

## **NRR-DMPSPEm Resource**

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**From:** Regner, Lisa  
**Sent:** Wednesday, January 03, 2018 4:32 PM  
**To:** Lance Sterling (lsterling@stpegs.com); Drew Richards (amrichards@STPEGS.COM)  
**Cc:** Regner, Lisa  
**Subject:** STP Staffing RAI final  
**Attachments:** STP Staffing RAI final - to licensee.docx

### Final Request for Additional Information (CAC MG0024, MG0025; EPID L-2017-LLA-0265)

On December 16, 2017, the U.S. Nuclear Regulatory Commission (NRC) staff sent STP Nuclear Operating Company (STPNOC, the licensee) a draft Request for Additional Information (RAI). The RAI questions relate to a license amendment request (LAR) that proposes to increase the response time and modify staffing of the emergency response organization by changing the Emergency Plan for South Texas Project, Units 1 and 2.

On January 3, 2018, the NRC staff held a clarification call with STPNOC; following the call, the licensee stated that it understood all of the questions and would respond within 45 days of the date of this email. If STPNOC does not respond by this date, the requested completion date for the request may not be met by the NRC.

The NRC staff also informed the licensee that a publicly available version of this final RAI would be placed in the NRC's Agencywide Documents Access and Management System (ADAMS).

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By letter dated July 31, 2017, (ADAMS package Accession No. ML17212A842), the licensee requested an amendment to the Operating License to revise the staffing and staff augmentation times in the Emergency Plan for the South Texas Project, Units 1 and 2. The proposed amendment requests modifications to the Emergency Response Organization staffing and to allow certain staff 90 minutes to travel to the plant to support an emergency. The NRC staff requires additional information to complete its review of this request as detailed in the attached document.

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**From:** Regner, Lisa

**Created By:** Lisa.Regner@nrc.gov

**Recipients:**

"Regner, Lisa" <Lisa.Regner@nrc.gov>  
Tracking Status: None  
"Lance Sterling (lsterling@stpegs.com)" <lsterling@stpegs.com>  
Tracking Status: None  
"Drew Richards (amrichards@STPEGS.COM)" <amrichards@STPEGS.COM>  
Tracking Status: None

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REQUESTS FOR ADDITIONAL INFORMATION  
RELATED TO LICENSE AMENDMENT REQUEST  
EMERGENCY PLAN CHANGE  
SOUTH TEXAS PROJECT NUCLEAR OPERATING COMPANY  
SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION, UNITS 1 AND 2  
DOCKET NUMBERS 50-498 AND 50-499

By application dated July 31, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML17212A842), the South Texas Project Nuclear Operating Company (STPNOC) submitted changes to the South Texas Project Electric Generating Station (STPEGS) Emergency Plan for Commission review and prior approval pursuant to Section 50.54(q) of Title 10 of the *Code of Federal Regulations* (10 CFR). The proposed changes would revise the STPEGS Emergency Plan to change the staffing and increase the staff augmentation times for certain emergency response organization (ERO) positions.

The requests for additional information (RAIs) listed below are necessary to facilitate the technical review being conducted by the Office of Nuclear Security and Incident Response/ Division of Preparedness and Response / Reactor Licensing Branch (NSIR/DPR/RLB). A timely and thorough response to this RAI is requested in order to meet the proposed deadline requested by the licensee.

**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 support the removal of the Chemistry Technician from the propose 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 support the removal of the Radwaste Operator from the propose 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.

### **STPEGS RAI-4**

The STPNOC LAR justification for the removal of the On-site 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 On-site 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 On-site Communicator position from the On-site ERO.

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

#### **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.

#### **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.

#### **STPEGS RAI-7**

The proposed STPEGS Emergency Plan provides that dose assessment will be performed by on 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.

#### **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.

### **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.

### **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.

### **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 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 degrees 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.

### **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.

### **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.

### **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.