR 50.47(b)(12); 10 CFR Part 50, Appendix E.IV.D

L.1	Arrangements are established with primary and backup hospitals (one hospital is located outside the plume exposure pathway EPZ) and medical services. These facilities have the capability for evaluation of radiation exposure and uptake. The persons providing these services are adequately trained and prepared to handle contaminated, injured emergency workers and members of the general public.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

L.2	Arrangements for the medical treatment of contaminated injured onsite personnel and those onsite personnel who have received significant radiation exposures and/or significant uptakes of radioactive material are described. These arrangements include the following components:
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L.2.a	An onsite first aid capability with adequate medical equipment and supplies.
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On-shift First Aid Personnel will provide first aid to individuals who are injured. Radiation protection personnel will provide contamination controls support to potentially contaminated injured personnel.

STPEGS maintains first aid supplies and equipment for the treatment of injured persons. A first aid station is located on the first floor of the Nuclear Support Center (NSC) Building and has provisions for treatment of minor injuries.

Descriptions of onsite first aid and medical equipment and supplies, and radiological monitoring and decontamination equipment and supplies are described in procedures.

L.2.b	Primary and backup offsite medical facilities.
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Arrangements have been made with local hospitals for the medical treatment of contaminated injured or over exposed personnel. These facilities and their services are available 24 hours per day.

1. The Matagorda Regional Medical Center, through a LOA with Matagorda County Hospital District, serves as the primary medical support location for contaminated injuries that occur at STPEGS.

The Matagorda Regional Medical Center maintains a fully staffed emergency room that is equipped with a decontamination facility within the emergency room area to handle emergencies arising at STPEGS. Matagorda Regional Medical Center in Bay City is located approximately 20 road miles from STPEGS.

2. Palacios Community Medical Center, by LOA, serves as the secondary medical support location for contaminated injuries that occur at STPEGS. Palacios Community Medical Center is located approximately 16 road miles from STPEGS.
3. Memorial Hermann Hospital System by LOA, serves as a referral source for long-term care of radiological injuries. Memorial Hermann Hospital System is available 24 hours per day for consultation or treatment of personnel who have been internally contaminated or may have received significant exposure radiation. Memorial Hermann Hospital System, located in Houston, Texas, is approximately 70 air miles from STPEGS.
4. Matagorda County Hospital District, by LOA, provides facilities on the Matagorda Regional Medical Center campus in Bay City for use as a reception center.

L.2.c	Radiological controls capability, including the isolation of contamination, assessment of contamination levels, radiation exposure monitoring for medical facility staff, collection of contaminated waste, and decontamination of treatment areas.
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STPEGS personnel are available to assist medical personnel with decontamination, radiation exposure monitoring, and contamination control. A Radiation Protection Technician will accompany personnel transported to a support hospital.

Radiological controls capability, including the isolation of contamination, assessment of contamination levels, radiation exposure monitoring for medical facility staff, collection of contaminated waste, and decontamination of treatment areas are described in STPEGS radiation protection department and hospital procedures. Hospitals are equipped and hospital personnel trained to address contaminated injured individuals.

L.2.d	Provisions to evaluate for radiological contamination either prior to transport to a medical facility or after arrival.
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Injured personnel are evaluated for radiological contamination prior to transport to a medical facility per radiation protection department procedures. If contamination monitoring is not possible due to the medical condition of the individual, contamination monitoring is performed as soon as possible following treatment at the medical facility.

L.2.e	Contact information for facilities capable of treating overexposure to radioactive material
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The Radiation Emergency Assistance Center Training Site (REAC/TS) located at Oak Ridge, Tennessee, will respond to and/or provide advice and assistance to offsite medical facilities in the event of a severe radiation accident.

L.3	Supplemental lists are developed that indicate the location of the closest public, private, and military hospitals and other emergency medical facilities within the state or contiguous states considered capable of providing medical support for any contaminated, injured individual.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

L.4	Each organization arranges for the transportation of contaminated, injured individuals and the means to control contamination while transporting victims of radiological incidents to medical support facilities and the decontamination of transport vehicle following use.
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Radiation monitoring services are provided by STPEGS personnel whenever it becomes necessary to use an ambulance service for the transportation of contaminated persons. Injured personnel are evaluated for radiological contamination and packaged to control contamination prior to transport to a medical facility per radiation protection department procedures. STPEGS personnel will assist with decontamination of transport vehicles if necessary.

Matagorda County EMS, by LOA, provides 24 hour per day emergency medical services, ambulances, and emergency medical technicians to the site when requested by STPEGS. Matagorda County EMS response time to STPEGS is approximately thirty minutes. In case of mass casualties, Matagorda County has mutual aid agreements in place to supply backfill EMS services (non-radiological) until State resources can be summoned.

M: Recovery, Reentry, and Post-Accident Operations

General plans for recovery and reentry are developed.

Regulatory Reference: 10 CFR 50.47(b)(13); 10 CFR Part 50, Appendix E.IV.H

M.1	General recovery, reentry, and return plans for radiological incidents are developed, as appropriate. These plans address reoccupancy, as appropriate. The plans should include:
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M.1.a	Provisions for allowing reentry into areas controlled by the licensee. Reentry planning includes evaluation of the controls necessary for reentry under post-incident conditions.
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Once the Emergency Director has determined that conditions warranting a state of emergency have passed, steps will be taken to terminate from the event, either directly or following a transition period (prior to entering a state of recovery operations). Usually, the Unusual Event and Alert classification levels will be directly terminated (no entry into recovery). The following considerations have been established to support the termination from a declared emergency:

- Radiation levels in site areas are stable or decreasing with time.
- Releases of radioactive materials to the environment from the site are under control or have ceased.
- Emergency conditions (arising from initiating events such as fire, flood or security related) are controlled or have ceased.

The decision to terminate from a Site Area Emergency or a General Emergency classification level must be discussed with the NRC, State and County representatives before it occurs.

Decisions to relax protective actions for the public will be made by the appropriate State authorities.

When transition from an emergency to a recovery phase is necessary, the Emergency Director will designate a Recovery Manager and develop a recovery organization. Reentry into the OCA will be based on plant conditions as well as air and soil sampling and analysis used to determine levels of radiological contamination and projected dose. During or following a HAB incident, reentry criteria take into consideration plant security and threat conditions.

M.1.b	Provisions for reentry into restricted areas, including exposure and contamination control, as appropriate. A method for coordinating and implementing decisions regarding temporary reentry into restricted areas is addressed.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

M.2	Individuals who will comprise the licensee's recovery organization are identified by title/ position. The recovery organization includes technical personnel with responsibilities to develop, evaluate, and direct recovery and reentry operations.
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Figure M.2-1 illustrates a generic recovery organization structure. It may be modified or supplemented as necessary to fit the particular circumstances.

The recovery activities would be managed much like a normal outage, except that certain activities unique to the post-accident situation may be controlled by the recovery organization. The recovery organization would be matrixed to the STPNOC organization to coordinate activities with the normal company organization. The recovery organization may be located at the EOF or elsewhere, as appropriate.

The primary positions in the recovery organization are described as follows:

- Recovery Manager – Overall management of recovery activities. High level coordination with Federal, State, and County governments.
- Onsite Recovery Director – Directs the onsite recovery activities.
- Offsite Recovery Director – Directs interface with Federal, State and County agencies during the recovery process.
- Radiological Assessment Manager (if needed) – Coordinates radiological and environmental assessment with Federal and State agencies. Coordinates offsite radwaste management and decontamination activities.
- Company Spokesperson – Directs the public information program during the recovery phase.
- Other Support – Other individuals or groups assigned specific tasks to support activities during the recovery phase.

M.3	The process for initiating recovery actions is described and includes the criteria for terminating the emergency.
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Items that must be considered before terminating the emergency condition to either a normal or a recovery organization are as follows:

- Emergency Action Level criteria
- Releases of radioactive materials to the environment
- In-plant radiation levels
- Reactor mode
- Containment integrity
- Operability and integrity of radioactive waste systems, decontamination facilities, power supplies, electrical equipment and plant instrumentation including radiation monitoring equipment
- Fire, flood, earthquake or similar hazardous emergency conditions
- Security issues
- Onsite medical issues
- Site access and availability of qualified personnel and support services

Emergency Director will develop a brief message describing the time and date of recovery operations initiation, as well as any necessary organizational realignments, to ERO and STPEGS personnel, and NRC, State and County officials.

The ERO, site personnel, and offsite agencies will be informed that activities associated with bringing the plant to a stable, safe condition are completed and that recovery operations are being initiated.

M.4	The process for initiating recovery actions is described and includes provisions to ensure continuity during transfer of responsibility between phases. The chain of command is established.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

M.5	The framework for relaxing protective actions and allowing for return are described. Prioritization is given to restoring access to vital services and facilities.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

M.6	The organization(s) responsible for developing and implementing cleanup operations offsite is identified.
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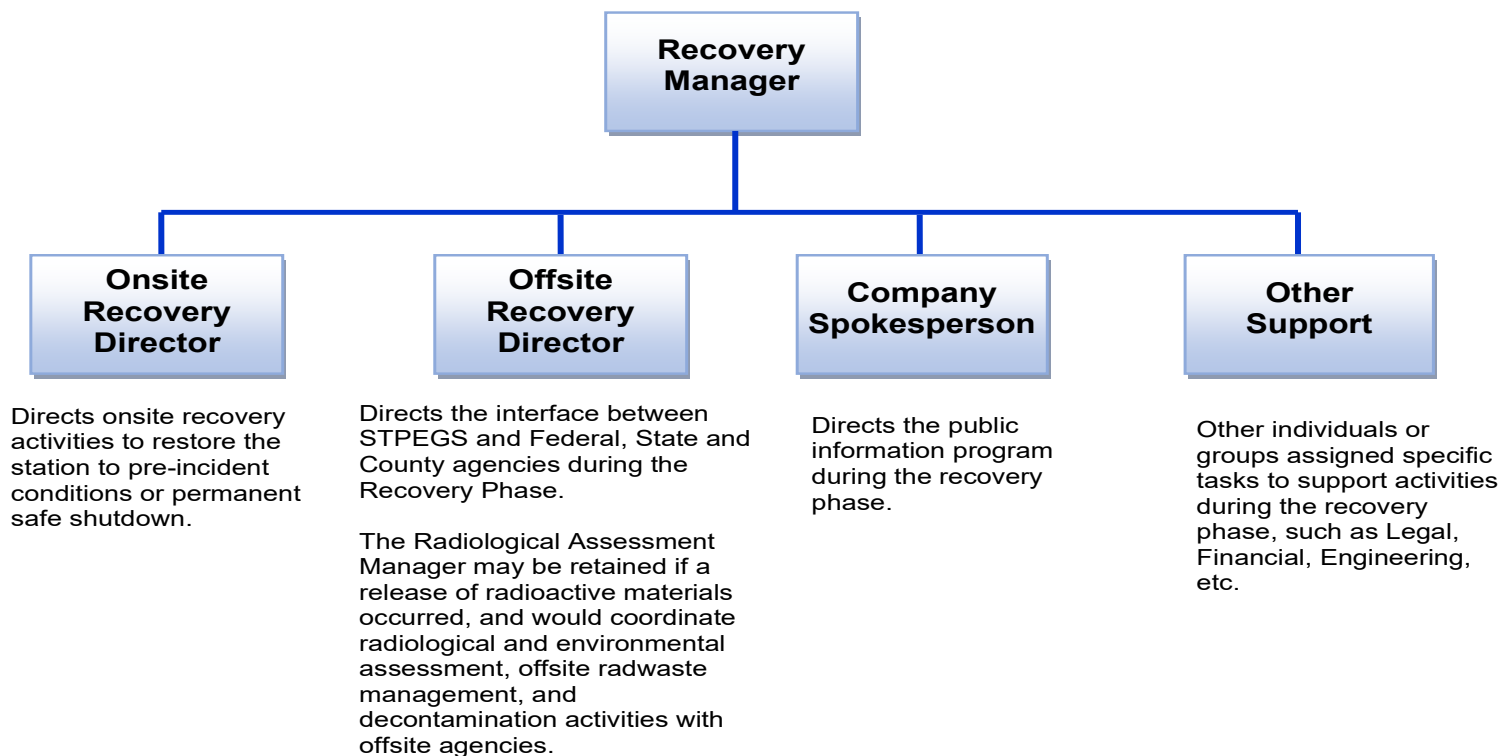
This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

M.7	Provisions for developing and modifying sampling plans are established. Provisions for laboratory analysis of samples are included in the plan.
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The recovery organization will coordinate STPEGS environmental sampling activities with the State agency. Refer to Element C.4 for a description of laboratory capabilities.

M.8	A method for periodically conducting radiological assessments of public exposure is established.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

Figure M.2-1: Recovery Organization

N: Exercises and Drills

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

Regulatory References: 10 CFR 50.47(b)(14); 44 CFR 350.5(a)(14);
10 CFR Part 50, Appendix E.IV.F

N.1	Exercises and drills are conducted, observed, and critiqued/evaluated as set forth in NRC and FEMA regulations and guidance.
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An exercise is an event that tests the integrated capability and a major portion of the elements of the emergency plans and organizations. Over the period of the exercise cycle, exercises will test the adequacy of timing and content of implementing procedures and methods, test emergency equipment and communications networks, test the public alert and notification system, and ensure that emergency organization personnel are familiar with their duties.

Exercises must provide the opportunity for the ERO to demonstrate proficiency in the key skills necessary to implement the principal functional areas (see N.4) of emergency response.

A drill is aimed at testing, developing and maintaining skills in one or more emergency plan functions. Drill types may be operational or discussion-based events (e.g., single ERF or tabletop drills). Drills may be a component of an exercise.

During drills; activation of all of the ERFs is not required, supervised instruction is permitted, participants may be given the opportunity to resolve problems (success paths), and focus may be primarily on onsite training objectives. Drills may include evaluation of specific performance objectives or be conducted for non-evaluated training only.

Over the course of an eight-year cycle all unique initiating conditions in the EAL scheme (with the exception of judgment ICs) are made available for the demonstration of event classification within drills or exercises.

State and County agencies located within the plume exposure pathway EPZ are provided the opportunity to participate in drills when requested by such State or County agencies.

N.1.a	The process to critique/evaluate exercises and drills is described.
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Critiques of each drill and exercise will be held following each event to evaluate areas (such as personnel performance, response procedure processes, and facility and equipment adequacy) and identify issues. The critique is performed as soon as possible following the conclusion of a drill or exercise using preselected drill and exercise performance objectives that are evaluated against measurable demonstration criteria.

Provisions are made for Federal, State, and County representatives to observe and participate in drill and exercise critiques when present.

Biennially, representatives from the NRC observe and evaluate STPEGS' ability to conduct an adequate self-critical critique. For partial and full offsite participation exercises, the NRC and FEMA, will observe and evaluate both the exercise and the critique process.

A written report is prepared following a critique to document whether the objectives were successfully demonstrated. Failed or degraded performance objectives and other programmatic weaknesses are entered into the corrective action program (CAP). Failed or degraded demonstration criteria, improvement items and recommendations are dispositioned within the report and may be entered into the CAP. Critique reports and their corrective actions are approved by the Supervisor, Emergency Response.

A remedial exercise is only required if the emergency plan is not satisfactorily tested during the biennial exercise such that NRC, in consultation with FEMA, cannot (1) find reasonable assurance that adequate protective measures would be taken during a radiological emergency, or (2) determine that the ERO has maintained key skills specific to emergency response.

Critique reports are maintained as documentation for the completion of performance objectives throughout an eight-year exercise cycle.

N.1.b	The process used to track findings and associated corrective actions identified by drill and exercise critiques/evaluations, including their assignment and completion, is described.
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Objectives and demonstration criteria that are not adequately performed are described in the critique report and entered into the CAP for trend tracking and/or corrective action. The significance of any identified issue, the action(s) taken to resolve it, and the schedule for its closure are determined by the Supervisor, Emergency Response through the CAP process.

For issues affecting departments other than EP, the Supervisor, Emergency Response will coordinate with the respective department heads for assignment of corrective actions and due dates, as appropriate.

N.1.c	A drill or exercise starts between 6:00 p.m. and 4:00 a.m. at least once every eight-year exercise cycle.
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STPEGS will conduct at least one off-hours drill or exercise within an eight-year exercise cycle.

An off-hours drill or exercise is established as any time of day on a weekday holiday, or any time of day on a weekend day, or between the hours of 6:00 p.m. and 4:00 a.m. on a normal workday.

The off-hours drill requirement may be satisfied by an actual event provided it meets the above off-hours criteria and the objectives are evaluated and documented in a critique report for the augmentation of the ERO, the transfer of responsibilities, and facility activation.

N.1.d	A drill or exercise is unannounced at least once every eight-year exercise cycle.
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STPEGS will conduct at least one unannounced drill or exercise within an eight-year cycle.

The unannounced drill requirement may be satisfied by an actual event provided objectives are evaluated and documented in a critique report for the augmentation of the ERO, the transfer of responsibilities, and facility activation.

N.2	Exercises are designed to enable the response organizations' demonstration of the key skills and capabilities necessary to implement the emergency plan. The following two types of exercises are conducted at the frequency noted:
N.2.a	<u>Plume Exposure Pathway Exercises</u> Plume exposure pathway exercises are conducted biennially. These exercises include mobilization of licensee and state, local, and tribal government personnel and resources and implementation of emergency plans to demonstrate response capabilities within the plume exposure pathway EPZ.

STPEGS will conduct a plume exposure pathway exercise biennially. Specifically, the plume exposure pathway exercise is developed to provide the ERO with the opportunity to demonstrate proficiency in key skills necessary to implement the principal functional areas of emergency response (those which test the adequacy of timing and content of implementing procedures, test equipment and communications networks, and ensure that the ERO are familiar with their duties).

Each plume exposure pathway exercise is developed to provide the opportunity for the ERO to demonstrate key skills specific to emergency response duties in the CRs, TSC, OSC, EOF, and JIS. As a minimum, each plume exposure pathway exercise contains objectives to demonstrate the following:

- Accident detection and assessment
- Shift staff response to accident transients or other events that meet EAL criteria while implementing the emergency plan
- Management and coordination of emergency response
- Emergency classification
- Notification of onsite and offsite emergency responders
- Communications
- Radiological assessment and exposure control
- Onsite protective actions
- PAR development (development of PARs involving public evacuation or sheltering is required only in exercises that include a GE)
- ERO augmentation and ERF activation following declared emergencies
- Damage control team activities
- Dissemination of information to the public via media channels and press briefings

All ERO teams (not necessarily each individual) are scheduled to participate in a plume exposure pathway exercise within each eight-year exercise cycle.

State and County authorities will be invited to participate in plume exposure pathway exercises. If a State or County organization chooses not to participate, their participation is not required and it should be documented that they were given the opportunity to participate.

Biennial plume exposure pathway exercise scenarios are submitted to the NRC under §50.4 at least 60 days before they are held.

N.2.b	<u>Ingestion Exposure Pathway Exercises</u> Ingestion exposure pathway exercises are conducted at least once every eight years. These exercises include mobilization of state, local, and tribal government personnel and resources and implementation of emergency plans to demonstrate response capabilities to a release of radioactive materials requiring post-plume phase protective actions within the ingestion exposure pathway EPZ.
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STPEGS will assist in development and participate as requested in an ingestion exposure pathway exercise to support FEMA evaluation of State and County emergency plan response activities in this area.

The scope, objectives and schedule will be coordinated with appropriate Federal, State and County emergency organizations and agencies for exercises in which they participate.

N.3	<u>Exercise Scenario Elements</u> During each eight-year exercise cycle, biennial, evaluated exercise scenario content is varied to provide the opportunity to demonstrate the key skills and capabilities necessary to respond to the following scenario elements:
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Scenarios, prepared in advance, govern the conduct of exercises and drills, and include the following information and data as applicable to the type and scope of the event:

- Scope – A list of onsite and offsite facilities and agencies expected to participate in the scenario.
- Summary – A narrative description of the scenario identifying major events and their timing, including a description of scenario conditions that differ from actual conditions (such as weather, ongoing events, etc.).
- Timeline – A section containing the time schedule of expected events.
- Objectives – A section containing a table of performance objectives expected to be demonstrated during the scenario.
- Messages – A section for plant data, injects, and messages used to control the flow of events.
- In-Plant Radiological Data – A section for area radiation maps and display system information.
- Environmental Radiological and Meteorological Data – A section for onsite and offsite maps and data tables.
- Controller/Evaluator Instructions – List of assignments and instructions for scenario specific actions.
- Participant/Observer Instructions – Instructions for scenario specific extent of play and safety considerations.

In each eight-calendar year exercise cycle, the contents of scenarios (i.e., event type, sequencing and timing) are varied to provide the opportunity for the ERO to demonstrate proficiency in the key skills and prevent anticipatory responses through the preconditioning of participants.

Scenarios are not reused for an NRC evaluated exercise within 2 years of their conduct. For an NRC evaluated exercise, no more than one EAL threshold should be common with the previous NRC evaluated exercise or any practice drills/exercises conducted in preparation for the upcoming biennial NRC evaluated exercise. If more than one EAL threshold is common between those scenarios, then a description of the classification difficulties encountered during scenario development, identification of when the EAL thresholds were last used, and how scenario developers minimized other similarities will be included when the scenario is submitted for NRC review and verification.

Scenario details are kept confidential from participants whenever performance objectives are selected for evaluation.

A record of performance objective demonstration is maintained for the full eight-year exercise cycle to document successful completion of all required scenario elements.

N.3.a	<u>Hostile Action-Based (HAB)</u> Hostile action directed at the NPP site. This scenario element may be combined with either a radiological release scenario or a no/minimal radiological release scenario, but a no/minimal radiological release scenario should not be included in consecutive HAB exercises at an NPP site.
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STPEGS will conduct at least one HAB scenario in an exercise within an eight-year cycle.

The HAB scenario will include either a radiological release scenario or no/minimal radiological release scenario, but HAB scenarios combined with a no/minimal radiological release scenario will not be used in consecutive HAB exercises.

N.3.b	<u>Rapid Escalation</u> An initial classification of, or rapid escalation to, an SAE or GE.
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STPEGS will conduct at least one rapid escalation scenario in an exercise within an eight-year cycle.

The rapid escalation scenario will begin with an initial declaration of, or rapid escalation to, the Site Area Emergency classification level while event response is performed from the CR(s).

N.3.c	<u>No/Minimal Release of Radioactive Materials</u> No release or an unplanned minimal release of radioactive material which does not require public protective actions. This scenario element is used only once during each eight-year exercise cycle.
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STPEGS will conduct at least one no/minimal radiological release scenario in an exercise within an eight-year cycle.

The no/minimal radiological release scenario will not escalate to a General Emergency classification level with PARs.

N.3.c.1	The licensee is required to demonstrate the ability to respond to a no/minimal radiological release scenario. State, local, and tribal government response organizations have the option, and are encouraged, to participate jointly in this demonstration. If the offsite organizations elect not to participate in the licensee's required minimal or no release exercise, the OROs will still be obligated to meet the exercise requirements as specified in 44 CFR 350.9.
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State and County agencies located within the plume exposure pathway EPZ are invited to participate in exercises with no/minimal radiological release scenarios.

STPEGS will support offsite agencies in meeting FEMA demonstration requirements when they elect to not participate in a required no/minimal release scenario that is included in an exercise.

N.3.c.2	When planning for a joint no/minimal radiological release exercise, affected state, local, and tribal jurisdictions, the licensee, and FEMA will identify offsite capabilities that may still need to be evaluated and agree upon appropriate alternative evaluation methods to satisfy FEMA's biennial criteria requirements. Alternative evaluation methods that could be considered during the extent of play negotiations include expansion of the exercise scenario, out of sequence activities, plan reviews, staff assistance visits or other means as described in FEMA guidance.
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FEMA will determine whether a no/minimal radiological release scenario is acceptable for use in a full or partial participation biennial exercise.

N.3.d	<u>Resource Integration</u> Integration of offsite resources with onsite response.
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STPEGS will conduct at least one scenario that integrates offsite resources (such as fire, medical, and law enforcement) with onsite response in an exercise within an eight-year cycle.

Demonstration of resource integration includes briefings, offsite response to the site, and coordination of worker protection, as appropriate to the scenario.

N.3.e	<u>10 CFR 50 155(b) Strategies</u> Demonstration of the use of equipment, procedures, and strategies developed in compliance with 10 CFR 50.155(b).
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STPEGS will conduct at least one loss of large plant area scenario in an exercise within an eight-year cycle.

Loss of large plant area scenarios demonstrate capabilities to maintain or restore core cooling, containment, or spent fuel pool cooling capabilities under the circumstances associated with the loss of area due to explosions or fire. Strategies to be demonstrated may include one or more of the following:

- Fire fighting
- Operations to mitigate fuel damage
- Actions to minimize radiological release

N.4	Drills are designed to enable an organization's demonstration and maintenance of key skills and capabilities necessary to fulfill functional roles. Drills include, but are not limited to, the following at their noted frequencies:
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N.4.a	<u>Emergency Medical Drills</u> Emergency medical drills are conducted annually. These drills involve a simulated, contaminated individual and contain provisions for participation by support services agencies (i.e., ambulance and offsite medical treatment facility).
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STPEGS will conduct an emergency medical drill once per calendar year.

The scope of the emergency medical drill will include a simulated injured and contaminated individual, and participation by support services agencies (i.e., ambulance and offsite medical treatment facility).

N.4.b	<u>Medical Services Drills</u> Medical services drills are conducted annually at each medical facility designated in the emergency plan. These drills involve a simulated, contaminated emergency worker and/or member of the general public and contain provisions for participation by support services agencies (i.e., ambulance and offsite medical treatment facility).
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

N.4.c	<u>Laboratory Drills</u> Laboratory drills are conducted biennially at each laboratory designated in the emergency plan. These drills involve demonstration of handling, documenting, provisions for record keeping, and analyzing air, soil, and food samples, as well as quality control and quality assurance processes. These drills also involve an assessment of the laboratory's capacity to handle daily and weekly samples and the volume of samples that can be processed daily or weekly.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

N.4.d	<u>Environmental Monitoring Drills</u> Environmental monitoring drills are conducted annually. These drills include direct radiation measurements in the environment, collection and analysis of all sample media (e.g., water, vegetation, soil, and air), and provisions for record keeping.
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STPEGS will conduct an environmental monitoring drill once per calendar year.

The scope of the environmental monitoring drill will include performance objectives for direct radiation measurements in the environment, collection and analysis of sample media (e.g., water, vegetation, soil, and air), communications, and record keeping.

N.4.e	<u>Ingestion Pathway and Post-Plume Phase Drills</u> Ingestion pathway and post-plume phase drills are conducted biennially. These drills involve sample plan development, analysis of lab results from samples, assessment of the impact on food and agricultural products, protective decisions for relocation, and food/crop embargos.
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This element is not applicable to the licensee. See State and County radiological emergency plans for specific information related to this element.

N.4.f	<u>Communications Drills</u> Communications amongst and between emergency response organizations, including those at the state, local, and Federal level, the FMTs, and nuclear facility within both the plume and ingestion exposure pathway EPZs, are tested at the frequencies determined in evaluation criterion F.3. Communications drills include the aspect of understanding the content of messages and can be done in conjunction with the testing described in evaluation criterion F.3.
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STPEGS will conduct communications drills once per calendar year.

Communications tests described in Element F.3 can be performed as drills provided they include the aspect of understanding the content of messages.

N.4.g	<u>Post-Accident Sampling Drills</u> Post-accident sampling drills are conducted annually. These drills address capabilities including analysis of liquid and containment atmosphere samples with simulated elevated radiation levels. This criterion is not applicable if the NPP unit(s) does (do) not have licensing basis requirements for post-accident sampling.
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STPEGS has received NRC approval for the elimination of post-accident sample system (PASS) requirements from technical specifications. In accordance with the NRC safety evaluation, contingency plans have been developed for obtaining and analyzing highly radioactive samples; however, these contingency plans do not have to be carried out in emergency plan drills or exercises.

N.4.h	<u>Off-Hours Report-In Drills</u> Off-hours report-in drills are conducted biennially and are unannounced.
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STPEGS will conduct an off-hours unannounced ERO report-in drill at least once within an eight-year cycle.

The scope of the off-hours unannounced ERO report-in drill will require actual response to the assigned facility and the ability to perform turnover of responsibilities from the on-shift ERO.

N.4.i	<u>Off-Hours Call-In Drills</u> Off-hours call-in drills are conducted quarterly, such that each ERO member's normally expected response time is assessed at least biennially based on call-in drill responses or an alternate means for determining response time. Some drills are unannounced.
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STPEGS ERO notification is an all-call process.

STPEGS will conduct an off-hours unannounced ERO call-in drill biennially to validate each ERO member's response time.

The scope of the off-hours unannounced ERO call-in drill will require collection of the estimated response times to the applicable facility.

Completion of an Element N.4.h off-hours unannounced ERO report-in drill satisfies the requirements of the off-hours unannounced ERO call-in drill in this element.

N.4.j	Onsite Personnel Protective Action Drills Onsite personnel protective action drills are conducted during every eight-year exercise cycle. These drills demonstrate the NPP site's ability to implement and coordinate protective actions for onsite personnel during hostile action.
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STPEGS will conduct a protective action drill within an eight-year cycle.

The scope of the protective actions drill will demonstrate the ability to implement and coordinate protective actions for onsite personnel during a hostile action using one or more of the following:

- Warning personnel in the OCA outside the protected area
- Evacuation of personnel from target buildings, including security personnel
- Site evacuation by opening (while continuing to defend) security gates (demonstrated through discussion/table top)
- Dispersal of licensed operators
- Sheltering of personnel in structures away from potential site targets
- Arrangements for accounting for personnel after the attack

N.4.k	Aircraft Threat/Attack Response Drills Aircraft threat/attack response drills are conducted during every eight-year exercise cycle. These drills demonstrate the use of procedures and protective measures developed for responding to hostile action involving an aircraft threat or attack.
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STPEGS will conduct an aircraft threat/attack response drill at least once within an eight-year cycle.

N.4.l	Minimum Staffing An ERO minimum staffing (no participation of non-minimum augmenting ERO personnel) drill is conducted at least once during every eight-year exercise cycle
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STPEGS will conduct a minimum staffing drill at least once within an eight-year cycle.

A minimum staffing response drill requires facility activation, full transfer of responsibilities from the Control Room, and demonstration of event assessment and response activities.

O: Radiological Emergency Response Training

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

Regulatory References: 10 CFR 50.47(b)(15); 44 CFR 350.5(a)(15);
10 CFR Part 50, Appendix E.IV.F

O.1	Each organization ensures the training of emergency responders and other appropriate individuals with an operational role is described in the emergency plan. Initial training and at least annual retraining are provided.
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Initial training and annual retraining are conducted for members of the ERO. ERO training is tracked to ensure personnel are properly qualified to their specific position. Personnel are notified of training coming due and expired training.

The responsibility for oversight of ERO training and qualification lies with the Supervisor, Emergency Response. Responsibility for the conduct of ERO training resides with EP or site departments, depending on the position or type of training needed (for example, ERO training for OPs, Maintenance, RP, Chemistry, Security and Fire Protection personnel occurs as part of their recurring departmental training and qualification program). Training is conducted by qualified training personnel or Subject Matter Experts (SMEs).

ERO personnel receive the appropriate level of plant access training, EP fundamentals, training on basic emergency response procedures, communication, assembly/accountability and evacuation, and specialized training specific to their role in the organization. The ERO training program is developed based on the position-specific responsibilities/task using Systems Approach to Training (SAT) principals.

1. Shift Managers and Emergency Directors –

- Event Classification
- Event Notification
- Protective Action Recommendations

2. Accident Assessment Personnel –

- Core Damage Assessment
- Event Classification
- Offsite Dose Assessment
- Radioactive Release Rate Determination

3. Radiological Field Monitoring Teams –

- Equipment and Equipment Checks
- Communications
- Plume Tracking Techniques
- Personnel Monitoring
- Emergency Exposure Criteria

- Locations and use of Radiological Emergency Equipment
- 4. Fire Brigade Training – Individuals assigned to fire brigade maintain fire brigade qualifications by receiving initial and requalification training periodically as defined by the site fire protection program.
- 5. Repair and Damage Control Teams – Operations, maintenance, chemistry and radiation protection personnel who would be assigned to repair and damage control teams are trained as part of their normal job-specific duties to respond to both normal and abnormal plant operations and work under direction of an ERO supervisor in the OSC.
- 6. First Aid Personnel – Individuals assigned as first aid responders will maintain qualifications equivalent to Red Cross Standard First Aid techniques.

Offsite ambulance and hospital personnel are offered periodic training as outlined in Element O.1.a.

- 7. Security Training – Individuals assigned to site security receive required emergency plan training as part of their normal job specific training required to qualify or maintain qualification.

Security management personnel assigned to an ERO position receive additional training on EP related tasks as part of the ERO training program.

O.1.a	Site-specific emergency response training is developed and conducted for those offsite organizations that may be called upon to provide onsite assistance in the event of an emergency.
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STPEGS offers emergency response training annually (once per calendar year) to hospital, ambulance/rescue, police, and fire department personnel who are called upon to provide assistance during an emergency. Training includes basic radiation protection, the notification process for their organization, and their organization's expected role.

For those local services support organizations who will enter the site, the offered training also includes the general layout of STPEGS, an overview of EP, site access procedures, and the identity (by position and title) of the onsite individual who will control their support activities.

O.2	The ERO training program consists of learning objectives that are used to develop and maintain key skills. This includes a systematic analysis of jobs and tasks to be performed from which learning objectives are derived.
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Lesson plans and position specific guides used for the initial training and qualification of ERO members are developed based on task assignments. Requalification training for ERO members consists of ERO update/refresher training material and for designated positions participation in drills. During drills conducted for training, on-the-spot correction of performance may be made, and a demonstration of the proper performance offered by the Controller.

Training will be developed and evaluated in accordance with the principles of the Systems Approach to Training (SAT) practices, when applicable, to ensure effectiveness and to identify areas that need improvement or correction.

O.2.a	The ERO training program is reviewed at least annually and revised as necessary.
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Revisions to the training program are identified with feedback from trainees in training and critique items during drills. EP training is also reviewed during EP assessments. During assessments, ERO and EP staff performance is reviewed and appropriate revisions to the training program are made using the principles of the SAT process.

O.2.b	Training sessions that provide performance opportunities to develop, maintain, or demonstrate key skills are critiqued in order to identify weak or deficient areas that need correction.
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All individuals participating in the ERO Training Program are given the opportunity to provide feedback of training sessions. Any weak or deficient areas identified are tracked in the Corrective Action Program for correction.

P: Responsibility for the Planning Effort: Development, Periodic Review, and Distribution of Emergency Plans

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

Regulatory References: 10 CFR 50.47(b)(16); 10 CFR Part 50, Appendix E.IV.G

P.1	The training program, including initial training and periodic retraining, of individuals responsible for the planning effort is described.
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Initial training of EP staff is performed and documented in accordance with the emergency preparedness training procedure.

Periodic retraining of EP personnel is accomplished at least annual through related training, workshops, information exchange meetings with other licensees, and conferences held by industry and government agencies to maintain current knowledge of the overall planning effort. Other continuing training opportunities include observing exercises at other sites or attending courses, such as STPEGS technical training, that will enhance working knowledge of plant operations. This training will be documented in training files.

P.2	The individual with the overall authority and responsibility for radiological emergency response planning is identified by title/position.
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The Chief Administrative Officer has the overall authority and responsibility for the STPEGS Emergency Plan.

P.3	The individual(s) with the responsibility for the development, maintenance, review, updating, and distribution of emergency plans, as well as the coordination of these plans with other response organizations, is identified by title/position.
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The Manager, Emergency Response is responsible for the development, maintenance, review, and updating of the emergency plan, as well as the coordination of the plan with other response organizations.

P.4	The process for reviewing annually, and updating as necessary, the emergency plan, implementing procedures, maps, charts, and agreements is described. The process includes a method for recording changes made to the documents and, when appropriate, how those changes are retained.
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The Emergency Plan (plan and extension documents) will be reviewed and certified to be current on an annual basis, and updated if necessary. Any changes to regulations, issues identified by drills and exercises, assessments and audits, or other updates will be evaluated and incorporated into the Emergency Plan as warranted.

Letters of Agreement will be reviewed and certified annually and updated as needed. Changes to agreements may be coordinated with the annual review of the Emergency Plan.

Changes will be processed in accordance with 10 CFR 50.54(q) requirements and STPEGS document control/records management procedures.

P.5	Provisions for distributing the emergency plan and implementing procedures to all organizations and appropriate individuals with responsibility for implementation of the plan/procedures is described.
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Revised copies of the Emergency Plan are posted and distributed in accordance with STPEGS Records Management System Procedures. Changes to the Emergency Plan are submitted to the NRC in accordance with 10 CFR 50.4.

Revisions to the EPIPs are communicated to appropriate members of the STPEGS Emergency Response Organization prior to or upon implementation.

P.6	A listing of annexes, appendices, and supporting plans and their originating agency is included in the emergency plan.
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Refer to Introduction Section 2.0 for a listing of emergency plan extension documents (documents that are considered part of the emergency plan but are maintained separately).

Emergency plans developed by other agencies that support the STPEGS Emergency Plan Include the following:

- Department of Homeland Security National Response Framework
- U.S. Nuclear Regulatory Commission Incident Response Plan
- Interagency Radiological Assistance Plan - Region 4 - U.S. Department of Energy
- State of Texas Emergency Management Plan, the Emergency Management Plan
- Matagorda County Emergency Management Plan
- INPO Emergency Response Plan

P.7	An appendix containing a listing by title of the procedures required to maintain and implement the emergency plan is included. The listing includes the section(s) of the emergency plan to be implemented by each procedure.
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Table P.7-1 provides a listing, by title, of the response and maintenance procedures required to implement the emergency plan, and the section(s) of the emergency plan to be implemented by each procedure.

P.8	A table of contents and a cross-reference index to each of the NUREG-0654/FEMA-REP-1, Rev. 2 evaluation criteria are included. The evaluation criteria that do not apply are identified.
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The STPEGS Emergency Plan contains a specific table of contents. The Emergency Plan paragraphs are numbered corresponding to the NUREG-0654/FEMA-REP-1 R2 evaluation criteria. Evaluation criteria which do not apply to utilities are list and identified.

P.9	Provisions for addressing the requirements of 10 CFR 50.54(t) are described.
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Emergency Preparedness Program elements are reviewed by persons that have no direct responsibility for the implementation of the Emergency Preparedness Program, in accordance with 10 CFR 50.54(t). The review may be in the form of a Quality Audit.

All elements of the EP Program are reviewed once every 24 months. Additionally, a review is conducted as soon as reasonably practicable after a change occurs in personnel, procedures, equipment, or facilities that potentially could adversely affect EP, but no longer than 12 months after the change.

The independent review will include the following plans, procedures, training programs, drills/exercises, equipment, and state/ county government interfaces:

- The Emergency Plan
- The extension documents
- Emergency Plan Implementing Procedures
- State/County Support Agency Training Program
- Emergency Response Training Program
- Public & Media Training/Awareness
- Equipment, Communications, Monitoring, Meteorological, Public Alerting
- State/County Plan Interface

The review findings will be submitted to appropriate STPNOC management personnel. The portion of the review involving the evaluation of the adequacy of interface with State and County governments will be reported to those agencies. The results of the review, along with recommendations for improvements, will be documented, and retained for a period of five (5) years.

P.10	The administrative process for the periodic review and updating of contact information identified in the emergency plan and implementing procedures is described.
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The STPEGS ERO and the Emergency Communications Directory contains select contact numbers for ERO, ORO and support organizations identified in the emergency plan and implementing procedures. The ENRS contains comprehensive ERO contact information.

STPEGS ERO contact information is verified quarterly and updated as needed. Facility and support contact information in the Emergency Communications Directory is verified quarterly and updated as needed.

P.11	The process for entering EP program-related issues that could reduce the effectiveness of the emergency plan into the site-wide corrective action program is described.
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The STPEGS Corrective Action Program is used to capture all events that do not meet program regulations, requirements, standards, or are otherwise conditions adverse to quality.

P.12	The process to evaluate changes in plant configuration for their impact on the effectiveness of the emergency plan is described.
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Changes in plant configuration are evaluated for their impact on the effectiveness of the emergency plan through the plant modification or license compliance review processes specified in change procedures and, if required, the 10 CFR 50.54(q) process specified in emergency plan implementing procedures.

Table P.7-1: Emergency Plan Implementing Procedures

Document ID	Document title	Plan Sections Implemented
	[To be developed following E-Plan approval]	

Appendix 1, Definitions

Accident: any unforeseen, or unintentional occurrence or mishap resulting in, or potentially resulting in, physical injury or injury due to radiation exposure or excessive exposure to radioactive materials.

Mobilize: the ERO has been notified of a declared event and instructed to respond to an emergency facility/location.

Activate: an emergency response facility is declared activated when minimum staffing requirements are met, key systems and equipment are verified operational, and the ERO personnel are prepared to perform their functions.

Alert and Notification: the process of providing a warning signal to the public at risk indicating the need to seek additional information regarding an emergency event in progress (alerting), followed by informing the public about the nature of the event and any protective actions (notification).

Prompt Notification System (PNS): the system used to alert and notify the public, including the physical means and administrative means (organizational responsibility and interaction of responsible organizations for alert and notification). Also known as “Alert and Notification System (ANS).

Alternative Emergency Facility: an alternative to the onsite emergency response facilities if the onsite emergency response facilities are not available or if travel to the site is unsafe and may endanger personnel.

Concept of Operations: delineation of an organization’s roles and responsibilities and how the organization will function to accomplish those responsibilities.

Dosimeter: an instrument used to measure and record radiation doses or dose rates.

Emergency Operations Center (EOC): a facility that is the primary base of emergency operations for an ORO in a radiological incident.

Emergency Planning Zone (EPZ): a geographic area surrounding a commercial NPP for which emergency planning is needed to ensure that prompt and effective actions can be taken by OROs to protect public health and safety in the event of a radiological incident. The plume exposure pathway EPZ is approximately 10 miles in radius, while the ingestion exposure pathway EPZ has a radius of approximately 50 miles.

Emergency Response Data System (ERDS): a direct near real-time electronic data link between the licensee’s onsite computer system and the NRC Operations Center that provides for the automated transmission of a limited data set of selected plant parameters.

Emergency Response Organization (ERO): the personnel assigned to perform tasks and activities associated with implementation of a licensee’s emergency plan for coping with radiological incidents.

Evacuation Time Estimate (ETE): a calculation of the time it would take to evacuate the public within the plume exposure pathway EPZ under emergency conditions.

Evaluation: the process of observing drill or exercise performance to identify strengths and opportunities for improvement in an entity's emergency preparedness and response capabilities.

Exclusion Area: the area surrounding the reactor where the licensee has the authority to control all activities within the exclusion area, including entrance to the exclusion area, and the exclusion of persons and property.

Field Monitoring Team (FMT): a group used to detect and monitor radiation in the environment.

Ingestion Exposure Pathway: the principal exposure from this pathway would be from ingestion of contaminated water or foods, such as milk or fresh vegetables. The duration of potential exposure could range in length from hours to months to even years.

Ingestion Exposure Pathway Emergency Planning Zone: a geographic area, approximately 50 miles in radius surrounding a commercial NPP, in which the health and safety of the general public could be adversely affected through the ingestion of water or food that has been contaminated through exposure to radiation, primarily from the deposition of radioisotopes after a radiological accident.

Letter of Agreement (LOA): a document executed between two or more parties outlining specific arrangements relating to the accomplishment of an action. Letters of agreement may cover personnel, equipment, or other types of emergency support, and may take the form of letters, contracts, purchase orders, or other procurement mechanisms.

Memorandum of Understanding (MOU): a document which details the respective authorities and responsibilities of the signatory organizations for specified radiological emergency response planning, preparedness, or response.

National Incident Management System (NIMS): a collection of principles and methods utilized by federal, state and local emergency management organizations as well as the private sector to more efficiently allocate resources in the event of a disaster and facilitate cooperation among entities and agencies.

National Response Framework (NRF): the guiding principles, roles, and structures that enable all domestic incident response partners to prepare for and provide a unified national response to disasters and emergencies. It describes how the federal government, state and county governments, communities, and the private sector work together to coordinate a national response. The framework builds upon the NIMS, which provides a template for managing incidents.

Offsite: outside the boundaries of the Owner Controlled Area (see Owner Controlled Area).

Offsite Response Organization (ORO): any state or county governmental organization or private / voluntary organization that is responsible for carrying out emergency response functions during a radiological emergency.

Onsite: inside the boundaries of the Owner Controlled Area (see Owner Controlled Area).

Owner Controlled Area (OCA): all areas contiguous to the commercial NPP that are owned or leased by the licensee over which the licensee exercises control. The OCA is larger than, and encompasses, the exclusion area.

Planning Standard (PS): one of the 16 emergency preparedness planning standards established in 10 CFR 50.47(b) and 44 CFR 350.5 that the emergency plan must meet and which are supported by the corresponding sections of 10 CFR 50 Appendix E.

Plume Exposure Pathway: a term describing the means by which whole body radiation exposure occurs as a result of immersion in a gaseous release of radioactive material. The principal exposure sources from this pathway are: (a) whole body external exposure to gamma radiation from the plume and from deposited materials, and (b) inhalation exposure from the passing radioactive plume. The duration of principal potential exposures could range in length from 30 minutes to days.

Plume Exposure Pathway Emergency Planning Zone: a geographic area approximately 10 miles in radius surrounding a commercial NPP within which the health and safety of the general public could be adversely affected by direct whole body external exposure to gamma radiation from the plume and from deposited materials, as well as inhalation exposure from the passing radioactive plume during a radiological accident.

Post-Plume Phase: includes response activities (such as limiting exposure from ingestion of contaminated food and water, relocation, reentry, and return) that occur after a release has been terminated. Also known as the “Environmental Phase”.

Potassium Iodide (KI): a prophylactic compound containing a stable (i.e., non-radioactive) form of iodine that can be used effectively to block the uptake of radioactive iodine by the thyroid gland in a human being.

Protective Action Guide (PAG): a projected dose to an individual in the general population that warrants the implementation of protective action.

Protective Action Recommendation (PAR): a formal advisement from a NPP licensee to state and/or county government officials, or from state officials to other offsite officials, concerning emergency measures that should be taken to protect the public from exposure to radiation.

Radiological Emergency Preparedness (REP) Program: refers to both FEMA and NRC programs that administer emergency preparedness for commercial nuclear sites and surrounding areas and encompasses the plans, training, exercises, and resources necessary to prepare emergency personnel to rapidly identify, evaluate, and respond to emergencies.

Radioprotective Drug: a chemical compound or substance serving to protect or aid in protecting against the injurious effects of radiation.

Reasonable Assurance: a determination that state and/or county government, and utility offsite plans and preparedness are adequate to protect public health and safety in the emergency planning areas of commercial NPPs.

Reception Center: a pre-designated facility located outside the plume exposure pathway EPZ at which the evacuated public can register; receive radiation monitoring and decontamination; receive assistance in contacting others; receive directions to congregate care centers; reunite with others; and receive general information. It generally refers to a facility where monitoring, decontamination, and registration of evacuees are conducted. A reception center is also referred to as a registration center or public registration and decontamination center.

Site Boundary: the line beyond which the land or property is not owned or controlled by the licensee.

Total Effective Dose Equivalent (TEDE): the sum of the deep dose equivalent (for external exposures) and committed effective dose equivalent (for internal exposures).

Transient Population: persons who do not permanently reside in the plume exposure pathway EPZ, but may be present during an emergency.

Appendix 2, Abbreviations and Acronyms

AEF	Alternative Emergency Facility
AOP	Abnormal Operating Procedures
CFR	Code of Federal Regulations
CR	Control Room
DLR	Dosimeter of Legal Record (synonymous with TLD)
DRD	Direct-reading Dosimeter
EAL	Emergency Action Level
EAS	Emergency Alert System
ECCS	Emergency Core Cooling System
ECL	Emergency Classification Level
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EP	Emergency Preparedness
EPA	Environmental Protection Agency
EPZ	Emergency Planning Zone
ERDS	Emergency Response Data System
ERF	Emergency Response Facility
ERO	Emergency Response Organization
ESF	Emergency Support Function
ETE	Evacuation Time Estimate
FEMA	Federal Emergency Management Agency
FLEX	Diverse and Flexible Coping Strategies
FMT	Field Monitoring Team
FPB	Fission Product Barrier
FRMAC	Federal Radiological Monitoring and Assessment Center
GE	General Emergency
HAB	Hostile Action-Based
HP	Health Physics
HSEEP	Homeland Security Exercise and Evaluation Program
I&C	Instrumentation and Control
ICS	Incident Command System
ISFSI	Independent Spent Fuel Storage Installation
IT	Information Technology
JIC	Joint Information Center
JIS	Joint Information System
KI	Potassium Iodide
LOA	Letter of Agreement
MOU	Memorandum of Understanding
NEI	Nuclear Energy Institute
NIMS	National Incident Management System
NPP	Nuclear Power Plant
NRC	Nuclear Regulatory Commission
OCA	Owner Controlled Area

ORO	Offsite Response Organization
OSC	Operations Support Center
PAD	Protective Action Decision
PAG	Protective Action Guide
PAR	Protective Action Recommendation
PNS	Prompt Notification System
REP	Radiological Emergency Preparedness
SAE	Site Area Emergency
SAFER	Strategic Alliance for FLEX Emergency Response
TEDE	Total Effective Dose Equivalent
TLD	Thermoluminescent Dosimeter (synonymous with DLR)
TSC	Technical Support Center
UE	Unusual Event

Appendix 3, 10 CFR 50 Appendix E.IV (Content of Emergency Plans) Cross Reference

1. The applicant's emergency plans shall contain, but not necessarily be limited to, information needed to demonstrate compliance with the elements set forth below, i.e., organization for coping with radiological emergencies, assessment actions, activation of emergency organization, notification procedures, emergency facilities and equipment, training, maintaining emergency preparedness, recovery, and onsite protective actions during hostile action.

Regulatory Criteria

E-Plan Reference

- | | |
|--|-------|
| 2. This nuclear power reactor license applicant shall also provide an analysis of the time required to evacuate various sectors and distances within the plume exposure pathway EPZ for transient and permanent populations, using the most recent U.S. Census Bureau data as of the date the applicant submits its application to the NRC. | J.8 |
| 3. Nuclear power reactor licensees shall use NRC approved evacuation time estimates (ETEs) and updates to the ETEs in the formulation of protective action recommendations | J.8 |
| and shall provide the ETEs and ETE updates to state and local governmental authorities for use in developing offsite protective action strategies. | J.7 |
| 4. Within 365 days of the later of the date of the availability of the most recent decennial census data from the U.S. Census Bureau or December 23, 2011, nuclear power reactor licensees shall develop an ETE analysis using this decennial data and submit it under § 50.4 to the NRC. These licensees shall submit this ETE analysis to the NRC at least 180 days before using it to form protective action recommendations and providing it to state and local governmental authorities for use in developing offsite protective action strategies. | J.8.a |
| 5. During the years between decennial censuses, nuclear power reactor licensees shall estimate EPZ permanent resident population changes once a year, but no later than 365 days from the date of the previous estimate, using the most recent U.S. Census Bureau annual resident population estimate and state/local government population data, if available. These licensees shall maintain these estimates so that they are available for NRC inspection during the period between decennial censuses and shall submit these estimates to the NRC with any updated ETE analysis. | J.8.a |
| 6. If at any time during the decennial period, the EPZ permanent resident population increases such that it causes the longest ETE value for the 2-mile zone or 5-mile zone, including all affected Emergency Response Planning Areas, or for the entire 10-mile EPZ to increase by 25 percent or 30 minutes, whichever is less, from the nuclear power reactor licensee's currently NRC approved or updated ETE, the licensee shall update the ETE analysis to reflect the impact of that population increase. | J.8.a |

<u>Regulatory Criteria</u>	<u>E-Plan Reference</u>
The licensee shall submit the updated ETE analysis to the NRC under § 50.4 no later than 365 days after the licensee's determination that the criteria for updating the ETE have been met and at least 180 days before using it to form protective action recommendations and providing it to state and local governmental authorities for use in developing offsite protective action strategies.	J.8.a
7. After an applicant for a combined license under part 52 of this chapter receives its license, the licensee shall conduct at least one review of any changes in the population of its EPZ at least 365 days prior to its scheduled fuel load. The licensee shall estimate EPZ permanent resident population changes using the most recent U.S. Census Bureau annual resident population estimate and state/local government population data, if available. If the EPZ permanent resident population increases such that it causes the longest ETE value for the 2-mile zone or 5-mile zone, including all affected Emergency Response Planning Areas, or for the entire 10-mile EPZ, to increase by 25 percent or 30 minutes, whichever is less, from the licensee's currently approved ETE, the licensee shall update the ETE analysis to reflect the impact of that population increase. The licensee shall submit the updated ETE analysis to the NRC for review under § 50.4 of this chapter no later than 365 days before the licensee's scheduled fuel load.	N/A

10 CFR 50 Appendix E.IV.A – Organization

The organization for coping with radiological emergencies shall be described, including definition of authorities, responsibilities, and duties of individuals assigned to the licensee's emergency organization and the means for notification of such individuals in the event of an emergency. Specifically, the following shall be included:

<u>Regulatory Criteria</u>	<u>E-Plan Reference</u>
1. A description of the normal plant operating organization.	B.1.a
2. A description of the onsite ERO with a detailed discussion of:	
a. Authorities, responsibilities, and duties of the individual(s) who will take charge during an emergency;	B.1.a B.2 B.2.a
b. Plant staff emergency assignments;	B.1.a
c. Authorities, responsibilities, and duties of an onsite emergency coordinator who shall be in charge of the exchange of information with offsite authorities responsible for coordinating and implementing offsite emergency measures.	B.1.a B.2, B.2.a
3. A description, by position and function to be performed, of the licensee's headquarters personnel who will be sent to the plant site to augment the onsite emergency organization.	N/A

<u>Regulatory Criteria</u>	<u>E-Plan Reference</u>
4. Identification, by position and function to be performed, of persons within the licensee organization who will be responsible for making offsite dose projections,	B.1.a
and a description of how these projections will be made	I.6
and the results transmitted to state and local authorities, NRC, and other appropriate governmental entities.	E.3 I.10
5. Identification, by position and function to be performed, of other employees of the licensee with special qualifications for coping with emergency conditions that may arise.	B.1.a
Other persons with special qualifications, such as consultants, who are not employees of the licensee and who may be called upon for assistance for emergencies shall also be identified. The special qualifications of these persons shall be described.	B.5
6. A description of the local offsite services to be provided in support of the licensee's emergency organization.	A.1.a (5)
7. By June 23, 2014, identification of, and a description of the assistance expected from, appropriate state, local, and federal agencies with responsibilities for coping with emergencies, including hostile action at the site. For purposes of this appendix, "hostile action" is defined as an act directed toward a nuclear power plant or its personnel that includes the use of violent force to destroy equipment, take hostages, and/or intimidate the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force.	A.4
8. Identification of the state and/or local officials responsible for planning for, ordering, and controlling appropriate protective actions, including evacuations when necessary.	A.1.a.3 A.1.a.4
9. By December 24, 2012, for nuclear power reactor licensees, a detailed analysis demonstrating that on-shift personnel assigned emergency plan implementation functions are not assigned responsibilities that would prevent the timely performance of their assigned functions as specified in the emergency plan.	B.1.a

10 CFR 50 Appendix E.IV.B – Assessment Actions

<u>Regulatory Criteria</u>	<u>E-Plan Reference</u>
1. The means to be used for determining the magnitude of, and for continually assessing the impact of, the release of radioactive materials shall be described, including emergency action levels that are to be used as criteria for determining the need for notification and participation of local and state agencies, the Commission, and other federal agencies, and the emergency action levels that are to be used for determining when and what type of protective measures should be considered within and outside the site boundary to protect health and safety.	I.4 I.5 I.6
The emergency action levels shall be based on in-plant conditions and instrumentation in addition to onsite and offsite monitoring. By June 20, 2012, for nuclear power reactor licensees, these action levels must include hostile action that may adversely affect the nuclear power plant.	D.1.a
The initial emergency action levels shall be discussed and agreed on by the applicant or licensee and state and local governmental authorities, and approved by the NRC.	D.1.b
Thereafter, emergency action levels shall be reviewed with the state and local governmental authorities on an annual basis.	D.1.b
2. A licensee desiring to change its entire emergency action level scheme shall submit an application for an amendment to its license and receive NRC approval before implementing the change.	D.1.a
Licensees shall follow the change process in § 50.54(q) for all other emergency action level changes.	P.4

10 CFR 50, Appendix E.IV.C – Activation of Emergency Organization

<u>Regulatory Criteria</u>	<u>E-Plan Reference</u>
1. The entire spectrum of emergency conditions that involve the alerting or activating of progressively larger segments of the total emergency organization shall be described.	D.1 D.3
The communication steps to be taken to alert or activate emergency personnel under each class of emergency shall be described.	E.1.1
Emergency action levels (based not only on onsite and offsite radiation monitoring information but also on readings from a number of sensors that indicate a potential emergency, such as the pressure in containment and the response of the Emergency Core Cooling System) for notification of offsite agencies shall be described.	D.1
The existence, but not the details, of a message authentication scheme shall be noted for such agencies.	E.1.a

<u>Regulatory Criteria</u>	<u>E-Plan Reference</u>
The emergency classes defined shall include: (1) Notification of unusual events, (2) alert, (3) site area emergency, and (4) general emergency. These classes are further discussed in NUREG-0654/FEMA-REP-1.	D.1
2. By June 20, 2012, nuclear power reactor licensees shall establish and maintain the capability to assess, classify, and declare an emergency condition within 15 minutes after the availability of indications to plant operators that an emergency action level has been exceeded and shall promptly declare the emergency condition as soon as possible following identification of the appropriate emergency classification level.	D.2
Licensees shall not construe these criteria as a grace period to attempt to restore plant conditions to avoid declaring an emergency action due to an emergency action level that has been exceeded.	D.2
Licensees shall not construe these criteria as preventing implementation of response actions deemed by the licensee to be necessary to protect public health and safety provided that any delay in declaration does not deny the state and local authorities the opportunity to implement measures necessary to protect the public health and safety.	D.2

10 CFR 50, Appendix E.IV.D – Notification Procedures

<u>Regulatory Criteria</u>	<u>E-Plan Reference</u>
1. Administrative and physical means for notifying local, state, and federal officials and agencies and agreements reached with these officials and agencies for the prompt notification of the public and for public evacuation or other protective measures, should they become necessary, shall be described. This description shall include identification of the appropriate officials, by title and agency, of the state and local government agencies within the EPZs.	E.2
2. Provisions shall be described for yearly dissemination to the public within the plume exposure pathway EPZ of basic emergency planning information, such as the methods and times required for public notification and the protective actions planned if an accident occurs, general information as to the nature and effects of radiation, and a listing of local broadcast stations that will be used for dissemination of information during an emergency.	G.1
Signs or other measures shall also be used to disseminate to any transient population within the plume exposure pathway EPZ appropriate information that would be helpful if an accident occurs.	G.1
3. A licensee shall have the capability to notify responsible state and local governmental agencies within 15 minutes after declaring an emergency.	E.1.b

<u>Regulatory Criteria</u>	<u>E-Plan Reference</u>
The licensee shall demonstrate that the appropriate governmental authorities have the capability to make a public alerting and notification decision promptly on being informed by the licensee of an emergency condition.	E.2
Prior to initial operation greater than 5 percent of rated thermal power of the first reactor at a site, each nuclear power reactor licensee shall demonstrate that administrative and physical means have been established for alerting and providing prompt instructions to the public within the plume exposure pathway EPZ.	N/A
The design objective of the prompt public alert and notification system shall be to have the capability to essentially complete the initial alerting and initiate notification of the public within the plume exposure pathway EPZ within about 15 minutes. The use of this alerting and notification capability will range from immediate alerting and notification of the public (within 15 minutes of the time that state and local officials are notified that a situation exists requiring urgent action) to the more likely events where there is substantial time available for the appropriate governmental authorities to make a judgment whether or not to activate the public alert and notification system.	E.2
The alerting and notification capability shall additionally include administrative and physical means for a backup method of public alerting and notification capable of being used in the event the primary method of alerting and notification is unavailable during an emergency to alert or notify all or portions of the plume exposure pathway EPZ population. The backup method shall have the capability to alert and notify the public within the plume exposure pathway EPZ, but does not need to meet the 15-minute design objective for the primary prompt public alert and notification system.	E.2
When there is a decision to activate the alert and notification system, the appropriate governmental authorities will determine whether to activate the entire alert and notification system simultaneously or in a graduated or staged manner. The responsibility for activating such a public alert and notification system shall remain with the appropriate governmental authorities.	N/A

<u>Regulatory Criteria</u>	<u>E-Plan Reference</u>
4. If FEMA has approved a nuclear power reactor site's alert and notification design report, including the backup alert and notification capability, as of December 23, 2011, then the backup alert and notification capability requirements in Section IV.D.3 must be implemented by December 24, 2012. If the alert and notification design report does not include a backup alert and notification capability or needs revision to ensure adequate backup alert and notification capability, then a revision of the alert and notification design report must be submitted to FEMA for review by June 24, 2013, and the FEMA-approved backup alert and notification means must be implemented within 365 days after FEMA approval. However, the total time period to implement a FEMA-approved backup alert and notification means must not exceed June 22, 2015.	N/A

10 CFR 50, Appendix E.IV.E – Emergency Facilities and Equipment

Adequate provisions shall be made and described for emergency facilities and equipment, including:

<u>Regulatory Criteria</u>	<u>E-Plan Reference</u>
1. Equipment at the site for personnel monitoring;	K.1.b K.1.c
2. Equipment for determining the magnitude of and for continuously assessing the impact of the release of radioactive materials to the environment;	I.6 I.7 I.8 H.7
3. Facilities and supplies at the site for decontamination of onsite individuals;	J.3 K.1.e
4. Facilities and medical supplies at the site for appropriate emergency first aid treatment;	L.2.a
5. Arrangements for medical service providers qualified to handle radiological emergencies onsite;	L.2.b
6. Arrangements for transportation of contaminated injured individuals from the site to specifically identified treatment facilities outside the site boundary;	L.4
7. Arrangements for treatment of individuals injured in support of licensed activities on the site at treatment facilities outside the site boundary;	L.2.b
8.a (i) A licensee onsite technical support center and an emergency operations facility from which effective direction can be given and effective control can be exercised during an emergency;	H.1 H.3
8.a (ii) For nuclear power reactor licensees, a licensee onsite operational support center;	H.2

<u>Regulatory Criteria</u>	<u>E-Plan Reference</u>
8.b For a nuclear power reactor licensee's EOF required by paragraph 8.a of this section, either a facility located between 10 miles and 25 miles of the nuclear power reactor site(s), or a primary facility located less than 10 miles from the nuclear power reactor site(s) and a backup facility located between 10 miles and 25 miles of the nuclear power reactor site(s). An EOF may serve more than one nuclear power reactor site. A licensee desiring to locate an EOF more than 25 miles from a nuclear power reactor site shall request prior Commission approval by submitting an application for an amendment to its license.	H.3
For an EOF located more than 25 miles from a nuclear power reactor site, provisions must be made for locating NRC and offsite responders closer to the nuclear power reactor site so that NRC and offsite responders can interact face-to-face with emergency response personnel entering and leaving the nuclear power reactor site. Provisions for locating NRC and offsite responders closer to a nuclear power reactor site that is more than 25 miles from the EOF must include the following:	H.3.a
(1) Space for members of an NRC site team and federal, state, and local responders;	C.5 H.1 H.3
(2) Additional space for conducting briefings with emergency response personnel;	C.5
(3) Communication with other licensee and offsite emergency response facilities;	C.5
(4) Access to plant data and radiological information; and	C.5,
(5) Access to copying equipment and office supplies;	C.5
8.c By June 20, 2012, for a nuclear power reactor licensee's EOF required by paragraph 8.a of this section, a facility having the following capabilities:	
(1) The capability for obtaining and displaying plant data and radiological information for each reactor at a nuclear power reactor site and for each nuclear power reactor site that the facility serves;	H.3
(2) The capability to analyze plant technical information and provide technical briefings on event conditions and prognosis to licensee and offsite response organizations for each reactor at a nuclear power reactor site and for each nuclear power reactor site that the facility serves; and	H.3
(3) The capability to support response to events occurring simultaneously at more than one nuclear power reactor site if the emergency operations facility serves more than one site; and	H.3

<u>Regulatory Criteria</u>	<u>E-Plan Reference</u>
8.d For nuclear power reactor licensees, an alternative facility (or facilities) that would be accessible even if the site is under threat of or experiencing hostile action, to function as a staging area for augmentation of emergency response staff and collectively having the following characteristics:	H.4
the capability for communication with the EOF, Control Room, and plant security;	H.4
the capability to perform offsite notifications;	H.4
and the capability for engineering assessment activities, including damage control team planning and preparation, for use when onsite emergency facilities cannot be safely accessed during hostile action.	H.4
The requirements in this paragraph 8.d must be implemented no later than December 23, 2014, with the exception of the capability for staging emergency response organization personnel at the alternative facility (or facilities) and the capability for communications with the emergency operations facility, Control Room, and plant security, which must be implemented no later than June 20, 2012.	N/A
8.e A licensee shall not be subject to the requirements of paragraph 8.b of this section for an existing EOF approved as of December 23, 2011.	N/A
9. At least one onsite and one offsite communications system; each system shall have a backup power source.	F.1 F.1.a
All communication plans shall have arrangements for emergencies, including titles and alternates for those in charge at both ends of the communication links and the primary and backup means of communication. Where consistent with the function of the governmental agency, these arrangements will include:	E.1
a. Provision for communications with contiguous state/local governments within the plume exposure pathway EPZ.	E.1 F.1.a
Such communications shall be tested monthly.	F.3
b. Provision for communications with federal emergency response organizations.	E.1 F.1.a
Such communications systems shall be tested annually.	F.3
c. Provision for communications among the nuclear power reactor control room, the onsite TSC, and the EOF; and among the nuclear facility, the principal state and local emergency operations centers, and the field assessment teams.	F.1
Such communications systems shall be tested annually.	F.3

<u>Regulatory Criteria</u>	<u>E-Plan Reference</u>
d. Provisions for communications by the licensee with NRC Headquarters and the appropriate NRC Regional Office Operations Center from the nuclear power reactor control room, the onsite TSC, and the EOF.	E.1 F.1
Such communications shall be tested monthly.	F.3

10 CFR 50, Appendix E.IV.F – Training

<u>Regulatory Criteria</u>	<u>E-Plan Reference</u>
1. The program to provide for:	
(a) The training of employees and exercising, by periodic drills, of emergency plans to ensure that employees of the licensee are familiar with their specific emergency response duties, and	N.4 O.1
(b) The participation in the training and drills by other persons whose assistance may be needed in the event of a radiological emergency shall be described.	N.4.a O.1.a
This shall include a description of specialized initial training and periodic retraining programs to be provided to each of the following categories of emergency personnel:	O.1
i. Directors and/or coordinators of the plant emergency organization;	O.1 (1)
ii. Personnel responsible for accident assessment, including control room shift personnel;	O.1 (2)
iii. Radiological monitoring teams;	O.1 (3)
iv. Fire control teams (fire brigades);	O.1 (4)
v. Repair and damage control teams;	O.1 (5)
vi. First aid and rescue teams;	O.1 (6)
vii. Medical support personnel;	O.1 (6) O.1.a
viii. Licensee's headquarters support personnel;	N/A
ix. Security personnel.	O.1 (7)
In addition, a radiological orientation training program shall be made available to local services personnel; e.g., local emergency services/Civil Defense, local law enforcement personnel, local news media persons.	O.1.a G.5

<u>Regulatory Criteria</u>	<u>E-Plan Reference</u>
2. The plan shall describe provisions for the conduct of emergency preparedness exercises as follows: Exercises shall test the adequacy of timing and content of implementing procedures and methods, test emergency equipment and communications networks, test the public alert and notification system, and ensure that emergency organization personnel are familiar with their duties.	N.1
2.a A full participation exercise which tests as much of the licensee, state, and local emergency plans as is reasonably achievable without mandatory public participation shall be conducted for each site at which a power reactor is located.	N.2.a
Nuclear power reactor licensees shall submit exercise scenarios under § 50.4 at least 60 days before use in a full participation exercise required by this paragraph 2.a.	N.2.a
(i) For an operating license issued under this part, this exercise must be conducted within 2 years before the issuance of the first operating license for full power (one authorizing operation above 5 percent of rated thermal power) of the first reactor and shall include participation by each state and local government within the plume exposure pathway EPZ and each state within the ingestion exposure pathway EPZ. If the full participation exercise is conducted more than 1 year prior to issuance of an operating licensee for full power, an exercise which tests the licensee's onsite emergency plans must be conducted within one year before issuance of an operating license for full power. This exercise need not have state or local government participation.	N/A
(ii) For a combined license issued under part 52 of this chapter, this exercise must be conducted within two years of the scheduled date for initial loading of fuel. If the first full participation exercise is conducted more than one year before the scheduled date for initial loading of fuel, an exercise which tests the licensee's onsite emergency plans must be conducted within one year before the scheduled date for initial loading of fuel. This exercise need not have state or local government participation. If FEMA identifies one or more deficiencies in the state of offsite emergency preparedness as the result of the first full participation exercise, or if the Commission finds that the state of emergency preparedness does not provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency, the provisions of § 50.54(gg) apply.	N/A

<u>Regulatory Criteria</u>	<u>E-Plan Reference</u>
(iii) For a combined license issued under part 52 of this chapter, if the applicant currently has an operating reactor at the site, an exercise, either full or partial participation, shall be conducted for each subsequent reactor constructed on the site. This exercise may be incorporated in the exercise requirements of Sections IV.F.2.b. and c. in this appendix. If FEMA identifies one or more deficiencies in the state of offsite emergency preparedness as the result of this exercise for the new reactor, or if the Commission finds that the state of emergency preparedness does not provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency, the provisions of § 50.54(gg) apply.	N/A
2.b Each licensee at each site shall conduct a subsequent exercise of its onsite emergency plan every 2 years.	N.2.a
Nuclear power reactor licensees shall submit exercise scenarios under § 50.4 at least 60 days before use in an exercise required by this paragraph 2.b.	N.2.a
The exercise may be included in the full participation biennial exercise required by paragraph 2.c. of this section.	N.2.a
In addition, the licensee shall take actions necessary to ensure that adequate emergency response capabilities are maintained during the interval between biennial exercises by conducting drills, including at least one drill involving a combination of some of the principal functional areas of the licensee's onsite emergency response capabilities. The principal functional areas of emergency response include activities such as management and coordination of emergency response, accident assessment, event classification, notification of offsite authorities, assessment of the onsite and offsite impact of radiological releases, protective action recommendation development, protective action decision making, plant system repair and mitigative action implementation. During these drills, activation of all of the licensee's emergency response facilities (TSC, OSC, and the EOF) would not be necessary, licensees would have the opportunity to consider accident management strategies, supervised instruction would be permitted, operating staff in all participating facilities would have the opportunity to resolve problems (success paths) rather than have controllers intervene, and the drills may focus on the onsite exercise training objectives.	N.4
2.c Offsite plans for each site shall be exercised biennially with full participation by each offsite authority having a role under the radiological response plan. Where the offsite authority has a role under a radiological response plan for more than one site, it shall fully participate in one exercise every two years and shall, at least, partially participate in other offsite plan exercises in this period.	N/A

<u>Regulatory Criteria</u>	<u>E-Plan Reference</u>
If two different licensees each have licensed facilities located either on the same site or on adjacent, contiguous sites, and share most of the elements defining co-located licensees, then each licensee shall:	N/A
(1) Conduct an exercise biennially of its onsite emergency plan;	N/A
(2) Participate quadrennially in an offsite biennial full or partial participation exercise;	N/A
(3) Conduct emergency preparedness activities and interactions in the years between its participation in the offsite full or partial participation exercise with offsite authorities, to test and maintain interface among the affected state and local authorities and the licensee. Co-located licensees shall also participate in emergency preparedness activities and interaction with offsite authorities for the period between exercises;	N/A
(4) Conduct a hostile action exercise of its onsite emergency plan in each exercise cycle; and	N/A
(5) Participate in an offsite biennial full or partial participation hostile action exercise in alternating exercise cycles.	N/A
2.d Each state with responsibility for nuclear power reactor emergency preparedness should fully participate in the ingestion pathway portion of exercises at least once every exercise cycle. In states with more than one nuclear power reactor plume exposure pathway EPZ, the state should rotate this participation from site to site.	N/A
Each state with responsibility for nuclear power reactor emergency preparedness should fully participate in a hostile action exercise at least once every cycle and should fully participate in one hostile action exercise by December 31, 2015. states with more than one nuclear power reactor plume exposure pathway EPZ should rotate this participation from site to site.	N/A
2.e Licensees shall enable any state or local government located within the plume exposure pathway EPZ to participate in the licensee's drills when requested by such state or local government.	N.1
2.f Remedial exercises will be required if the emergency plan is not satisfactorily tested during the biennial exercise, such that NRC, in consultation with FEMA, cannot (1) find reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency or (2) determine that the Emergency Response Organization (ERO) has maintained key skills specific to emergency response. The extent of state and local participation in remedial exercises must be sufficient to show that appropriate corrective measures have been taken regarding the elements of the plan not properly tested in the previous exercises.	N.1.a

<u>Regulatory Criteria</u>	<u>E-Plan Reference</u>
2.g All exercises, drills, and training that provide performance opportunities to develop, maintain, or demonstrate key skills must provide for formal critiques in order to identify weak or deficient areas that need correction.	N.1.a
Any weaknesses or deficiencies that are identified in a critique of exercises, drills, or training must be corrected.	N.1.b
2.h The participation of state and local governments in an emergency exercise is not required to the extent that the applicant has identified those governments as refusing to participate further in emergency planning activities, pursuant to § 50.471(1). In such cases, an exercise shall be held with the applicant or licensee and such governmental entities as elect to participate in the emergency planning process.	N.2.a
2.i Licensees shall use drill and exercise scenarios that provide reasonable assurance that anticipatory responses will not result from preconditioning of participants. Such scenarios for nuclear power reactor licensees must include a wide spectrum of radiological releases and events, including hostile action. Exercise and drill scenarios as appropriate must emphasize coordination among onsite and offsite response organizations.	N.3 N.4
2.j The exercises conducted under paragraph 2 of this section by nuclear power reactor licensees must provide the opportunity for the ERO to demonstrate proficiency in the key skills necessary to implement the principal functional areas of emergency response identified in paragraph 2.b of this section. Each exercise must provide the opportunity for the ERO to demonstrate key skills specific to emergency response duties in the control room, TSC, OSC, EOF, and JIC.	N.1 N.2.a
Additionally, in each eight calendar year exercise cycle, nuclear power reactor licensees shall vary the content of scenarios during exercises conducted under paragraph 2 of this section to provide the opportunity for the ERO to demonstrate proficiency in the key skills necessary to respond to the following scenario elements:	N.3
• hostile action directed at the plant site,	N.3.a
• no radiological release or an unplanned minimal radiological release that does not require public protective actions,	N.3.c
• an initial classification of or rapid escalation to a Site Area Emergency or General Emergency,	N.3.b
• implementation of strategies, procedures, and guidance developed under § 50.54(hh)(2),	N.3.e
• and integration of offsite resources with onsite response.	N.3.d
The licensee shall maintain a record of exercises conducted during each eight year exercise cycle that documents the content of scenarios used to comply with the requirements of this paragraph.	N.3

<u>Regulatory Criteria</u>	<u>E-Plan Reference</u>
Each licensee shall conduct a hostile action exercise for each of its sites no later than December 31, 2015. The first eight-year exercise cycle for a site will begin in the calendar year in which the first hostile action exercise is conducted. For a site licensed under Part 52, the first eight-year exercise cycle begins in the calendar year of the initial exercise required by Section IV.F.2.a.	N/A

10 CFR 50, Appendix E.IV.G – Maintaining Emergency Preparedness

<u>Regulatory Criteria</u>	<u>E-Plan Reference</u>
Provisions to be employed to ensure that the emergency plan, its implementing procedures, and emergency equipment and supplies are maintained up to date shall be described.	P.4 P.9 P.10 P.11 P.12

10 CFR 50, Appendix E Section IV.H – Recovery

<u>Regulatory Criteria</u>	<u>E-Plan Reference</u>
Criteria to be used to determine when, following an accident, reentry of the facility would be appropriate or when operation could be resumed shall be described.	M.1

10 CFR 50, Appendix E.IV.I – Onsite Protective Actions During Hostile Action

<u>Regulatory Criteria</u>	<u>E-Plan Reference</u>
By June 20, 2012, for nuclear power reactor licensees, a range of protective actions to protect onsite personnel during hostile action must be developed to ensure the continued ability of the licensee to safely shut down the reactor and perform the functions of the licensee's emergency plan.	J.1

Enclosure 3

Concurrence Letters with STPNOC Emergency Plan Change Proposal



South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

January 8, 2020

Robert Free
Manager Environmental Monitoring Group – Inspection Unit
Department State Health Services
P. O. Box 149347
Austin, TX 78714-9347

Ref: Concurrence with STP Nuclear Operating Company Emergency Plan Change Proposal

Dear Mr. Free,

In an effort to enhance emergency preparedness, the STP Nuclear Operating Company is revising our Emergency Plan. This letter is seeking your office's written concurrence regarding the revision to the STP Nuclear Operating Company Emergency Plan.

The revised Emergency Plan is written based off NUREG 0654 FEMA REP 1 Revision 2, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants. There are many efficiencies that will be realized through this revision for both the STP Nuclear Operating Company and our offsite partners. Utilizing revision 2 of NUREG 0654 allows STP Nuclear Operating Company to take advantage of lessons learned and technologies available since NUREG 0654 Revision 1 was written and approved in 1980.

An implementation date will be scheduled after approval of the proposed revision to the STP Nuclear Operating Company Emergency Plan is received from the NRC (2020). By signing this concurrence letter, you are stating you concur with STP Nuclear Operating Company's plan to revise the Emergency Plan which may result in needed changes to the state's REP documents.

If you have any questions regarding the proposed revision please feel free to contact Joseph Enoch, Manager, Emergency Response at 361-972-8767 or Vivian Wagnon, Emergency Preparedness Specialist, at 979-476-0109.

As always, your continued support of the STP Nuclear Operating Company Emergency Preparedness program and partnership is greatly appreciated.

Sincerely,

A handwritten signature in black ink that reads "Joseph D. Enoch".
Joseph D. Enoch
Manager, Emergency Response

ACKNOWLEDGED AND AGREED

I Robert Free (name), Emergency Preparedness Manager (title)
of DSHS Radiation Control (organization/agency), acknowledge that I concur with the STP
Nuclear Operating Company's plan to revise their Emergency Plan.

Robert Free
Signature

January 23, 2020
Date



South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

January 8, 2020

Nate McDonald
Matagorda County Judge
1700 7th Street
Bay City, TX 77414

Ref: Concurrence with STP Nuclear Operating Company Emergency Plan Change Proposal

Honorable Judge McDonald,

In an effort to enhance emergency preparedness, the STP Nuclear Operating Company is revising our Emergency Plan. This letter is seeking your office's written concurrence regarding the revision to the STP Nuclear Operating Company Emergency Plan.

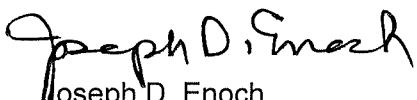
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An implementation date will be scheduled after approval of the proposed revision to the STP Nuclear Operating Company Emergency Plan is received from the NRC (2020). By signing this concurrence letter, you are stating you concur with STP Nuclear Operating Company's plan to revise the Emergency Plan which may result in needed changes to the county's REP documents.

If you have any questions regarding the proposed revision please feel free to contact Joseph Enoch, Manager, Emergency Response at 361-972-8767 or Vivian Wagon, Emergency Preparedness Specialist, at 979-476-0109.

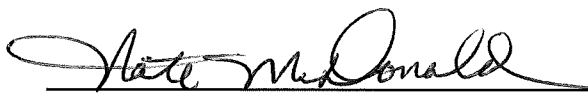
As always, your continued support of the STP Nuclear Operating Company Emergency Preparedness program and partnership is greatly appreciated.

Sincerely,


Joseph D. Enoch
Manager, Emergency Response

ACKNOWLEDGED AND AGREED

I Nate McDonald (name), County Judge (title)
of Matagorda County (organization/agency), acknowledge that I concur with the STP
Nuclear Operating Company's plan to revise their Emergency Plan.



Signature

1-15-20

Date