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

February 12, 2018
NOC-AE-18003541
10 CFR 50.90
10 CFR 50.54(q)
File No. G25

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, STN 50-499
Response to Request for Additional Information for the
License Amendment Request for Revision to Staffing and Staff Augmentation Times in the
South Texas Project Electric Generating Station Emergency Plan
(TAC Nos CAC MG0024, MG0025)

References:

1. Letter from A. Capristo to the NRC Document Control Desk, "License Amendment Request for Revision to Staffing and Staff Augmentation Times in the South Texas Project Electric Generating Station Emergency Plan", NOC-AE-16003406; dated July 31, 2017. (ML17212A842)

2. Email from L. Regner to L. Sterling, "STP Staffing RAI Final", dated January 3, 2018 (CAC MG0024, MG0025; EPID L-2017-LLA-0265) (ML18003B422)

By Reference 1, STP Nuclear Operating Company (STPNOC) submitted a License Amendment Request (LAR). In Reference 2, the NRC requested additional information for the review of the LAR. The purpose of this letter is to provide a response to the request for additional information.

There are no commitments in this letter.

If there are any questions regarding this submittal, please contact Kathleen Van Daalen at (361) 972-8030.

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

Executed on 2/12/18
Date

Aldo Capristo
Executive Vice President,
Chief Administrative Officer

Enclosure: Response to Request for Additional Information Related to License Amendment Request for Emergency Plan Change

STI: 34589323

cc:
(paper copy)

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

Lisa M. Regner
Senior Project Manager
U.S. Nuclear Regulatory Commission
One White Flint North (O8H04)
11555 Rockville Pike
Rockville, MD 20852

NRC Resident Inspector
U. S. Nuclear Regulatory Commission
P. O. Box 289, Mail Code: MN116
Wadsworth, TX 77483

(electronic copy)

Morgan, Lewis & Bockius LLP
Paul Bessette

U.S. Nuclear Regulatory Commission
Lisa M. Regner

NRG South Texas LP
Jim von Suskil
Skip Zahn
Kevin Malcarney

CPS Energy
Kevin Pollo
Cris Eugster
L. D. Blaylock

City of Austin
Elaina Ball
John Wester

Texas Dept. of State Health Services
Robert Free

Enclosure

Response to Request for Additional Information
Related to License Amendment Request for Emergency Plan Change

STPEGS RAI-1

The STPNOC LAR proposes to remove the Chemistry Technician from the Radiological Accident and Support of Operational Accident Assessment Major Functional Area of Table C-1, "Minimum Staffing Requirements." While the LAR does indicate that Chemistry samples are not needed to support implementation of the STPEGS Emergency Plan, the LAR does not clearly indicate whether or not the Chemistry Technician performs any functions, other than sampling, to support the Radiological Accident Assessment and Support of Operational Accident Assessment Major Functional Area.

a) Please explain what, if any, non-sampling activities are performed by the Chemistry Technician in support of the current STPEGS Emergency Plan.

b) If any additional activities are performed by the Chemistry Technician in support of the current STPEGS Emergency Plan, then provide a justification that supports the removal of the Chemistry Technician from the proposed STPEGS Emergency Plan.

STPNOC RAI-1 Response:

a) The Chemistry Technician position as listed on the current STPEGS Emergency Plan is not required to perform any non-sampling activities to support implementation of the Emergency Plan. The Chemistry Technician is listed on the current STPEGS Emergency Plan Table C-1 based on outdated Post Accident Sampling (PASS) requirements.

b) There are no additional activities performed by the Chemistry Technician in support of the current STPEGS Emergency Plan.

STPEGS RAI-2

The STPNOC LAR proposes to remove the Radwaste Operator from the Repair and Corrective Actions Major Functional Area of Table C-1. The Repair Team Activities described in Section 2.3.1 of the LAR indicates that the Radwaste Operator position is staffed per the Technical Specifications and the Technical Requirements Manual. The NRC staff could not confirm that the Radwaste Operator position was specifically required by the Technical Specifications or the Technical Requirements Manual. Additionally, the Radwaste Operator basis provided in Section 3.2.2 of the LAR states, "[t]he proposed Table C-1 does not account for the role of the Radwaste Operator for repair and corrective actions."

a) Please explain what, if any, repair and corrective actions are performed by the Radwaste Operator in support of the current STPEGS Emergency Plan.

b) If any activities are performed by the Radwaste Operator in support of the current STPEGS Emergency Plan, then provide a justification that supports the removal of the Radwaste Operator from the proposed STPEGS Emergency Plan.

STPNOC RAI-2 Response:

a) The Radwaste Operator position is not responsible for any repair or corrective actions associated with implementation of the Emergency Plan. Originally, on Table C-1 of the Emergency Plan, the Radwaste Operator was an on-shift position. The title of this position was subsequently changed and the terminology for Radwaste Operator is now outdated and no longer used. The current Operations structure is described in Technical Specifications 6.2.2. which discusses a Non-Licensed Operator (NLO) who is responsible for monitoring and manipulating system components located throughout the

Mechanical Auxiliary Building. The NLO does not perform repair or corrective actions, but is responsible to configure (e.g. isolate, de-energize) components in a system to prepare systems for maintenance personnel to perform repairs. Removing the Radwaste Operator from Table C-1 is not a reduction in the on-shift staffing and more correctly reflects an administrative change in the Operations organization.

b) There are no activities performed by the Radwaste Operator in support of the current STPEGS Emergency Plan.

STPEGS RAI-3

The STPNOC LAR proposes to remove the Plant Operations Discipline Lead position from the Table C-1, Plant Operations and Assessment of Operational Aspects Major Functional Area. However, the LAR further states that this position is still included in Figure C-3 and remains a member of the augmenting Emergency Plan staff. The NRC staff could not determine why the currently approved STPEGS Emergency Plan included this position in Table C-1 or why it was acceptable to remove this position from Table C-1.

a) Please explain what activities are performed by the Plant Operations Discipline Lead position.

b) Please explain what controls are in place to ensure that the Plant Operations Discipline Lead will be available to perform those tasks in a timely manner.

STPNOC RAI-3 Response:

a) The Plant Operations Discipline Lead position currently augments to the Operations Support Center at 75 minutes, and is responsible for coordination of Plant Operators not directed out of the Control Room. Plant Operators not assigned on-shift duties in operation of the unaffected unit report to the Operations Support Center of the affected unit at an Alert or higher Emergency Classification. The Plant Operations Discipline Lead position is responsible for coordinating these Plant Operator actions to configure (e.g. isolate, de-energize) components in systems to prepare the components for maintenance personnel to perform repairs. This position is also responsible for maintaining communications with the Control Room from the Operations Support Center (OSC).

b) The Plant Operations Discipline Lead position is not being eliminated, only being removed from Table C-1 since it does not relieve an on-shift position and does not fulfill a Major function Area on Table C-1. The Plant Operations Discipline Lead is an augmented position in the Current Table C-1 that was added to the STPEGS Emergency Plan Table C-1 in revision ICN 20-2. This change was made to clarify a change made in revision 17, in that a distinction was needed to separate a Plant Operator position from Plant Operator Discipline Lead position. There were no changes in staffing levels when the position was added in Table C-1.

The position remains in Figure C-3 of the STPEGS Emergency Plan, Operations Support Center Staffing, and is a required ERO augmented position for the Operations Support Center upon activation. The Plant Operations Discipline Lead will be available to fulfill their function in a timely manner as demonstrated satisfactorily during training and drills.

STPEGS RAI-4

The STPNOC LAR justification for the removal of the Onsite Communicator discusses that this position provides a support function to the Emergency Director. The proposed basis further states that "Security related issues are a higher priority for security related events" and that the "duties and functions of this position are controlled by the Emergency Response procedure for the Shift Manager." It is not clear to the NRC staff why the duties and functions of the Onsite Communicator would be controlled by the Emergency Response procedure for the Shift Manager and why stating that "that Security related duties are the higher priority for security related events and that this function may be reassigned to the Operations staff or other available personnel and then specifies the duties that may be reassigned with suggested reassignments the person assigned this function" adequately supports the removal of the Onsite Communicator position from the Onsite ERO.

Please provide a justification that supports the removal of the Onsite Communicator from the STPEGS Emergency Plan. This justification should include a discussion of what functions were performed by the Onsite Communicator and why this position is no longer required.

STPNOC RAI-4 Response:

The Onsite Communicator was added to the Emergency Plan in Figure C-2, On-shift Emergency Response Organization as an administrative position for assistance to the Shift Manager (formerly called the Shift Supervisor) during General Revision 12, dated August 30, 1991. Therefore, these duties are described in procedure, 0ERP01-ZV-SH01, Shift Manager. The addition of this position in 1991 was part of an overly conservative operating philosophy and was not made to compensate for preparedness, response constraints or vulnerabilities specific to the on-shift staffing responsibilities. For conditions that could be security related, it is a higher priority for the on-shift security staff to respond per the Security Plan, and their response to the Control Room could be delayed until the security implications of an event are understood. The Shift Manager procedure has alternative provisions for reassigning these administrative tasks. Drill performance has shown that there is not a need to specifically retain an individual to fill this position and the function can be absorbed by the existing on-shift organization.

The Onsite Communicator administrative duties include:

- Initiating the Emergency Action Log,
- Making public address announcements,
- Briefing the Duty Operations Manager,
- Briefing the Duty Plant Manager, and
- Briefing the Duty NRC Resident Inspector

STPEGS consists of two independent units, each having a Shift Manager. Current procedure guidance directs the above notifications may be delegated to the unaffected Unit Shift Manager/Control Room in the event that the Onsite Communicator does not immediately report to the affected unit's Control Room. Initiation of the Emergency Action Log and performance of the public address announcements can be performed by the Emergency Director/Control Room staff without adverse effects. These responsibilities are administrative in nature and are not regulatory required. Delegation of these actions to the unaffected unit will not add an additional burden that prevents implementation of Emergency Plan activities or operation of the unaffected unit.

The Onsite Communicator's responsibilities are performed during initial declaration of an emergency and require minimal effort. Keeping these responsibilities or assigning them to the

opposite Unit Shift Manager/Control Room will have minimal impact on his/her response to an event. Removal of the Onsite Communicator position does not reduce the effectiveness of the emergency plan or its implementing procedures. The availability of qualified personnel to perform the activity is maintained without incurring additional responsibilities. Removal of the Onsite Communicator position:

- Does not reduce the capability to perform an emergency planning function,
- Continues to comply with10 CFR Part 50.47, Emergency Plans, Section (b) standards,
- Continues to comply with Appendix E to 10CFR Part 50—Emergency Planning and Preparedness for Production and Utilization Facilities requirements, and
- Continues to meet the elements in NUREG-0654/FEMA-REP-1, Rev. 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in support of Nuclear Power Plants.

STPEGS RAI-5

The proposed Table C-1 provides that there is an on-shift Operations Support Center (OSC) Coordinator. However, Table C-1 provides that the 90-minute OSC Coordinator can be filled by on-shift personnel assigned other functions.

Please explain why the 90-minute OSC Coordinator augmentation position could be filled by on-shift personnel when a key aspect of augmentation is to relieve on-shift personnel of ERO responsibilities.

STPNOC RAI-5 Response:

As a clarification and correction, the footnote "3" for the augmented OSC Coordinator that states, this position "may be filled by on-shift personnel assigned other functions," is being removed from proposed Table C-1 because it is not applicable to that position. See Attachments 1 and 2 to the Enclosure for updated marked up and clean copies of proposed Table C-1.

STPEGS RAI-6

The proposed Table C-1, "Minimum Staffing Requirements (STPEGS)," note that is applicable to the Capability for Additional Staffing states, "[a]lthough such a short response time may be achieved in many cases, it is not possible to assure this response time in every instance." This statement appears to indicate that the 60-minute and 90-minute response times provided by Table C-1 should be viewed as optional rather than a planning goal consistent with existing NRC guidance.

Please remove this condition or provide a justification as to why 60-minute and 90-minute response times should not be considered as a planning goal consistent with NRC guidance.

STPNOC RAI-6 Response:

This statement is being removed from Table C-1. This statement was carried over from the current Emergency Plan and was part of the original Revision 0 of the STPEGS Emergency Plan. The response times, as stated in the Emergency Plan, are considered as planning goals consistent with NRC guidance. STPEGS demonstrates the capability to augment the on-shift ERO through current Emergency Plan implementing procedures and the drill and exercise program. See Attachments 1 and 2 to the Enclosure for updated marked up and clean copies of proposed Table C-1.

STPEGS RAI-7

The proposed STPEGS Emergency Plan provides that dose assessment will be performed by a qualified on-shift individual, who may be the Acting Radiological Manager. The NRC staff could not determine who would perform this function or what conditions would preclude the Acting Radiological Manager from performing dose assessment.

Please explain what conditions, if any, would preclude the Acting Radiological Manager from being able to provide dose assessment. For these conditions, please explain who will provide dose assessment, and explain why this position was not included on Table C-1.

STPNOC RAI-7 Response:

There are no anticipated conditions that would preclude the Acting Radiological Manager from being able to perform dose assessment and, therefore, no other position is required in Table C-1 to fulfill this function.

There is no change to the current on-shift Radiation Protection Emergency Plan organization responsibilities and structure. In the current Emergency Plan, upon declaration of an emergency, the on-shift Lead RP Technician assumes the role of the Acting Radiological Manager. Performance of this function is demonstrated satisfactorily during training and drills. The Acting Radiological Manager duties and responsibilities are described in procedure 0ERP01-ZV-SH02, Acting Radiological Manager, and include the following:

- Assessing Station radiological and environmental conditions,
- Responding to radiological problems,
- Identifying special radiological protective measures,
- Determining special Radiation Work Permit (RWP) requirements,
- Verifying emergency classification if based on radiological Emergency Action Levels,
- Reviewing and recommending emergency exposures to emergency response personnel in excess of Code of Federal Regulations, Title 10 Part 20 limits,
- Ensuring adequate inventories of radiological supplies, equipment, and Radiation Protection personnel are available, and
- Providing prompt dose assessment.

As stated in the LAR, the original STPEGS dose assessment program was the DOS based program STAMPEDE (South Texas Assessment Model Projecting Estimated Dose Evaluation). The current version of STAMPEDE is Windows based and incorporates human factors to reduce data input errors. Specifically designed displays have been developed for obtaining the necessary plant, radiological effluent, area radiation monitor, and meteorological information that is used by personnel to perform dose assessments. The STAMPEDE program has simplified data entry requirements and dose assessments can be performed with minimal data input. Thus, enhancements in STAMPEDE have reduced the time required to perform dose assessments.

In the proposed change to the Emergency Plan, the Lead RP Technician will continue to assume the role of Acting Radiological Manager, which fulfills the Functional Area responsibilities of Supervision of Radiation Protection. The Acting Radiation Manager will also continue to be responsible for dose assessment.

Note 1 on proposed Table C-1 is being modified to read, "The Dose Assessor is filled by the Acting Radiological Manager". See Attachments 1 and 2 to the Enclosure for updated marked up and clean copies of proposed Table C-1. In addition, Note 6 for the Dose Assessor on proposed Figure C-1 is being modified to read, "Qualified individual filled by Acting Radiological

Manager." See Attachments 3 and 4 to the Enclosure for updated marked up and clean copies of proposed Figure C-1.

STPEGS RAI-8

The proposed STPEGS Emergency Plan Field Monitoring Team discussion section provides an "on-shift qualified individual" to provide onsite field monitoring and one additional Radiation Protection Technician to provide onsite field monitoring within 90 minutes of declaration of an Alert or higher emergency classification. The table on the bottom of page 9 of 30 for Field Monitoring Teams provides a note indicating the onsite field monitoring team (FMT) consists of one Radiation Protection Technician. This note is only applicable to the 90-minute Onsite FMT responder. There is no corresponding note for the onsite 90-minute FMT responder on the proposed Table C-1.

Additionally, the proposed STPEGS Emergency Plan Field Monitoring Team discussion provides for two Radiation Protection Technicians and two drivers to augment to the emergency offsite facility within 90 minutes. The Proposed STPNOC Emergency Plan Staffing table for Field Monitoring Teams provides a note indicating the offsite FMT consists of one qualified individual and one driver. A similar note is provided on the proposed Table C-1.

Based on the above, the NRC staff could not determine whether any or all of the field monitoring teams consisted of radiation protection technicians. Specifically, the NRC staff could not determine if the term "qualified" was intended to mean qualified as a radiation protection technician or referred to some other type of qualification.

a) Please explain which field monitoring positions, other than drivers, are staffed by radiation protection technicians.

b) If any field monitoring positions, other than drivers, are staffed by individuals who are not trained and qualified as radiation protection technicians, please provide a description of their training that supports the performance of field monitoring. Considering that the field monitoring teams may be sent into potentially changing or unknown radiological conditions, please explain how the radiation safety of the field monitoring teams will be assured.

c) If the Acting Radiological Manager will be tasked with assuring the radiation safety of field monitoring teams, please explain how the Acting Radiological Manager will perform this function while potentially being tasked with the performance of dose assessment.

d) If the individual assigned to perform on-shift onsite field monitoring is not an additional on-shift radiation protection technician, please provide justification that is assigned this function does not have concurrent ERO or operational responsibilities that could conflict with the performance of onsite field monitoring.

STPNOC RAI-8 Response:

The note from the text of the LAR on the table at the bottom of page 9 of 30 for onsite FMTs will be added (as modified) to proposed Table C-1. The note was added for clarification in the text of the LAR and should also have been included on Table C-1. The exact wording for the footnote for onsite FMTs being added to proposed Table C-1 states: The onsite FMT consists of one on-shift individual qualified to perform field monitoring activities assigned no other ERO duties. No driver is needed. See Attachments 1 and 2 to the Enclosure for updated marked up and clean copies of proposed Table C-1.

a) Both the Onsite FMT and Offsite FMTs in the proposed Emergency Plan may be staffed with individuals that are not Radiation Protection Technicians.

The on-shift, Onsite FMT may be filled by a qualified on-shift individual who is not a Radiation Protection Technician. In order to satisfy a beyond-design-basis staffing NRC commitment, STPEGS currently uses an on-shift Chemistry Technician trained to the current site standards described below to perform onsite monitoring for Beyond Design Bases External Event (BDBEE). This qualified individual can be used to fill the Onsite FMT position in the proposed Table C-1.

The Offsite FMT consists of two teams, each with one trained individual for Offsite FMT activities. Of the six trained individuals to fill these positions on the Emergency Plan roster, two are not RP Technicians.

b) The Onsite FMT is staffed by an individual that has been trained and certified to perform field surveys including the following specific tasks:

- Operate portable friskers
- Operate portable ion chambers
- Operate the Extended Probe High Range Meter
- Operate the Ludlum 12-4
- Operate the micro-r meter
- Operate portable air samplers
- Perform minor repairs on portable radiation monitoring equipment
- Perform radiation and high radiation surveys
- Perform contamination and high contamination surveys
- Perform airborne radioactivity surveys
- Prepare samples for analysis

Upon declaration of an emergency, the Onsite FMT reports to the Acting Radiological Manager who coordinates their activities, performs their pre-job briefings, ensures their radiological safety, and tracks their exposure and determines turn back dose rates and turn back values. The detailed Emergency Team briefing covers the anticipated radiological conditions, the communication plan, required protective clothing and respiratory protection, as well as turn back dose and dose rates. The onsite FMTs have Radiation Protection Supervisory oversight and controls to ensure radiological safety is maintained. The Acting Radiological Manager is responsible for monitoring personnel exposure for potential changing of unknown radiological conditions.

Offsite FMTs are an augmented ERO position and are trained and certified in accordance with site programs. The ERO training program for this position contains a specific qualification related to the functions they are required to perform including the use of the following equipment:

- Frisker with pancake probe
- Ion chamber dose rate instrument with a range of 0 – 5 Rem/hr
- Battery powered air samplers
- Air sample heads, particulate filters, silver-zeolite cartridges, and smears
- Lapel air sampler

Offsite Field Teams report to the Offsite Field Team Supervisor, in the Emergency Operations Facility, who coordinates their activities, performs their pre-job briefings, ensures their radiological safety, tracks their exposure and determines turn back dose rates and turn back values.

c) The Acting Radiological Manager is in continuous communication with the Onsite FMT and is directing their steps as stated in answer to RAI-8b. Prompt dose assessment is performed using the STAMPEDE program. It is performed on an as-needed basis and is not a continuous function. The STAMPEDE program has simplified data entry requirements and dose assessments can be performed with minimal data input. These inputs may include Onsite FMT data. Enhancements in dose assessment software have reduced the time required to perform dose assessments and the enhancements facilitate the Acting Radiological Manager in performing their duties to ensure the safety of the Onsite FMT.

d) As described in response to RAI-8 a) above, an individual is trained and qualified to perform onsite monitoring for a beyond-design-basis staffing NRC commitment. This on-shift qualified individual can be used in the proposed Table C-1 to fill the onsite FMT position, and has no concurrent ERO or Operational responsibilities that could conflict with the performance of onsite field monitoring.

STPEGS RAI-9

The South Texas Assessment Model Projecting Estimated Dose Evaluation (STAMPEDE) program is provided as a basis for both the current and proposed on-shift staffing and augmentation response times. The NRC staff could not determine if this system included robust power sources and could be relied upon to provide dose assessment to the Control Room, TSC, EOF, and the Back-up EOF. Please provide justification that the STAMPEDE program can reliably be used from the Control Room, TSC, EOF, and Back-up EOF, as needed to support dose assessment.

STPNOC RAI-9 Response:

The Control Room, Technical Support Center, and Emergency Operations Facility all have back-up power provided by generators. Additionally, the STPEGS STAMPEDE dose assessment program can be locally downloaded and run from any operating computer by using a jump drive, which are stored in each Emergency Facility.

STPEGS RAI-10

The STPNOC LAR proposes the following as a basis for extending the time for Off-site Field Monitoring from 60 minutes to 90 minutes:

> During the initial stages of an event, the major response activities are concentrated on placing the plant in a safe condition. In-plant radiological monitoring instrumentation provides a means to determine radiological conditions during an emergency. If radiation levels are either elevated or unknown in an area that requires entry during the initial stages of an event, the on-shift Radiation Protection Technicians are available to perform onsite surveys.
>
> During the initial phases of an event, it is not expected to involve a significant need for offsite field monitoring, therefore it is acceptable to augment the offsite Field Monitoring Teams to the EOF within 90 minutes of declaration an Alert of higher emergency classification.

Although the above discussion, and the on-shift staffing proposed by the LAR, appears to support the STPEGS capability to perform onsite and in-plant surveys, neither the proposed staffing nor the above statements support a 90 minute augmentation time for the Field Monitoring Team. Additionally, Section 3.2.8 provides that the Containment Hi Range Rad Monitors, Main Steam Line Monitors, Fuel Handling Building, and Unit Vent Radiation Monitors

could be used to quantify a radioactive releases. The NRC staff could not determine how these monitors could be relied upon to provide an accurate dose assessment for all potential releases of radioactivity. Key concerns were releases of radioactivity that did not pass one of the listed detectors, as well as the potential lack of release quantity (for example, although the Containment Hi Range Rad Monitors can provide an indication of dose rates in the containment, they cannot be used to determine a containment release rate of that radioactivity).

Please explain how STPNOC can effectively track any potential plume and/or cover the necessary area to identify whether a plume exists during the early stages of an event. This explanation should specifically address why it is acceptable to delay this assessment, which could directly support a protective action recommendation, for an additional 30 minutes.

STPNOC RAI-10 Response:

STPEGS has a sparsely populated Emergency Planning Zone. The closest permanent resident to the site is located outside the two mile perimeter of both containment buildings. For an unmonitored release, onsite FMT can determine dose rates at the Site Boundary and enter this data into STAMPEDE to determine doses at 2, 5, and 10 miles downwind. In addition, STAMPEDE has the capability to determine containment release rates using data from the Containment Hi Range Radiation Monitors and flow rate based on decreasing pressure inside containment to provide prompt dose assessment. During the initial stages of an accident, prompt dose assessment will provide effective Protective Action Recommendations to ensure the health and safety of the public prior to augmentation of Offsite FMTs. The Offsite FMT functions will be used to validate these projections with field data.

STPEGS RAI-11

STPNOC provides that improvements in training, adoption of symptom-based emergency operating procedures (EOPs), and significant improvements in the ability to use computer parameters to efficiently monitor core conditions, have enhanced the Shift Technical Advisor's (STA's) capabilities. STPNOC provides that based on these enhancements to the STA's abilities, the time needed to stabilize the plant and to perform minor maintenance and troubleshooting obviates the need for engineering support for 90 minutes.

The proposed STPNOC Emergency Plan includes emergency classification as an additional ERO function for the STA. The current STPEGS Emergency Plan provides that the Emergency Director is responsible to "Declare entry into the Severe Accident Management Guidelines." A Severe Accident is defined as, "A nuclear accident involving a loss of core cooling and damage so severe that there are core geometry changes and possible relocation of core materials (e.g., a core melt). In accordance with the Severe Accident Management Guidelines, a severe accident has occurred when core exit thermocouple temperatures are greater than 1200 F and actions to cool the core have been, and continue to be, unsuccessful. The plant is outside of the Design Bases for the station."

Please explain how symptom-based EOPs, an improved computer system, the need to stabilize the plant, and the support that would be needed to perform troubleshooting and minor maintenance justifies delaying engineering augmentation for situations that may be outside the Design Bases for the station (which would also be outside the stations EOPs) for an additional 30 minutes following event declaration.

STPNOC RAI-11 Response:

The STPEGS Emergency Plan credits the on-shift STA to bridge the time from event initiation to Technical Support Center (TSC) activation for monitoring critical safety functions, providing technical assistance, assessing indications of core damage, including any recommendation for mitigating core damage if necessary.

STPEGS robust design with three trains of safety equipment in conjunction with the Emergency Operating Procedures (EOPs) facilitates a delay in any possible entry into an outside design bases event or a potential Severe Accident Management Guidelines (SAMGs) declaration. Also, on-shift ERO Maintenance personnel are available to perform troubleshooting and minor maintenance repairs during initial phases of an event.

The EOP network provides the required guidance to prevent a loss of core cooling event. The EOPs also provide the transition requirement to the SAMGs if needed. The initial SAMG for the Control Room staff provides initial guidance until the TSC is activated. The STA monitors the plant during emergency events to determine correct plant response and potential core damage. The STA also ensures the EOP progression and transitions are correct by monitoring diverse indication during any transient.

The STA's ability to perform required actions on-shift have been enhanced by integrating the STA with the on-shift crew, utilizing symptom-based EOPs, utilizing the loose parts monitoring system, radiation monitoring equipment, and ICS and QDPS computer parameters to efficiently monitor core conditions. These tasks are evaluated annually in the plant simulator to ensure STA proficiency is maintained.

The required educational qualifications for individuals filling the STA function include one of the following:

- Bachelor degree in Engineering Technology from an accredited institution, including course work in the physical, mathematical, or engineering sciences,
- Bachelor degree in Physical Science from an accredited institution, including course work in the physical, mathematical, or engineering sciences, or
- Professional Engineer (PE) License by completion of the PE examination.

In addition, STAs must meet one of the following training requirements:

- Successfully completed the STPEGS Initial License Training SRO Program, or
- Hold a current STPEGS NRC SRO License and be current in the Operations Training Requalification program, which trains on emergency classification.

STAs receive detailed training in the following areas:

- Introduction to Critical Safety Functions
- Reactivity Control
- Radioactivity Containment
- Core Heat Removal
- Ultimate Heat Sink
- Critical Safety Function Case Studies
- Tracking and Trending of Critical Plant Parameters
- Post-accident Failed Fuel Determination

Subsequently, qualified STA personnel receive continuing training including:

- Reactor Physics
- Core Characteristics over Core Life
- Reactivity Control during Normal and Emergency Operating Conditions

Senior Reactor Operators (SROs) performing the STA function on-shift are responsible for maintaining a broad perspective of operating activities and operating conditions during accident conditions and for providing assessment and advice to the Shift Manager responsible for plant operation.

STPEGS Emergency Operating Procedures (EOPs) have been improved based upon internal operating experience and industry initiatives. EOPs use a symptom-based approach that demands less assessment and interpretation of plant conditions by the operating crews. The EOPs interface well with new technology, such as the integrated computer system (ICS) and the Qualified Data Processing System (QDPS) and their associated displays in the Control Room.

In summary, plant data accessibility, combined with additional trending and core monitoring capability, and the use of symptom-based procedures have significantly reduced on-shift burden for performance of emergency assessment functions. This allows the STA performing these functions to maintain this responsibility for 90 minutes without adversely impacting response to an event.

STPEGS RAI-12

The NRC staff could not determine if appropriate on-shift supervisory resources were provided to determine if, "Augmented Repair Team" were needed to be called out and to support the performance of minor maintenance and troubleshooting during the early phase of a radiological event.

Please explain what experience and qualifications are required to provide the Duty Maintenance Supervisor function.

STPNOC RAI-12 Response:

The Duty Maintenance Supervisor function is filled by an individual that is a qualified Multi-Discipline Maintenance Supervisor who is on-shift at all times. They are qualified to have direct oversight over Electrical, Mechanical and I&C Technicians. The qualifications include the following:

- Duty Maintenance Supervisor/Acting OSC Coordinator Training
- ERO Maintenance Crew Training
- Maintenance and Technical Fundamentals Training
- Maintenance Supervisor Qualification (including Electrical, I&C, and Mechanical Maintenance)
- Multi-Discipline Maintenance Supervisor Qualification
- Basic FELX Training

The Duty Maintenance Supervisor also receives Leadership Development Training which provides first line supervisors with the knowledge and skills necessary to perform supervisory duties in a manner that promotes safe and reliable plant operations and response.

This position is not a Licensed Operator and is in addition to the 10 CFR 50.54(m) minimum onsite unit staffing requirements for nuclear power plants.

STPEGS RAI-13

Section 3.2.12 of the LAR provides a basis for the proposed changes to the Functional Area of Repair Team Activities. This section provides that on-shift Maintenance staffing includes two

electricians, one mechanic, and one I&C Technician. This is consistent with the wording provided by Section C.1.10.2 of the proposed Emergency Plan, which states, "[t]he on-shift Maintenance staff consists of one mechanic, two electricians, and one I&C technician for repair team activities." Although the previous discussion in the LAR clearly indicates that the on-shift maintenance staff consists of one mechanic, two electricians, and one I&C technician, Table C-1 indicates that the on-shift positions of one electrician and one mechanic "[m]ay be performed by on-shift personnel assigned other functions." This could imply that other on-shift personnel, such as chemistry technicians, security personnel, or plant operators, could be assigned to perform mechanical or electrical tasks. If this was the case at STPEGS, there would be no mechanics on-shift and no mechanics responding within 90 minutes. Additionally, this wording could allow a single operator to be assigned the function of the mechanic and an electrician in addition to their regular operational duties.

Please remove Note 3 from the proposed Table C-1, or explain how this note prevents other personnel, such as a plant operator, to be assigned additional duties for which they may not be qualified, such as that of an electrician or a mechanic, in addition to their regular operational duties.

STPNOC RAI-13 Response:

The Footnote 3 on Table C-1 for Repair Team Activities is being revised to state that these positions "may be filled by on-shift qualified maintenance craft personnel," to ensure that only qualified maintenance craft personnel will be used to fill these positions, and prevents other personnel, such as a plant operator, from being assigned additional duties for which they may not be qualified. Repair Team members have no other additional Emergency Plan duties. See Attachments 1 and 2 to the Enclosure for updated marked up and clean copies of proposed Table C-1. Note that this is footnote 5 on the revised proposed Table C-1.

STPEGS RAI-14

The proposed Repair Activity Position of "Operations Staff per Technical Specifications" implies that the STPEGS Technical Specifications includes Operations Staff who will perform Repair Team Activities. The NRC staff could not locate a Technical Specification for Operations Staff to perform Repair Team Activities. Additionally, Operations Staff are not typically qualified to perform the tasks of an electrician, mechanic, and I&C technician.

Please explain what Repair Team Activities functions are being performed by the Operations Staff per Technical Specifications Position provided by Table C-1.

STPNOC RAI-14 Response:

On-shift Plant Operators do not perform repair team activities. They are not responsible for any repair or corrective actions associated with implementation of the Emergency Plan. Operations staff are responsible for configuring (e.g. isolating/de-energizing) components in a system to prepare the components for on-shift maintenance personnel to perform emergency repairs. (Also, see response to RAI-2).

Since Operations staff do not perform repair team activities and Technical Specifications 6.2.2 states the requirements for unit staffing, the statement under Repair Team Activities that the Operations staff is per the Technical Specifications is being removed from Table C-1. See Attachments 1 and 2 to the Enclosure for updated marked up and clean copies of proposed Table C-1.

Attachment 1

Proposed Emergency Plan Table C-1
(Marked up Pages with New Changes)

TABLE C-1

Page 1 of 3

MINIMUM STAFFING REQUIREMENTS (STPEGS)
(Including Capability for Additional Staffing)

MAJOR FUNCTIONAL AREA	POSITION	ONSITE ON-SHIFT*	AVAILABLE 60 MINUTES#	AVAILABLE 90 MINUTES#
Command and Control**	Shift Manager	2		
	TSC Manager			1
	EOF Director			1
Communications	On-shift Communicator	2		
	TSC Communicator			1
	EOF Communicator			1
Supervision of Radiation Protection	Acting Radiological Manager	1		
	TSC Radiological Manager			1
	EOF Radiological Director			1
Dose Assessments /Projections	Dose Assessor	1[1]		2
Radiation Protection	Health Physics Personnel	2	3	3
Field Monitoring Teams	Onsite Radiation Monitor	1[2]		1
	Offsite Radiation Monitor			4[2 3]

TABLE C-1
Page 2 of 3

MINIMUM STAFFING REQUIREMENTS (STPEGS)
(Including Capability for Additional Staffing)

MAJOR FUNCTIONAL AREA	POSITION	ONSITE ON-SHIFT*	AVAILABLE 60 MINUTES #	AVAILABLE 90 MINUTES#
Emergency Classifications	Emergency Classification Advisor	1[34]		
Engineering	Shift Technical Advisor	1[34]		
	Electrical / I&C			1
	Mechanical			1
	Nuclear			1
Security	Security Supervisor	(Staffing is per site Security Plan)		1
Repair Team Activities	~~Operations Staff per Technical Specifications~~			
	Electrician	1 and 1[35]		##
	Mechanic	1[3-5]		##
	I&C Technician	1		##

TABLE C-1

Page 3 of 3

MINIMUM STAFFING REQUIREMENTS (STPEGS)
(Including Capability for Additional Staffing)

MAJOR FUNCTIONAL AREA	POSITION	ONSITE ON-SHIFT*	AVAILABLE 60 MINUTES#	AVAILABLE 90 MINUTES#
Supervision of Repair Team Activities	OSC Coordinator	1		1[3]
	Electrical Supervisor			1
	Mechanical Supervisor			1
	I&C Supervisor			1
	Radiological Coordinator			1
Media Information	Staff Required for Joint Information Center to function			Staff for Activation
Information Technology	TSC IT Technician			1
	EOF/JIC IT Technician			1

1. The Dose Assessor, ~~may be~~ is filled by the Acting Radiological Manager.
2. The onsite FMT consists of one on-shift individual qualified to perform field monitoring activities assigned no other ERO duties. No driver is needed.
~~2.~~ 3. The offsite FMT consists of one qualified individual to perform offsite field monitoring and one driver. There are 2 teams of 2.
~~3.~~ 4. May be filled by on-shift individuals assigned other functions.
5. May be filled by on-shift qualified maintenance craft personnel.

* For each unaffected unit in operation, maintain at least one Unit Supervisor, two Reactor Operators, and two Plant Operators. In accordance with Section 6.0 of the Technical Specifications for each unit, the shift crew composition may be less than the minimum number of operators (licensed or non-licensed) shown above for a period of time not to exceed two ~~(2)~~ hours in order to accommodate unexpected absences of on-duty shift crew members, provided immediate actions are taken to restore the crew composition. The minimum staff for a unit in cold shutdown will be one Senior Reactor Operator, one Reactor Operator, and one Plant Operator for that unit.

For the remaining on-shift positions, the shift composition may be less than the minimum number shown on Table C-1 for a period of time not to exceed two hours in order to accommodate unexpected absences of personnel, provided immediate actions are taken to restore the staffing requirements.

** Overall direction of emergency response to be assumed by the Emergency Director at the Emergency Operations Facility when all centers are fully manned. Direction of minute-to-minute facility operation remains with senior manager in the Technical Support Center or Control Room.

~~Although such a short response time may be achieved in many cases, it is not possible to assure this response time in every instance~~.

Augmented Repair Teams may be called out on an as-needed basis.

Attachment 2

Proposed Emergency Plan Table C-1
(Clean Pages with New Changes)

TABLE C-1

Page 1 of 3

MINIMUM STAFFING REQUIREMENTS (STPEGS)

(Including Capability for Additional Staffing)

MAJOR FUNCTIONAL AREA	POSITION	ONSITE ON-SHIFT*	AVAILABLE 60 MINUTES	AVAILABLE 90 MINUTES
Command and Control**	Shift Manager	2		
	TSC Manager			1
	EOF Director			1
Communications	On-shift Communicator	2		
	TSC Communicator			1
	EOF Communicator			1
Supervision of Radiation Protection	Acting Radiological Manager	1		
	TSC Radiological Manager			1
	EOF Radiological Director			1
Dose Assessments /Projections	Dose Assessor	1[1]		2
Radiation Protection	Health Physics Personnel	2	3	3
Field Monitoring Teams	Onsite Radiation Monitor	1[2]		1
	Offsite Radiation Monitor			4[3]

TABLE C-1
Page 2 of 3

MINIMUM STAFFING REQUIREMENTS (STPEGS)
(Including Capability for Additional Staffing)

MAJOR FUNCTIONAL AREA	POSITION	ONSITE ON-SHIFT*	AVAILABLE 60 MINUTES	AVAILABLE 90 MINUTES
Emergency Classifications	Emergency Classification Advisor	1[4]		
Engineering	Shift Technical Advisor	1[4]		
	Electrical / I&C			1
	Mechanical			1
	Nuclear			1
Security	Security Supervisor	(Staffing is per site Security Plan)		1
Repair Team Activities	Electrician	2[5]		##
	Mechanic	1[5]		##
	I&C Technician	1		##

TABLE C-1

Page 3 of 3

MINIMUM STAFFING REQUIREMENTS (STPEGS)

(Including Capability for Additional Staffing)

MAJOR FUNCTIONAL AREA	POSITION	ONSITE ON-SHIFT*	AVAILABLE 60 MINUTES	AVAILABLE 90 MINUTES
Supervision of Repair Team Activities	OSC Coordinator	1		1
	Electrical Supervisor			1
	Mechanical Supervisor			1
	I&C Supervisor			1
	Radiological Coordinator			1
Media Information	Staff Required for Joint Information Center to function			Staff for Activation
Information Technology	TSC IT Technician			1
	EOF/JIC IT Technician			1

1. The Dose Assessor is filled by the Acting Radiological Manager.
2. The onsite FMT consists of one on-shift individual qualified to perform field monitoring activities assigned no other ERO duties. No driver is needed.
3. The offsite FMT consists of one qualified individual to perform offsite field monitoring and one driver. There are 2 teams of 2.
4. May be filled by on-shift personnel assigned other functions.
5. May be filled by on-shift qualified maintenance craft personnel.

* For each unaffected unit in operation, maintain at least one Unit Supervisor, two Reactor Operators, and two Plant Operators. In accordance with Section 6.0 of the Technical Specifications for each unit, the shift crew composition may be less than the minimum number of operators (licensed or non-licensed) shown above for a period of time not to exceed two hours in order to accommodate unexpected absences of on-duty shift crew members, provided immediate actions are taken to restore the crew composition. The minimum staff for a unit in cold shutdown will be one Senior Reactor Operator, one Reactor Operator, and one Plant Operator for that unit.

For the remaining on-shift positions, the shift composition may be less than the minimum number shown on Table C-1 for a period of time not to exceed two hours in order to accommodate unexpected absences of personnel, provided immediate actions are taken to restore the staffing requirements.

** Overall direction of emergency response to be assumed by the Emergency Director at the Emergency Operations Facility when all centers are fully manned. Direction of minute-to-minute facility operation remains with senior manager in the Technical Support Center or Control Room.

Augmented Repair Teams may be called out on an as-needed basis.

Attachment 3

Proposed Emergency Plan Figure C-1
(Marked up Pages with New Changes)

SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

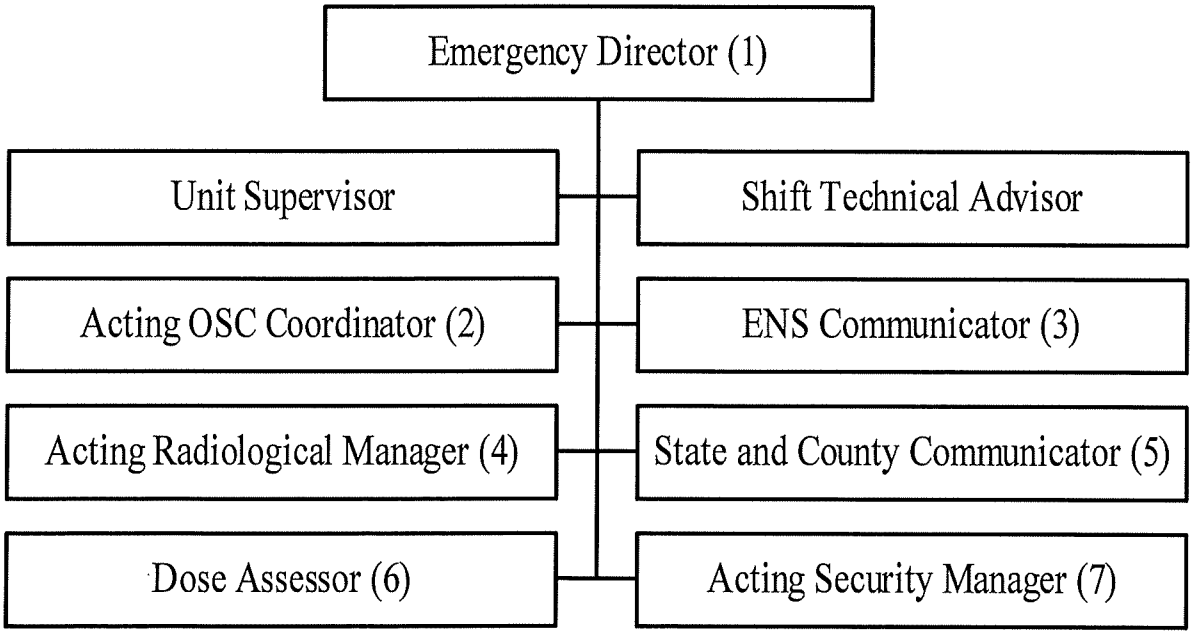
EMERGENCY PLAN

SECTION C

FIGURE C-1

Page 1 of 1

ON-SHIFT EMERGENCY RESPONSE ORGANIZATION



(1) Shift Manager (2) Duty Maintenance Supervisor (3) Reactor Operator, currently licensed by NRC (4) Lead Radiation Protection Technician (5) Plant Operator (6) Qualified Individual ~~may be~~ filled by Acting Radiological Manager (7) Security Force Supervisor

Attachment 4

Proposed Emergency Plan Figure C-1

(Clean Pages with New Changes)

SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

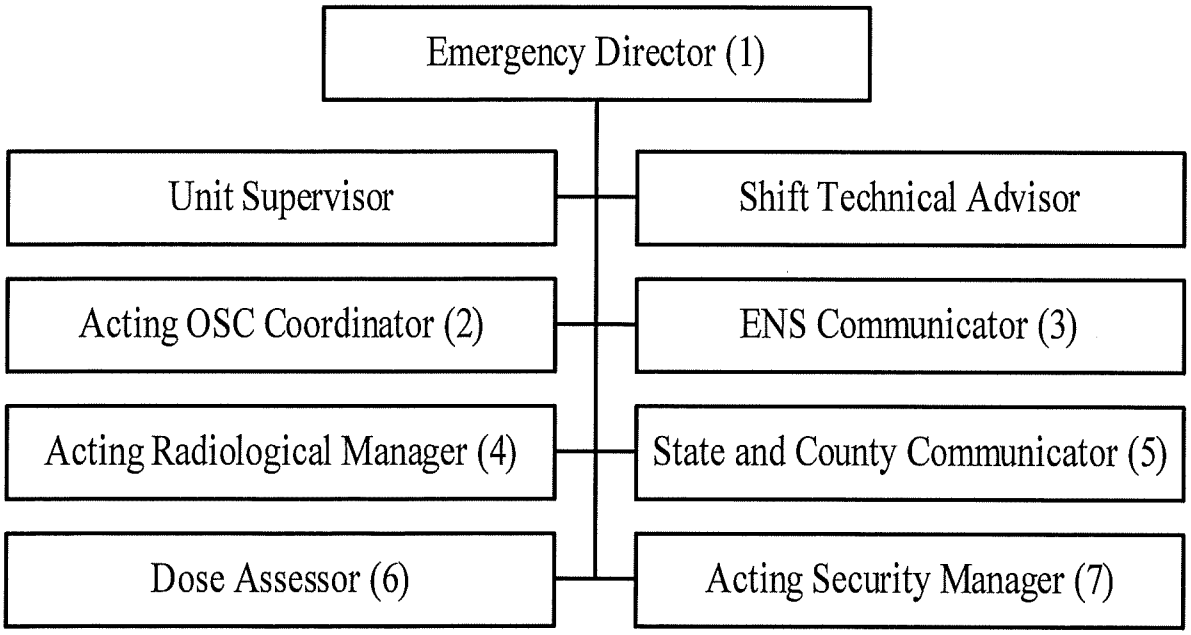
EMERGENCY PLAN

SECTION C

FIGURE C-1

Page 1 of 1

ON-SHIFT EMERGENCY RESPONSE ORGANIZATION



(1) Shift Manager (2) Duty Maintenance Supervisor (3) Reactor Operator, currently licensed by NRC (4) Lead Radiation Protection Technician (5) Plant Operator (6) Qualified Individual filled by Acting Radiological Manager (7) Security Force Supervisor