

Attachment I to TXX-18066
Evaluation of Proposed Change

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1.0 SUMMARY DESCRIPTION

Pursuant to 10 CFR 50.90, "Amendment of License or Construction Permit at Request of Holder," Vistra Operations Company LLC (Vistra OpCo) requests Nuclear Regulatory Commission (NRC) review and approval of a revision to the Comanche Peak Nuclear Power Plant (CPNPP) Emergency Plan for Units 1 and 2. This request proposes changes to the Emergency Plan to extend staff augmentation times and reduce the number of required Emergency Response Organization (ERO) positions.

CPNPP has reviewed the proposed changes against the planning standards in 10 CFR 50.47(b) and the requirements in 10 CFR Part 50, Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," and has concluded that the standards and requirements will continue to be met.

The increase in the ERO augmentation response times results in an increase in facility activation times for the CPNPP Emergency Response Facilities (ERFs). Therefore, the changes in staff augmentation response times are considered a reduction in Emergency Plan effectiveness as defined in 10 CFR 50.54(q)(1)(iv). In accordance with 10 CFR 50.54(q)(4), changes to a licensee's emergency plan that reduce the effectiveness of the plan may not be implemented without prior NRC approval and are submitted as license amendment requests (LAR) in accordance with 10 CFR 50.90.

2.0 DETAILED DESCRIPTION

Currently, the CPNPP Emergency Plan, Table 1.1, "Staffing Requirements for Emergencies," specifies the augmentation response times for certain ERO positions ranging from 40 to 70 minutes. This submittal requests extending these augmentation response times to 60 and 90 minutes respectively. CPNPP also requests to revise Emergency Plan Table 1.1 to reduce minimum staffing affecting the following Major Functional Areas as established by NUREG-0654/FEMA-REP-1, Revision 1, Table B-1, "Minimum Staffing Requirements for NRC Licensees for Nuclear Power Plant Emergencies."

- Plant Operations and Assessment of Operational Aspects
- Notification/Communication
- Radiological Accident Assessment and Support of Operational Accident Assessment
- Plant System Engineering, Repair and Corrective Actions

The specific standard for establishing a shift emergency organization to respond to emergency events appears in 10 CFR 50.47(b)(2) which states, in part, "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..." 10 CFR Part 50, Appendix E, Section IV.1 requires licensee emergency plans to contain, in part, the

organization for coping with radiological emergencies and the activation of the emergency organization, including individuals assigned to the licensee's ERO with a description of emergency assignments.

NUREG-0654/FEMA-REP-1 (Reference 6.1), Section II.B, "Onsite Emergency Organization," presents guidance for meeting these requirements. The guidance describes the on-site emergency organization, including the staffing requirements found in Table B-1, "Minimum Staffing Requirements for NRC Licensees for Nuclear Power Plant Emergencies." This table specifies a minimum of ten (10) on-shift responders in nine (9) Major Functional Areas. It also specifies seven (7) on-shift response functions where the duties may be performed by shift personnel who are assigned other functions (i.e., there are no dedicated responders to perform these functions). Table B-1 specifies two (2) Major Functional Areas (Firefighting and Site Access Control and Personnel Accountability) which must be staffed on a site-specific basis.

The NRC published a draft version of Table B-1 from NUREG-0654/FEMA-REP-1 (Revision 2) in April 2017. CPNPP reviewed this draft Table B-1 in preparation of the LAR and determined that the proposed changes continue to meet the intent of the draft Revision 2 of NUREG-0654, Table B-1 (i.e., continues to cover the emergency functional areas in Table B-1).

The on-shift staff must be able to cope with a spectrum of events until augmenting ERO personnel arrive in accordance with the site's emergency plan commitments. The augmenting ERO responders assume many managerial, engineering, and administrative duties from the on-shift personnel, allowing on-shift personnel to focus more fully on plant operations.

On November 23, 2011, the NRC published a final rule in the Federal Register amending certain emergency preparedness (EP) requirements in its regulations that govern domestic licensing of production and utilization facilities (Reference 6.2). This final rule amended 10 CFR Part 50, Appendix E, Section IV.A, "Organization," to address the assignment of tasks or responsibilities to on-shift ERO personnel that could potentially overburden them and prevent the timely performance of their emergency plan functions. Specifically, Section IV.A.9 states that licensees shall perform "...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."

Coincidentally with the rule change in 10 CFR 50, Appendix E, Section IV.A.9, the NRC issued NSIR/DPR-ISG-01, "Interim Staff Guidance – Emergency Planning for Nuclear Power Plants" (Reference 6.3). The Interim Staff Guidance (ISG) provides information relevant to performing the on-shift staffing analysis. The ISG states that the Nuclear Energy Institute (NEI) developed the document NEI 10-05, "Assessment of On-Shift Emergency Response Organization Staffing and Capabilities," (Reference 6.5) to establish a standard methodology for a licensee to perform the required staffing analysis, and that the NRC reviewed NEI 10-05

and found it to be an acceptable methodology for this purpose. The ISG also indicates that the completed staffing analyses are required to be part of the emergency plan and the results documented and submitted to the NRC in accordance with 10 CFR 50.54(q)(5).

CPNPP has completed a functional analysis of the augmented ERO positions based on the extended augmentation times and proposed staffing changes and completion of the major tasks required by NUREG-0654/FEMA-REP-1, Revision 1, (Reference 6.1). The analysis determined that changes can be made to increase staff augmentation times for ERO response functions from 40 and 70 minutes to 60 and 90 minutes respectively while maintaining the site's ability to protect public health and safety. An analysis of on-shift responsibilities in accordance with 10 CFR 50, Appendix E, Section IV.A.9 evaluating the impacts associated with the proposed changes was performed and verified that ERO positions were not assigned responsibilities that would prevent the timely performance of their assigned functions as specified in the emergency plan.

Significant increases in the number of on-shift positions have occurred over the past several years. The last CPNPP Emergency Plan reviewed and approved by the NRC was Revision 11, dated August 1989 (Reference 6.7). The required on-shift complement in the 1989 approved plan was 11 individuals. The current Emergency Plan, Revision 42 (Reference 6.8), requires an on-shift complement of 24 individuals.

The augmented ERO in Revision 11 of the CPNPP Emergency Plan consisted of approximately 160 responders. Today, the ERO consists of greater than 248 responders. This represents a greater than 50% increase in the number of ERO personnel qualified to meet existing emergency plan requirements. Some plant personnel live far enough from the plant that they may be precluded from being assigned to the augmented ERO. Expanding augmentation times and reducing the number of ERO positions will increase the number of eligible plant personnel available to fill critical ERO positions and add valuable expertise to the responding teams.

Maintaining an appropriate number of on-shift personnel, crediting additional on-shift staff positions, technological advances available for on-shift responders and changing the augmentation timeliness response times to 60 and 90 minutes are practical and prudent alternate methods of ensuring effective and timely emergency response.

3.0 TECHNICAL EVALUATION

3.1 Technical Analysis

This section discusses technical changes in plant systems, dose assessment, procedures and training which have been completed in order to better support on-shift functions and ease operator burden. An analysis of on-shift responsibilities in accordance with 10 CFR 50, Appendix E, Section IV.A.9 was completed and determined that the proposed changes will not result in conflicting duties for on-shift personnel.

3.1.1 Plant Computer System

The Plant Computer System (PCS) provides for the Safety Parameter Display System (SPDS) functions discussed in the following paragraph as well as data collection and processing, accounting, alarming, and logging functions. The SPDS data is displayed in the Control Room, Technical Support Center and Emergency Operations Facility.

The SPDS provides a concise display of critical plant variables to the Control Room personnel to assist them in rapidly and reliably determining the safety status of the plant. The SPDS is operated during normal plant operations as well as during abnormal and emergency conditions. The principal purpose and function of the SPDS is to assist the control room personnel during abnormal and emergency conditions in determining the safety status of the plant.

Parameters displayed by the SPDS are the quantitative and qualitative measures to indicate the accomplishment or maintenance of critical safety functions. Information needed to assess the status of the plant safety parameters is obtained by the measurement of key plant variables. The safety parameters utilized by the SPDS to assess the maintenance or accomplishment of the critical safety functions as required by NUREG-0737, Supplement 1, Section 4, are:

1. Reactivity control.
2. Reactor core cooling and heat removal.
3. Reactor coolant system integrity.
4. Containment conditions.
5. Radiation control.

In general, the ranges of parameters monitored by the SPDS are identical to those ranges monitored by existing Control Room instrumentation. Ranges displayed by the SPDS are adequate to cover plant responses analyzed in FSAR Chapter 15, "Accident Analyses".

In addition to SPDS displays, the Technical Support Center and Emergency Operations Facility have access to the integrated Emergency Response Facility (ERF) Computer System. The ERF Computer System, gathers, stores, and displays data needed in the TSC and EOF to analyze the plant conditions. The

ERF Computer System performs its function independent of action in the Control Room and without degradation or interference with Control Room and plant functions.

Benefits of the current level of computer capabilities include:

- Improved plant monitoring capability for emergency functions.
- Real time plant data available through graphic displays.
- Multiple points of access.
- Programming capability for automated response such as indication of critical parameter alarms.
- Easier interface when switching between graphical displays.
- Robust power supplies for PCS, SPDS and ERF Computer System.

3.1.2 Dose Assessment

A site-specific computer-based dose assessment program is utilized at CPNPP. The original software had accessibility limitations and length processing times. Computer displays of plant, radiological effluent, area radiation monitor and meteorological information were available only from SPDS software on proprietary SPDS displays.

Over the years, modifications and upgrades have improved the availability, speed, and reliability of the dose assessment program. The dose assessor can obtain system parameters from the PCS, radiation monitor instrument readings from the Radiation Monitoring System (RMS), or results from in-plant sampling for input into the dose assessment software. These values are then used, along with meteorological parameters from the PCS, to calculate source terms and release rates necessary to estimate plume location and calculate projected doses to the public. Computers are provided in the appropriate emergency facilities to provide an alternate location of performing dose assessment if needed. The computing power of modern computer processors and data analysis allows calculation of projected downwind doses in seconds rather than minutes.

3.1.3 Automated ERO Callout

Enhancements in automated call-out capability have resulted in streamlined processes for activation of the ERO. A web-based commercial service initiates notification of ERO members in lieu of individual calls to fill the numerous positions included in today's Emergency Plan. This system is regularly demonstrated during drills and exercises, and, periodically, in accordance with the CPNPP Emergency Plan and implementing procedures. Once activated, the process is automated requiring no additional actions from the on-shift staff.

3.1.4 Procedure Improvements

Since the original Emergency Plan approval, Emergency Operating Procedures (EOPs) have been improved through industry initiatives. EOPs are symptom-based which demands less assessment and interpretation of plant conditions by the operating crews. In addition, the EOPs are flowcharted, better human-factored, and have an improved layout allowing for more consistent implementation. Parametric trend curves are generated by SPDS to graphically display plant conditions relative to EOP limits or required actions.

CPNPP has updated the emergency classification methodology to NEI 99-01, "Methodology for Development of Emergency Action Levels," Revision 6. CPNPP Emergency Action Levels (EALs) now incorporate guidance that has simplified the classification process, including the use of an overview matrix of EAL initiating conditions and threshold values that streamlines the process of evaluating EALS against plant conditions in the applicable Emergency Plan implementing procedures.

3.1.5 Training

Training is used to strategically drive improved performance. Since NRC approval of the CPNPP Emergency Plan, the application of the Systematic Approach to Training (SAT) has resulted in developing task lists for training programs. The SAT process ensures training is conducted to industry-accepted standards and has led to accreditation of the Operations and Technical Training programs.

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

3.1.6 Increases in On-Shift Staffing

There has been an increase in on-shift staffing from that required in the NRC approved Emergency Plan in order to ensure adequate performance of the major emergency plan functions and tasks. A total of twenty-four (24) persons are currently identified for on-shift staffing, which is an increase from the regulatory guidance provided by NUREG-0654 Revision 1 total of ten (10) persons and the CPNPP Emergency Plan, Revision 11 approved staffing of ten (10) persons. A

comparative chart depicting on-shift and augmented staffing based on NUREG-0654 Revision 1, Revision 11 of the CPNPP Emergency Plan, the current CPNPP Emergency Plan and proposed revisions is included in Attachment IV.

3.1.7 Improvement Summary

The improvements to staffing, equipment, procedures and training that have occurred since initial approval of the CPNPP Emergency Plan have resulted in a significant increase in the on-shift capabilities and knowledge. Based on these improvements, it is concluded that there would be no significant degradation in or loss of any functional task as a result of the proposed augmentation times.

3.2 Functional Analysis

This analysis evaluates the impact of extending the augmentation times and reducing ERO staff on the ability of the on-shift staff to perform the major tasks for the major functional areas of the CPNPP Emergency Plan. The analysis demonstrates that no degradation or loss of function would occur as a result of the proposed changes.

The following sections discuss the rationale for concluding that on-shift personnel can satisfactorily implement all EP functions as described in Table 1.1, "Staffing Requirements for Emergencies." Enclosures I and II provide the revised Table 1.1 with the proposed response time changes. Attachment IV provides a summary of the historical shift staffing and augmentation response time requirements, and proposed response time changes.

3.2.1 Station Operations and Assessment of Operational Aspects

There is one (1) augmenting position currently identified for this functional area. A Nuclear Equipment Operator augments at 70 minutes to assist with Beyond Design Basis External Events and Extended Loss of All Power events. Since this responder is not credited with actions to mitigate any postulated Design Basis Accident, CPNPP proposes to remove this augmented responder from the Emergency Plan and address the need for this responder in an appropriate Beyond Design Basis (BDB) program document.

In accordance with the current CPNPP Emergency Plan, the on-shift staffing is in excess of the requirements of NUREG-0654, Revision 1, Table B-1, as well as that prescribed in the last NRC-approved Emergency Plan, Revision 11, from August 1989. Additional personnel have been included in the existing on-shift complement for a total on-shift staffing of twenty-four (24). This represents an increase of fourteen (14) persons when compared to the regulatory guidance stated in NUREG-0654, Revision 1, Table B-1 and the last NRC-approved Emergency Plan, Revision 11, dated August 1989. These additional on-shift staff help to ensure prompt response to a wide spectrum of emergency events without requiring immediate augmentation.

Also included in the current Plan is the designation of a dedicated Shift Communicator who completes initial notifications to offsite agencies. This improves availability of Operations personnel to perform specified functions. Considering the additional on-shift staffing above Table B-1 requirements and the designation of a dedicated Shift Communicator, the proposed increase in augmentation times will not detract from the capability of on-shift personnel to support plant operations or assess operational aspects at the start of an event and until the on-shift staff is augmented.

3.2.2 Emergency Direction and Control

NUREG-0654 Revision 1 guidance indicates that the Shift Manager assumes the emergency direction and control function as a collateral duty, where responsibility for overall direction of facility response may be transferred when ERFs are staffed.

According to the current revision of the CPNPP Emergency Plan, Table 1.1 has the TSC Manager responding in 70 minutes to relieve the Shift Manager of Emergency Coordinator duties. Under the proposed Plan the TSC Manager response time would be extended from 70 minutes to 90 minutes. This would require the Shift Manager to maintain responsibility for Emergency Direction and Control for an additional 20 minutes. As described earlier, the advances in technology, training, and procedures, as well as the additional on-shift Operations personnel, adequately compensate for any burden imposed on the Shift Manager for an additional 20 minutes.

3.2.3 Communications

Per NUREG-0654 Revision 1, the Notification/Communication function includes major tasks to notify licensee, state, local and federal personnel and maintain communications.

CPNPP Emergency Plan, Table 1.1 currently requires one (1) dedicated on-shift communicator and one (1) on-shift communicator who can be assigned other functions to act as ENS Communicator. Two (2) augmenting Communicators currently report to the TSC within 70 minutes. The proposed change would extend the TSC Communicators' response time to 90 minutes and combine the on-shift Communicator functions into one (1) position. The on-shift Communicator may be any on-shift personnel with the requisite training and qualification as defined in the Emergency Plan implementing procedures. No changes are being made to augmentation time for the EOF Communicator.

Licensee Notification

The current Plan includes notification of the ERO by the Control Room Communicator. The ERO notification process is initiated using the automated ERO callout system described earlier. This notification occurs at the Alert or higher classification for augmented responders to the TSC, OSC, EOF and JIC.

Although activation of the EOF and JIC is not required until a Site Area or General Emergency, all ERO members are mobilized at the Alert.

The proposed Plan will maintain the notification process for augmented ERO. The use of a dedicated, on-shift Communicator, combined with the use of the notification process detailed in EPP-203, "Notifications," will ensure performance of this function without placing additional burden on the on-shift ERO.

State, Local and Federal Notification

Notification/communication responsibilities require notification of off-site authorities responsible for directing protective actions on behalf of the general public. The State of Texas and Hood and Somervell Counties are required to be notified within 15 minutes of the declaration of any emergency classification or change in the protective action recommendation. The NRC is notified immediately following the state and local notifications and within 60 minutes of the emergency declaration. For analysis purposes, NRC notification was treated as a continuous action in accordance with 10 CFR 50.72(c)(3), meaning that once the initial NRC communications are established, it is assumed that the NRC will request an open line to be continuously maintained with the NRC operations center.

State and local notifications are performed by a dedicated communicator on-shift. This means that for all declared emergency events, the on-shift communicator does not have any duties other than providing timely and accurate communications to off-site agencies. The ability of the on-shift staff to perform these notification and communication functions is ensured by the dedication of a communicator assigned to this Major Functional Area.

The on-shift Communicator will perform ENS notifications. The ENS and Communicator positions may be combined due to technological improvements. The availability of dedicated telephone circuits and the use of wireless headsets enables NRC notifications to be performed by the same on-shift communicator who performs the state and county notifications. Using a headset as needed, a single, dedicated communicator can maintain an open line with the NRC while making state and county notifications on another line. This capability has been demonstrated in simulator drills conducted at CPNPP.

Although with the proposed change the notification function remains with on-shift personnel for an additional 20 minutes, the use of a dedicated communicator allows for this function to be maintained by on-shift personnel, does not result in conflicting duties assigned to on-shift resources, and does not impact state and local response organizations' ability to effectively implement their Federal Emergency Management Agency (FEMA)-approved radiological emergency preparedness (REP) plans.

Upon activation of the TSC, state/local notifications will transition to the TSC Communications Coordinator and ENS notifications will transition to the TSC ENS Communicator as required under the current Plan.

3.2.4 Security

No changes are being made to this portion of CPNPP Emergency Plan, Table 1.1.

3.2.5 Public Information

Per the current CPNPP Emergency Plan, Table 1.1., the TSC Manager assumes responsibility for the approval of the release of public information from the Shift Manager at 70 minutes. Both positions are annotated with Note (a) which states that the function may be provided by other on-shift or augmented personnel assigned other functions.

The proposed change would extend the TSC Manager's augmentation time to 90 minutes. Per EPP-203, "Notifications," the Company Spokesperson is notified at the Alert, or earlier at the discretion of the Emergency Coordinator. Per EPP-207, "Activation and Operation of the Joint Information Center (JIC)," the Company Spokesperson can assume the responsibility for approval of press releases at the discretion of the Emergency Coordinator. The 20-minute extension of the TSC Manager's augmentation time will not impact this functional area as the Emergency Coordinator can transfer this responsibility at any time per procedural guidance and Table 1.1 Note (a).

3.2.6 Logistics

Per the current CPNPP Emergency Plan, Table 1.1, the TSC Communications Coordinator assumes responsibility for obtaining needed resources for the ERO from the Shift Manager at 70 minutes. Both positions are annotated with Note (a) which states that the function may be provided by other on-shift or augmented personnel assigned other functions. The responsibility transfers to the EOF Logistical Support Coordinator upon declaration of a Site Area or General Emergency.

The proposed change would extend the TSC Communication Coordinator's augmentation time to 90 minutes. Per CPNPP Emergency Plan Section 1.1.2 (Response), callout of the ERO is initiated at an Alert and the TSC and OSC are activated and the EOF and JIC are staffed to augment the operating staff. The 20-minute extension of the TSC Communication Coordinator's augmentation time will not impact this functional area as the Emergency Coordinator can transfer this responsibility at any time per procedural guidance and Table 1.1 Note (a).

3.2.7 Station System Engineering

Per NUREG-0654 Revision 1, the Station System Engineering functional area includes technical support, coordination, and control.

The current CPNPP Table 1.1 requires augmentation at 70 minutes by the TSC Engineering Team Coordinator and a team of four (4) engineers. The proposed change would extend the augmentation time for both the Engineering Team Coordinator and the TSC Engineering team from 70 to 90 minutes.

The Shift Technical Advisor (STA) is the on-shift position assigned for technical support. The STA functions in an oversight role for accident assessment and evaluation of operating conditions, providing the core/thermal hydraulic technical support function on shift. The STA performs assigned technical support activities required by operating procedures, Technical Specifications, and emergency implementing procedures. A review of procedural actions for this position demonstrated that failed fuel determinations, as well as establishing recovery/reentry priorities, would not be required until augmenting staff arrives. Initial reactor core stabilization activities are performed by the Operations crew under the direction of an SRO. Evaluation of the on-shift activities in accordance with 10 CFR 50, Appendix E.IV.A.9 demonstrated that on-shift operations personnel were able to complete required tasks without conflicts. Therefore, extension of response times for the TSC Engineers from 70 to 90 minutes does not impact completion of tasks in this functional area.

3.2.8 Radiological Assessment

The radiological assessment functional area includes in-plant surveys, chemistry/radiochemistry, onsite surveys, offsite surveys, dose assessment, protective actions, and coordination and control.

The current CPNPP Emergency Plan requires two (2) Radiation Protection (RP) Technicians and one (1) Chemistry Technician to be on-shift.

The on-shift Chemistry Technician performs chemistry/radiochemistry tasks until relieved by the augmenting Chemistry Technician. Currently, the CPNPP Emergency Plan, Table 1.1 augmentation time for the Chemistry Technician is 70 minutes. The proposed change would extend the augmentation time to 90 minutes. No chemistry samples are required by Technical Specifications within the 90-minute period after a declaration, therefore the 20-minute extension in augmentation time does not impact performance of this function.

The on-shift RP Technicians are responsible for in-plant and onsite surveys, as well as protective actions until the augmenting RP Technicians arrive. Per CPNPP Emergency Plan Table 1.1, two (2) RP Technicians respond in 40 minutes to assume protective action tasks. The proposed revisions would extend the response time for these two (2) RP Technicians to 60 minutes.

The on-shift RP Technicians and the RP Technician augmented responders are qualified to perform assigned tasks, which include access control duties, RP coverage for workers, personnel monitoring, and dosimetry.

Originally, radiological access control was a labor-intensive task. Dedicated RP Technicians were required to check dose margins, training qualifications, and ensure workers had read and understood the radiation work permit (RWP). Worker access control is now automated, and radiation protection work processes have been computerized. RWPs, access control, and electronic dosimeter computer systems work together to provide a fully integrated system allowing workers to sign-in on RWPs and to self-issue electronic dosimeters. Both systems have been used by plant workers for several years. Worker dose margins and training qualifications are also automatically verified when the RWP access control system is used. If a worker's dose margin is inadequate or training is expired, the worker's access will be precluded, and the access control system will not allow issuance of an electronic dosimeter.

The performance of access control and dosimetry activities is primarily completed through the use of electronic dosimetry (ED) which is obtained prior to entry into Radiologically Controlled Areas (RCAs). The ED is also used as a 'key' to unlock turnstiles to gain access to the RCA. RWPs establish the necessary preset warnings/alarms associated with the use of the ED. Specific emergency RWPs have been developed for use during a declared emergency, which automatically provide the ED with emergency dose rate and dose rate alarms. This ensures that the teams dispatched to the in-plant areas to perform any function during a declared emergency will be afforded ample warning/alarm prior to exceeding their allowed dose or dose rate. Use of the ED and RWP process eliminates the need for access/dosimetry oversight by RP Technicians for the initial event response. Through the use of improved access control technology, extension of the RP Technicians augmentation time does not adversely impact performance of the Access Control/Dosimetry major tasks.

Performance of RP coverage for response action activities will continue to be performed initially by the on-shift RP Technician. RP coverage will only be performed if the radiological status of a room/area is unknown and there is a definitive need for emergency workers to enter the room/area to perform a task. The decision to provide RP coverage may be based on plant radiological conditions as indicated by installed area radiation monitors (ARMs). During the initial stages of an accident, not all areas of the plant would be affected by releases of radioactive materials. Therefore, RP coverage would not be required for all areas. If RP coverage is deemed necessary, multiple emergency teams can be covered by one (1) RP Technician. If RP coverage is not provided (for entry into area with low radiological risk or known radiological status), worker protection is ensured because emergency workers are required to wear electronic dosimeters (which alarm at preset dose and dose rate setpoints) and because of the installed ARMs (which alarm locally and remotely at preset dose rates) located throughout the plant. The functions associated with this major task will not be adversely impacted by the proposed change.

Personnel are required to self-monitor for radioactive contamination whenever they exit the RCA. No RP involvement is necessary for this contamination monitoring activity because the workers are trained to perform this task without supervision or oversight.

A whole-body personnel contamination monitor (PCM) is used at the exit of the RCA before the worker has processed through the portal monitor. The monitor is a highly sensitive RP tool which can be used to locate contamination on a body and quantify the contamination activity. The PCM uses beta gas proportional technology for detection of contamination. Measurement is accomplished in a two-step - front then back - sequence.

The portal monitor is a microprocessor-based radiation detection system which provides quick indication of contamination on personnel. The monitor has several independent plastic scintillation detectors and an internally mounted battery back-up that can maintain unit operation for several hours. Alarm set points for both instruments are established in accordance with site RP procedures.

Equipment and process improvements, combined with the establishment of Emergency RWPs and emergency dose limits provide significant enhancements to efficient access control and reduce the need for direct RP Technician support. These enhancements provide readily available information if an emergency is declared.

The TSC Onsite Radiological Assessment Coordinator assumes dose assessment responsibilities from on-shift personnel. The proposed change would extend the augmentation time from 40 to 60 minutes. Improvements in the dose assessment processes as described earlier ensure that the extended augmentation time will not impact this functional area.

The current CPNNP Emergency Plan Table 1.1 lists two (2) RP Technicians responding in 40 minutes to perform off-site surveys. The proposed change extends augmentation time to 60 minutes and retitles the position as Monitoring Team. The title change allows the position to be filled by anyone who has had the applicable radiation monitoring training required for field team qualification and is not limited to RP Technicians. Job-specific training, both theoretical and hands-on, will be developed using the SAT process and provided for all personnel assigned to offsite radiological monitoring responsibilities. The training will include all phases of their emergency duties and the equipment that they may be required to operate to perform these duties. Task-qualified personnel assigned to these monitoring teams will be under the control of fully-qualified senior RP personnel at all times. This change expands the number of RP Technicians available to perform other critical RP functions.

On-site surveys or installed post-accident effluent radiation monitors provide rapid indications of a release of radioactive materials and can be used for off-site dose assessment calculation purposes. Prior to 60-minute augmentation, in-plant radiation monitoring instrumentation would be used to determine release information because radiological release instrument data is easily obtained. In the unlikely event that an offsite survey is needed, the two (2) on-shift or augmenting RP Technicians would be available to perform the offsite survey.

Off-site radiological monitoring tasks, such as soil, water and vegetation sampling, or retrieval of environmental dosimetry, such a thermoluminescent dosimeters, can be performed as additional personnel arrive up to the 90-minute augmentation time. These radiological survey tasks are performed in the recovery phase, following a release of radioactive material, and are not needed for the immediate protection of the public health and safety.

The additional response time for monitoring team personnel is supported by the use of in-plant instrumentation, installed monitoring capability and in-plant and on-site surveys to support site dose assessment.

Currently, CPNPP Emergency Plan Table 1.1 includes additional RP Technicians, a Dose Assessor and two (2) Vehicle Drivers augmenting in 70 minutes. The proposed change would extend augmentation time to 90 minutes for these positions. The change also reduces the number of augmenting RP Technicians from five (5) to three (3).

In-plant radiological monitoring instrumentation provides a means by which radiological conditions can be determined during an emergency, thereby reducing the need to send RP personnel into the plant to obtain radiological data. The Radiation Monitoring System (RMS) ensures that both RP and ERO members are kept informed of current and changing radiological conditions. In-plant radiological instrumentation provides a continuous radiological status of the rooms monitored and provides local and remote alarming capability. Avoiding the dispatch of RP personnel to survey areas unnecessarily by use of the in-plant area radiation monitors (ARMs) satisfies the requirements of 10 CFR 20.1101(b) because occupational radiation exposure is kept as low as reasonably achievable.

The RMS consists of a wide variety of monitors covering key areas of the plant. These monitors are integrated into the Plant Computer System (PCS) and readings are available in the Control Room and certain other remote readout locations via the PCS with the ability to rapidly assess overall plant conditions throughout the site.

The RMS consists of individual radiation monitoring channels monitored in the Control Room. The system fulfills the following functions:

- Warn operating personnel of radiological health hazards.
- Provide early warning of plant conditions which may lead to a radiological health hazard.

- Prevent or minimize the effects of inadvertent release of radioactivity to the environment by consequence-limiting automatic responses.
- Provide routine monitoring of controlled off-site releases.
- Provide dose rate information of critical areas during an accident.
- Provide indications for aiding accident assessment.

Radiation monitoring channels provide an output to the PCS. The output signals are processed by the PCS to provide Operations and RP with additional information on the status of plant radiation levels. Computer radiation alarm points can be set at the computer console independently of the monitoring channel set points to provide the operator and RP personnel in the Emergency Response Facilities with a warning of increases in radiation level before a monitor channel alarms.

The individual radiation monitoring channels are either process radiation monitors or area radiation monitors. The area radiation monitors provide information useful in assessing radiation exposure to personnel in areas that may have radiation and/or occupancy potential during both normal and abnormal plant conditions. The area monitors are equipped with an indicator and an alarm in the vicinity of the detector.

The process radiation monitors provide information about radioactive concentration in various systems; leakage across boundaries of closed systems; and radioactive concentrations in liquid and gaseous effluents. The process monitors consist of a remote detector and a rack mounted module which provides indication, control functions and alarms.

Area radiation monitors are located in areas where personnel perform routine duties, areas where personnel perform infrequent duties yet have a significant probability for hazardous dose rates, areas where there is a small probability for hazardous dose rates, yet continuous surveillance is necessary and critical areas of the plant that may require entry during an accident condition. Local visual and audible alarms warn personnel in the area and a common annunciator alerts Control Room personnel.

Radioactivity levels contained in the facility effluent discharge paths and in the plant environs are continuously monitored during normal reactor operation including anticipated operational occurrences, and accident conditions by the process radiation monitoring system. Measurements of effluent volume, rates of release, and specific radionuclides are made at the points which would provide data that are most representative of effluent releases to the plant environs.

Integration of the radiation monitoring systems with PCS has increased the availability of normal and accident condition radiological information which results in enhanced work processes. The improved availability has reduced the need for in plant RP Technician support.

The enhanced use of automation, information technology, and communications supports a reduction of 90-minute augmented RP responders from five (5) to three (3).

3.2.9 System Corrective Action

Per NUREG-0654 Revision 1, Table B-1 Notes, the Repair and Corrective Action Major Tasks assigned to Mechanical Maintenance and Electrical Maintenance expertise may be provided by shift personnel assigned other functions.

The CPNPP Licensing Basis includes the use of safety systems designed to protect against accident sequences leading to core melt and consequent degradation of the containment boundary, and those leading to fuel clad failure or partial melt with independent failures of the containment boundary. The CPNPP Engineered Safety Features (ESF) systems are designed to limit the potential radiation exposure to the public as well as to plant personnel in the unlikely occurrence of any of these accident sequences. The following ESF are designed to localize, control, mitigate, and terminate all such postulated accidents:

- Emergency Core Cooling System (ECCS)
- Safety Injection System (SI)
- Containment Spray System (CSS)
- Residual Heat Removal System (RHR)

These CPNPP ESF systems include redundant and diverse systems in order to ensure core cooling is maintained in accident conditions. The performance of these systems is tracked and trended by the site and demonstrates a high degree of reliability. System health requirements are maintained, based on NRC Performance Indicators for system availability and functional failures which are an integral part of the Reactor Oversight Process (ROP). Additionally, reliability is driven by Maintenance Rule performance criteria.

Currently, the CPNPP on-shift complement includes a mechanic, electrician, and I&C technician to perform emergent repairs, with augmentation of additional maintenance personnel at 70 minutes. The proposed change would extend the augmentation time to 90 minutes and will also have on-shift maintenance revert to being performed by personnel assigned other functions (e.g., Nuclear Equipment Operators).

During initial stages of an event, the scope of repair and corrective actions performed by on-shift personnel are typically limited to actions that promptly restore a non-functional component or system to functional status (e.g., resetting a relay or logic manipulation) or to place a component or system in a desired configuration such as opening a valve or closing a breaker. Nuclear Equipment Operators (NEOs) are trained and qualified to perform actions in response to plant events consistent with system responses as noted in Emergency Operating Procedures (EOPs) and Abnormal Operating Procedures (AOPs). These actions are used to restore system capability as initial corrective actions typically

attributed to the Technical Support and Repair/Corrective Actions Major Task. Training for NEOs addresses the knowledge required for events in which the non-licensed operator will be required to perform checklists and remote operations to accomplish the required tasks embedded in the AOPs. Other potential tasks to support AOP and EOP implementation are embedded into the system lesson plans for NEOs. Performance and administration of NEO Training Program is described in site training procedures. This training program was derived from a systems approach to training, as defined in 10 CFR 55.4. Therefore, the CPNPP on-shift NEOs have the requisite training and expertise to perform this level of minor maintenance actions as directed by the Unit Supervisor and are available to satisfy any minor troubleshooting and repair activities that might be needed until augmenting staff arrives.

The augmented maintenance responders (one (1) electrical, one (1) mechanical, one (1) I&C) provide additional resources for repair and corrective actions. A detailed review of emergency and maintenance procedures indicated that more significant repair activities would not be initiated for several hours after the event occurred. Due to the time needed to stabilize the plant and assess the event, the initial phase of accidents is not expected to involve a significant need for dedicated maintenance personnel prior to augmented response.

Crediting the robust ESF capability and the training provided to on-shift operations personnel for performance of Technical Support and Repair and Corrective Actions Major Tasks continues to meet the guidance of NUREG-0654 Table B-1. As a result, the proposed change will not result in a reduction in response capability.

3.2.10 Fire Fighting and Rescue

No changes are being made in this functional area.

3.2.1 Medical

No changes are being made in this functional area.

3.3 ERO Staffing Reductions

In addition to the changes discussed above, CPNPP is proposing to reduce the number of required ERO positions through elimination and consolidation. The following additional change is proposed:

EOF:

- Combine EOF Contracts Coordinator and Procurement Coordinator

Prior to an emergency declaration, the normal plant operating organization is in place. The initial classification of an off-normal event occurs in the Control Room and classification and declaration is performed by the Shift Manager. Upon the classification and declaration of an emergency, the Shift Manager assumes the role of Emergency Coordinator and retains that role until a designated Emergency Coordinator can assume control. The on-site emergency organization is activated by personnel notification or when the station alarm is sounded, and the emergency is announced over the public-address system.

Initially, the ERO consists of the normal operating shift personnel who function as the emergency team members. The normal operating staff is augmented, as needed, by plant personnel. Those personnel on-site respond when the station alarm is sounded and the announcement is made or when individuals are notified by another means. Personnel not on-site during off-hours operations are notified via an automated ERO notification system. The dedicated on-shift Communicator performs notifications. The details of notifying all emergency operations personnel during normal and off-hours are contained in Emergency Plan implementing procedures.

CPNPP maintains ERO teams, with a complete team being on duty at any given time. When the Shift Manager directs activation of the ERO call out system, all ERO members are notified to ensure adequate coverage of all ERO positions at all ERFs. ERO members not on call are expected to respond unless they are unavailable or unfit for duty.

CPNPP requires ERO personnel to act promptly in reporting to their assigned ERF even when not on duty. During duty periods, procedures further require that team members respond within the required response time for their ERF (unless a longer time frame is specified for their specific ERO position) and that they remain fit for duty throughout the duty assignment. Individuals are trained to respond to their ERF even if they are not on duty. Excess personnel that respond may be assigned support responsibilities or be designated as a relief shift. This conservative policy ensures timely activation because some off-duty personnel may respond sooner than the on-duty personnel.

The proposed revision to the CPNPP ERO will not change the requirements described above. Management's continued expectation is that all duty and support ERO members report to their respective ERF as quickly as possible.

CPNPP has designated ERO members who staff positions required to meet minimum staffing to activate the TSC, OSC, EOF, and JIC. Emergency Plan implementing procedures identify ERO positions assigned to each facility and the minimum staffing required before each facility can be declared operational. All ERO personnel are expected to respond when notified by the ERO notification system.

The ERO position mentioned above as being eliminated or reduced is not required for facility activation.

Other changes in EOF staff include reductions in the number of personnel assigned to a position. With technological advances and procedural streamlining, it is not necessary to have multiple personnel in redundant positions.

The ERO Position Matrix provided in Attachment III identifies each current ERO position and the associated duties. The duties of the ERO positions that are being eliminated/reduced were reviewed against the CPNPP Emergency Plan and procedures EPP-206, "Activation and Operation of the Emergency Operations Facility (EOF)", EPP-204 "Activation and Operations of the Technical Support Center (TSC)", EPP-205, "Activation and Operations of the Operations Support Center (OSC)", and EPP-207, "Activation and Operation of the Joint Information Center (JIC)". Each of the eliminated/reduced positions was analyzed to identify the key duties associated with the position and the duties were then evaluated against the planning standards in NUREG-0654.

During the development of the proposed changes to the ERO staffing documented in Attachment III, CPNPP initiated a multi-disciplined team review of the ERO staffing changes. This team included participants from Operations, Training, Engineering, Chemistry, Radiation Protection, Emergency Planning, Regulatory Affairs, and Station Management.

The Table provided in Attachment III contains columns labelled "Implementing Actions" and "Task Assigned To?". These columns provide the details regarding the disposition of each task. Some of the duties are identified as being eliminated because they are performed redundantly by other positions in the ERO and will continue to be performed by these positions.

Procedures and training materials depicting the changes presented in Attachment III will be developed to align with the revised task assignments. These procedures will be used to support training of ERO staff and for the conduct of drills that will be used to validate the staffing and assignment of tasks.

The proposed changes to the CPNPP Emergency Plan, including the changes made to the ERO, have been evaluated for impacts on the ERO and for the ability of off-site response organizations (OROs) to implement their U.S. Federal Emergency Management Agency (FEMA)-approved Radiological Emergency Preparedness (REP) Plans. Potential impacts on the ability of State and County response organizations to effectively implement their FEMA-approved REPs do not exist because no tasks that require interfacing with State and County response organizations are proposed for elimination. The CPNPP ERO includes technical support staff that have dedicated responsibilities for interfacing with State and County representatives. During an emergency, these personnel are dispatched to the State and County EOCs to act as communication liaisons between the EOCs and plant technical staff and to provide clarification of emergency response information. These positions remain part of the CPNPP ERO. Attachment V provides letters of concurrence from the State of Texas, Hood County, and Somervell County.

3.4 Conclusions

CPNPP completed an evaluation of the proposed reduction in ERO staffing and an analysis of proposed on-shift staffing to analyze the ability of the proposed on-shift and ERO organization to respond to an emergency. The proposed changes continue to support the major functional areas of the emergency plan, continue to ensure the protection of the health and safety of the public and site personnel, and will not present a significant burden to the on-shift personnel. Increases from the NRC-approved CPNPP Emergency Plan Revision 11 on-shift staffing ensure performance of major tasks can be completed without conflicts.

The proposed staffing augmentation response time is being extended from 40 and 70 minutes to 60 and 90 minutes respectively, resulting in an increased ERF activation time. However, the emergency response functions will continue to be performed by the on-shift staff until relieved by 60 or 90-minute augmented responders and do not result in a reduction in the capability of the ERO to effectively respond to the emergency. Emergency response personnel are required to respond as quickly as possible to an emergency event. The augmentation response time represents a maximum allowable time for response. It is therefore expected that response to augment the shift staff would result in personnel arriving at earlier times up to the maximum augmentation time. This is evident in the documented response to periodic call-in tests and unannounced drills requiring actual response to the site during off-hours periods. Also, per the current Emergency Plan, the Shift Manager may call out designated ERO members or the full ERO complement at any time in an emergency event regardless of classification.

The proposed increase in augmentation response time continues to ensure the CPNPP Emergency Plan continues to meet 10 CFR 50.54(q)(2), the requirements of 10 CFR 50, Appendix E, and the planning standards of 10 CFR 50.47(b).

ERO personnel are trained with the expectation that, even when they are not on duty, they are to respond to an emergency callout when they are fit for duty and otherwise available for timely response. This requirement can and does (as demonstrated during periodic testing) lead to multiple personnel filling augmented response positions with the potential for some responders to be able to respond more quickly than the individual who is on duty at the time. This "all call" response expectation ensures not only a timely response for augmentation but provides for more than a minimum quantity of responders. The proposed ERO staffing changes do not impact the capabilities of the on-shift staffing or augmented response. The functional responsibilities of the positions eliminated as a result of the changes described within are being reassigned to remaining positions. Attachment III provides the analysis of all ERO positions being eliminated or reduced and evaluates the transfer of tasks to remaining ERO positions. The proposed ERO staffing reductions continue to address the risks to public health and safety and comply with the CPNPP Emergency Plan, site commitments, and applicable regulations.

An updated draft staffing analysis of on-shift responsibilities resulting from impacts associated with the proposed changes has been performed and this analysis verified that ERO positions were not assigned responsibilities that would prevent the timely performance of their assigned functions as specified in the Emergency Plan.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

The regulatory requirements and guidance applicable to the proposed change are as follows:

10 CFR 50.47(b) states:

- (b) *The on-site and, except as provided in paragraph (d) of this section, off-site emergency response plans for nuclear power reactors must meet the following standards:*
- (1) *Primary responsibilities for emergency response by the nuclear facility licensee and by State and local organizations within the Emergency Planning Zones have been assigned, the emergency responsibilities of the various supporting organizations have been specifically established, and each principal response organization has staff to respond and to augment its initial response on a continuous basis.*
 - (2) *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 on-site response activities and off-site support and response activities are specified.*

10 CFR 50.54(q)(1)(iii) states:

Emergency planning function means a capability or resource necessary to prepare for and respond to a radiological emergency, as set forth in the elements of section IV, of appendix E to this part [Part 50] and, for nuclear power reactor licensees, the planning standards of §50.47(b).

10 CFR 50.54(q)(1)(iv) states:

Reduction in effectiveness means a change in an emergency plan that results in reducing the licensee's capability to perform an emergency planning function in the event of a radiological emergency.

10 CFR 50.54(q)(2) states in part:

A holder of a license under this part, ... shall follow and maintain the effectiveness of an emergency plan that meets the requirements in appendix E to this part and, for nuclear power reactor licensees, the planning standards of § 50.47(b).

10 CFR 50.54(q)(3) states:

The licensee may make changes to its emergency plan without NRC approval only if the licensee performs and retains an analysis demonstrating that the changes do not reduce the effectiveness of the plan and the plan, as changed, continues to meet the requirements in appendix E to this part and, for nuclear power reactor licensees, the planning standards of § 50.47(b).

10 CFR 50.54(q)(4) states:

The changes to a licensee's emergency plan that reduce the effectiveness of the plan as defined in paragraph (q)(1)(iv) of this section may not be implemented without prior approval by the NRC. A licensee desiring to make such a change after February 21, 2012 shall apply for an amendment to its license. In addition to the filing requirements of §§ 50.90 and 50.91, the request must include all emergency plan pages affected by that change and must be accompanied by a forwarding letter identifying the change, the reason for the change, and the basis for concluding that the licensee's emergency plan, as revised, will continue to meet the requirements in appendix E to this part and, for nuclear power reactor licensees, the planning standards of § 50.47(b).

10 CFR 50, Appendix E, Section IV, Part A states in part:

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:

...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.

CPNPP, as required under 10 CFR 50.54(q)(4), is hereby submitting proposed revisions to the CPNPP Emergency Plan for NRC approval prior to implementation. The proposed changes continue to meet the provisions of 10 CFR 50.47(b) as the CPNPP Emergency Plan will continue to have on-site and off-site emergency responsibilities and provide adequate staffing to provide facility accident responses. Further, the current CPNPP Emergency Plan meets the planning standards of 10 CFR 50.47(b) and 10 CFR 50, Appendix E as required by 10 CFR 50.54(q)(2). The proposed changes reduce on-shift and augmented staffing as described previously. Therefore, the proposed change is considered a reduction in effectiveness as defined in 10 CFR 50.54(q)(1)(iv) and requires submittal of a license amendment request to the NRC based on 10 CFR 50.54(q)(4) in accordance with 10 CFR 50.90.

With the proposed changes the CPNPP Emergency Plan will continue to meet the requirements of 10 CFR 50.54(q)(2) by maintaining the effectiveness of the Emergency Plan such that it meets the requirements of 10 CFR 50 Appendix E, and the planning standards of 10 CFR 50.47(b). Finally, the current CPNPP Emergency Plan includes a description of the organization, including definition of authorities, responsibilities, and duties of individuals. The current CPNPP Emergency Plan is in compliance with 10 CFR 50 Appendix E.IV.A. The LAR proposes to extend augmentation times and reduce ERO staff. The proposed changes to the CPNPP Emergency Plan will continue to describe the authorities, responsibilities, and duties of these individuals. Therefore, with the changes proposed in the LAR, the requirements of 10 CFR 50 Appendix E continue to be met.

Regulatory Guide (RG) 1.101, Revision 2, "Emergency Planning and Preparedness for Nuclear Power Reactors" (Reference 6.6), provides guidance on methods acceptable to the NRC staff for implementing specific parts of NRC regulations (i.e. 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50). RG 1.101 endorses NUREG- 0654/FEMA-REP-1 (NUREG-0654), Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (Reference 6.1), which provides specific acceptance criteria for complying with the standards set forth in 10 CFR 50.47(b). These criteria provide a basis for NRC licensees, and state and local governments to develop acceptable radiological emergency plans and improve emergency preparedness.

Regulatory Guide 1.219, Revision 1, "Guidance on Making Changes to Emergency Plans for Nuclear Power Reactors" (Reference 6.4), provides guidance on methods acceptable to the NRC staff for implementation of 10 CFR 50.54(q) as it relates to making changes to emergency response plans.

In NUREG-0654, Section II, "Planning Standards and Evaluation Criteria," Evaluation Criteria II.B.1 and II.B.5 address the 10 CFR 50.47(b)(2) planning standard. Evaluation Criteria II.B.1 specifies the on-site emergency organization of plant staff personnel for all shifts, and its relation to the responsibilities and duties of the normal shift complement. Evaluation Criteria II.B.5, states, in part:

Each licensee shall specify the positions or title and major tasks to be performed by the persons to be assigned to the functional areas of emergency activity. For emergency situations, specific assignments shall be made for all shifts and for plant staff members, both on-site and away from the site. These assignments shall cover the emergency functions in Table B-1 entitled, "Minimum Staffing Requirements for Nuclear Power Plant Emergencies." The minimum on-shift staffing levels shall be as indicated in Table B-1. The licensee must be able to augment on-shift capabilities within a short period after declaration of an emergency. This capability shall be as indicated in Table B-1.

NUREG-0654 states general guidance concerning the off-site emergency

organization to allow licensees some flexibility in the number of on-shift staff required by emergency plans for response to emergency events. NUREG-0654 guidance recommends that there be, in addition to on-shift personnel, 30-minute and 60-minute responders. The augmented ERO responders assume many managerial, engineering, and administrative duties from the on-shift personnel, allowing them to focus more fully on plant operations. NUREG-0654 also provides the guidance that augmentation time be measured from the declaration of the emergency.

The current CPNPP Emergency Plan staffing in Table 1.1 meets the intent of NUREG-0654, Table B-1. This LAR proposes to increase augmentation times and reduce ERO staff as previously described. The proposed changes have been evaluated in a staffing analysis performed to meet 10 CFR 50 Appendix E.IV.9. The proposed changes to the Emergency-Plan are based on the staffing analysis but continue to meet the intent of NUREG-0654, Table B-1 (i.e., continues to cover the emergency functional areas in Table B-1). Therefore, the proposed changes continue to meet NUREG-0654, Section II.B.5 guidance.

The NRC published a draft version of Table B-1 from NUREG-0654/FEMA-REP-1 (Rev. 2) in April 2017. CPNPP reviewed this draft Table B-1 in preparation of the LAR and determined that the proposed changes continue to meet the intent of the draft NUREG-0654, Table B-1 (i.e., continues to cover the emergency functional areas in Table B-1).

Conclusion

CPNPP has evaluated the proposed changes against the applicable regulatory requirements, regulatory guidance, and acceptance criteria. The proposed changes continue to ensure regulatory requirements, guidance and emergency planning standards associated with emergency response are met and that personnel and public health and safety are not impacted.

4.2 Precedent

The proposed CPNPP Emergency plan changes are similar to changes submitted by other licensees and subsequently approved by NRC, including:

- Susquehanna (ML030830543),
- Fermi (ML102700478),
- River Bend (ML012710218),
- Watts Bar (ML041810056),
- Point Beach (ML16118A54),
- Duane Arnold (ML16263A071),
- Monticello (ML17083A083), and
- Prairie Island (ML17055C359).

4.3 No Significant Hazards Consideration Determination

Pursuant to 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit," Vistra OpCo hereby requests an amendment to the CPNPP Unit 2 Operating License (NPF-87) and CPNPP Unit 2 Operating License (NPF-89). This amendment request proposes a change to the Emergency Response Organization as specified in the CPNPP Emergency Plan.

Vistra OpCo has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three (3) standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

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

Response: No

The proposed change to the CPNPP Emergency Plan is administrative in nature. This proposed change does not alter accident analysis assumptions, add any initiators, or affect the function of plant systems or the manner in which systems are operated, maintained, modified, tested, or inspected. The proposed change does not require any plant modifications which affect the performance capability of the structures, systems, and components (SSCs) relied upon to mitigate the consequences of postulated accidents and has no impact on the probability or consequences of an accident previously evaluated.

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

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

Response: No

The proposed change to the CPNPP Emergency Plan is administrative in nature. This proposed change does not alter accident analysis assumptions, add any initiators, or affect the function of plant systems or the manner in which systems are operated, maintained, modified, tested, or inspected. The proposed change does not require any plant modifications which affect the performance capability of the SSCs relied upon to mitigate the consequences of postulated accidents and does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

3. Do the proposed changes involve a significant reduction in a margin of safety?

Response: No

Plant safety margins are established through limiting conditions for operation, limiting safety systems settings, and safety limits specified in the technical specifications. The proposed change to the CPNPP Emergency Plan is administrative in nature. Since the proposed change is administrative in nature, there are no changes to these established safety margins.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above evaluations, Vistra OpCo concludes that the proposed amendment presents no significant hazards under the standards set forth in 10 CFR 50.92(c) 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 CONSIDERATIONS

Vistra OpCo has evaluated the proposed change and has determined that the 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 effluent that may be released off-site, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change 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 NUREG- 0654/FEMA-REP-1 (NUREG-0654), Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (ADAMS Accession No. ML040420012).
- 6.2 Federal Register, "Enhancements to Emergency Preparedness Regulations", Vol.76, No. 226, pp. 72560-72600, November 23, 2011.
- 6.3 NSIR/DPR-ISG-01, "Interim Staff Guidance – Emergency Planning for Nuclear Power Plants" (ADAMS Accession No. ML113010523).
- 6.4 Regulatory Guide 1.219, Revision 1, "Guidance on Making Changes to Emergency Plans for Nuclear Power Reactors" (ADAMS Accession No. ML16061A104).
- 6.5 NEI 10-05, "Assessment of On-Shift Emergency Response Organization Staffing and Capabilities" (ADAMS Accession No. ML111751698).
- 6.6 Regulatory Guide (RG) 1.101, Revision 2, "Emergency Planning and Preparedness for Nuclear Power Reactors" (ADAMS Accession No. ML050730286).
- 6.7 Comanche Peak Steam Electric Station Emergency Plan, Revision 11, dated August 25, 1989.
- 6.8 Comanche Peak Nuclear Power Plant Emergency Plan Unit 1 and Unit 2, Revision 42 (ADAMS Accession No. ML18227A151).

Attachment II to TXX-18066
Emergency Plan Change Summary

Emergency Plan Change Summary

Emergency Plan Section	Before (Rev. 42)	After (Pending Revision Number)	Reason for Change
1.1.2, SAE	Assure emergency response facilities are manned	Assure emergency response facilities are staffed	Editorial change
1.1.2.1	<u>Control Room Communicators</u>	<u>Control Room Communicator</u>	Reflect a single dedicated communicator in the Control Room.
1.1.2.2	N/A	JIC Communicator	Editorial change – added heading.
1.2.2	Each county has an emergency operations plan which describes the counties emergency response.	Each county has an emergency operations plan which describes the county's emergency response.	Editorial change
Table 1.1 Column Headers	40 & 70	60 & 90	Reflect change in augmentation time.
Table 1.1 Functional Area Station Operations	Plant Equipment Operators	Nuclear Equipment Operators	Title change to reflect current Operations practice.
Table 1.1 Functional Area Station Operations	Plant Equipment Operator – 70 minutes	deleted	Responder only needed for beyond DBA events.

Emergency Plan Section	Before (Rev. 42)	After (Pending Revision Number)	Reason for Change
Table 1.1 Functional Area Emergency Direction and Control	TSC Manager at 70 minutes	TSC Manager at 90 minutes	Reflect change in augmentation time.
Table 1.1 Functional Area Communications	Communicator ^(a)	deleted	Reflect use of one dedicated communicator in the Control Room.
Table 1.1 Functional Area Communications	TSC Communications Coordinator at 70 minutes	TSC Communications Coordinator at 90 minutes	Reflect change in augmentation time.
Table 1.1 Functional Area Communications	TSC ENS Communicator at 70 minutes	TSC ENS Communicator at 90 minutes	Reflect change in augmentation time.
Table 1.1 Functional Area Public Information	TSC Manager ^(a) at 70 minutes	TSC Manager ^(a) at 90 minutes	Reflect change in augmentation time.
Table 1.1 Functional Area Logistics	TSC Communications Coordinator ^(a) at 70 minutes	TSC Communications Coordinator ^(a) at 90 minutes	Reflect change in augmentation time.
Table 1.1 Functional Area Station System Engineering	TSC Engineering Team Coordinator at 70 minutes	TSC Engineering Team Coordinator at 90 minutes	Reflect change in augmentation time.
Table 1.1 Functional Area Station System Engineering	TSC ENG Team (4) at 70 minutes	TSC ENG Team (4) at 90 minutes	Reflect change in augmentation time.

Emergency Plan Section	Before (Rev. 42)	After (Pending Revision Number)	Reason for Change
Table 1.1 Functional Area Radiological Assessment – Inplant Surveys	RP Technician (2) at 70 minutes	RP Technician at 90 minutes	Reflect augmentation time change and reduction of one RP Technician. Technological advances and procedural improvements allow for staffing changes.
Table 1.1 Functional Area Chem/Radiochemistry	Chemistry Technician at 70 minutes	Chemistry Technician at 90 minutes	Reflect change in augmentation time.
Table 1.1 Functional Area Radiological Assessment – Onsite Surveys	RP Technician at 70 minutes	RP Technician at 90 minutes	Reflect change in augmentation time.
Table 1.1 Functional Area Radiological Assessment – Offsite Surveys	RP Technician (2) at 40 minutes	Monitoring Team (2) at 60 minutes	Reflect augmentation time change. Also allows for personnel other than RP who are trained and qualified in monitoring techniques to perform this function.
Table 1.1 Functional Area Radiological Assessment	Vehicle Drivers (2) at 70 minutes	Vehicle Drivers (2) at 90 minutes	Reflect change in augmentation time.
Table 1.1. Functional Area Dose Assessment	TSC OnRAC at 40 minutes	TSC OnRAC at 60 minutes	Reflect change in augmentation time.

Emergency Plan Section	Before (Rev. 42)	After (Pending Revision Number)	Reason for Change
Table 1.1 Functional Area Dose Assessment	EOF Dose Assessor at 70 minutes	EOF Dose Assessor at 90 minutes	Reflect change in augmentation time.
Table 1.1 Functional Area Radiological Assessment – Protective Actions	RP Technician (2) at 40 minutes	RP Technician (2) at 60 minutes	Reflect change in augmentation time.
Table 1.1 Functional Area Radiological Assessment – Protective Actions	RP Technician (2) at 70 minutes	RP Technician at 90 minutes	Reflect augmentation time change and reduction of one RP Technician. Technological advances and procedural improvements allow for staffing changes.
Table 1.1 Functional Area Radiological Assessment – Coordination/Controls	TSC OnRAC ^(a) at 40 minutes	TSC OnRAC ^(a) at 60 minutes	Reflect change in augmentation time.
Table 1.1 Functional Area System Corrective Action	Plant Equipment Operator ^(a) Mechanic Electrician I&C Technician	Nuclear Equipment Operator ^(a)	Reflect removal of maintenance personnel on shift. Maintenance activities required prior to augmentation can be performed by other on shift personnel. Technological advances and procedural improvements allow for staffing changes. Title change to reflect current Operations practice.

Emergency Plan Section	Before (Rev. 42)	After (Pending Revision Number)	Reason for Change
Table 1.1 Total - Onshift	18	21	Reflect changes in on shift and augmentation numbers. Previous value of 18 was incorrect and should have been 24.
Table 1.1 Total – 90 minutes	22	20	Technological advances and procedural improvements allow for staffing changes.
Table 1.1 On Shift Minimum Personnel	Control Room Communicator (I&C Technician)	Control Room Communicator	Remove the restriction of the I&C Technician as the only one who can perform as the Control Room Communicator. CPNPP will maintain a dedicated on shift communicator.
Table 1.1 On Shift Minimum Personnel	Mechanic Electrician I&C Technician	deleted	Reflect removal of maintenance personnel on shift. Maintenance activities required prior to augmentation can be performed by other on shift personnel.
Table 1.1 On Shift Minimum Personnel - Total	24+	21+	Reflect removal of maintenance personnel on shift. Maintenance activities required prior to augmentation can be performed by other on shift personnel.

Emergency Plan Section	Before (Rev. 42)	After (Pending Revision Number)	Reason for Change
Table 1.2	Staff and activate the Emergency Response Facilities: Technical Support Center (TSC) Operations Support Center (OSC) Emergency Operations Facility (EOF)	Staff and activate the Emergency Response Facilities: Technical Support Center (TSC) Operations Support Center (OSC) Emergency Operations Facility (EOF) Joint Information Center (JIC)	Added Joint Information Center.
Table 1.2 Note 1	EOF activated at the SAE.	EOF and JIC activated at the SAE.	Added Joint Information Center.
Figure 1.2	*Maintenance Personnel	deleted	Remove reference to on shift Maintenance personnel.
Figure 1.2	Control Room Communicators	Control Room Communicator	Reflect one dedicated Control Room Communicator.
Figure 1.2	Plant Equipment Operators	Nuclear Equipment Operators	Title change to reflect current practice.
Figure 1.3	Communicators	Communicator	Reflect one Communicator in TSC.
Figure 1.5	Contracts Coordinator	deleted	Reflect elimination of the position. The Procurement Coordinator will perform contract functions.

Emergency Plan Section	Before (Rev. 42)	After (Pending Revision Number)	Reason for Change
6.2.3	Personnel assigned to the TSC are notified at an Alert or higher emergency classification and should activate the facility as soon as possible with a goal of sixty (60) minutes in accordance with Emergency Plan Procedures.	Personnel assigned to the TSC are notified at an Alert or higher emergency classification and should activate the facility as soon as possible with a goal of ninety (90) minutes in accordance with Emergency Plan Procedures.	Reflect change in activation time.
6.3.3	Personnel assigned to the OSC are notified at an Alert or higher emergency classification and should activate the facility as soon as possible with a goal of sixty (60) minutes in accordance with Emergency Plan Procedures.	Personnel assigned to the OSC are notified at an Alert or higher emergency classification and should activate the facility as soon as possible with a goal of ninety (90) minutes in accordance with Emergency Plan Procedures.	Reflect change in activation time.
6.4.3	Personnel assigned to the EOF are notified at an Alert or higher emergency classification and should activate the facility as soon as possible with a goal of sixty (60) minutes if a Site Area or General Emergency is declared in accordance with Emergency Plan Procedures.	Personnel assigned to the EOF are notified at an Alert or higher emergency classification and should activate the facility as soon as possible with a goal of ninety (90) minutes if a Site Area or General Emergency is declared in accordance with Emergency Plan Procedures.	Reflect change in activation time.

Emergency Plan Section	Before (Rev. 42)	After (Pending Revision Number)	Reason for Change
6.5.3	Personnel assigned to the JIC are notified at an Alert or higher emergency classification and should activate the facility as soon as possible with a goal of sixty (60) minutes if a Site Area or General Emergency is declared in accordance with Emergency Plan Procedures.	Personnel assigned to the JIC are notified at an Alert or higher emergency classification and should activate the facility as soon as possible with a goal of ninety (90) minutes if a Site Area or General Emergency is declared in accordance with Emergency Plan Procedures.	Reflect change in activation time.
6.14	The alternative facility and its location are described	The alternative facility and its location are described	Editorial change
7.3.2	Each Offsite Radiological Monitoring Team should be composed of at least two members, one of which shall be a Radiation Protection Technician.	Each Offsite Radiological Monitoring Team should be composed of at least two members, one of which shall be trained and qualified to perform monitoring activities.	Reflect change to allow non-RP personnel to be trained and used for monitoring teams.
7.3.2	Deployment time for the first offsite team dispatched is estimated to be within 55 to 70 minutes of an Alert or higher classification.	Deployment time for the first offsite team dispatched is estimated to be within 60 to 90 minutes of an Alert or higher classification.	Reflect change in activation time.
Appendix J	Three company vehicles equipped to support radiological monitoring activities are available for use...	Two company vehicles equipped to support radiological monitoring activities are available for use...	Reflect change from 3 offsite survey teams to 2. Editorial change "activities"

Emergency Plan Section	Before (Rev. 42)	After (Pending Revision Number)	Reason for Change
Appendix J	Three offsite field monitoring kits are located in the NOSF. The kits contain supplies and equipment represented in the listing below.	Two offsite field monitoring kits are located in the NOSF. The kits contain supplies and equipment represented in the listing below.	Reflect change from 3 offsite survey teams to 2.
Appendix J	<u>Personal Protection and Dosimetry</u>	<u>Personal Protection and Dosimetry</u>	Editorial change.
Appendix M	The Technical Support Center (TSC) and Emergency Operations Facility (EOF) are manned by additional personnel...	The Technical Support Center (TSC) and Emergency Operations Facility (EOF) are staffed by additional personnel...	Editorial change.
Appendix M	With the majority of the emergency response organization arriving within 45 minutes travel time, activation time for both facilities would be 70 minutes.	With the majority of the emergency response organization arriving after 50 minutes travel time, activation time for both facilities would be within 90 minutes.	Updated facility staffing estimates to reflect current local traffic and security conditions. New estimated time to activate TSC and EOF is supportive of the requested facility activation times in Sections 6.2.3 and 6.4.3.
Appendix M	Ta = (70 minutes) Tt = (45 minutes) Tw = (5 minutes)	Ta = (80 minutes) Tt = (50 minutes) Tw = (10 minutes)	Updated facility staffing estimates to reflect current local traffic and security conditions. New estimated time to activate TSC and EOF is supportive of the requested facility activation times in Sections 6.2.3 and 6.4.3.
Appendix M	...emergency response organization...	...emergency response organization...	Editorial change.

Attachment III to TXX-18066
ERO Position Matrix

ERO POSITION MATRIX

Current ERO Position	Tasks (F#)	Implementing Actions	Position eliminated?	Task Assigned to?	Min Staffing?	Key NRC PI?	Procedure(s) E-Plan section	Regulatory Requirement
EMERGENCY OPERATIONS FACILITY								
EOF Manager	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Determine Offsite Protective Action Recommendations (PARs). (non-delegable) F5. Declare EOF activated. F6. Authorize emergency personnel exposures. (non-delegable) F7. Establish Recovery Organization. F8. Conduct briefings for EOF staff. F9. Notify personnel of the emergency classification. F10. Transfer Emergency Coordinator duties. F11. Log emergency related activities. F12. Direct building evacuation. F13. Escalate to a higher emergency classification. F14. If conditions warrant, a precautionary Site evacuation. F15. Close emergency activities. F16. Relocate the EOF. F17. Approve issue of Potassium Iodide (KI). (non-delegable) F18. Direct protective actions for offsite monitoring teams, EOF ERO and offsite resources. F19. Request assistance from offsite agencies, excluding requests for offsite medical/fire, security assistance. (Coordinate request for Federal assistance through the State) F20. Integrate off-site responders with site response efforts when required. F21. Authorize issuance of KI and radiation exposure in excess of 10CFR 20 limits for ERO members outside of the protected area. (non-delegable) F24. Authorize press release. (cannot delegate) F25. Direct facility relocation to the alternate EOF (where applicable) F26. Determine reportability actions for non-emergency reportable events during an emergency (hazardous material spills, contaminated injured personnel, and so forth). F27. Conduct turnover of command and control to relief ED. F28. Terminate an event in accordance with procedures (cannot delegate) F29. Conduct initial and final recovery actions.	N/A	No	N/A	Yes	Yes	E-Plan 1.1.2.2 E-Plan Table 1.1 E-Plan Table 4.2 E-Plan Figure 1.5 EPP-109 EPP-116 EPP-121 EPP-201 EPP-202 EPP-203 EPP-204 EPP-205 EPP-207 EPP-220 EPP-304 EPP-305 EPP-306 EPP-309 EPP-314 STA-430 TRA-105	NUREG 0654 II.A.1.d NUREG 0654 II.A.4 NUREG 0654 II.B.3 NUREG 0654 II.B.4 NUREG 0654 II.B.5 NUREG 0654 II.B.6 NUREG 0654 II.B.7 NUREG 0654 II.C.1.a NUREG 0654 II.J.7 NUREG 0654 II.K.2 NUREG 0654 II.K.6.c NUREG 0654 II.M.2
EOF Off-Site Radiological Assessment Coordinator	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplier. F4. Evaluate current and forecasted meteorological conditions. F5. Determine Offsite Protective Action Recommendations (PARs). F6. Conduct habitability assessment of facilities. F7. Provide input to the Dose Assessor. F8. Evaluate overexposure reports. F9. Instruct RP Techs to offer Potassium Iodide (KI) tablets. F10. Provide BRC with radiological information. F11. Log emergency related activities. F12. Obtain concurrence from BRC on proposed protective action recommendations, if feasible. F13. Operate the PC-11. F13. Recommend EOF relocation based on environmental conditions and provide radiological guidance for the EOF evacuation, where applicable. F14. Monitor information from displays or reports to detect changes that affect dose assessment. F15. Establish radiological controls for supplemental and relief personnel responding to the station. F16. Recommend emergency exposure limits and KI for EOF ERO or offsite monitoring teams F17. Coordinate the administration of KI.	N/A	No	N/A	Yes (or EOF Radiation Protection Coordinator)	Yes	E-Plan 1.1.2.2 E-Plan Figure 1.5 EPP-206 EPP-304 TRA-105	NUREG 0654 II.B.5
EOF Radiation Protection Coordinator	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Dispatch radiological survey/monitoring teams. F5. Determine Offsite Protective Action Recommendations (PARs). F6. Provide Emergency Coordinator with advice on radiological safety. F7. Provide assessment of radiological condition to the JIC Director. F8. Coordinate CPNP on-site and offsite radiological monitoring efforts. F9. Conduct post emergency-related data evaluation, including the prompt analysis of any collected Environmental TLDs and evaluation of offsite sample data. F10. Direct dosimetry processing to support emergency activities. F11. Initiate EPP-305-2, "Emergency Exposure Authorization," if necessary. F12. Provide turnover briefing to on-coming EOF RPC. F13. Conduct briefings for EOF staff. F14. Provide the JIC Director and EOF Manager with information regarding contaminated and/or injured personnel. F15. Log emergency related activities.	N/A	No	N/A	Yes (or EOF Off-Site Radiological Assessment Coordinator)	Yes	E-Plan 1.1.2.2 E-Plan 7.3.1 E-Plan 7.3.2 E-Plan 9.0 E-Plan 9.3 E-Plan Table 1.1 E-Plan Table 4.2 E-Plan Figure 1.5 EPP-121 EPP-202 EPP-204 EPP-206 EPP-304 EPP-305 EPP-309 TRA-105	NUREG 0654 II.B.5
EOF Communications Coordinator	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Complete EOF Activation Checklist. F5. Direct EOF Communicator to relieve TSC Communicator of offsite notifications responsibilities. F6. Ensure approved Notification Message Form receives top priority for verbal and telefax transmissions. F7. Conduct briefings for EOF staff. F8. Determine if a new offsite notification is required. F9. Distribute approved Notification Message Forms. F10. Log emergency related activities. F11. Notify onsite personnel of emergency declaration and escalations.	N/A	No	N/A	Yes	Yes	E-Plan 1.1.2.2 E-Plan 11.0 E-Plan Table 1.1 E-Plan Figure 1.5 EPP-203 EPP-204 EPP-205 TRA-105	NUREG 0654 II.B.5 NUREG 0654 II.F.1.b

ERO POSITION MATRIX

Current ERO Position	Tasks (F#)	Implementing Actions	Position eliminated?	Task Assigned to?	Min Staffing?	Key NRC PI?	Procedure(s) E-Plan section	Regulatory Requirement
EOF Communicator	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Notify (if credible Security threat) specific persons or agencies. F5. Initiate Notification Message Form. F6. Notify (via Ringdown - Hood County button) Hood County that ambulance is needed for injured site person. F7. Relieve TSC of notification responsibilities. F8. Perform offsite notifications. F9. Activate pagers. F10. Log emergency related activities. F11. Establish a conference call.	N/A	No	N/A	Yes (or EOF Communications Coordinator)	Yes	E-Plan Figure 1.5 EPP-121 EPP-202 EPP-203 EPP-206 TRA-105	NUREG 0654 II.B.5 NUREG 0654 II.F.1.b
EOF/TSC Liaison	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Coordinate information exchange between EOF management team and TSC management team.	N/A	No	N/A	No	No	E-Plan 1.1.2.2 E-Plan Figure 1.5 EPP-206	NUREG 0654 II.B.6
Emergency Planning Advisor	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Verify implementation of the Emergency Plan and Emergency Plan Procedures.	N/A	No	N/A	No	No	E-Plan 1.1.2.2 E-Plan Figure 1.3 E-Plan Figure 1.5 EPP-204 EPP-206	N/A
EOF HPN Communicator	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Log emergency related activities. F5. Provide NRIC with radiological information.	N/A	No	N/A	No	No	E-Plan Figure 1.5 EPP-203 EPP-206	NUREG 0654 II.F.1.b
County EOC Advisor	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Provide shift relief information. F5. Provide technical advice and interpretation to offsite officials. F6. Coordinate points-of-contact between EOC staff and CPSES. F7. Log emergency related activities.	N/A	No	N/A	No	No	E-Plan 1.1.2.2 E-Plan 1.2.2 E-Plan Figure 1.5 EPP-205	NUREG 0654 II.C.2.b
State EOC Advisor	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Provide technical advice and interpretation to offsite officials. F5. Coordinate points-of-contact between EOC staff and CPSES. F6. Log emergency related activities.	N/A	No	N/A	No	No	E-Plan 1.1.2.2 E-Plan Figure 1.5 EPP-206	NUREG 0654 II.C.2.b
EOF Logistical Support Coordinator	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Locate substitute personnel to complete facility staffing needs. F5. Record requests for logistical support. F6. Receive and maintain status of requests. F7. Provide shift relief information. F8. Obtain status of injured or contaminated/injured from hospital. F9. Transfer all facility documentation to Emergency Planning Manager. F10. Obtain meals for ERO. F11. Conduct briefings for EOF staff. F12. Notify injured or contaminated/injured next-of-kin. F13. Coordinate shift relief schedules for the Emergency Response Organization (ERO). F14. Notify support agencies. F15. Log emergency related activities. F16. Provide transportation requests to the EOF vehicle drivers.	N/A	No	N/A	Yes	No	E-Plan 1.1.2.2 E-Plan Table 1.1 E-Plan Figure 1.5 EPP-202 EPP-204 EPP-206	NUREG 0654 II.A.4 NUREG 0654 II.B.7.a
Dose Assessor	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Perform dose projections. F5. Evaluate current and forecasted meteorological conditions. F6. Operate the PC-II.	N/A	No	N/A	No	No	E-Plan Table 1.1 E-Plan Figure 1.5	N/A

ERO POSITION MATRIX

Current ERO Position	Tasks (F#)	Implementing Actions	Position eliminated?	Task Assigned to?	Min Staffing?	Key NRC PI?	Procedure(s) E-Plan section	Regulatory Requirement
Off-Site Monitoring Team Director/Communicator	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Direct Offsite Surveys Team(s) when/where to collect survey data and environmental samples. F5. Inform the EOF RPC or EOF OFFRAC of field monitoring team status, locations, and prescribed protective equipment/measures. F6. Dispatch radiological survey/monitoring teams. F7. Evaluate survey data and sample results. F8. Recover the offsite monitoring teams. F9. Notify EOF Communicator to request ambulance for injured onsite person. (Provide additional information, if you have it such as, who, extent of injuries, location, name of injury site, etc.) F10. Assign dosimetry to Field Team Vehicle members. F11. Provide radiation survey results. F12. Provide periodical updates. F13. Coordinate CPS/ES offsite monitoring activities with Federal and State monitoring activities. F14. Log emergency related activities.	N/A	No	N/A	No	No	E-Plan 1.I.2.2 E-Plan Figure 1.5 EPP-202 EPP-205 EPP-309	NUREG 0654 II.F.1.d NUREG 0654 II.F.1.f
EOF Manpower Coordinator	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Develop a proposed shift relief schedule for the Emergency Response Organization (ERO). F5. Direct activities of the EOF Clerk (Manpower). F6. Locate substitute personnel to complete facility staffing needs. F7. Supply transportation services. F8. Inform EOF Logistical Support Coordinator that ERO Staging Area is set up. F9. Perform documentation responsibilities. F10. Log emergency related activities.	N/A	No	N/A	No	No	E-Plan Figure 1.5	N/A
Off-Site Monitoring Teams - RP Techs (reduce from 3 to 2)	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Provide radiation survey results. F5. Do Predeployment Activities. F6. Do Post Field Work Activities with Field Team Director. F7. Provide periodic updates. F8. Do Field Work. F9. Issue Potassium Iodide (KI) tablets.	N/A	No	N/A	No	No	E-Plan 7.3.2 E-Plan Table 1.1 E-Plan Figure 1.5 EPP-205 EPP-206 EPP-309 TRA-105	NUREG 0654 II.B.5
EOF Offsite Field Team Vehicle Driver (reduce from 3 to 2)	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Operate the offsite field team vehicle and support the RP Technician.	N/A	No	N/A	No	No	E-Plan Table 1.1 E-Plan Figure 1.5	N/A
EOF Clerk Manager	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Operate telecopier. F5. Operate copy machine. F6. Record significant activities for the EOF Manager. F7. Conduct briefings for EOF staff. F8. Log emergency related activities. F9. Provide administrative support for the EOF Manager.	N/A	No	N/A	No	No	E-Plan Figure 1.5 EPP-206	N/A
EOF Clerk Manpower	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Operate telecopier. F5. Operate copy machine. F6. Notify Emergency Response Organization (ERO) personnel of their shift relief responsibilities. F7. Set up Emergency Response Organization (ERO) Staging Area. F8. Log emergency related activities. F9. Provide sign-in and check-in assistance to arriving personnel.	N/A	No	N/A	No	No	E-Plan Figure 1.5 EPP-206	N/A
EOF Clerk	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Lock the NOSF doors and place signs on doors. F5. Operate telecopier. F6. Operate copy machine. F7. Distribute approved Notification Message Forms. F8. Maintain office supplies for EOF Staff. F9. Log emergency related activities.	N/A	No	N/A	No	No	E-Plan Figure 1.5 EPP-206	N/A

ERO POSITION MATRIX

Current ERO Position	Tasks (F#)	Implementing Actions	Position eliminated?	Task Assigned to?	Min Staffing?	Key NRC PI?	Procedure(s) E-Plan section	Regulatory Requirement
EOF Security Coordinator	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Establish Security Posts IAW SEC-610. F5. Direct security support for an evacuation IAW EPP-314 and SEC-610. F6. Inform EOF Manager when federal, state and local agency representatives enter the EOF. F7. Conduct briefings for EOF staff. F8. Log emergency related activities. F9. Restrict access to EOF to authorized personnel IAW SEC-610.	N/A	No	N/A	Yes	No	E-Plan 1.1.2.2 E-Plan Table 1.1 E-Plan Figure 1.5 EPP-206 EPP-220 EPP-314	N/A
EOF Contracts Coordinator	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Coordinate vendor contracts when requested.	F4 from EOF Procurement Coord	No	N/A	No	No	E-Plan Figure 1.5	N/A
EOF Procurement Coordinator	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Supply procurement services when requested.	Eliminate position F1 - eliminate task F2 - eliminate task F3 - eliminate task	Yes	F4 - EOF Contracts Coord	No	No	E-Plan Figure 1.5	N/A
EOF Technician	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Conduct habitability assessment of facilities. F5. Receive environmental samples. F6. Line up HEPA System in EOF. F7. Log emergency related activities. F8. Issue Potassium Iodide (KI) tablets. F9. Perform radiological surveys. F10. Conduct decontamination of personnel and/or equipment. F11. Set up radiological decontamination facility.	N/A	No	N/A	No	No		N/A
EOF Transportation Vehicle Driver	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Provide transportation services when requested.	N/A	No	N/A	No	No		N/A
EXT IT Service Coordinator	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Provide Information Technology (IT) support/assistance when requested.	N/A	No	N/A	No	No		N/A
EOF Sequence of Events Board Recorder	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Post information to board. F5. Verify data. F6. Log emergency related activities.	N/A	No	N/A	No	No	E-Plan Figure 1.5 EPP-206	N/A

ERO POSITION MATRIX

Current ERO Position	Tasks (F#)	Implementing Actions	Position eliminated?	Task Assigned to?	Min Staffing?	Key NRC PI?	Procedure(s) E-Plan section	Regulatory Requirement
TECHNICAL SUPPORT CENTER								
TSC Manager	<p>F1. Staff the position.</p> <p>F2. Conduct shift relief.</p> <p>F3. Restore facility equipment and supplies.</p> <p>F4. Determine Offsite Protective Action Recommendations (PARS). (non-delegable)</p> <p>F5. Declare TSC activated.</p> <p>F6. Authorize emergency personnel exposures. (non-delegable)</p> <p>F7. Establish Recovery Organization.</p> <p>F8. Conduct briefing for TSC Staff.</p> <p>F9. Establish priorities for ERDC activities.</p> <p>F10. Notify personnel of the emergency classification.</p> <p>F11. Transfer Emergency Coordinator duties.</p> <p>F12. Log emergency related activities.</p> <p>F13. Direct building evacuation.</p> <p>F14. Escalate to a higher emergency classification.</p> <p>F15. Consider, if conditions warrant, a precautionary site evacuation.</p> <p>F16. Closeout emergency activities.</p> <p>F17. Relocate the TSC.</p> <p>F18. Approve issue of Potassium Iodide (KI). (non-delegable)</p> <p>F19. Transfer command and control to the TSC.</p>	N/A	No	N/A	Yes	Yes	E-Plan 1.1.2.2 E-Plan 6.2.1 E-Plan 6.2.4 E-Plan Table 1.1 E-Plan Table 4.2 E-Plan Figure 1.3 E-Plan 109 EPP-116 EPP-121 EPP-201 EPP-202 EPP-203 EPP-204 EPP-206 EPP-207 EPP-220 EPP-304 EPP-305 EPP-306 EPP-307 EPP-312 EPP-314 STA-430 TRA-105	NUREG 0654 II.A.1.d NUREG 0654 II.B.3 NUREG 0654 II.B.4 NUREG 0654 II.B.5 NUREG 0654 II.B.5 NUREG 0654 II.B.6 NUREG 0654 II.B.7.b NUREG 0654 II.B.7.d NUREG 0654 II.C.1.a NUREG 0654 II.J.7 NUREG 0654 II.X.2 NUREG 0654 II.K.6.c
TSC Operations Coordinator	<p>F1. Staff the position.</p> <p>F2. Conduct shift relief.</p> <p>F3. Restore facility equipment and supplies.</p> <p>F4. Complete applicable portions of TSC Activation Checklist.</p> <p>F5. Provide information regarding plant conditions and operational manipulations to TSC Management Team.</p> <p>F6. Transmit strategies to the Control Room during a severe accident.</p> <p>F7. Request necessary plant data/procedure information from Operations Advisor in the Control Room.</p> <p>F8. Provide recommendations from TSC Management Team to Control Room personnel regarding actions to mitigate events in progress.</p> <p>F9. Evaluate plant data/status to determine need to escalate emergency classification in accordance with EPP-201.</p> <p>F10. Provide input to TSC Management Team on ERDC activities and their impact on plant operations.</p> <p>F11. Log emergency related activities.</p> <p>F12. Coordinate Emergency Repair and Damage Control activities.</p>	N/A	No	N/A	No	Yes	E-Plan 1.1.2.2 E-Plan Figure 1.2 E-Plan Figure 1.3 E-Plan Figure 1.4 EPP-116 EPP-204 TRA-105	N/A
TSC Onsite Radiological Assessment Coordinator	<p>F1. Staff the position.</p> <p>F2. Conduct shift relief.</p> <p>F3. Restore facility equipment and supplies.</p> <p>F4. Determine onsite protective actions.</p> <p>F5. Determine offsite Protective Action Recommendations (PARS).</p> <p>F6. Conduct habitability assessment of facilities.</p> <p>F7. Process EPP-005-2, Emergency Exposure Authorizations.</p> <p>F8. Develop RI Tech shift relief schedules.</p> <p>F9. Complete applicable portions of TSC Activation Checklist.</p> <p>F10. Determine if radioactive release is in progress.</p> <p>F11. Request an accident sample; Contact the OSC Chemistry Supervisor.</p> <p>F12. Log emergency related activities.</p> <p>F13. Provide input to the Emergency Coordinator for escalating emergency classification.</p> <p>F14. Issue Potassium Iodide (KI) tablets.</p> <p>F15. Operate the PC-11.</p>	N/A	No	N/A	Yes	Yes	E-Plan 1.1.2.2 E-Plan 7.0.1 E-Plan 8.0 E-Plan Table 1.1 E-Plan Figure 1.3 E-Plan Figure 1.4 EPP-116 EPP-121 EPP-202 EPP-204 EPP-220 EPP-304 EPP-305 EPP-309 TRA-105	NUREG 0654 II.B.5 NUREG 0654 II.K.1.a
TSC Engineering Team Coordinator	<p>F1. Staff the position.</p> <p>F2. Conduct shift relief.</p> <p>F3. Restore facility equipment and supplies.</p> <p>F4. Assign an engineer to perform preliminary assessment of Conditional Core Damage Probability (CCDP) on declaration of an emergency with a reactor trip.</p> <p>F5. Coordinate engineering support.</p> <p>F6. Assign TSC Engineering Team (Nuclear) member to perform core damage assessment IAW EPP-312.</p> <p>F7. Complete applicable portion of TSC Activation Checklist.</p> <p>F8. Review accuracy of operational data.</p> <p>F9. Log emergency related activities.</p>	N/A	No	N/A	Yes	Yes	E-Plan 1.1.2.2 E-Plan Table 1.1 E-Plan Figure 1.3 EPP-204 EPP-312 TRA-105	NUREG 0654 II.B.5
TSC Communications Coordinator	<p>F1. Staff the position.</p> <p>F2. Conduct shift relief.</p> <p>F3. Restore facility equipment and supplies.</p> <p>F4. Locate substitute personnel to complete facility staffing needs.</p> <p>F5. Provide shift relief information.</p> <p>F6. Transfer all facility documentation to Emergency Planning Manager.</p> <p>F7. Complete applicable portion of TSC Activation Checklist.</p> <p>F8. Determine if a new offsite notification is required.</p> <p>F9. Log emergency related activities.</p>	N/A	No	N/A	Yes	Yes	E-Plan 1.1.2.2 E-Plan 11.0 E-Plan Table 1.1 E-Plan Figure 1.3 EPP-203 EPP-204 TRA-105	NUREG 0654 II.F.1.b

ERO POSITION MATRIX

Current ERO Position	Tasks (F#)	Implementing Actions	Position eliminated?	Task Assigned to?	Min Staffing?	Key NRC PI?	Procedure(s) E-Plan section	Regulatory Requirement
TSC Communicator	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Notify (if credible Security threat) specific persons or agencies. F5. Initiate Notification Message Form. F6. Operate telecopier. F7. Perform off-site notifications. F8. Activate pagers. F9. Relieve Control Room of notification responsibilities. F10. Log emergency related activities.	N/A	No	N/A	No	No	E-Plan Figure 1.3 EPP-121 EPP-202 EPP-203 EPP-204 TRA-105	NUREG 0654 II.B.5 NUREG 0654 II.F.1.b
TSC ENS Communicator	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Provide NRC with information. F5. Establish H.P. Network. F6. Log emergency related activities.	N/A	No	N/A	No	No	E-Plan Table 1.1 E-Plan Figure 1.3 EPP-203 EPP-204	NUREG 0654 II.F.1.c
TSC Engineering Team - Analysis	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Formulate corrective actions.	N/A	No	N/A	No	No	E-Plan 1.1.2.2 E-Plan Table 1.1 E-Plan Figure 1.3 EPP-204 EPP-206 EPP-312	N/A
TSC Engineering Team - Nuclear	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Formulate corrective actions. F5. Perform core damage assessment, when directed, in accordance with EPP-312, "Core Damage Assessment". F6. Calculate shutdown margin.	N/A	No	N/A	Yes (1 of 4)	No	E-Plan 1.1.2.2 E-Plan Table 1.1 E-Plan Figure 1.3 EPP-204 EPP-206 EPP-312	NUREG 0654 II.B.5
TSC Engineering Team - Mechanical	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Formulate corrective actions.	N/A	No	N/A	Yes (1 of 4)	No	E-Plan 1.1.2.2 E-Plan Table 1.1 E-Plan Figure 1.3 EPP-204 EPP-206 EPP-312	NUREG 0654 II.B.5
TSC Engineer Team - Electrical	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Formulate corrective actions.	N/A	No	N/A	Yes (1 of 4)	No	E-Plan 1.1.2.2 E-Plan Table 1.1 E-Plan Figure 1.3 EPP-204 EPP-206 EPP-312	NUREG 0654 II.B.5
TSC Engineer Team - I&C	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Formulate corrective actions.	N/A	No	N/A	Yes (1 of 4)	No	E-Plan 1.1.2.2 E-Plan Table 1.1 E-Plan Figure 1.3 EPP-204 EPP-206 EPP-312	N/A
TSC Engineer Team - Operational	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Formulate corrective actions.	N/A	No	N/A	No	No	E-Plan 1.1.2.2 E-Plan Table 1.1 E-Plan Figure 1.3 EPP-204 EPP-206 EPP-312	N/A
TSC Engineer Team - SAM	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Formulate corrective actions.	N/A	No	N/A	No	No	E-Plan 1.1.2.2 E-Plan Table 1.1 E-Plan Figure 1.3 EPP-204 EPP-206 EPP-312	N/A
TSC Radiological Status Board Recorder	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Post information to board. F5. Verify data. F6. Operate the PC-11.	N/A	No	N/A	No	No	E-Plan Figure 1.3 EPP-204	N/A
TSC Sequence of Events Board Recorder	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Post information to board. F5. Verify data. F6. Log emergency related activities.	Change to WebEOC Operator	No	N/A	No	No	E-Plan Figure 1.3 EPP-204	N/A

ERO POSITION MATRIX

Current ERO Position	Tasks (F#)	Implementing Actions	Position eliminated?	Task Assigned to?	Min Staffing?	Key NRC PI?	Procedure(s) E-Plan section	Regulatory Requirement
OPERATIONS SUPPORT CENTER								
OSC Manager	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Operate telecopier. F5. Locate substitute personnel to complete facility staffing needs. F6. Provide shift relief information. F7. Declare OSC activated. F8. Coordinate OSC activities. F9. Conduct briefings for OSC Staff. F10. Transfer all facility documentation to Emergency Planning Manager. F11. Complete Emergency Work Permit. F12. Log emergency related activities. F13. Relocate the OSC.	N/A	No	N/A	Yes (or OSC ERDC Coordinator)	Yes	E-Plan 1.1.2.2 E-Plan Table 1.1 E-Plan Table 4.2 E-Plan Figure 1.4 EPP-116 EPP-202 EPP-204 EPP-205 TRA-105	N/A
OSC ERDC Team Coordinator	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Direct ERDC activities. F5. Debrief ERDC teams. F6. Complete Emergency Work Permit. F7. Maintain a log of EWP's. F8. Log emergency related activities.	N/A	No	N/A	Yes (or OSC Manager)	No	E-Plan 1.1.2.2 E-Plan Figure 1.4 EPP-116 EPP-205	N/A
OSC Sequence of Events Board Recorder	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4 Post information to board. F5. Verify data. F6. Maintain list of priorities for OSC.	N/A	No	N/A	No	No	E-Plan Figure 1.4 EPP-205	N/A
OSC Radiation Protection Coordinator	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Dispatch radiological survey/monitoring teams. F5. Conduct habitability assessment of facilities. F6. Perform habitability setup IAW RP-920. F7. Direct activities of Radiation Protection Technicians. F8. Initiate EPP-305-2, "Emergency Exposure Authorization," if necessary. F9. Supply list of RP Technicians to TSC OnRAC for shift relief. F10. Coordinate radiological protection of onsite personnel. F11. Complete Emergency Work Permit. F12. Log emergency related activities. F13. Issue Potassium Iodide (KI) tablets. F14. Operate PC-11.	N/A	No	N/A	No	No	E-Plan 1.1.2.2 E-Plan Figure 1.4 EPP-116 EPP-121 EPP-205 EPP-305 EPP-309	NUREG 0654 II.K.1
OSC Chemistry Coordinator	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Direct Chemistry Sampling Team to collect and analyze an accident sample IAW Chemistry Procedures. F5. Develop Chemistry/Safety Tech shift relief schedule. F6. Complete Emergency Work Permit. F7. Log emergency related activities.	N/A	No	N/A	No	No	E-Plan 1.1.2.2 E-Plan Figure 1.4 EPP-205	N/A
OSC Clerk Manager	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Operate telecopier. F5. Operate copy machine. F6. Provide administrative support for the OSC Manager. F7. Record significant activities for the OSC Manager. F8. Log emergency related activities.	N/A	No	N/A	No	No	EPP-205	N/A
OSC Radiological Status Board Recorder	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Verify data. F5. Provide radiation survey results. F6. Operate the PC-11.	N/A	No	N/A	No	No	E-Plan Figure 1.4	N/A
OSC Chemistry Technician	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Sample and analyze systems.	N/A	No	N/A	No	No	E-Plan 1.1.2.1 E-Plan Table 1.1 E-Plan Figure 1.2 E-Plan Figure 1.4 EPP-205	N/A
OSC ERDC Electrician	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Provide repairs to plant systems.	N/A	No	N/A	Yes (3 of 3)	No	E-Plan Table 1.1 E-Plan Figure 1.2 E-Plan Figure 1.4 EPP-116 EPP-205	NUREG 0654 II.B.5

ERO POSITION MATRIX

Current ERO Position	Tasks (F#)	Implementing Actions	Position eliminated?	Task Assigned to?	Min Staffing?	Key NRC PI?	Procedure(s) E-Plan section	Regulatory Requirement
OSC ERDC Mechanic	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Provide repairs to plant systems.	N/A	No	N/A	Yes (1 of 3)	No	E-Plan Table 1.1 E-Plan Figure 1.2 E-Plan Figure 1.4 EPP-116 EPP-205	NUREG 0654 II.B.5
OSCI&C Technician	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Provide repairs to plant systems.	N/A	No	N/A	Yes (1 of 3)	No	E-Plan Table 1.1 E-Plan Figure 1.2 E-Plan Figure 1.4 EPP-116 EPP-205	NUREG 0654 II.B.5
OSC First Aid Team	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Provide emergency medical assistance.	N/A	No	N/A	No	No	E-Plan 1.1.2.1 E-Plan Table 1.1 E-Plan Figure 1.2 E-Plan Figure 1.4 TRA-105	N/A
OSC Team Communicator	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Verify data. F5. Transmit information to onsite monitoring and maintenance teams. F6. Log emergency related tasks.	N/A	No	N/A	No	No	E-Plan Figure 1.4 EPP-202 EPP-205	N/A
Radiation Protection Technicians (2)	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Perform radiological support activities.	N/A	No	N/A	Yes	No	E-Plan 1.1.2.1 E-Plan Table 1.1 E-Plan Figure 1.2 E-Plan Figure 1.4 EPP-116 EPP-205 EPP-305 EPP-309 TRA-105	NUREG 0654 II.B.5
Onsite Monitoring Team (RP Technician)	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Provide radiation survey results. F5. Do onsite predeployment activities. F6. Do post field work activities with OSC Radiation Protection Coordinator. F7. Provide onsite periodic updates. F8. Do onsite field work. F9. Issue Potassium Iodide (KI) tablets.	N/A	No	N/A	No	No	E-Plan Figure 1.4 EPP-205 EPP-305 EPP-309 TRA-105	NUREG 0654 II.B.5

ERO POSITION MATRIX

Current ERO Position	Tasks (F#)	Implementing Actions	Position eliminated?	Task Assigned to?	Min Staffing?	Key NRC PI?	Procedure(s) E-Plan section	Regulatory Requirement
JOINT INFORMATION CENTER								
JIC Company Spokesperson	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Approve press releases. F5. Conduct pre-job brief with all press briefing participants. F6. Schedule press briefings. F7. Conduct press briefings. F8. Inform JIC personnel, including representatives from other agencies, of emergency related information. F9. Log emergency related activities. F10. Declare the Joint Information Center activated.	N/A	No	N/A	Yes (or JIC Director)	No	E-Plan 1.1.2.2 E-Plan Table 1.1 E-Plan Figure 1.5 E-Plan Figure 1.6 EPP-202 EPP-207 STA-430	NUREG 0654 II.B.7.d NUREG 0654 II.G.4.a NUREG 0654 II.G.4.c
JIC Director	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Approve press releases. F5. Perform the duties of Company Spokesperson, Information Liaison, and Press Release Writer until they are present. F6. Approve access to the Joint Information Center. F7. Obtain approved emergency related public information and make the appropriate media notifications. F8. Host press briefings. F9. Inform the Company Spokesperson of information that may need to be corrected and addressed in press briefings or press releases. F10. Transfer all facility documentation to Emergency Planning Manager. F11. Log emergency related activities. F12. Declare the Joint Information Center activated.	N/A	No	N/A	Yes (or Company Spokesperson)	No	E-Plan 1.1.2.2 E-Plan Figure 1.6 EPP-207	N/A
JIC Information Liaison	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Set up Spokesperson work area. F5. Locate substitute personnel to complete facility staffing needs. F6. Provide shift relief information. F7. Inform outside contacts of important events. F8. Obtain emergency related information from outside sources. F9. Log emergency related activities.	N/A	No	N/A	No	No	E-Plan 1.1.2.2 E-Plan Figure 1.6 EPP-207	N/A
JIC Communicator	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Assist with setup of work area. F5. Post information to Sequence of Events board. F6. Update Emergency Planning Zone (EPZ) map to reflect current protective actions. F7. Log emergency related activities.	N/A	No	N/A	No	No	E-Plan 1.1.2.2 E-Plan Figure 1.6 EPP-207	N/A
JIC Information Coordinator	F1. Staff the Position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Provide approved emergency related public information to the JIC Communicator. F5. Log emergency related activities.	N/A	No	N/A	No	No	E-Plan 1.1.2.2 E-Plan Figure 1.6 EPP-207	N/A
JIC Press Release Writer	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Assist with setup of work area. F5. Prepare press releases. F6. Fax press releases.	N/A	No	N/A	Yes	No	E-Plan 1.1.2.2 E-Plan Figure 1.6 EPP-207	N/A
JIC Rumor Control Coordinator	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Review rumor control call sheets. F5. Provide approved emergency related public information to Rumor Control. F6. Log emergency related activities. F7. Activate the Rumor Control/Media Monitoring area of the Joint Information Center.	N/A	No	N/A	Yes	No	E-Plan 1.1.2.2 E-Plan Figure 1.6 EPP-207	NUREG 0654 II.G.4.c
JIC Media Monitoring Aide	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Set up monitoring equipment. F5. Monitor news reports.	N/A	No	N/A	No	No	E-Plan 1.1.2.2 E-Plan Figure 1.6 EPP-207	N/A
JIC Aide	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Register media and members of the public at the Joint Information Center. F5. Checkout press briefing recordings. F6. Provide general information about the Joint Information Center to the media. F7. Set up the media registration and media work areas of the JIC. F8. Distribute press releases to the media.	N/A	No	N/A	No	No	E-Plan 1.1.2.2 E-Plan Figure 1.6 EPP-207	N/A

ERO POSITION MATRIX

Current ERO Position	Tasks (F#)	Implementing Actions	Position eliminated?	Task Assigned to?	Min Staffing?	Key NRC PI?	Procedure(s) E-Plan section	Regulatory Requirement
JIC Rumor Control Aide	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Set up Rumor Control work area. F5. Respond to calls.	N/A	No	N/A	No	No	E-Plan 1.1.2.2 E-Plan Figure 1.6 EPP-207	N/A
JIC Audio Visual Aide	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Set up press briefing area of the Joint Information Center. F5. Create two recordings of each press briefing and give the recordings to the JIC Aide. F6. Maintain lighting, sound levels, displays, furniture and other audio/visual equipment.	N/A	No	N/A	No	No	E-Plan 1.1.2.2 E-Plan Figure 1.6 EPP-207	N/A
JIC Electronic Media Monitoring Aide	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Monitor media outlets in the internet.	N/A	No	N/A	No	No	E-Plan 1.1.2.2 E-Plan Figure 1.6 EPP-207	N/A

ERO POSITION MATRIX

Current ERO Position	Tasks (F#)	Implementing Actions	Position eliminated?	Task Assigned to?	Min Staffing?	Key NRC PI#	Procedure(s) E-Plan section	Regulatory Requirement
Control Room								
Control Room Communicator	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Notify (if credible security threat) specific persons or agencies. F5. Fax the Notification Message Form. F6. Perform offsite notifications. F7. Provide NRC with information. F8. Record time of General Emergency declaration. F9. Activate pagers. F10. Record time of Site Area Emergency declaration. F11. Record time of Alert declaration. F12. Record time of Notification of Unusual Event (NOUE) declaration. F13. Activate callout machine. F14. Record message on Control Room Voice Mail Box.	F4 from Control Room ENS Communicator	No	N/A	Yes	No	E-Plan 1.1.2.1 E-Plan Table 1.1 E-Plan Figure 1.2 EPP-100 EPP-202 EPP-203	NUREG 0554 II.A.1.e NUREG 0554 II.B.5 NUREG 0554 II.F.1.a NUREG 0554 II.F.1.b NUREG 0554 II.F.1.c NUREG 0554 II.F.1.c
Control Room ENS Communicator	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Communicate information to the NRC via the FTS ENS phone line.	N/A	Yes	Eliminate position F1 eliminate task F2 eliminate task F3 eliminate task F4 to Control Room Communicator	Yes	No	E-Plan 1.1.2.1	NUREG 0554 II.B.5 NUREG 0554 II.F.1.f
Control Room Operations Advisor	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Provide data/plant status information to TSC Operations Coordinator. F5. Provide recommendations from TSC Management Team to Control Room Shift Manager.	N/A	No	N/A	No	No	E-Plan 1.1.2.2 E-Plan Figure 1.2 EPP-204	N/A
Control Room Shift Manager	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Initiate Notification Message Form. (non-delegable) F5. Determine offsite Protective Action Recommendations (PARs). (non-delegable) F6. Establish Recovery Organization. F7. Determine if radioactive release is in progress. F8. Determine if a new offsite notification is required. F9. Notify personnel of the emergency classification. F10. Transfer Emergency Coordinator duties to the TSC Manager. F11. Assess, classify and declare the emergency. F12. Log emergency related activities. F13. Direct building evacuation. F14. Escalate to higher emergency classification. F15. Consider, if conditions warrant, a precautionary site evacuation. F16. Issue Potassium Iodide (KI) tablets. F17. Closeout emergency activities. F18. Conduct facility and site briefs. F19. Approve issue of Potassium Iodide (KI). (non-delegable) F20. Transfer command and control to the TSC.	N/A	No	N/A	Yes	E-Plan 1.1.2.1 E-Plan 7.3.1 E-Plan Table 1.1 E-Plan Table 4.2 E-Plan Figure 1.2 E-Plan App. Q EPP-100 EPP-109 EPP-116 EPP-121 EPP-201 EPP-202 EPP-203 EPP-204 EPP-205 EPP-207 EPP-220 EPP-304 EPP-305 EPP-306 EPP-309 EPP-312 EPP-314 TRA-105	NUREG 0554 II.A.1.d NUREG 0554 II.A.1.e NUREG 0554 II.A.4 NUREG 0554 II.B.2 NUREG 0554 II.B.4 NUREG 0554 II.B.5 NUREG 0554 II.B.6 NUREG 0554 II.B.7 NUREG 0554 II.C.1.a NUREG 0554 II.J.7 NUREG 0554 II.K.2 NUREG 0554 II.K.6.c	
Control Room Shift Technical Advisor	F1. Staff the position. F2. Conduct shift relief. F3. Restore facility equipment and supplies. F4. Perform dose projections. F5. Evaluate current and forecasted meteorological conditions. F6. Determine offsite Protective Action Recommendations (PARs).	N/A	No	N/A	Yes	No	E-Plan 1.1.2.1 E-Plan Table 1.1 E-Plan Figure 1.2 EPP-304 EPP-312	NUREG 0554 II.B.5

Attachment IV to TXX-18066
Summary of Shift Staffing and Augmentation Response Time
Historical Requirements and Proposed Changes

The following tables compare minimum staffing levels between NUREG-0654 Table B-1 and CPNPP Emergency Plan Table 1.1, Revisions 11 (NRC-approved), 42 (current), and the proposed revision.

Summary of Shift Staffing and Augmentation Response Times
CPNPP On-Shift Comparison Table

Major Functional Area	Major tasks	Position Title/Expertise	Table B-1 On-Shift	CPNPP Rev 11 On-Shift	CPNPP Rev 42 On-Shift	CPNPP Proposed On-Shift
Plant Operations & Assessment of Operational Aspects (NUREG-0654 Tbl. B-1)		Shift Supervisor (SRO) Shift Foreman (SRO) Control Room Operators Auxiliary Operators	1 1 2 2			
Station Operation (Rev. 11)	Assessment of Operational Aspects	Shift Supervisor (SRO) Asst. Shift Supervisor (SRO) Reactor Operators (RO) Auxiliary Operators		1 1 2 3		
Station Operations (Rev. 42 & Proposed)	Assessment of Operational Aspects	Shift Manager (SRO) Unit Supervisor (SRO) Reactor Operator (RO) Plant Equipment Operators			1 2 4 7	1 2 4 7
Emergency Direction and Control (Emergency Coordinator) *** (NUREG-0654 Tbl. B-1)		Shift Technical Advisor, Shift Supervisor or designated facility manager	1**			
Emergency Direction and Control (Rev. 11)		Shift Supervisor (SRO) **		1*		
Emergency Direction and Control ^(b) (Rev. 42 & Proposed)	Direction and control of onsite emergency activities as Emergency Coordinator	Shift Manager (SRO) ^(a)			1 ^(a)	1 ^(a)
Notification/Communication**** (NUREG-0654 Tbl. B-1)	Notify licensee, state, local and Federal personnel & maintain communication		1			
Communications (Rev. 11)	Notify Station personnel and maintain communication	Communicator		1*		
Communications (Rev. 42 & Proposed)	Notify station, local, state, and federal personnel and maintain communications	Communicator Communicator ^(a)			1 1 ^(a)	1

CPNPP On-Shift Comparison Table (cont.)

Major Functional Area	Major tasks	Position Title/Expertise	Table B-1 On-Shift	CPNPP Rev 11 On-Shift	CPNPP Rev 42 On-Shift	CPNPP Proposed On-Shift
Radiological Accident Assessment & Support of Operational Accident Assessment (NUREG-0654 Tbl. B-1)	Emergency Operations Facility (EOF) Director Offsite Dose Assessment Offsite Surveys Onsite (out-of-plant) In-plant surveys Chemistry/Radiochemistry	Senior Manager Senior Health Physics (HP) Expertise HP Technicians Rad/Chem Technicians	-- -- 1 1			
Radiological Assessment (Rev. 11)	Station Surveys Chemistry/Radiochemistry Offsite Surveys Onsite Surveys Dose Assessment	RP Technician Chem. & Envir. Technician RP Technicians RP Technicians Sr. Health Physics Expertise		1 1 -- -- --		
Radiological Assessment (Rev. 42 & Proposed)	In-plant Survey Chem/Radiochemistry Onsite Surveys Offsite Surveys Dose Assessment Protective Actions Coordination/Control	RP Technician Chemistry Technician RP Technician RP Technicians Shift Technical Advisor ^(a) RP Technicians ^(a) Shift Manager ^(a)		1 1 1 1(a) 2 ^(a) 1 ^(a)	1 1 1 1(a) 2 ^(a) 1 ^(a)	1 1 1 1(a) 2 ^(a) 1 ^(a)

CPNPP On-Shift Comparison Table (cont.)

Major Functional Area	Major tasks	Position Title/Expertise	Table B-1 On-Shift	CPNPP Rev 11 On-Shift	CPNPP Rev 42 On-Shift	CPNPP Proposed On-Shift
Plant System Engineering, Repair and Corrective Actions (NUREG-0654 Tbl. B-1)	Technical Support	Shift Technical Advisor Core/Thermal Hydraulics Electrical Mechanical	1 -- -- --			
	Repair and Corrective Action	Mechanical Maintenance/ Rad Waste Operator Electrical Maintenance/ Instrument and Control (I&C) Technician	1** 1** --			
Station System Engineering (Rev. 11)	Technical Support	Shift Technical Advisor Engineers Health Physicist	1 -- --			
System Corrective Actions (Rev. 11)	Damage Control	Mechanic Electrician I&C Technician Auxiliary Operator		1*		
Station System Engineering (Rev. 42 & Proposed)	Coordination/Control Technical Support	Shift Technical Advisor			1	1
System Corrective Action (Rev. 42 & Proposed)	Emergency Repair and Damage Control (ERDC)	Plant Equipment Operator ^(a) Mechanic Electrician I&C Technician			1 ^(a) 1 1 1	1 ^(a)

CPNPP On-Shift Comparison Table (cont.)

Major Functional Area	Major tasks	Position Title/Expertise	Table B-1 On-Shift	CPNPP Rev 11 On-Shift	CPNPP Rev 42 On-Shift	CPNPP Proposed On-Shift
Protective Actions (In-Plant) (NUREG-0654 Tbl. B-1)	Radiation Protection – a. Access Control b. HP coverage for repair, corrective actions, search and rescue, first aid and firefighting c. Personnel monitoring d. Dosimetry	HP Technicians	2**			
Protective Actions (Rev. 11)	Radiation Protection a. Access Control b. Personnel Monitoring c. Dosimetry	RP Technician		2*		
Protective Actions (Rev. 42 & Proposed) See Radiological Assessment Major Functional Area				N/A	N/A	
Firefighting (NUREG-0654 Tbl. B-1)			FB per TS			
Fire Fighting (Rev. 11)				5*		
Fire (Rev. 42 & Proposed)	Fire Fighting and Rescue	Fire Brigade ^(a)		5 ^(a)	5 ^(a)	
Rescue Operations and First-Aid (NUREG-0654 Tbl. B-1)			2**			
Rescue Operations and First Aid (Rev. 11)				2*		
Medical (Rev. 42 & Proposed)	First Aid	First Aid Team Member Chemistry Technician ^(a)		1 1 ^(a)	1 1 ^(a)	

CPNPP On-Shift Comparison Table (cont.)

Major Functional Area	Major tasks	Position Title/Expertise	Table B-1 On-Shift	CPNPP Rev 11 On-Shift	CPNPP Rev 42 On-Shift	CPNPP Proposed On-Shift
Site Access Control and Personnel Accountability (NUREG-0654 Tbl. B-1)	Security, firefighting communications, personnel accountability	Security Personnel	All per Security Plan			
Site Access Control and Personnel Accountability (Rev. 11)	Security, fire fighting Communications, personnel accountability	Security Officers		Per Sec Plan		
Security (Rev. 42 & Proposed)	Site access control and personnel accountability	Security Shift Supervisor Security Officers		1 Per Sec Plan	1 Per Sec Plan	
Public Information (Rev. 42 & Proposed)	Approve release of public information	Shift Manager ^(a)		1 ^(a)	1 ^(a)	
Logistics (Rev. 42 & Proposed)	Obtain/Expedite needed resources for the ERO	Shift Manager ^(a)		1 ^(a)	1 ^(a)	
Total On-Shift			10	10	24	21

CPNPP Augmented ERO Comparison Table

Major Functional Area	Major tasks	Position Title/Expertise	Table B-1 Augment (30 Min)	CPNPP Rev 11 Augment (40 Min)	CPNPP Rev 42 Augment (40 Min)	CPNPP Proposed Augment (60 Min)
Plant Operations & Assessment of Operational Aspects (NUREG-0654 Tbl. B-1)		Shift Supervisor (SRO) Shift Foreman (SRO) Control Room Operators Auxiliary Operators	-- -- -- --			
Station Operations (Rev. 11)	Assessment of Operational Aspects	Shift Supervisor (SRO) Asst. Shift Supervisor (SRO) Reactor Operators (RO) Auxiliary Operators	-- -- -- --			
Station Operations (Rev. 42 & Proposed)	Assessment of Operational Aspects	Shift Manager (SRO) Unit Supervisor (SRO) Reactor Operator (RO) Plant Equipment Operators	-- -- -- --			
Emergency Direction and Control (Emergency Coordinator) *** (NUREG-0654 Tbl. B-1)		Shift Technical Advisor (STA), Shift Supervisor (SRO) or designated facility manager	-- --			
Emergency Direction and Control (Rev. 11)		Shift Supervisor (SRO) **	--			
Emergency Direction and Control ^(b) (Rev. 42 & Proposed)	Direction and control of onsite emergency activities as Emergency Coordinator	Shift Manager (SRO) ^(a)	-- --			
Notification/Communication**** (NUREG-0654 Tbl. B-1)	Notify licensee, state, local and Federal personnel & maintain communication		1			
Communications (Rev. 11)	Notify Station personnel and maintain communication	Communicator		1		
Communications (Rev. 42 & Proposed)	Notify station, local, state, and federal personnel and maintain communications	Communicator Communicator ^(a)		-- --		

CPNPP Augmented ERO Comparison Table (cont.)

Major Functional Area	Major tasks	Position Title/Expertise	Table B-1 Augment (30 Min)	CPNPP Rev 11 Augment (40 Min)	CPNPP Rev 42 Augment (40 Min)	CPNPP Proposed Augment (60 Min)
Radiological Accident Assessment & Support of Operational Accident Assessment (NUREG-0654 Tbl. B-1)	Emergency Operations Facility (EOF) Director Offsite Dose Assessment Offsite Surveys Onsite (out-of-plant) In-plant surveys Chemistry/Radiochemistry	Senior Manager Senior Health Physics (HP) Expertise HP Technicians Rad/Chem Technicians	-- 1 2 1 1 --			
Radiological Assessment (Rev. 11)	Station Surveys Chemistry/Radiochemistry Offsite Surveys Onsite Surveys Dose Assessment	RP Technician Chem. & Envir. Technician RP Technicians RP Technicians Sr. Health Physics Expertise		1 -- 1 1 --		
Radiological Assessment (Rev. 42 & Proposed)	In-plant Survey Chem/Radiochemistry Onsite Surveys Offsite Surveys Dose Assessment Protective Actions Coordination/Control	RP Technician Chemistry Technician RP Technician RP Technicians Vehicle Drivers Monitoring Team STA ^(a) TSC OnRAC EOF Dose Assessor RP Technicians ^(a) Shift Manager ^(a) TSC OnRAC ^(a)		2 2 1 1 1(a)	2 1 2 1(a)	

CPNPP Augmented ERO Comparison Table (cont.)

Major Functional Area	Major tasks	Position Title/Expertise	Table B-1 Augment (30 Min)	CPNPP Rev 11 Augment (40 Min)	CPNPP Rev 42 Augment (40 Min)	CPNPP Proposed Augment (60 Min)
Plant System Engineering, Repair and Corrective Actions (NUREG-0654 Tbl. B-1)	Technical Support	Shift Technical Advisor Core/Thermal Hydraulics Electrical Mechanical	-- 1 -- --			
	Repair and Corrective Action	Mechanical Maintenance/ Rad Waste Operator Electrical Maintenance/ I&C Technician	-- -- 1 1			
Station System Engineering (Rev. 11)	Technical Support	Shift Technical Advisor Engineers Health Physicist	-- 1 1			
System Corrective Actions (Rev. 11)	Damage Control	Mechanic Electrician I&C Technician Auxiliary Operator	1 1 1 --			
Station System Engineering (Rev. 42 & Proposed)	Coordination/Control Technical Support	TSC Eng Team Coord STA TSC Eng Team (4)				
System Corrective Action (Rev. 42 & Proposed)	Emergency Repair and Damage Control (ERDC)	Plant Equipment Operator ^(a) Mechanic Electrician I&C Technician OSC Manager				

CPNPP Augmented ERO Comparison Table (cont.)

Major Functional Area	Major tasks	Position Title/Expertise	Table B-1 Augment (30 Min)	CPNPP Rev 11 Augment (40 Min)	CPNPP Rev 42 Augment (40 Min)	CPNPP Proposed Augment (60 Min)
Protective Actions (In-Plant) (NUREG-0654 Tbl. B-1)	Radiation Protection – a. Access Control b. HP coverage for repair, corrective actions, search and rescue, first aid and firefighting c. Personnel monitoring d. Dosimetry	HP Technicians	2			
Protective Actions (Rev. 11)	Radiation Protection d. Access Control e. Personnel Monitoring Dosimetry	RP Technician		2		
Protective Actions (Rev. 42 & Proposed) See Radiological Assessment Major Functional Area					N/A	N/A
Firefighting (NUREG-0654 Tbl. B-1)			Local Support			
Fire Fighting (Rev. 11)				Local Support		
Fire (Rev. 42 & Proposed)	Fire Fighting and Rescue	Fire Brigade ^(a)			Local Support	Local Support
Rescue Operations and First-Aid (NUREG-0654 Tbl. B-1)			Local Support			
Rescue Operations and First Aid (Rev. 11)				Local Support		
Medical (Rev. 42 & Proposed)	First Aid	First Aid Team Member Chemistry Technician ^(a)			Local Support	Local Support

CPNPP Augmented ERO Comparison Table (cont.)

Major Functional Area	Major tasks	Position Title/Expertise	Table B-1 Augment (30 Min)	CPNPP Rev 11 Augment (40 Min)	CPNPP Rev 42 Augment (40 Min)	CPNPP Proposed Augment (60 Min)
Site Access Control and Personnel Accountability (NUREG-0654 Tbl. B-1)	Security, firefighting communications, personnel accountability	Security Personnel				
Site Access Control and Personnel Accountability (Rev. 11)	Security, fire fighting Communications, personnel accountability	Security Officers		Local Support		
Security (Rev. 42 & Proposed)	Site access control and personnel accountability	Security Shift Supervisor Security Officers			Local Support	Local Support
Public Information (Rev. 42 & Proposed)	Approve release of public information	Shift Manager ^(a) TSC Manager ^(a)				
Logistics (Rev. 42 & Proposed)	Obtain/Expedite needed resources for the ERO	Shift Manager ^(a) TSC Communications Coordinator ^(a)				
Total On-Shift			10	10	24	21
Total Initial (30 Minute) Augmented			11	11	5	5
Total On-Shift and Initial Augmented ERO			21	21	29	26

CPNPP Augmented ERO Comparison Table (cont.)

Major Functional Area	Major tasks	Position Title/Expertise	Table B-1 Augment (60 Min)	CPNPP Rev 11 Augment (70 Min)	CPNPP Rev 42 Augment (70 Min)	CPNPP Proposed Augment (90 Min)
Plant Operations & Assessment of Operational Aspects (NUREG-0654 Tbl. B-1)		Shift Supervisor (SRO) Shift Foreman (SRO) Control Room Operators Auxiliary Operators	-- -- -- --			
Station Operations (Rev. 11)	Assessment of Operational Aspects	Shift Supervisor (SRO) Asst. Shift Supervisor (SRO) Reactor Operators (RO) Auxiliary Operators	-- -- -- --			
Station Operations (Rev. 42 & Proposed)	Assessment of Operational Aspects	Shift Manager (SRO) Unit Supervisor (SRO) Reactor Operator (RO) Plant Equipment Operators	-- -- -- 1	-- -- -- --	-- -- -- --	-- -- -- --
Emergency Direction and Control (Emergency Coordinator) *** (NUREG-0654 Tbl. B-1)		Shift Technical Advisor (STA), Shift Supervisor (SRO) or designated facility manager	--			
Emergency Direction and Control (Rev. 11)		Shift Supervisor (SRO) **		1		
Emergency Direction and Control ^(b) (Rev. 42 & Proposed)	Direction and control of onsite emergency activities as Emergency Coordinator	Shift Manager (SRO) ^(a) TSC Manager		-- 1	-- 1	-- 1
Notification/Communication**** (NUREG-0654 Tbl. B-1)	Notify licensee, state, local and Federal personnel & maintain communication		2			
Communications (Rev. 11)	Notify Station personnel and maintain communication	Communicator		2		
Communications (Rev. 42 & Proposed)	Notify station, local, state, and federal personnel and maintain communications	Communicator Communicator ^(a) TSC Communications Coordinator TSC ENS Communicator		-- -- 1 1	-- -- 1 1	-- -- 1 1

CPNPP Augmented ERO Comparison Table (cont.)

Major Functional Area	Major tasks	Position Title/Expertise	Table B-1 Augment (60 Min)	CPNPP Rev 11 Augment (70 Min)	CPNPP Rev 42 Augment (70 Min)	CPNPP Proposed Augment (90 Min)
Radiological Accident Assessment & Support of Operational Accident Assessment (NUREG-0654 Tbl. B-1)	Emergency Operations Facility (EOF) Director	Senior Manager	1			
	Offsite Dose Assessment	Senior Health Physics (HP) Expertise	--			
	Offsite Surveys		2			
	Onsite (out-of-plant)		1			
	In-plant surveys	HP Technicians	1			
	Chemistry/Radiochemistry	Rad/Chem Technicians	1			
Radiological Assessment (Rev. 11)	Station Surveys	RP Technician	1			
	Chemistry/Radiochemistry	Chem. & Envir. Technician	1			
	Offsite Surveys	RP Technicians	3			
	Onsite Surveys	RP Technicians	1			
	Dose Assessment	Sr. Health Physics Expertise	1			
Radiological Assessment (Rev. 42 & Proposed)	In-plant Survey	RP Technician		2	1	
	Chem/Radiochemistry	Chemistry Technician		1	1	
	Onsite Surveys	RP Technician		1	1	
	Offsite Surveys	RP Technicians		--	--	
	Dose Assessment	Vehicle Drivers		2	2	
		STA ^(a)		--	--	
		TSC OnRAC		--	--	
		EOF Dose Assessor		1	1	
	Protective Actions	RP Technicians ^(a)		2	1	
	Coordination/Control	Shift Manager ^(a)		--	--	
		TSC OnRAC ^(a)		--	--	

CPNPP Augmented ERO Comparison Table (cont.)

Major Functional Area	Major tasks	Position Title/Expertise	Table B-1 Augment (60 Min)	CPNPP Rev 11 Augment (70 Min)	CPNPP Rev 42 Augment (70 Min)	CPNPP Proposed Augment (90 Min)
Plant System Engineering, Repair and Corrective Actions (NUREG-0654 Tbl. B-1)	Technical Support	Shift Technical Advisor Core/Thermal Hydraulics Electrical Mechanical	-- -- 1 1	-- -- 1 1	-- -- 1 1	-- -- 1 1
	Repair and Corrective Action	Mechanical Maintenance/ Rad Waste Operator Electrical Maintenance/ I&C Technician	1 1 1	-- -- 1	-- -- 1	-- -- 1
Station System Engineering (Rev. 11)	Technical Support	Shift Technical Advisor Engineers Health Physicist	-- 3 --	-- 3 --	-- -- --	-- -- --
System Corrective Actions (Rev. 11)	Damage Control	Mechanic Electrician I&C Technician Auxiliary Operator	1 -- -- 1	-- -- -- 1	-- -- -- 1	-- -- -- 1
Station System Engineering (Rev. 42 & Proposed)	Coordination/Control Technical Support	TSC Engineering Team Coord STA TSC Engineering Team	-- -- 4	-- -- 4	-- -- 4	-- -- 4
System Corrective Action (Rev. 42 & Proposed)	Emergency Repair and Damage Control (ERDC)	Plant Equipment Operator ^(a) Mechanic Electrician I&C Technician OSC Manager	-- 1 1 1 1	-- 1 1 1 1	-- 1 1 1 1	-- 1 1 1 1

CPNPP Augmented ERO Comparison Table (cont.)

Major Functional Area	Major tasks	Position Title/Expertise	Table B-1 Augment (60 Min)	CPNPP Rev 11 Augment (70 Min)	CPNPP Rev 42 Augment (70 Min)	CPNPP Proposed Augment (90 Min)
Protective Actions (In-Plant) (NUREG-0654 Tbl. B-1)	Radiation Protection – a. Access Control b. HP coverage for repair, corrective actions, search and rescue, first aid and firefighting c. Personnel monitoring d. Dosimetry	HP Technicians	2			
Protective Actions (Rev. 11)	Radiation Protection a. Access Control b. Personnel Monitoring c. Dosimetry	RP Technician		2		
Protective Actions (Rev. 42 & Proposed) See Radiological Assessment Major Functional Area					N/A	N/A
Firefighting (NUREG-0654 Tbl. B-1)			Local Support			
Fire Fighting (Rev. 11)						
Fire (Rev. 42 & Proposed)	Fire Fighting and Rescue	Fire Brigade ^(a)				
Rescue Operations and First-Aid (NUREG-0654 Tbl. B-1)			Local Support			
Rescue Operations and First Aid (Rev. 11)						
Medical (Rev. 42 & Proposed)	First Aid	First Aid Team Member Chemistry Technician ^(a)				

CPNPP Augmented ERO Comparison Table (cont.)

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Site Access Control and Personnel Accountability (Rev. 11)	Security, fire fighting Communications, personnel accountability	Security Officers				
Security (Rev. 42 & Proposed)	Site access control and personnel accountability	Security Shift Supervisor Security Officers				
Public Information (Rev. 42 & Proposed)	Approve release of public information	Shift Manager ^(a) TSC Manager ^(a)		1 ^(a)	1 ^(a)	
Logistics (Rev. 42 & Proposed)	Obtain/Expedite needed resources for the ERO	Shift Manager ^(a) TSC Communications Coordinator ^(a)		1 ^(a)	1 ^(a)	
Total On-Shift			10	10	24	21
Total Initial (30/40/60 Minute) Augmented			11	11	5	5
Total Secondary (60/70/90 Minute) Augmented			15	17	22	19
Total On-Shift and Fully Augmented ERO			36	38	51	45

LEGEND TO FOOTNOTES

NUREG-0654, Table B1 Notes:

- * For each unaffected nuclear unit in operation, maintain at least one shift foreman, one control room operator and one auxiliary operator except that units sharing a control room may share a shift foreman if all functions are covered.
- ** May be provided by shift personnel assigned other functions.
- *** Overall direction of facility response to be assumed by EOF director when all centers are fully manned. Director of minute-to-minute facility operation remains with senior manager in technical support center or control room.
- **** May be performed by engineering aide to shift supervisor.

CPNPP EPlan, Rev. 11 Notes:

- * May be provided by on-shift or augmentation personnel assigned other functions.
- ** Shift Supervisor serves in this capacity until relieved by a designated individual (Section 1.2.3.1)

CPNPP EPlan, Rev. 42 and Proposed Notes:

- (a) May be provided by onshift or augmentation personnel assigned other functions.
- (b) Shift Manager serves in this capacity until relieved by a designated individual (Section 1.1.2.2).
- (c) The minimum onshift crew composition may be one (1) less than the minimum specified for any position during normal operations for a period of time not to exceed two (2) hours in order to accommodate unexpected absence, provided immediate action is taken to fill the required position. This exception does not permit any crew composition to be unmanned upon shift turnover due to an oncoming crew member being late or absent. This exception is not applicable during declared emergencies.

Attachment V to TXX-18066

**Letters of Consultation and Concurrence from Off-site Response Organizations
Acknowledgement of Opportunity to Review and Support CPNPP License
Amendment Request**



**Letter of Consultation and Concurrence from Off-site Response Organizations
Acknowledgement of Opportunity to Review and Support CPNPP License
Amendment Request**

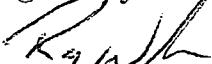
During a meeting on August 27, 2018 with off-site response organizations (ORO), Emergency Preparedness (EP) representatives from CPNPP provided a briefing to the Hood County and Somervell County Emergency Management organizations, and the state of Texas (ORO stakeholders).

Note that if an organization was not in attendance, a one-on one meeting was conducted to update the stakeholder with information contained in the license amendment request (LAR). CPNPP EP staff reviewed with the ORO stakeholders the proposed license amendment request (LAR).

During the reference meeting, CPNPP EP Staff provided assurances that the proposed changes will not adversely affect existing capabilities for prompt notification to the stakeholders of an Emergency Classification Level, for radiological monitoring and assessment support, and for ongoing communication and coordination of emergency information.

In addition to maintaining notification capabilities to notify the stakeholders of a declared emergency within 15 minutes, CPNPP will continue to deploy a liaison to the Emergency Operations Centers (EOCs) after declaration of an Alert or higher emergency classification level. The staffing levels at the EOCs will not change. The ERO will continue to support the state for off-site radiological monitoring and assessment. Coordination arrangements between CPNPP and the ORO stakeholders will continue to allow for timely dissemination of emergency information to the public.

With the assurances noted above, the ORO stakeholders representing the named organization, have received information on the Emergency Response Organization (ERO) License Amendment Request (LAR) to the Nuclear Regulatory Commission (NRC) and support the requested changes.


Ray Wilson, Hood County

08-30-2018

Date


Brian Jones, Somervell County

08/28/18
Date



**Letter of Consultation and Concurrence from Off-site Response Organizations
Acknowledgement of Opportunity to Review and Support CPNPP License
Amendment Request**

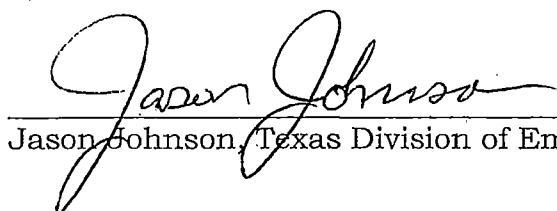
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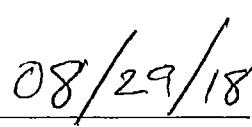
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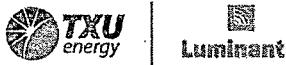
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Jason Johnson, Texas Division of Emergency Management



Date



**Letter of Consultation and Concurrence from Off-site Response Organizations
Acknowledgement of Opportunity to Review and Support CPNPP License
Amendment Request**

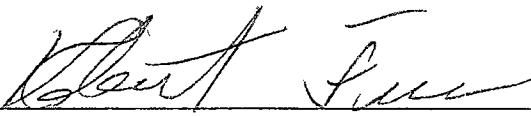
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With the assurances noted above, the ORO stakeholders representing the named organization, have received information on the Emergency Response Organization (ERO) License Amendment Request (LAR) to the Nuclear Regulatory Commission (NRC) and support the requested changes.



Robert Free, Radiation Program Officer for
Radiological Emergencies
Texas Department of State Health Services



Date

**COMANCHE PEAK NUCLEAR POWER PLANT
EMERGENCY PLAN
UNITS 1 AND UNIT 2**

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1.6	Emergency Organization (Emergency Operations Facility Manager as Emergency Coordinator)
6.1	Emergency Operations Decontamination Facilities in the Nuclear Operations Support Facility
11.1	CPSES Recovery Organization

The objective of the Comanche Peak Nuclear Power Plant (CPNPP) Emergency Preparedness Program is to protect the health and safety of the general public, persons visiting or temporarily assigned to the station, and station employees in the event of an emergency at the station.

To meet this objective, the CPNPP Emergency Plan creates a high order of preparedness and ensures an orderly and timely decision-making process in times of stress. Emphasis is placed on maintaining emergency preparedness through training, drills, and exercises. It further assures availability of equipment, supplies, and essential services. This plan also provides for coordination of onsite and offsite emergency response.

Specific details for execution of this plan are incorporated by implementing procedures referred to as Emergency Plan Procedures. While this document outlines overall aspects of emergency preparedness, Emergency Plan Procedures contain specific individual responsibilities and establish instructions for accomplishing specific tasks. A list of Emergency Plan Procedures is maintained in Section 15.0, Appendix K. The CPNPP Emergency Plan and Emergency Plan Procedures are also complemented by many general and/or discipline specific provisions that are related to emergency preparedness but which are incorporated into other station procedures (e.g. Operations, Security, Chemistry, Radiation Protection).

The CPNPP Emergency Plan provides direction and coordination of the CPNPP Emergency Response Organization (ERO). Emergency Plan Procedures detail various job functions in support of the Emergency Plan and assure a smooth transition from normal mode to emergency mode of operation. Assignment of CPNPP Emergency Response Organization personnel to job functions is discussed in this plan. Additional assistance may be provided to the onsite group by offsite company personnel, local, state, and federal agencies, and contract personnel as required.

The normal organization of station personnel is discussed in Section 1.1.2.1 which describes and assigns authority and responsibility for declaring an emergency. Upon declaration of an emergency, individuals in the normal operating organization assume Emergency Response Organization responsibilities.

Criteria are established to promptly determine the emergency classification. Emergency classifications for CPNPP are Unusual Event, Alert, Site Area Emergency, and General Emergency. Degree of involvement of onsite, local, state, and federal personnel depends on the emergency classification. At the least severe classification, Unusual Event, the emergency situation may have no potential for escalation to a more severe classification and there may be no effect on station operating status. Response to this situation should involve only onsite personnel and would not necessitate mobilization of the offsite emergency organization. If an emergency event results in a higher classification and offsite consequences require protective action, then local, state, and federal agencies along with additional company personnel would become involved to assist in mitigation of the emergency. The interrelationships between CPNPP, local, state, federal, and any private agencies are described throughout this plan section and are shown in Figure 1.1.

This plan does not address operation of station equipment as this is covered in operating, abnormal operating and emergency operating procedures. This plan and its implementing procedures are designed to interface with, but not interfere with, objectives of the Security Plan, the Fire Protection Report, and the Spill Prevention Control and Countermeasure Plan. The

CPNPP Emergency Plan is designed to complement the Texas Emergency Management Plan and to interface with Hood and Somervell County Emergency Operations Plans.

The CPNPP Emergency Plan is designed to provide guidance when confronting an emergency. Emergency Plan Procedures provide guidance and information to ensure the purpose of the Emergency Plan is achieved. The Emergency Plan reflects management's recognition of a need to cope with a broad spectrum of consequences and prescribes actions necessary for onsite personnel to activate support groups and establish communications to protect the public and CPNPP.

1.1 CONCEPT OF OPERATION

The Emergency Plan includes provisions for actions to be taken during three phases of emergency management:

- Preparedness
- Response
- Recovery

1.1.1 PREPAREDNESS

Actions and activities associated with this phase are described in various sections of this Plan, and include the development and maintenance of the following:

- Emergency Plan with supporting appendices, implementing procedures, facilities, and equipment.
- Training, drill, and exercise programs.
- Review of the Emergency Preparedness Program.

1.1.2 RESPONSE

Actions and activities required to place the station in a safe stable condition, to protect the health and safety of the public, and to initiate requests for assistance.

The CPNPP response to an emergency event begins with the personnel resources assigned on-shift. On-shift personnel are augmented as determined by the Emergency Coordinator and in accordance with this plan and the emergency classification. Prior to declaring an Alert, the Shift Manager (Emergency Coordinator) has the authority to call in any portion of the augmentation staff specified in Table 1.1 as may be required for emergency response. The organized response of the on-shift and any augmented personnel resources identified in this plan represents the CPNPP Emergency Response Organization. Staffing of the entire CPNPP Emergency Response Organization shall be initiated in the event of an Alert or higher classification. On-shift staffing and staff augmentation assignments for emergencies are identified in Table 1.1. Predetermined response actions, based on the emergency classification declared, are identified in Table 1.2. The total emergency response organization includes support by local, state, federal, and private sector organizations. Figure 1.1 shows the interfaces between the various organizations.

A brief discussion of the purpose of each emergency classification and predetermined response actions is provided below.

Unusual Event (UE)

The purpose of this classification is to:

- assure preliminary emergency response actions have been implemented,
- bring operating staff to a state of readiness, and
- provide for systematic handling of unusual events, information and decision making.

At the UE, key CPNPP personnel as well as State and local officials are notified.

Alert

The purpose of this classification is to:

- assure emergency response personnel are readily available to respond if the situation becomes more serious or to perform confirmatory radiological monitoring, if required, and
- provide offsite authorities with current status information.

In addition to actions taken for an UE, at the Alert callout of the CPNPP ERO is initiated and the Technical Support Center (TSC) and Operations Support Center (OSC) are activated and the Emergency Operations Facility (EOF) and Joint Information Center (JIC) are staffed to augment the operating staff.

Site Area Emergency

The purpose of this classification is to:

- assure emergency response facilities are ~~manned~~staffed,
- assure radiological monitoring teams are deployed,
- assure personnel required for evacuation of near-site areas are at their duty stations if the situation becomes more serious,
- provide for consultation with offsite authorities, and
- provide periodic updates to the public through offsite authorities.

In addition to actions taken for an UE and/or Alert, at the Site Area Emergency:

- all CPNPP Emergency Response Facilities are activated (OSC, TSC, EOF, and JIC),
- non-essential personnel are evacuated from the CPNPP site unless otherwise directed by the Emergency Coordinator,
- the State and county EOC's are staffed and activated,

- the County Judge(s) will consider evacuation of schools and special facilities as well as make a decision on any protective action recommendations, and
- the County Judge(s) request the Relocation Centers to be activated.

General Emergency

The purpose of this classification is to:

- initiate predetermined protective actions for the public,
- provide continuous assessment of plant information and radiological monitoring measurements taken by licensee and offsite organizations,
- initiate additional measures as indicated by actual or potential radiological releases,
- provide for consultation with offsite authorities, and
- provide periodic updates to the public through offsite authorities.

In addition to actions taken at the UE, Alert, and/or Site Area Emergency, at the General Emergency the County Judge(s) decide which protective action recommendations to implement.

1.1.2.1 CPNPP ORGANIZATION

The initial response starts with the normal Operations shift. The operating organization, along with minimum on-shift complement is discussed in the Final Safety Analysis Report, section 13.1.

The Operations shift is responsible for the safe operation of the plant and provides for 24-hour per day emergency response. The Operations shift responds to all abnormal and emergency events and takes action as necessary to mitigate the consequences of an event. Minimum response actions, based upon the emergency classification declared, are identified in Table 1.2. Details regarding these actions are specified in the Emergency Plan Procedures.

10 CFR 50 Appendix E requires each utility to perform a detailed staffing analysis for specified scenarios to determine if the minimum staffing designated in the Emergency Plan is sufficient to permit required mitigation response and effectively implement the Emergency Plan. Nuclear Energy Institute (NEI) document NEI 10-05, "Assessment of On-Shift Emergency Response Organization Staffing and Capabilities," Revision 0, dated June 2011 (ADAMS Accession No. ML111751698) established a standard methodology for a licensee to perform the required staffing analysis. Interim Staff Guidance, NSIR/DPR-ISG-01 endorses the use of guidance in NEI 10-05, "Assessment of On-Shift Emergency Response Organization Staffing and Capabilities."

Table 1.1 of the Emergency Plan reflects the results of the Comanche Peak On-Shift Staffing Analysis. The Comanche Peak On-Shift Staffing Analysis is retained as a record in the Reference Table of the Comanche Peak Document Management System.

The On-Shift Emergency Response Organization consists of the following positions:

Shift Manager

- At the onset of an event, assess, classify, and declare the emergency.
- Assume the duties and responsibilities of the Emergency Coordinator.
- Implement response actions based upon the emergency classification declared.

Shift Technical Advisor

- Provide engineering expertise and advice regarding plant transient analysis, accident mitigation, core/thermal hydraulics, and other matters related to operational safety.
- Perform dose assessment.

Control Room Communicators

- Notify the CPNPP ERO of the event.
- Notify state and local offsite agencies by initial and follow-up notifications.
- Notify the Nuclear Regulatory Commission (NRC) of the event.
- Notify other selected personnel.

Radiation Protection Technicians

- Perform in-plant and onsite radiological surveys.
- Provide radiological control coverage for emergency repair, search and rescue, first aid, fire fighting and other activities.
- Provide radiological support to emergency response facilities.

Chemistry Technicians

- Perform in-plant chemistry sampling and analysis.
- Function as part of the CPNPP First Aid Team.

Security Shift Supervisor

- Control access to site property.
- Assist with site evacuation.
- Perform personnel accountability.

Emergency Teams

- Emergency Repair & Damage Control

- Perform maintenance activities associated with mechanical equipment, electrical equipment, and instrumentation and control systems.
- Fire Brigade
 - Perform fire fighting activities in accordance with station procedures.
 - Perform rescue activities.
- First Aid
 - Provide first aid services to injured personnel.
 - Provide transportation to local hospitals.

CPNPP EMERGENCY RESPONSE ORGANIZATION (ERO)

The Operations shift is staffed to be self-reliant for a period of time to allow for the notification of other personnel and the staffing and activation of emergency response facilities per Section 6.0, "Facilities and Equipment."

In addition to Operations shift personnel, other personnel in the CPNPP ERO assume roles in supporting the overall emergency response. The CPNPP ERO is outlined in Figures 1.2 through 1.6. Emergency Response Organization positions and principal responsibilities not discussed in Section 1.1.2.1, are discussed below.

Emergency Coordinator

Has responsibility and authority to immediately and unilaterally initiate all provisions of the CPNPP Emergency Plan, and for evaluation, coordination and control of all onsite activities related to the emergency response until the event is closed out or the CPNPP Recovery Organization is formed.

a. Additional principal responsibilities include:

- Assessment, classification, and declaration of an emergency.
- Ensuring notification of officials in Hood and Somervell counties, Texas Department of Public Safety, the Nuclear Regulatory Commission, and other organizations as needed.
- Approving shift schedules that support long-term emergency response to permit continuous operation.
- Authorizing onsite protective actions.
- Requesting and providing support to federal, state and local personnel, as appropriate.
- Coordinating offsite CPNPP emergency response activities with activities conducted onsite.

b. The Emergency Coordinator shall NOT delegate the decision-making authority for:

- recommending use of Potassium Iodide
- authorizing reentry into evacuated onsite areas
- authorizing personnel exposures in excess of 10CFR20 limits
- making protective action recommendations to offsite authorities
- approval of notification messages.

c. The duties and responsibilities of the Emergency Coordinator are transferred after the successor has been briefed on current plant status and status of offsite and onsite emergency response activities and as described below:

Upon classifying an event, the Shift Manager assumes the role of Emergency Coordinator. The Technical Support Center (TSC) Manager relieves the Shift Manager of Emergency Coordinator duties at an Alert or higher emergency classification. The TSC Manager may relieve the Shift Manager of Emergency Coordinator duties at an Unusual Event. After the Emergency Operations Facility (EOF) has been activated, the duties of Emergency Coordinator may be transferred to the EOF Manager; however, the responsibility to assess, classify, and declare the emergency shall remain with the TSC Manager unless the TSC and EOF Manager agree to transfer this function.

CR Operations (Ops) Advisor

The CR Ops Advisor serves as the contact point between the operating crew and the TSC staff.

Technical Support Center Manager

The TSC Manager is responsible for activation and control of emergency response activities conducted in the TSC. The TSC Manager relieves Control Room personnel of administrative functions and decisions and maintains direction and control of onsite emergency response activities conducted within the Protected Area which are required to place the plant in a safe, stable condition.

TSC Communications Coordinator

The TSC Communications Coordinator is responsible for coordinating communications activities in the TSC. Prior to EOF activation the position is also responsible for administrative and logistical support.

TSC Onsite Radiological Assessment Coordinator

The TSC Onsite Radiological Assessment Coordinator provides backup dose assessment capabilities and is responsible for directing the onsite radiological assessment activities and ensuring the radiological safety of personnel onsite.

TSC Operations (OPs) Coordinator

The TSC OPs Coordinator serves as the Operations representative to the TSC staff and as the contact point between the TSC and the operating crew.

TSC Engineering Team Coordinator

The TSC Engineering Team Coordinator is responsible for directing and coordinating activities of the TSC Engineering Team to assess plant status and severity of emergency conditions.

TSC Engineering Team

The TSC Engineering Team is composed of at least four individuals with the experience and competence to provide technical support to the Control Room staff in the following areas:

- core reactivity monitoring and damage assessment;
- damage assessment (Mechanical/Electrical/I&C) and corrective action development;
- operations data and procedure interface; and
- engineering data analysis, including core thermal hydraulics.

With the location of the TSC being in close proximity to the Control Room (less than one minute transit time), contact is made with the Control Room staff for assistance and if necessary or requested an engineer(s) can promptly relocate to the Control Room.

Operations Support Center Manager

The OSC Manager is responsible for activation and control of emergency response activities conducted in the OSC. The OSC Manager is also responsible for dispatching and coordinating personnel to assist in emergency repair and damage control activities, performing radiological surveys, personnel rescue operations, establishing controlled areas, and implementing recovery actions.

OSC Radiation Protection Coordinator

The OSC Radiation Protection Coordinator directs the activities of the RP Technicians and is responsible for providing radiological protective measures for teams dispatched from the OSC.

OSC Chemistry Coordinator

The OSC Chemistry Coordinator directs the activities of the Chemistry Technicians and is responsible for coordinating requests for chemical analysis and for coordinating medical response and spill control teams from the OSC.

OSC Emergency Response and Damage Control (ERDC) Coordinator

The OSC ERDC Coordinator directs the activities of the Maintenance personnel, and is responsible for coordinating emergency repair and damage control teams dispatched from the OSC.

Company Spokesperson

The Company Spokesperson is responsible for coordinating with the Emergency Coordinator and approving public information releases issued by Luminant Power from the JIC.

Information Coordinator

The Information Coordinator is responsible for gathering and communicating current technical event related information from the Emergency Coordinator to the JIC.

JIC Communicator

JIC Communicator is responsible for receiving the information from the Information Coordinator and forwarding that information to the Company Spokesperson and/or JIC Director.

Information Liaison

The Information Liaison informs corporate communications, government sources, and media news services of event developments and obtains emergency-related information from outside sources.

Joint Information Center Director

The JIC Director schedules, coordinates and hosts press briefings and approves access to the JIC.

Press Release Writer

The Press Release Writer prepares press releases from approved information for dissemination to the media.

Rumor Control Coordinator

The Rumor Control Coordinator reviews received rumors and media broadcasts for consistency with approved information and reports findings to the Company Spokesperson.

JIC Support Staff (Aides)

The JIC Support Staff:

- host media representatives,
- set up and monitor audio visual equipment,
- record news conferences,
- monitor media broadcasts for event related information, and
- answer telephone requests for information from the public and the media.

EOF Manager

The EOF Manager is responsible for activation and control of emergency response activities conducted in the EOF.

EOF Communications Coordinator

The EOF Communications Coordinator is responsible for coordinating communications activities in the EOF.

EOF Radiation Protection Coordinator

The EOF Radiation Protection Coordinator (RPC) and staff (see Figure 1.5) are responsible for coordinating Luminant Power offsite radiological monitoring efforts. The EOF RPC is also responsible for coordinating Luminant Power offsite radiological assessment activities with those of local, state and federal agencies.

- a. The EOF Offsite Radiological Assessment Coordinator (OFFRAC), who reports to the EOF RPC, is responsible for coordinating the efforts of the offsite radiological assessment team in performing activities such as:
 - Nuclear Operations Support Facility (NOSF) habitability, and
 - dose projections and assessment.
- b. The Offsite Monitoring Team Director, who reports to the EOF RPC, is responsible for coordinating the efforts of the offsite radiological monitoring team(s) in performing activities such as:
 - locating and tracking the offsite plume, and
 - offsite monitoring team direction and control.

EOF Logistical Support Coordinator

The EOF Logistical Support Coordinator and his staff (see Figure 1.5) coordinate requests from the ERO for administrative and logistical assistance. These requests include such items as meals, parts and supplies, transportation, and manpower issues (such as shift relief schedules).

EOF/TSC Liaison

The EOF/TSC Liaison provides technical support (which includes classification input if required) to the EOF Management team and serves as a liaison between the EOF personnel and the TSC Engineering team.

EOF Security Coordinator

The EOF Security Coordinator is responsible for coordinating onsite security force activities.

Emergency Planning (EP) Advisors

EP Advisors assist the ERO with facility activation and provide expertise and information to ERO personnel concerning both utility and offsite supporting emergency facilities, communication capabilities, personnel and equipment resources, and procedural requirements.

State and Local EOC Advisors

Station personnel assigned to augment and advise state/county emergency organizations.

Duties of the Local EOC Advisors are described in Section 1.2.2, "Local Services Support".

Emergency Communicators

Designated personnel, as depicted on Table 4.2, are assigned the function of providing an interface between the CPNPP emergency facilities, accident assessment teams, and State/Local/Federal authorities. The communicators use dedicated equipment, as depicted on Table 4.1, to perform these functions.

Administrative and Clerical Support Personnel

Various administrative and clerical support personnel are used in the emergency response facilities for duties such as maintaining logs, answering telephones, and distributing information.

Board Recorders

Various personnel are assigned to post and update status boards within the emergency response facilities. These personnel use dedicated boards and communications equipment to facilitate the sharing of information between facilities.

1.1.3 RECOVERY

Actions taken to return the plant to an operational status or maintain long-term safe shutdown condition after the emergency response actions have been completed. If a recovery effort is deemed necessary, the CPNPP Recovery Organization is established in accordance with Section 11.0 "Recovery and Reentry."

1.2 EMERGENCY RESPONSE SUPPORT AND RESOURCES

1.2.1 CORPORATE SUPPORT

Luminant Power maintains sufficient management and personnel resources at the CPNPP site to effectively staff (24 hours) the CPNPP Emergency Response Organization and its intended emergency mitigation functions. This arrangement preempts the need for a separate organization of offsite corporate personnel to be identified for, and incorporated in, the CPNPP Emergency Response Organization; however, in the event of an emergency requiring assistance from offsite organizations, Luminant Power management is fully committed to providing other resources to assist the CPNPP Emergency Response Organization. Examples of other corporate capabilities existing within Luminant Power include public information services, materials procurement services, contract manpower and construction services, legal and insurance services, and additional technical support.

1.2.2 LOCAL SERVICES SUPPORT

The local response organizations involved with emergencies at CPNPP are the Hood County and Somervell County Emergency Organization. Each county has an emergency operations plan which describes the **counties-county's** emergency response. The County Judge is in charge of the emergency organizations and has the legal authority for protective action decision making within their respective county. To assist the county emergency organizations, Luminant Power sends a

representative who is familiar with station operations and the CPNPP Emergency Plan to each county Emergency Operations Center. The representative functions as an advisor and may act as liaison between the county officials and the CPNPP Emergency Response Organization; however, these representatives are not company spokespersons.

Support from local organizations may be obtained through direct notification to the individual organization. Letters of Agreement from each organization to provide their respective emergency assistance to CPNPP are maintained onsite. A list of Letters of Agreement is provided in Section 15.0, Appendix H, which identifies the local services support organizations.

1.2.3 PRIVATE SECTOR SUPPORT

Support from private sector organizations may be obtained through direct notification to the individual organization. The following organizations provide services, if requested:

- Westinghouse Corporation

Westinghouse Corporation, the designer for the Nuclear Steam Supply System (NSSS), has an emergency response group which provides for emergency engineering assistance to facilities having a NSSS designed by Westinghouse. This assistance is available on a 24-hour/day, 7-day/week basis. Details of the response is contained in the Westinghouse Emergency Response Plan.

- Institute of Nuclear Power Operations (INPO)

INPO is an industry technical association whose Emergency Preparedness Division acts as a clearinghouse for maintaining a roster of individuals and skills available to each utility for augmenting the onsite ERO. INPO also serves as a clearinghouse for maintaining an inventory listing of material, equipment, and services which may be used to supplement onsite resources. Details of the response is contained in a letter of agreement.

- Houston Lighting and Power

The South Texas Project provides a backup service for analyzing Post Accident Samples. A Letter of Agreement outlines the analyzing capabilities of the South Texas Project Laboratory.

- American Nuclear Insurers (ANI)

Luminant Power maintains a policy with ANI. ANI has agreed to assume responsibility for promptly assisting members of the public who may be adversely affected by an event at CPNPP. This insurance policy alleviates the immediate financial burden that may be incurred by members of the public due to evacuation and relocation associated with an incident. ANI will have their representatives on the scene, prepared to commence the distribution of emergency funding at the earliest possible time, on a 24-hour a day basis.

1.2.4 STATE AGENCIES

The State of Texas has developed a Radiological Emergency Management Plan as a part of the State of Texas Emergency Management Plan. The fundamental legislation providing the basis for emergency response by civil authorities is the Texas Disaster Act of 1975, as amended. This act creates a Division of Emergency Management. The Division of Emergency Management is

part of the Governor's office and is placed under the Director of the Texas Department of Public Safety by an Executive Order of the Governor. The duties and responsibilities of the principle and support agencies of the State of Texas are summarized below. The Commissioners of the Texas Department of Agriculture and the Texas Department of Health are responsible for implementing protective actions within the Ingestion Exposure EPZ in accordance with the Texas Emergency Management Plan. A detailed discussion of the state's response is contained in the Texas Emergency Management Plan and supporting Letters of Agreement. See Section 15.0, Appendix H for a list of Letters of Agreement.

- Division of Emergency Management

The Division of Emergency Management (DEM) is the agency responsible for coordinating overall response to emergency situations in the State of Texas. The Director, DEM, assumes overall direction and control of the state's response to an emergency condition at CPNPP.

- Texas Department of Public Safety

The Texas Department of Public Safety (DPS) serves as the primary communication contact and coordinates emergency communications between CPNPP and the State of Texas, Hood and Somervell Counties. The DPS coordinates with the local law enforcement officials and assists in maintaining traffic control, protecting life and property, establishing road-blocks, and alerting and warning persons in the affected area. Highway Patrol Captains serve as Chairmen of the Disaster District Committees. Requests for assistance from the local county EOC's are forwarded to the appropriate disaster district. Requests that exceed the District's capability are forwarded to the state EOC in Austin. Response time for DPS personnel from the Disaster District to the station is approximately 2 hours.

- Texas Department of Health

The Texas Department of State Health Services (DSHS), is the responsible agency for providing technical assistance and advice to local governments during a radiological emergency at CPNPP. Once notified of a Site Area or General Emergency by DEM, the DSHS will establish a communication link from their Austin office to the station. The DSHS dispatches response teams to the station in accordance with provisions of the Texas Radiological Emergency Management Plan. The DSHS response is directed by the Bureau Chief. The response team is capable of providing environmental sampling and radiological monitoring, including a mobile radiological laboratory. This laboratory serves to analyze low-level radiological environmental samples. CPNPP provides telephone and electrical hook-ups for use by the laboratory. It is expected that DSHS personnel and the laboratory should arrive at pre-determined locations within approximately four hours of notification. Space and telephone lines have been provided in the EOF for the response team. The DSHS also provides assessment of offsite hazards and protective action recommendations.

1.2.5 FEDERAL AGENCIES

The CPNPP Emergency Coordinator is authorized to request federal assistance on behalf of the station under provisions of the Federal Radiological Emergency Response Plan. The CPNPP Emergency Coordinator requests federal assistance by contacting the NRC. The Federal Emergency Management Agency (FEMA) is also a federal agency responding to CPNPP.

To support the federal emergency response efforts, the following facilities are available:

- Airports: Granbury, Cleburne, Stephenville, Meacham in Fort Worth, Love Field in Dallas, and Dallas-Fort Worth International
- Motels: Granbury, Cleburne, Stephenville, Dallas, and Fort Worth
- CPNPP: Working space within the CPNPP Emergency Response Facilities (ERFs) has been allocated for co-location of NRC personnel. Phones are available for NRC personnel within the ERFs.

- Nuclear Regulatory Commission

Specific responsibilities assigned to the NRC include:

Notification of FEMA whenever a radiological event occurs or when there is a high potential for such an event.

Monitoring operational data and assuring that adequate information and recommendations are being provided to offsite agencies.

As a back-up to CPNPP, providing a technical assessment of onsite radiological and plant conditions to FEMA and other federal agencies, and keeping state and local offsite agencies apprised of any operational discussions that may affect offsite protective actions.

In coordination with CPNPP and state and local offsite agencies, disseminate onsite data to FEMA and federal agencies, the news media, and the general public.

Methods of notifying the NRC are discussed in Section 3.0, "Notification Methods and Procedures." The NRC may be expected onsite within 4 hours of receiving notification of the event.

- Federal Emergency Management Agency

FEMA is responsible for coordinating all offsite federal agency responses. Specific responsibilities assigned to FEMA include:

Coordination of federal support to state and local officials.

Dissemination of data on offsite support actions to the federal agencies.

FEMA may send personnel to the EOF to coordinate activities with CPNPP, NRC, and the state.

TABLE 1.1
STAFFING REQUIREMENTS FOR EMERGENCIES
Page 1 of 4

FUNCTIONAL AREA	TASK	ONSHIFT ^(c)	ADDITIONS WITHIN MINUTES OF ALERT		ADDITIONS AT SAE OR GE
			40 60	70 90	
Station Operations	Assessment of Operational Aspects	Shift Manager (SRO) Unit Supervisor (SRO)(2) Reactor Operators (RO) (4) Plant Nuclear Equipment Operators (7)		Plant Equipment Operator	
Emergency Direction and Control ^(b)	Direction and control of onsite emergency activities as Emergency Coordinator.	Shift Manager (SRO) ^(a)		TSC Manager	EOF Manager
Communications	Notify station, local, state, and federal personnel and maintain communications.	Communicator Communicator ^(a)		TSC Communications Coordinator TSC ENS Communicator	EOF Communications Coordinator
Security	Site access control and personnel accountability	Security Shift Supervisor Security Officers (Per Security Plan)	Local Support		EOF Security Coordinator
Public Information	Approve release of public information	Shift Manager ^(a)		TSC Manager ^(a)	Company Spokesperson
Logistics	Obtain/Expedite needed resources for the ERO.	Shift Manager ^(a)		TSC Communications Coordinator ^(a)	EOF Logistical Support Coordinator
Station System Engineering	Coordination/Control Technical Support	Shift Technical Advisor		TSC Engineering Team Coordinator TSC Eng Team (4)	

TABLE 1.1
STAFFING REQUIREMENTS FOR EMERGENCIES
Page 2 of 4

FUNCTIONAL AREA	TASK	ONSHIFT ^(c)	ADDITIONS WITHIN MINUTES OF ALERT		ADDITIONS AT SAE OR GE
			40-60	70-90	
Radiological Assessment	In-plant Survey	R.P. Technician		R.P. Technician (2)	
	Chem/ Radiochemistry	Chemistry Technician		Chemistry Technician	
	Onsite Surveys	R.P. Technician		R.P. Technician	
	Offsite Surveys		Monitoring Team (2) R.P. Technicians (2)	Vehicle Drivers (2)	
	Dose Assessment	Shift Technical Advisor ^(a)	TSC OnRAC	EOF Dose Assessor	
	Protective Actions	R.P. Technicians (2) ^(a)	R.P. Technicians (2)	R.P. Technicians (2)	
	Coordination/Control	Shift Manager ^(a)	TSC OnRAC ^(a)	EOF R.P. Coordinator	
System Corrective Action	Emergency Repair and Damage Control (ERDC)	Plant Nuclear Equipment Operator(a) Mechanic Electrician I&C Technician		OSC Manager Mechanic Electrician I&C Technician	

TABLE 1.1
STAFFING REQUIREMENTS FOR EMERGENCIES
Page 3 of 4

FUNCTIONAL AREA	TASK	ONSHIFT ^(c)	ADDITIONS WITHIN MINUTES OF ALERT		ADDITIONS AT SAE OR GE
			40 60	70 90	
Fire	Fire Fighting and Rescue	Fire Brigade (5) ^(a)	Local Support		
Medical	First Aid	First Aid Team Member Chemistry Technician ^(a)	Local Support		
TOTAL		48-21	5	22	6

- (a) May be provided by onshift or augmentation personnel assigned other functions.
- (b) Shift Manager serves in this capacity until relieved by a designated individual (Section 1.1.2.2).
- (c) The minimum onshift crew composition may be one (1) less than the minimum specified for any position during normal operations for a period of time not to exceed two (2) hours in order to accommodate unexpected absence, provided immediate action is taken to fill the required position. This exception does not permit any crew composition to be unmanned upon shift turnover due to an oncoming crew member being late or absent. This exception is not applicable during declared emergencies.

TABLE 1.1
STAFFING REQUIREMENTS FOR EMERGENCIES
Page 4 of 4

ON SHIFT MINIMUM PERSONNEL	
POSITION	# ON SHIFT
Shift Manager	1
Unit Supervisor	2
Shift Technical Advisor	1
Reactor Operator	4
Nuclear Equipment Operator	7
Chemistry Technician	1
RP Technician	2
Security Supervisor	1
*Security Officers - As per Security Plan	*
Control Room Communicator (I&C Technician)	1
Mechanic	1
Electrician	1
I&C Technician	1
First Aid Team Member (Chemistry or other First Aid Qualified personnel)	1
Total	21+* 24+*

TABLE 1.2
PREDETERMINED RESPONSE ACTIONS
PAGE 1 OF 1

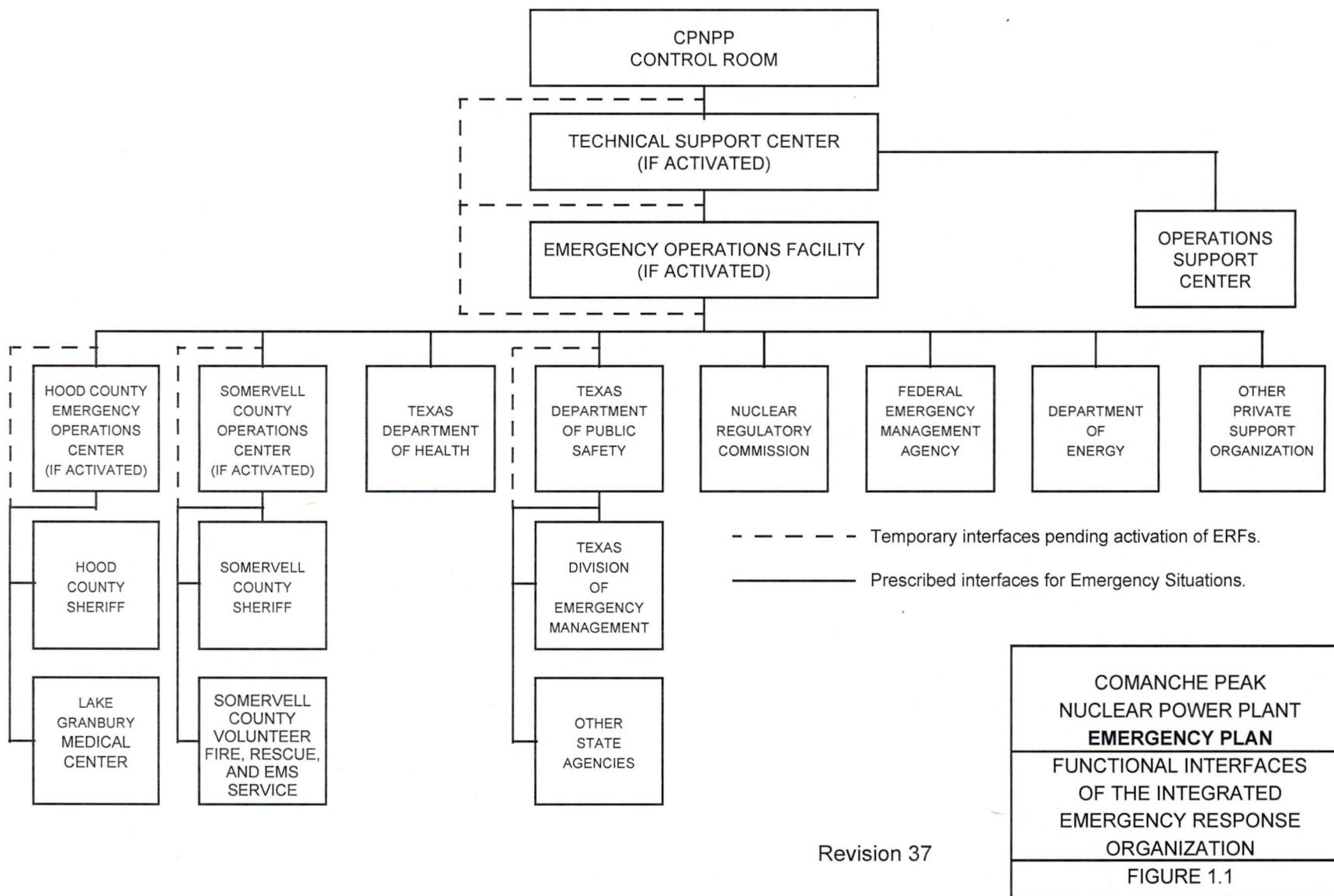
PREDETERMINED RESPONSE ACTIONS	UE	ALERT	SAE	GE
Notify state and local authorities within 15 minutes of declaring the event.	X	X	X	X
Notify the Nuclear Regulatory Commission (NRC) immediately after notification of the state and local authorities but not later than one (1) hour after declaring the event.	X	X	X	X
Staff and activate the Emergency Response Facilities: Technical Support Center (TSC) Operations Support Center (OSC) Emergency Operations Facility (EOF) Joint Information Center (JIC)		X ₁	X	X
Activate the Emergency Response Data System (ERDS) as soon as possible but not later than one (1) hour after declaring the event.		X	X	X
Assess the event and respond accordingly.	X	X	X	X
Dispatch Onsite Survey Teams.		X	X	X
Dispatch Offsite Monitoring Teams.			X	X
Provide periodic plant status updates to offsite authorities.	X	X	X	X
Provide periodic assessments of meteorological conditions to offsite authorities.		X	X	X
Provide periodic media briefings.			X	X
Provide senior onsite technical and management staff available for consultation with NRC and state on periodic basis.			X	X
Provide release rate and dose projection information.		X	X	X
Recommend protective actions to offsite officials.				X
Escalate to more severe class, if appropriate.	X	X	X	
Closeout the event with verbal summary to offsite authorities followed by written summary.	X ₂	X ₂	X ₂	X ₂

- 1 EOF **and JIC** activated at the SAE.
- 2 Notification Message Form used to closeout the emergency may be used to satisfy the requirements of verbal notification and written summary to offsite agencies.

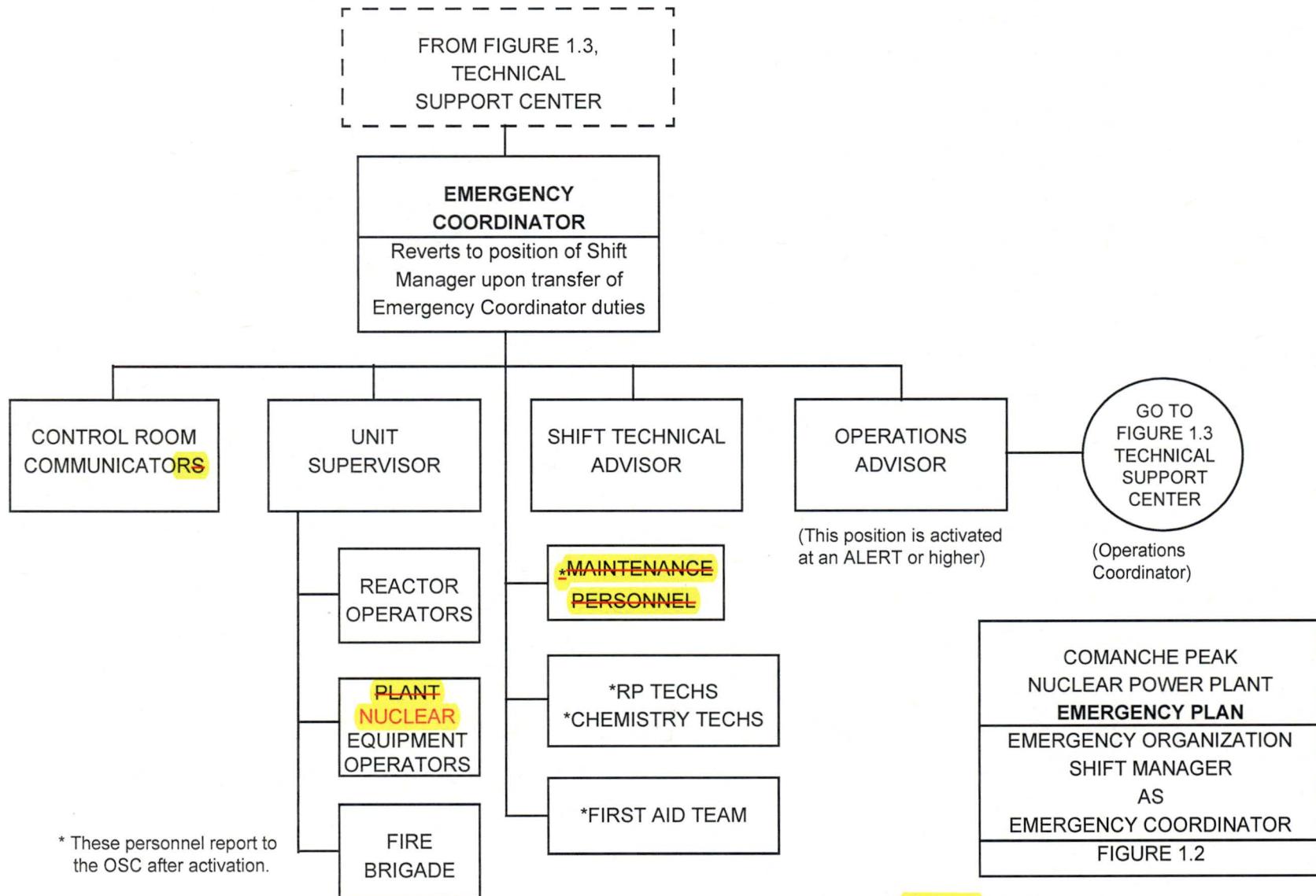
UE Unusual Event

SAE Site Area Emergency

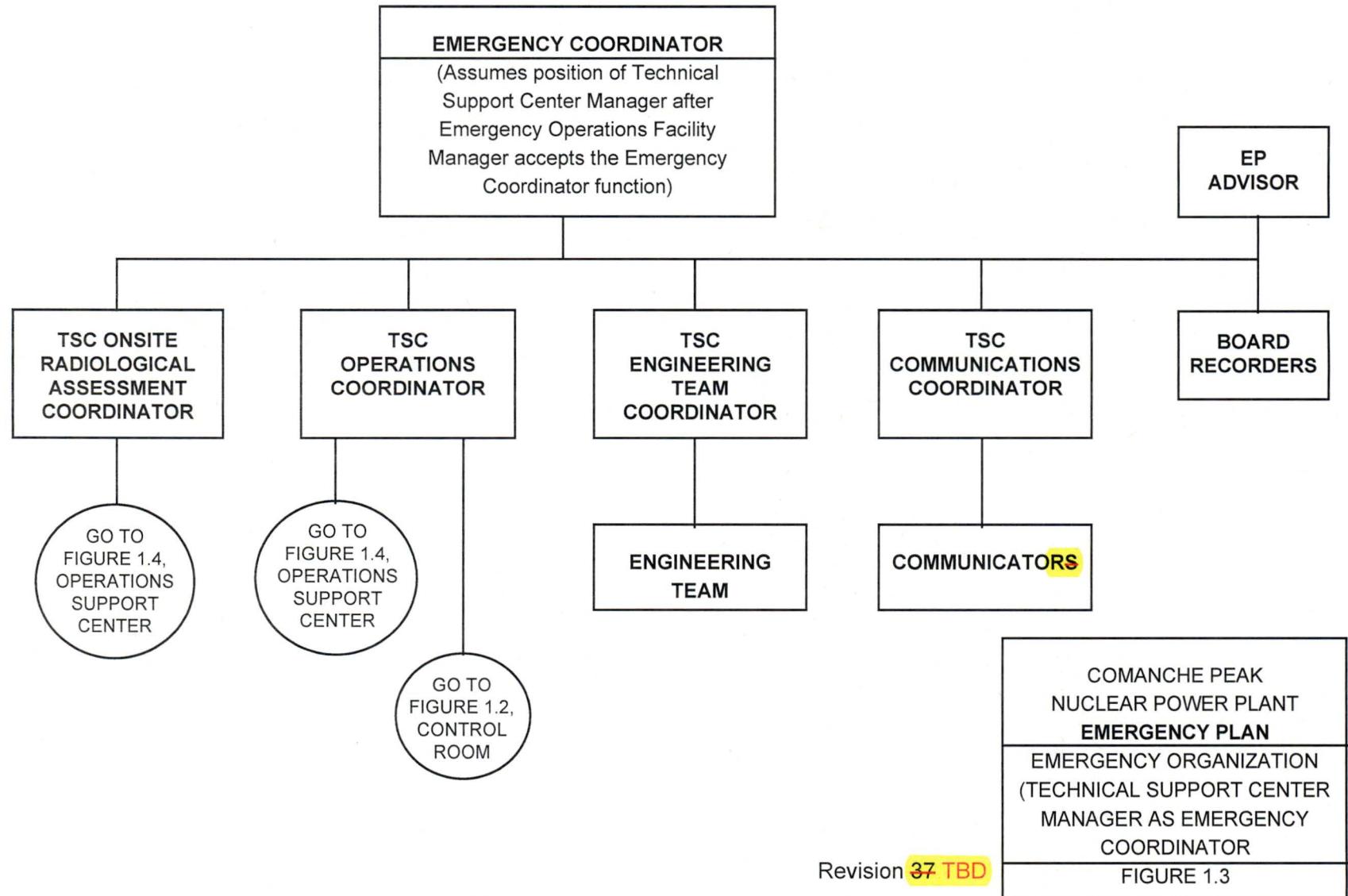
GE General Emergency

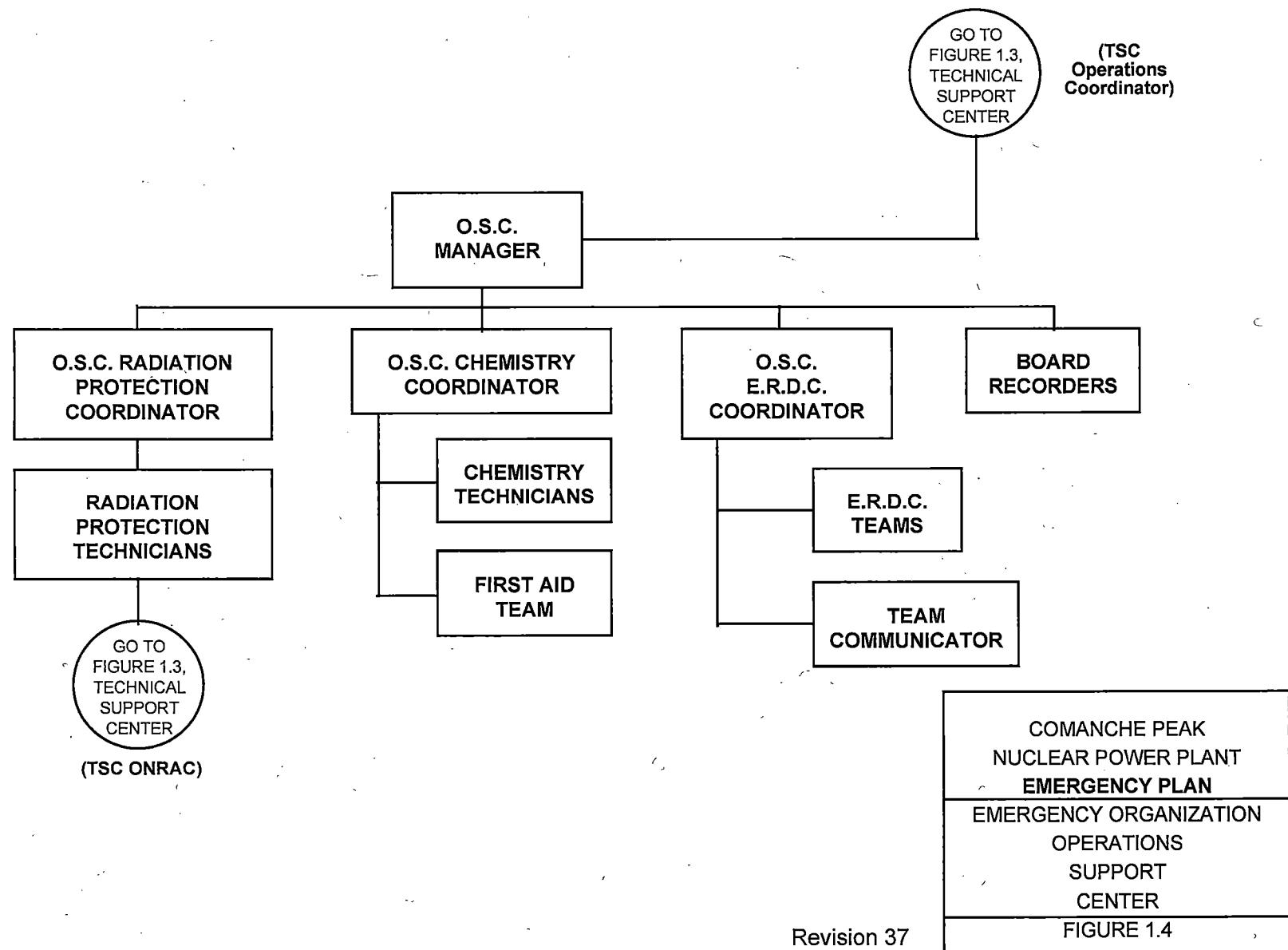


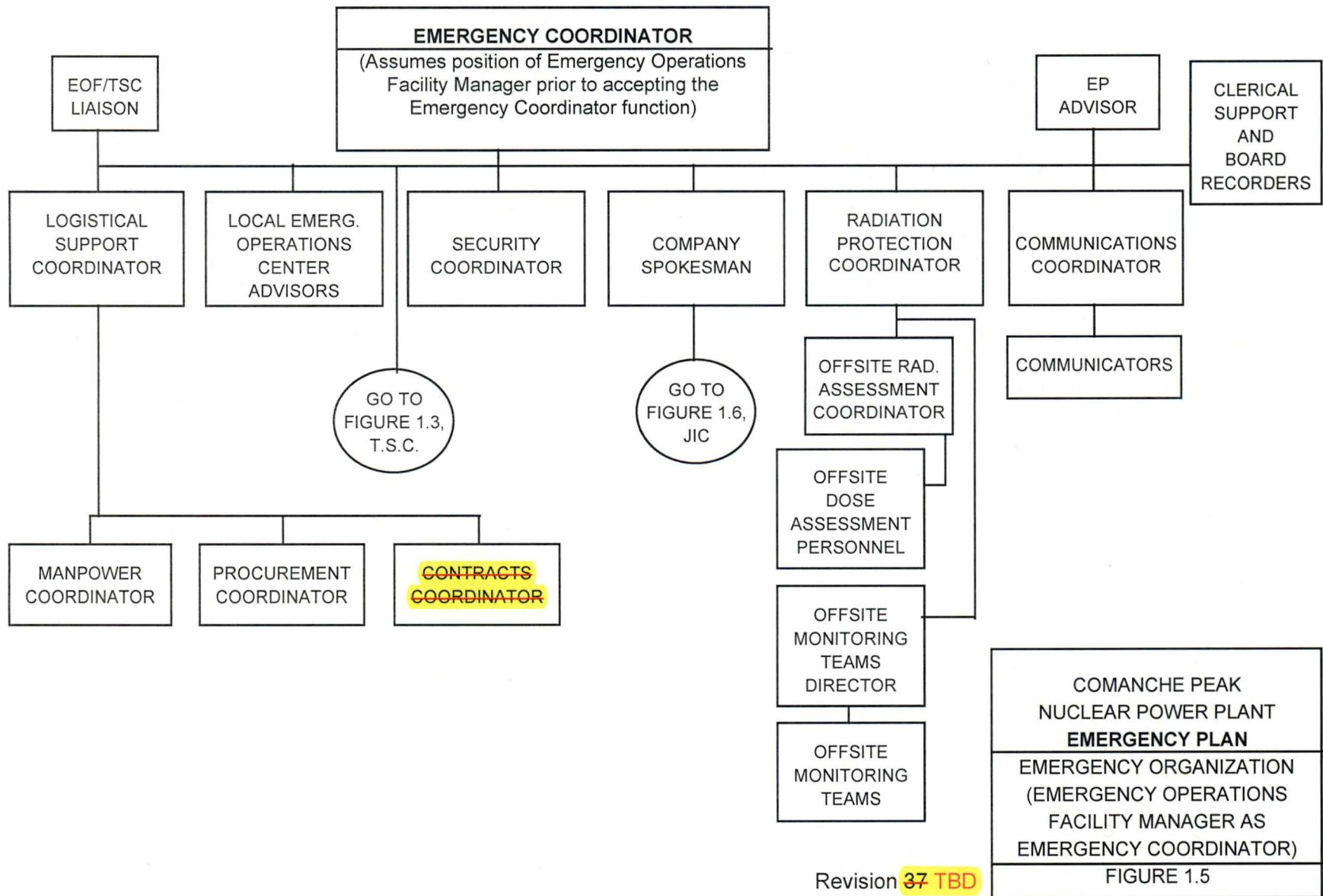
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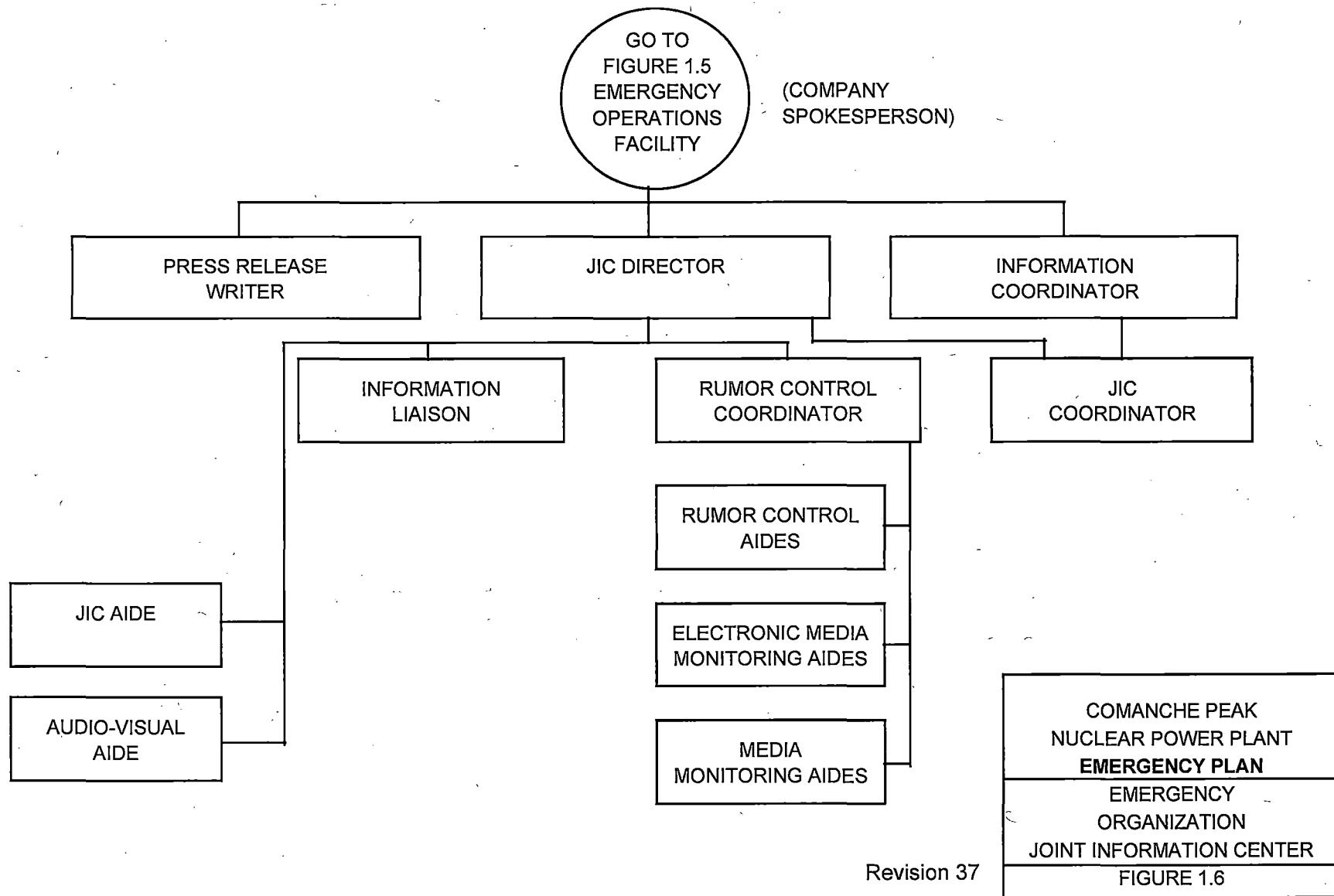


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2.0

EMERGENCY CLASSIFICATION SYSTEM

Emergency conditions are situations which cause or threaten to cause hazards affecting the health and safety of employees or the public, or which may result in property damage. This section describes the system to be utilized at CPNPP to classify possible radiological and other emergency conditions. This system is based on guidance set forth in NEI 99-01, Revision 6, and is compatible with that used by state and local agencies. Emergency Action Levels (EAL) established for each emergency classification have been accepted by offsite authorities responsible for implementing protective measures for the population-at-risk.

2.1

EMERGENCY CLASSIFICATIONS

The four Emergency Classifications are:

- a. Unusual Event
- b. Alert
- c. Site Area Emergency
- d. General Emergency

The first two classes, Unusual Event and Alert, are designed to provide early notification to offsite officials of the occurrence of minor events at CPNPP which might escalate if incorrect actions were taken or subsequent equipment failure occurred. The Site Area Emergency class includes conditions in which releases are occurring or are expected to occur, or where core degradation may be indicated. The General Emergency class includes situations in which actual or imminent core degradation or melting is occurring with potential for or loss of containment integrity. A gradation of responses is provided to assure prompt action whether the event intensifies or diminishes.

Initiating Conditions (ICs) which determine the appropriate classification are generally described in the following paragraphs and in Table 2.1. Specific instrument readings, parameters or equipment status are used to determine whether an Emergency Action Level has been reached as specified in the appropriate Emergency Plan Procedures. If an emergency changes in severity the situation is reassessed and reclassified (if appropriate) and corresponding actions will be taken.

2.1.1 A brief discussion of each emergency classification is provided below.

a. UNUSUAL EVENT

This classification includes the least severe events requiring offsite notification. This emergency classification will be declared whenever events are in process or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility

protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.

b. **ALERT**

The Alert class is the second emergency classification in increasing order of severity. An Alert will be declared whenever events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of hostile action. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.

c. **SITE AREA EMERGENCY**

The Site Area Emergency class is the third emergency classification in increasing order of severity. A Site Area Emergency will be declared whenever events are in process or have occurred which involve an 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 Protective Action Guideline exposure levels beyond the site boundary.

d. **GENERAL EMERGENCY**

The General Emergency class is the most severe emergency classification. A General Emergency will be declared whenever events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity or hostile action that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.

2.2 EMERGENCY CLASSIFICATION INITIATING CONDITIONS

Emergency Plan Procedures identify specific conditions and associated limits which serve as the basis for initiating appropriate accident assessment and emergency response actions prescribed in this plan. As the severity of each event is identified, the event is classified (or reclassified), based on instrument readings, equipment status and other parameters set forth in appropriate Emergency Plan Procedures to assure appropriate emergency response actions.

The ICs/EALs specified in Emergency Plan Procedures are based on criteria in one or more of the following documents:

- a. Plant system design specifications
- b. Plant Technical Specification limits
- c. FSAR accident analyses
- d. 10CFR, Part 20 and 10CFR, Part 100 limits
- e. EPA Protective Action Guides

- f. NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations"
- g. NEI 99-01, Revision 6, "Development of Emergency Action Levels for Non-Passive Reactors"

TABLE 2.1
INITIATING CONDITION FOR EMERGENCY CLASSIFICATIONS
PAGE 1 OF 3

Categories	GE	SAE	Alert	UE
ALL Modes				
Abnormal Rad Levels / Rad Effluent (R)	Rad Effluent	Rad Effluent	Rad Effluent	Rad Effluent
	Irradiated Fuel Event	Irradiated Fuel Event	Irradiated Fuel Event	Irradiated Fuel Event
			Area Radiation Levels	
ISFSI (E)				Confinement Boundary
Hazards (H)	Security	Security	Security	Security
				Seismic Event
				Natural or Tech Hazard
				Fire
			Hazardous Gases	
		Control Room Evacuation	Control Room Evacuation	
	EC Judgment	EC Judgement	EC Judgement	EC Judgement

TABLE 2.1
INITIATING CONDITIONS FOR EMERGENCY CLASSIFICATIONS
PAGE 2 OF 3

Categories	GE	SAE	Alert	UE
HOT Conditions				
System Malfunctions (S)	Loss of Emergency AC Power	Loss of Emergency AC Power	Loss of Emergency AC Power	Loss of Emergency AC Power
		Loss of Vital DC Power		
			Loss of Control Room Indications	Loss of Control Room Indications
				RCS Activity
				RCS Leakage
		RPS Failure	RPS Failure	RPS Failure
				Loss of Comm.
				CMT Failure
			Hazardous Event Affecting Safety Systems	
Fission Product Barriers (F)	Fission Product Barrier Degradation	Fission Product Barrier Degradation	Fission Product Barrier Degradation	

TABLE 2.1
INITIATING CONDITION FOR EAL CLASSIFICATIONS
PAGE 3 OF 3

Categories	GE	SAE	Alert	UE
COLD Conditions				
Cold SD / Refueling System Malfunct. (C)	RCS Level	RCS Level	RCS Level	RCS Level
			Loss of Emergency AC Power	Loss of Emergency AC Power
			RCS Temp.	RCS Temp
				Loss of Vital DC Power
			Hazardous Event Affecting Safety Systems	Loss of Comm.

3.0 NOTIFICATION METHODS AND PROCEDURES

This section describes methods for notifying local and State authorities and the CPNPP Emergency Response Organization (ERO) in the event of a declared emergency classification at CPNPP. Details required in INITIAL and FOLLOWUP messages are also described.

Emergency Plan Procedures (EPP's) describe processes for performing these notifications and contain the message format for transmitting information to local and State Emergency Operation Centers (EOCs). EPPs also describe maintenance of the CPNPP ERO Roster and the Emergency Facility Telephone Directory that lists emergency telephone numbers for offsite agencies and authorities.

Upon declaration of an emergency at CPNPP, the CPNPP ERO and the CPNPP Security Shift Supervisor are notified using either the plant page party system, the intraplant telephone system or commercial telephone (see Section 1.1.2 discussion of notification).

Offsite authorities are notified via dedicated telephone, commercial telephone or electronic communication.

More information regarding communication systems may be found in Section 4.

This plan section also describes how the populace within the 10-Mile Emergency Planning Zone (EPZ) is alerted to and advised of a CPNPP emergency by local officials.

3.1 NOTIFICATIONS

3.1.1 INITIAL NOTIFICATIONS

INITIAL notifications from CPNPP to local and State authorities are performed when the following conditions occur:

- Initial declaration of an emergency classification (Unusual Event, Alert, Site Area Emergency, General Emergency)
- Escalation of an emergency classification
- Initial Protective Action Recommendation (PAR)
- Change in a PAR
- Emergency termination

INITIAL notifications shall begin no later than fifteen (15) minutes after one of the above conditions are met.

INITIAL notifications are made to the following offsite authorities/locations:

- Somervell County EOC
- Hood County EOC
- Texas Department of Public Safety

INITIAL notifications, either verbal or via Notification Message Form, to Somervell County EOC, Hood County EOC, and DPS provide the following information:

- CPNPP Communicator's name
- Emergency Classification and Emergency Action Level (EAL) Identifier
- Warning of whether an emergency-related radiological release is occurring
- PARs, if any and if so, what sectors and Emergency Response Zones (ERZs) are affected.

The first Notification Message Form sent from CPNPP to offsite authorities is verified authentic as specified in the Texas Department of Public Safety Communications Operating Procedures.

3.1.2 NOTIFICATION OF NRC

The NRC Operations Center should be immediately notified after notification is made to those offsite authorities identified above. The NRC should always be notified within one hour after the emergency was declared.

3.1.3 FOLLOWUP NOTIFICATIONS

FOLLOWUP notifications are made to status ongoing emergency response efforts.

FOLLOWUP notifications are made to offsite authorities approximately every hour unless otherwise requested by these authorities.

In addition to information required for an INITIAL notification, the following information is provided in the FOLLOWUP notification:

- Meteorological conditions-wind velocity and direction; temperature, atmospheric stability data, and form of precipitation, if any, is provided if requested.
- IF needed, requests for onsite support.
- IF requested, by the Texas Department of State Health Services:
 - a. Type of radiological material release (whether actual or projected): airborne, waterborne or surface spill and estimated or known release duration
 - b. Estimated or known quantities of radioactive material released.

- c. Point of release
- d. Chemical and physical form of released material, including estimates of relative quantities and concentrations of noble gases, radioiodines and particulates.
- e. Estimates or known quantities of radioactive surface contamination, onsite or offsite.
- f. Actual or projected dose rates and integrated doses at the site boundary, and at two, five and 10 miles, and affected sectors and Emergency Response Zones (ERZs).
- g. Prognosis for escalation or termination of emergency based on current plant information.
- h. Licensee emergency response actions underway.

3.2 PUBLIC WARNING

An Alert and Notification System consisting of 72 sirens within the 10-Mile Emergency Planning Zone (EPZ) is owned, maintained and tested by Luminant Power in accordance with CPNPP Emergency Plan Procedures. The system was designed, installed and tested to meet the requirements of the Federal Emergency Management Agency (FEMA). The resident and transient population within the 10-mile EPZ is alerted to an emergency at CPNPP by the Alert and Notification System. Upon being alerted by this system, the populace has been informed to tune their radios to the primary Emergency Alert System (EAS) station to obtain current information and recommended protective actions.

The EAS provides emergency related information to the general public in the CPNPP area over radio station WBAP (820 AM) and other broadcast media which re-broadcast EAS messages provided by the primary station. CPNPP and state emergency response personnel provide protective action recommendations to local officials; however, information and instructions provided to the general public via the EAS originates from the county officials.

Local officials, primarily County Judges and County Sheriffs, authorize use of and are responsible for operating the Alert and Notification System and providing messages to the EAS stations. Preformatted EAS messages are included in county and State emergency plans.

Operation of the Alert and Notification System is accomplished from either county's Emergency Operations Center (EOC). Normally, each county EOC will operate those sirens within its jurisdiction; however, if needed, either EOC can operate the entire system. The 10-mile EPZ is divided into quadrants. Sirens located in each quadrant are programmed to a unique control code. Each quadrant can be activated independently; however, each siren can be operated individually for purposes of testing.

3.3 METHODS OF PROVIDING PUBLIC INFORMATION REGARDING PROTECTIVE ACTION MEASURES

Public warning, discussed above, is part of the mechanism for providing information to the public. Preceding and continuing into the CPNPP operations phase, emergency response information is provided to the public within the 10-mile EPZ. Local residents are provided printed media which

provides instructions for emergency actions. Information regarding emergency actions is also provided by printed media at various locations or establishments within the 10-mile EPZ, and in local telephone directories. Additional information about public information is provided in Section 5 of this plan.

4.0 EMERGENCY COMMUNICATIONS

Comprehensive communication systems are provided to ensure reliable intraplant communications, plant-to-offsite telephone and carrier communications, and offsite emergency response communications with public safety agencies. Table 4.1, "Communications Interfaces" describes CPNPP communication interfaces between each emergency response facility and various responding organizations and offsite agencies.

Effective communications between personnel during plant start-up, operation, shutdown, refueling and maintenance activities are provided by Intraplant Telephone System (ITS), sound-powered telephone, plant page-party system and two-way radio systems.

Emergency Plan Procedures provide instructions for notification of CPNPP emergency response personnel, and offsite organizations who respond to, or are required to be cognizant of, an emergency at CPNPP. Procedures also control emergency response personnel call lists and provide instructions for completing initial and follow-up notification messages to ensure accurate information is transmitted to offsite authorities.

Communications responsibilities for organizations are described in Table 4.2, "Emergency Response Communications Responsibilities and Interfaces." This table lists titles of individuals who have primary responsibilities for emergency response communications.

4.1 SYSTEM DESCRIPTION

The following systems comprise intraplant and plant-to-offsite communication systems for both units at CPNPP:

4.1.1 PUBLIC ADDRESS SYSTEM

The plant page-party system, part of the public address system, provides two independent channels of communication: page and party lines. Page-party line loud speakers are powered by individual amplifiers, and power to this system is supplied from a source which remains available in the event of a loss of offsite power.

The system layout allows Control Room personnel to announce emergency information to all plant areas and permanent buildings for both units. Similar capabilities exist in the Technical Support Center and the Emergency Operations Facility for use by Emergency Coordinators. This system also permits two-way communications between two or more locations. Speakers and microphone handsets are installed at locations vital to operation of the plant and safety of personnel. Voice paging channel output is audible over expected noise levels under normal and emergency conditions.

Four independent party lines are provided to permit communications between handset stations only, thereby making the plant and Control Room paging channel available to others. At least one independent party line, to be selected by the on-shift Control Room staff, should be dedicated for use during any ongoing emergency. All four party lines are available at all handset

stations, except those located in plant elevators where only one party line is available. Selection of a desired channel is achieved by a multi-position switch provided as part of the handset station. The page channels and the party line channels are independent and may be used simultaneously without interference.

4.1.2 INTRAPLANT TELEPHONE SYSTEM

The Intraplant Telephone System (ITS), is provided for uninterrupted private communication between virtually all areas of Comanche Peak Nuclear Power Plant.

The ITS is integrated with the public telephone system and configured such that a single failure in either does not affect safe and reliable operation of the other system. Power is supplied to the ITS from the non-ESF bus. When the Integrated Telephone System's normal AC power supply is lost, electric generators and battery backup power supply keep the ITS operational. In addition, a number of predetermined telephone stations which get their power from the public telephone system remain operable.

4.1.3 INTRAPLANT SOUND-POWERED TELEPHONE SYSTEM

A sound powered telephone system, independent of other communications systems and external power sources, is provided to serve three purposes: (1) provide communications in critical in-plant areas, (2) serve as backup to plant page-party system in critical in-plant areas, and (3) provide uninterrupted communication channels for maintenance, calibration, testing and refueling activities. This system provides standby communications capability and does not depend on external sources of power.

This system consists of three subsystems per unit as follows:

- Subsystem One: Maintenance Loops - Consists of two-channel, hard-wired communications link between Control Room area and critical in-plant areas.
- Subsystem Two: Refueling Loops - Consists of two-channel, hard-wired communications link between Control Room area and fuel handling areas. This subsystem is provided primarily for refueling operations.
- Subsystem Three: Emergency Loops - Consists of a two-channel, hard-wired communications link between Remote Shutdown Panel and safety related equipment areas. Cables of this subsystem are routed in separate conduits from other subsystems. This subsystem is provided primarily for communications in the unlikely event the Control Room becomes uninhabitable.

The headset jack stations are located on panels in the Control Room and in critical areas.

Communications can be established between the Control Room and any local panel or between any two local panels by plugging the headsets into jack stations mounted in the Control Room, or in or near the panels. The number and location of sound-powered telephone system receptacles provide for sufficient communications to place the plant in hot shutdown or cold shutdown mode from the Control Room or Remote Shutdown Panel and other areas. The sound-powered telephone system can be used as backup to the plant page-party system in critical equipment

areas of the plant. One independent howler loop per unit is provided for sound-powered signaling.

4.1.4 INTRAPLANT RADIO TRANSMITTER-RECEIVER SYSTEM

Two-way radio transmitter-receiver systems, operating on unique wavelengths, is provided for emergency response communications between emergency response support personnel (e.g., onsite and offsite radiological monitoring teams and emergency repair and damage control teams) and various emergency response facilities. Details of this system can be found in the applicable Emergency Plan Procedure.

For the CPNPP Security Organization's use, separate communication channels of unique wavelength are provided to enable two-way radio communication between security posts and the various plant buildings. Portable transmitter-receivers are provided to Security personnel for communication between areas of the plant.

To improve reception in plant buildings, monitor receivers or coaxial slotted cables, or both, are installed where required. The radio transmitter carrier frequencies are chosen to preclude interference with radio controlled cranes and carrier frequencies used by the Switchyard remote supervisory carrier current equipment.

The intraplant radio system has been upgraded to carry the station operations frequency. This modification allows operations or maintenance personnel, as well as emergency response personnel, to use a radio inside station structures.

4.1.5 PUBLIC TELEPHONE SYSTEM

The public telephone system is interconnected to the Intraplant Telephone System. This permits access to the public telephone system from virtually any area within Comanche Peak Nuclear Power Plant.

4.1.6 OTHER TELEPHONE LINES

A number of trunk lines provide direct communications between offsite locations and various CPNPP facilities. These lines allow offsite emergency response organizations to contact CPNPP emergency response personnel at any time to verify initial communications and to establish, if necessary, communications with their personnel and facilities stationed onsite; allow CPNPP radiological monitoring teams to transmit field data should their radio fail, and allow the general public direct access to CPNPP Public Information personnel manning rumor control telephones.

4.1.7 EMERGENCY EVACUATION ALARM SYSTEM

The emergency evacuation alarm is generated by a solid state multifrequency audio oscillator capable of producing five distinctive tones which can be heard over all plant paging zones, except the Control Room, via the plant page-party system. The evacuation alarm is a pulse tone at a frequency of 475 (± 25) hertz at a rate of 4.5 (± 0.5) cycles/sec. This tone meets specifications described in ANSI/ANS 2.3-1979 and Regulatory Guide 8.5.

The emergency evacuation alarm system, including the multifrequency audio oscillator, is powered by a source which remains available in the event of a loss of offsite power and provides a unique alarm signal to prompt personnel evacuation in the event of an emergency. This alarm

is initiated by the Control Room operator in the event that a site evacuation is ordered by the Emergency Coordinator.

4.1.8 DIRECT LINE TO STATE AND LOCAL EMERGENCY OPERATIONS CENTERS

A dedicated line has been established that simultaneously links CPNPP with the Texas Department of Public Safety, the Somervell County Emergency Operations Center and the Hood County Emergency Operations Center. When a call has been initiated, the other telephones ring until answered. Communications by CPNPP individuals, unrelated to an emergency, exercise/drill, system test or Public Information notification shall not be conducted on this line.

4.2 FEDERAL TELECOMMUNICATIONS SYSTEM

The Federal Telecommunications System (FTS) is an independent phone link used for communications between CPNPP and the NRC. At CPNPP, the FTS lines are used as the Emergency Notification System (ENS), Health Physics Network (HPN), and for NRC personnel communications. Extensions to the FTS are in the Control Room, Technical Support Center (TSC) and Emergency Operations Facility (EOF). A communications equipment test shall be conducted monthly in accordance with applicable Emergency Plan Procedures and shall involve the ENS telephone in the Control Room and the ENS and HPN telephones in the TSC and EOF.

4.3 ELECTRONIC COMMUNICATION

Electronic communications capability is provided between the Control Room, Technical Support Center, Emergency Operations Facility, Operations Support Center, Corporate Office, NRC, state agencies and local county Sheriff's offices.

4.4 AUTODIAL CALLING SYSTEM

An automatic dialing system is one of the methods used to call-out Emergency Response Personnel. The system is used at an Alert or higher class emergency. As an individual is contacted, a message is played informing that an emergency is in progress and of the action(s) which should be taken. This system uses multiple telephone lines to contact the response organization. Should this system fail to operate, a backup notification method shall be used to contact emergency personnel.

TABLE 4.1
COMMUNICATIONS INTERFACES
PAGE 1 OF 1

	Control Room	Technical Support Center	Operations Support Center	Emergency Operations Facility	JIC	Security
Control Room		A, C, D, E, F, G	A, B, F, G	A, B, C, D, F, G	A, G	A, F
Technical Support Center	A, C, D, E, F, G		A, B, F, G	A, B, C, D, F, G	A, G	A, F
Operations Support Center	A, B, F, G	A, B, F, G		A, B, F, G		A, F
Emergency Operations Facility	A, B, C, D, F, G	A, B, C, D, F, G	A, B, F, G		A, G	A, F
JIC	A, G	A, G		A, G		
Security	A, F	A, F	A, F	A, F		
NRC Regional Incident Resp Ctr	A, D, G	A, D, G		A, D, G		
NRC Operations Center	A, D, G	A, D, G		A, D, G		
Dept of Public Safety	A, C, G	A, C, G		A, C, G	A	
Texas Department of State Health Services, Austin		A, G		A, G	A	
Hood County EOC	A, C, G	A, C, G		A, C, G	A	A, B
Somervell County EOC	A, C, G	A, C, G		A, C, G	A	A, B
Offsite Support Agencies and Off-duty personnel	A	A		A		A
Access Control		A	A, F			
Onsite/Inplant Survey Teams		B, E, F	B, F			
Offsite Monitoring Teams			A, B	A, B		
System Dispatcher	A, H					
Corporate Security				A		A
Luminant Power Divisions		A, G		A, G		
Uninvolved Government Officials				A		
Offsite Support Contractors				A		
INPO and Other Utilities		A, G		A, G		

- | | | | |
|---|-----------------------------------|---|----------------------------------|
| A | Telephone | E | Sound-Powered Telephone |
| B | Two-way radio | F | Plant Page-Party System/All-Page |
| C | State/County Dedicated System | G | Electronic Communication |
| D | Federal Telecommunications System | H | Point-to-point |

Note: This table shows communication interfaces between organizations which normally communicate with one another. If no communication is expected between organizations, then no interface is shown.

TABLE 4.2
EMERGENCY RESPONSE COMMUNICATIONS
RESPONSIBILITIES AND INTERFACES
PAGE 1 OF 1

Emergency Response Facility/Organization	Primary Responsibility	Interface
Control Room	Shift Manager	Control Room personnel
Technical Support Center	TSC Manager	Communicator
Emergency Operations Facility	EOF Manager	Communicator
Operation Support Center	OSC Manager	Team Communicator
Onsite Survey Teams	OSC Manager	Team Communicator
Offsite Monitoring Teams	EOF Radiation Protection Coordinator	Offsite Monitoring Team Director/Communicator
Hood County Emergency Operations Center	County Sheriff	Dispatcher
Somervell County Emergency Operations Center	County Sheriff	Dispatcher
Texas Department of Public Safety	Communications Supervisor	Dispatcher
NRC Operations Center	Duty Officer	Duty Officer
NRC-Region IV	Duty Officer	Duty Officer
Lake Granbury Medical Center	Hospital Administrator	Hospital Operator

NOTE: The individual delegated responsibility for communications is not required to operate the equipment.

5.0

PUBLIC EDUCATION AND INFORMATION

A public information program has been developed with state and local governments to inform the public within the 10-mile Emergency Planning Zone (EPZ). Emergency information is provided annually to residents through the distribution of printed media as decided by Luminant Power management; information is provided annually to the transient population by placement of posters and distribution of printed media to selected local businesses, public buildings, recreational areas, etc.

The information provided addresses the following:

- Method of public notification
- Protective actions
- Instructions for evacuation
- A map of the EPZ showing evacuation zones and routes
- The location of Relocation Centers
- Primary EAS station that broadcasts emergency information
- Telephone numbers for obtaining information
- A method for those with special needs to inform the local responsible agency of their location and the nature of the special assistance required.
- Educational information on radiation

The news media is provided information and offered training annually about emergency plans, radiation and contact points for information during an emergency.

5.1

PUBLIC INFORMATION RELEASES DURING EMERGENCY CONDITIONS

In the event of an emergency, press briefings may be conducted at the Joint Information Center. Press briefings are coordinated with federal, state and local public information personnel. Any emergency related public information releases shall be made in accordance with Emergency Plan Procedures.

5.2

RUMOR CONTROL

Telephones are established for rumor control. During an emergency, personnel use these telephones as part of the public information response.

6.0 EMERGENCY FACILITIES AND EQUIPMENT

This section describes emergency response facilities and equipment used by the CPNPP Emergency Response Organization in the event an emergency is declared at CPNPP.

Facility activation is dependent on the emergency classification declared; however, the Emergency Coordinator has the option of activating one or all of the CPNPP emergency response facilities at an emergency classification less severe than that prescribed in Emergency Plan Procedures. Details regarding activation and staffing of each emergency response facility are provided in the Emergency Plan Procedures.

6.1 CONTROL ROOM

6.1.1 FUNCTION

The Control Room (CR) is the onsite location from which the CPNPP is operated. The CR is also the location where the initial assessment and coordination of corrective actions for emergency conditions takes place.

6.1.2 LOCATION

The CR is located at elevation 830' 0" of the Control Building.

6.1.3 STAFFING AND TRAINING

The CR, because of its role in normal Station operations, is always staffed and functional. The staffing requirements and responsibilities of CR personnel are discussed in Section 1.1.2.1. Table 1.1 shows the staffing requirements for emergencies. Figure 1.2 shows an organizational chart of the CR staff.

Training of CR staff is referenced in Section 13.0.

6.1.4 HABITABILITY

The habitability system for the CR is described in FSAR Section 9.4.1, "Control Room Area Ventilation System". The CR is designed to be habitable following design basis accidents (See FSAR Section 15.6.5.4.). Details of CR habitability are presented in the CPNPP Design Basis Documents (DBDs).

6.1.5 COMMUNICATIONS

The communication system for the CR is described in Section 4.0 and Table 4.1.

Emergency response personnel in other emergency facilities interface with the CR staff through the Technical Support Center. Only personnel performing activities coordinated directly by the CR staff communicate directly with the CR.

6.2 TECHNICAL SUPPORT CENTER

6.2.1 FUNCTION

The CPNPP Technical Support Center (TSC) provides the following functions:

- Provide plant management and technical support to plant operations personnel during emergency conditions.
- Relieve the control room operators of peripheral duties and communications not directly related to reactor system manipulations.
- Prevent congestion in the control room.
- Perform Emergency Operations Facility (EOF) functions until the EOF is activated.
- Serve as primary communications center for the plant during the emergency.
- Provide technical support during recovery operations following an emergency.

The TSC is the emergency operations work area for designated technical, engineering and senior management personnel, and a small staff of NRC personnel. The TSC Manager uses the resources of the TSC to provide guidance and technical assistance to the Control Room during an emergency. The TSC has facilities to support plant management and technical personnel who will be assigned there during an emergency.

6.2.2 LOCATION

The TSC is located above the Control Room, at elevation 840' 6" of the Control Building. The TSC and CR are connected by a common stairwell, which may provide face-to-face interaction between CR personnel and the TSC Manager. TSC personnel have access to information in the CR that is not available through the TSC data system.

The stairwell between the TSC and CR is located outside the CR environment; therefore, provisions have been made for safe and timely movement of personnel under emergency conditions. These provisions include considerations of effects of direct radiation and airborne radioactivity from inplant sources.

There are no major security barriers between the TSC and CR, other than access stations at each facility.

6.2.3 STAFFING AND TRAINING

Personnel assigned to the TSC are notified at an Alert or higher emergency classification and should activate the facility as soon as possible with a goal of ~~ninety (90)~~ ~~sixty (60)~~ minutes in accordance with Emergency Plan Procedures. Activation of the TSC ensures only designated operating personnel are in the CR and that needed technical support is provided without obstructing plant manipulations or overcrowding the CR.

The staffing requirements and responsibilities of TSC personnel are discussed in Section 1.1.2.2. Table 1.1 shows the staffing requirements for emergencies. Figure 1.3 shows an organizational chart of the TSC staff.

Training of TSC staff is referenced in Section 13.0.

6.2.4 SIZE

The TSC is located in an area that is large enough to provide:

- Work space for the personnel assigned to the TSC.
- Space for the TSC Data Display Equipment.
- Space for unhindered access to communication equipment by all TSC personnel.
- Space for storage of and/or access to plant records and historical data.
- A separate room for private NRC consultations.

The TSC working space is sized for 25 persons, including five NRC personnel. The TSC floor space is approximately 1500 sq. ft.

6.2.5 STRUCTURE

The TSC is located in a Seismic Category I structure, which is able to withstand the most adverse conditions expected, including earthquakes, high winds, and floods.

6.2.6 HABITABILITY

The Habitability System for the TSC is the same system that is provided for the CR. See Sections 6.1.4 and 6.6 for a more detailed description of facility habitability.

6.2.7 COMMUNICATIONS

The communication system for the TSC is described in Section 4.0 and Table 4.1.

6.2.8 INSTRUMENTATION, DATA SYSTEM EQUIPMENT, AND POWER SUPPLIES

The TSC Data System is provided as part of the integrated Emergency Response Facility (ERF) Computer System. The ERF Computer System gathers, stores, and displays data needed in the TSC to analyze the plant conditions. The TSC Data System performs its function independent of action in the CR and without degradation or interfering with CR and plant functions. Details of the ERF Computer System are described in FSAR Section III.A.1.2 and the CPNPP DBDs.

6.2.9 RECORDS AVAILABILITY AND MANAGEMENT

The TSC has a repository of plant records and procedures at the disposal of the TSC personnel to aid in their technical analysis and evaluation of emergency conditions. The following reference material is provided in the TSC:

- CPNPP FSAR
- Plant Technical Specifications
- Operating Instructions, Both Normal and Emergency
- Technical Manuals
- As-Built Drawings

6.3 OPERATIONS SUPPORT CENTER

6.3.1 FUNCTION

The Operations Support Center (OSC) is the onsite emergency response staging area separate from the CR and TSC, where operations support personnel assemble and are dispatched during an emergency. The OSC functions to:

- Provide a location where plant support can be coordinated during an emergency.
- Restrict CR access to support personnel specifically requested by the Shift Manager.

6.3.2 LOCATION AND SIZE

The OSC is located in the office space in the Control Building on the 810' elevation. This location provides immediate access to the plant as well as the TSC.

6.3.3 STAFFING AND TRAINING

Personnel assigned to the OSC are notified at an Alert or higher emergency classification and should activate the facility as soon as possible with a goal of ~~ninety (90) sixty (60)~~ minutes in accordance with Emergency Plan Procedures.

The staffing requirements and responsibilities of OSC personnel are discussed in Section 1.1.2.2. Table 1.1 shows the staffing requirements for emergencies. Figure 1.4 shows an organizational chart of the OSC staff.

Training of OSC staff is referenced in Section 13.0.

6.3.4 HABITABILITY

The OSC has the same habitability conditions as the Turbine Building but is monitored for airborne radioactivity and external (gamma) radiation (see Section 6.6). If the OSC should be unavailable for use or require evacuation, personnel should be relocated to a safe area as specified by the Emergency Plan Procedures.

6.3.5 COMMUNICATIONS

The communication system for the OSC is described in Section 4.0 and Table 4.1.

6.4 EMERGENCY OPERATIONS FACILITY

6.4.1 FUNCTION

The CPNPP Emergency Operations Facility (EOF) is the emergency response facility which provides the following functions:

- Management of overall CPNPP response during an emergency condition.
- Coordination of radiological and environmental assessment.
- Determination of recommended public protective actions.
- Coordination of emergency response activities with federal, state, and local agencies.

The EOF is equipped with technical data displays to assist EOF personnel in diagnosis of plant conditions and to evaluate potential or actual release of radioactive materials to the environment.

6.4.2 LOCATION

The EOF is located in the Nuclear Operations Support Facility (NOSF) which is 1.2 miles west of the reactor site.

6.4.3 STAFFING AND TRAINING

Personnel assigned to the EOF are notified at an Alert or higher emergency classification and should activate the facility as soon as possible with a goal of **ninety (90) sixty (60)** minutes if a Site Area or General Emergency is declared in accordance with Emergency Plan Procedures.

When the EOF is activated, security protection will be upgraded to restrict access to those personnel assigned to the facility.

The staffing requirements and responsibilities of EOF personnel are discussed in Section 1.1.2.2. Table 1.1 shows the staffing requirements for emergencies. Figure 1.5 shows an organizational chart of the EOF staff.

Training of EOF staff is referenced in Section 13.0.

6.4.4 SIZE

The EOF is large enough to provide the following:

- Work space for the personnel assigned to the EOF.
- Space for the EOF Data Display Equipment.
- Space for unhindered access to communication equipment by all EOF personnel.
- Space for storage of and/or access to plant records and historical data.
- A separate room for private NRC consultations.

The EOF working space is sized for 45 persons, including federal, state, and local emergency response personnel. The EOF floor space is approximately 3,200 sq. ft.

The EOF has been designed and is equipped to support continuous operations over an extended period of time.

6.4.5 STRUCTURE

The EOF is a well engineered building meeting the Uniformed Building Code. It is designed for the expected life of the plant. The walls and ceilings are approximately eight (8) inches of concrete. The ventilation system and structure are not seismically qualified.

6.4.6 HABITABILITY

The EOF has special shielding and ventilation provisions for habitability. The EOF is shielded to provide a gamma protection factor of ≥ 15 . The dedicated ventilation system has a High Efficiency Particulate (HEPA) filter which filters the incoming air. The ventilation system maintains a slight positive pressure in the EOF.

Should evacuation of the EOF be required, the Alternate Emergency Operations Facility, located in the Daffan Industrial Park on Hwy 51 north of Granbury in Hood County may be used as an alternate location. This facility provides for continuity of EOF dose prediction and decision making functions using a combination of dedicated and portable backup equipment. Radiological assessment activities may be relocated to the state's mobile radiological laboratory.

6.4.7 COMMUNICATIONS

The communication system for the EOF is described in Section 4.0 and Table 4.1.

6.4.8 INSTRUMENTATION, DATA SYSTEM EQUIPMENT, AND POWER SUPPLIES

The EOF Data System is provided as part of the integrated Emergency Response Facility (ERF) Computer System. The ERF Computer System gathers, stores, and displays data needed in the EOF to analyze the plant conditions. The EOF Data System performs its function independent of action in the CR and without degradation or interfering with CR and plant functions. Details of the ERF Computer System are described in FSAR Section III.A.1.2 and the CPNPP DBDs.

6.4.9 RECORDS AVAILABILITY AND MANAGEMENT

The EOF has ready access to plant records, procedures, and emergency plans needed to exercise overall management of CPNPP emergency response resources. The EOF reference material includes:

- CPNPP FSAR
- Plant Technical Specifications
- Operating Instructions, Both Normal and Emergency
- Off-site Population Distribution Data
- Evacuation Plans

6.5 JOINT INFORMATION CENTER

6.5.1 FUNCTION

The function of the JIC is to provide a single contact point at CPNPP for dissemination of emergency related information to the news media.

6.5.2 LOCATION

The JIC is located in Granbury, Texas at the Granbury City Hall, 116 W. Bridge, which is greater than 10 miles from the reactor site.

6.5.3 STAFFING AND TRAINING

Personnel assigned to the JIC are notified at an Alert or higher emergency classification and should activate the facility as soon as possible with a goal of **ninety (90) sixty (60)** minutes if a Site Area or General Emergency is declared in accordance with Emergency Plan Procedures.

The staffing requirements and responsibilities of JIC personnel are discussed in Section 1.1.2.2. Table 1.1 shows the staffing requirements for emergencies. Figure 1.6 shows an organizational chart of the JIC staff.

Training of JIC staff is referenced in Section 13.0.

6.5.4 SIZE

The JIC is large enough to provide for the following:

- Working space for the personnel assigned to the JIC.
- Space for unhindered access to communications equipment by all JIC personnel.
- Space for accommodating 75 media personnel.

6.5.5 HABITABILITY

There are no special habitability provisions taken for the JIC.

6.5.6 COMMUNICATIONS

The communication system for the JIC is described in Section 4.0 and Table 4.1.

6.6 EMERGENCY RESPONSE FACILITIES RADIOLOGICAL HABITABILITY

In addition to the habitability provisions provided for each facility, the TSC, OSC, and EOF are monitored for airborne radioactivity and external (gamma) radiation.

For radioiodines, portable equipment capable of continuously detecting radioiodine air activity as low as 1.0E-07 microcuries per cubic centimeter ($\mu\text{Ci}/\text{cc}$) is used.

Noble gas (external gamma exposure) is continuously monitored using a gamma detection device set to alarm at a predetermined exposure rate or dose.

6.7 LABORATORY FACILITIES IN EOF-NOSF

The teaching laboratory facility at the EOF-NOSF complex covers approximately 1,200 square feet and is located just outside the main entrance to the EOF.

This teaching laboratory can perform radiological analysis of low activity samples to identify radionuclides and their respective activities. Considerations on the use of the laboratory are discussed in FSAR section III.D.3.

The NOSF is the control point for receipt of field samples.

6.8 OTHER RADIOLOGICAL LABORATORY SUPPORT

In addition to chemical and radiochemical laboratory facilities located at CPNPP, the following resources are available to Luminant Power in support of emergency response activities:

- Texas Department of State Health Services mobile laboratory. (See Section 1.2.4)
- Chemical and radiochemical laboratory facilities of neighboring nuclear utilities as coordinated by INPO.
- Houston Lighting and Power (See Section 1.2.3)

6.9 DECONTAMINATION FACILITIES

The in-plant decontamination facility is described in FSAR Section 12.5.2.2.

An offsite decontamination facility illustrated in Figure 6.1 is located in the Nuclear Operations Support Facility (NOSF) for use during emergency situations. Suitable decontaminants and clothing are provided. Water used for decontamination at the NOSF decontamination facility can be retained in a separate storage tank for later sampling, and if required, processing. Any solid waste generated as a result of decontamination activities shall be introduced into the Station radioactive waste processing system when appropriate.

6.10 ONSITE EMERGENCY AID FACILITIES

Onsite first aid capabilities are described in Sections 10.2 and 10.3.

6.11 EMERGENCY EQUIPMENT AND SUPPLIES

Each emergency response facility, as well as local hospitals and the NOSF, is supplied with emergency equipment and supplies suitable to the response expected from that facility. Section 15.0, Appendix J provides a representative listing of the emergency equipment and supplies maintained.

Inspections of the operational readiness of emergency equipment and supplies are conducted quarterly and after use. Deficiencies noted during inspections are corrected. Use of inspection checklists and follow-up actions ensures that equipment is ready for use. Sufficient reserves of equipment are maintained to replace those undergoing calibration or repair.

6.12 STATE AND LOCAL EMERGENCY OPERATIONS CENTERS

The State of Texas Emergency Operations Center (EOC) is located at Headquarters, Department of Public Safety in Austin. This facility is not continuously staffed. Its activation is at Site Area Emergency or higher classification in accordance with the Texas Emergency Management Plan.

The two county EOC's, within the 10-Mile Emergency Planning Zone, are located in county law enforcement centers. The Hood County EOC is in Granbury and the Somervell County EOC is in Glen Rose. These law enforcement centers are continuously staffed. County EOC activation is at Site Area Emergency or higher classification in accordance with the respective county Manual of Emergency Procedures.

6.13 ASSESSMENT SYSTEMS AND EQUIPMENT

The following paragraphs identify systems and equipment to be used by the CPNPP Emergency Response Organization to assess plant systems status, inplant, onsite and offsite radiological conditions, and overall safety status of the plant.

6.13.1 SAFETY PARAMETER DISPLAY SYSTEM

The Safety Parameter Data System (SPDS) is designed to provide indications to detect the approach to, the existence of, and the recovery from inadequate core cooling. The SPDS also provides a minimum set of parameters from which abnormal plant operating conditions may be quickly assessed. The SPDS data is displayed in the CR, TSC, and EOF.

A detailed description of the SPDS system is given in FSAR Section III.A.2.1.

6.13.2 EMERGENCY RESPONSE FACILITY COMPUTER SYSTEM

See Sections 6.2.8 and 6.4.8.

6.13.3 RADIATION MONITORING SYSTEM

The CPNPP Radiation Monitoring System (RMS) is comprised of the following subsystems:

- Area Radiation Monitoring System (ARMS), which continually monitors radiation fields in various areas within the plant. The ARMS is described in Section 12.3.4 of the FSAR.
- Process Radiation Monitoring System (PRMS), which provides a means for assessing radioactivity levels in plant process and effluent streams. The PRMS is described in Section 11.5.1.2 of the FSAR.

The RMS data is displayed in the CR, TSC, OSC, and EOF.

6.13.4 HEALTH PHYSICS INSTRUMENTATION

The CPNPP Radiation Protection Department maintains a supply of health physics laboratory and portable survey equipment. While this equipment is used routinely during normal station operations, it is also available to supplement the emergency response radiological monitoring

equipment. FSAR Table 12.5-1 provides a listing of the health physics laboratory and portable survey equipment routinely maintained at CPNPP.

6.13.5 METEOROLOGICAL MEASUREMENTS PROGRAM

The Meteorological Measurements Program is designed to measure the parameters needed to evaluate the dispersive characteristics of the site for both the routine operational and the hypothetical accidental releases of radionuclides to the atmosphere. The program is described in detail in Section 2.3.3 of the FSAR.

The meteorological data can be displayed in the CR, TSC, and EOF.

The National Weather Service office in Fort Worth is contacted if additional meteorological data or forecasts are required. The National Weather Service also provides back-up meteorological information during emergencies.

6.13.6 SEISMIC INSTRUMENTATION

Seismic instrumentation is provided so that in case of an earthquake, it can be quickly determined whether the OBE has been exceeded and it is required to shutdown both units.

The instrumentation is described in Section 3.7B.4 of the FSAR. A schematic diagram is presented in FSAR Figure 3.7B-54.

Recorded information is available in the CR.

6.13.7 HYDROLOGICAL MONITORING

Hydrological monitoring equipment installed at CPNPP provides data on the water level in Squaw Creek Reservoir. Operations personnel provide this information to the Control Room. Lake level may also be determined using SSI level indication available in the Control Room.

Based on information contained in Section 2.0 of both the CPNPP FSAR and Environmental Report, which discuss low probability of a significant hydrological event occurring within the CPNPP area, the requirement for accessing offsite hydrological monitoring equipment is considered unnecessary.

6.13.8 PROCESS MONITOR INSTRUMENTATION

FSAR Table 7.2-3 lists the principle reactor trip system instrumentation, and FSAR Table 7.5-1 summarizes main control board indications available to CR personnel.

6.13.9 FIRE DETECTION INSTRUMENTATION

A complete description of the CPNPP Fire Protection Program is provided in the CPNPP FSAR, Section 9.5.1, and Fire Protection Report.

6.13.10 ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM

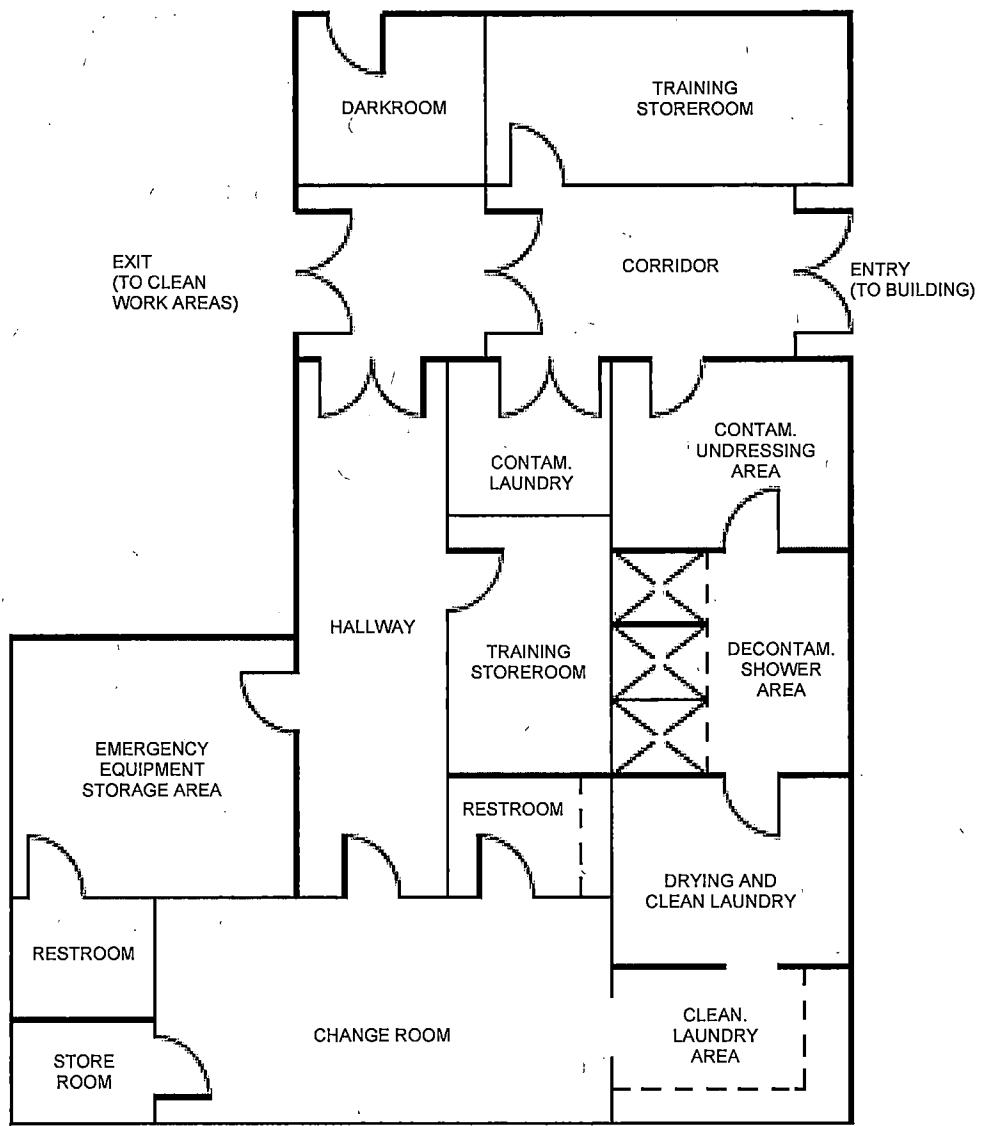
The CPNPP Environmental Radiological Monitoring Program is described in the CPNPP Offsite Dose Calculation Manual.

6.14 ALTERNATIVE FACILITY

The alternative facility is accessible even if the site is under threat of or experiencing a hostile action. The alternative facility provides the following functions:

- Staging area for augmentation of the emergency response staff;
- Communications with the EOF, Control Room and plant security;
- Perform offsite notifications; and
- Engineering assessment activities, including damage control team planning and preparation.

The alternative facility and **its-it's** location are described in the Emergency Response Facility implementing procedures.



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COMANCHE PEAK NUCLEAR POWER PLANT EMERGENCY PLAN
EMERGENCY OPERATIONS DECONTAMINATION FACILITIES IN THE NUCLEAR OPERATIONS SUPPORT FACILITY
FIGURE 6.1

7.0 ACCIDENT ASSESSMENT

Initial response to an emergency at CPNPP is from the Control Room. Abnormal events observed in or near plant facilities are reported to Control Room personnel, who take appropriate actions to correct the problem. The Control Room staff has numerous assessment tools available to aid in diagnosing problems and to assist in placing the plant in a safe and stable condition.

Primary systems used in assessment of any radiological incident are the Digital Radiation Monitoring System (DRMS) and Emergency Response Facility Computer System (ERFCS). The DRMS and ERFCS are used by the plant operating staff to analyze steady state and dynamic behavior of plant systems and to classify the emergency. Proper assessment and classification of the emergency is important not only to accident mitigation, but also to ensure proper resources and predetermined protective measures are employed to protect plant personnel and the public. Upon recognition of an abnormal or emergency condition, plant operations personnel implement prearranged response procedures. The Control Room staff evaluates conditions and, if appropriate, classifies the emergency into one of four Emergency Classifications. To accomplish this, operational parameters and radiation monitoring instrument readings, or other symptoms indicative of system degradation would be evaluated against the Emergency Action Level criteria. These criteria are provided in the appropriate Emergency Plan Procedures. The Emergency Action Levels provided in these procedures are based on instrument readings or identified abnormal conditions which relate to the classification.

If core damage is suspected, appropriate procedures may be used to estimate the extent of damage. A core damage assessment procedure is provided in the Emergency Plan Procedures.

A contingency sampling plan that may be used post-accident for obtaining potentially useful information about liquids or gases inside containment has been developed and is maintained in Chemistry procedures.

The following provides a general description of the capabilities and resources available to emergency response personnel in evaluating onsite and offsite radiological conditions during an emergency.

7.1 COMPUTER ASSESSMENT OF RADIOLOGICAL CONDITIONS

The DRMS and ERFCS receive data from the Area Radiation Monitoring System (ARMS) and Process Radiation Monitoring System (PRMS). DRMS data provides radioactive materials source term and release rate information.

The ERFCS also collects and stores meteorological data. This data is used by dose assessment personnel to calculate offsite doses which are provided to the Emergency Coordinator to help formulate offsite protective action recommendations.

7.2 CALCULATION OF OFFSITE DOSES

A computer-based dose projection program is used to estimate the offsite consequences of a radiological release from CPNPP to the surrounding public. The dose assessment program is site specific and consists of a straight-line Gaussian plume model for initial dose projections within the Plume Exposure Emergency Planning Zone (EPZ) and a separate segmented-plume model for tracking of wind shifts and plume deposition over portions of the Ingestion Exposure EPZ. This program can use system parameters from the Plant Computer System (PCS),

radiation monitor instrument readings from the Radiation Monitoring System (RMS), or the results from in-plant sampling to estimate the source term and release rate. These values are then used, with meteorological parameters from the PCS, to estimate plume location and calculate projected doses to the public. If system or monitor parameters are unavailable, default or estimated information can be used to generate dose projections. Once information becomes available from the offsite survey teams, this data may be used by the software to update projected doses and plume location based on field observations.

The dose projection program provides terminology and concepts consistent with 10CFR20 requirements and EPA-400 guidance.

Dose projections are used by radiological assessment personnel for development of protective action recommendations, to predict plume location for dispatching and control of Offsite Field Teams, as well as estimating the dose received by persons exposed to the plume. Once field data becomes available from CPNPP onsite radiological survey teams and offsite radiological monitoring teams, projected dose information is reevaluated and protective action recommendations to offsite officials are updated as required.

Computers are provided in the appropriate emergency facilities to enable backup means of performing dose assessment. Wall maps of the area which are used for plume tracking and field team placement are maintained in the TSC and EOF. Wall maps are not available in the Control Room, since it is not likely Control Room personnel would be directing field teams.

7.3 ONSITE AND OFFSITE RADIOLOGICAL CONDITIONS

In the event of an uncontrolled release of radioactive materials, the protection of onsite personnel shall be given as high a priority as is given for protection of the general public. A release to the environment is normally monitored by permanently installed, real-time monitoring instruments located at effluent release points. Information from these monitors will be used to predict onsite and offsite radiological conditions, thus reducing the potential for unexpected or unnecessary exposure to radiation. Radiation hazards within plant structures are also monitored by area radiation monitors which provide data regarding specific areas of the plant to the plant staff. To further aid in assessing potential onsite radiation hazards, in-plant and onsite radiological survey activities will be conducted to determine whether additional protective actions should be taken for protection of personnel remaining on site.

7.3.1 ONSITE RADIOLOGICAL ASSESSMENT

Initially, during an emergency condition, the on-shift Radiation Protection and Chemistry Technicians perform onsite and in-plant radiological assessment, and sampling activities, respectively, as directed by the Shift Manager.

Once the TSC is activated, responsibilities for onsite and offsite radiological assessment and survey activities shall be assumed by the TSC Onsite Radiological Assessment Coordinator. As CPNPP Emergency Organization personnel become available, onsite radiological survey teams shall be formed as required and dispatched from the OSC. Onsite Survey Teams initially shall be composed of at least two members, at least one of which shall be a Radiation Protection technician. The Onsite Survey Team(s) perform required onsite and in-plant surveys in accordance with approved Emergency Plan Procedures.

Once the EOF is activated, overall responsibility for offsite radiological assessment shall be assumed by the EOF Radiation Protection Coordinator.

Communications between the Control Room, TSC, OSC, EOF and the Onsite Survey Team(s) shall be conducted in accordance with Section 4.0 of this plan.

Transportation for Onsite Survey Team(s) is provided in accordance with Emergency Plan Procedures. Based on arrival time(s) of CPNPP Emergency Organization personnel, Onsite Survey Teams should be deployed within 15 to 30 minutes after arrival on site. Deployment time may vary due to duration of onsite briefing session, time required to obtain protective clothing and equipment and time required to prepare for entry into plant environs.

7.3.2 OFFSITE RADIOLOGICAL ASSESSMENT

Once the EOF is activated, the EOF Radiation Protection Coordinator assumes responsibilities for coordinating offsite radiological assessment and monitoring activities. Each Offsite Radiological Monitoring Team should be composed of at least two members, one of which shall be ~~a Radiation Protection technician~~ trained and qualified to perform monitoring activities.

In the event that dose projection or onsite monitoring results indicate the potential for radioactivity release with offsite dose consequences, a Radiological Offsite Monitoring Team can be dispatched. Deployment time for the first offsite team dispatched is estimated to be within ~~55~~ ~~60 to 70~~ ~~90~~ minutes of an Alert or higher classification. This time includes team arrival, equipment check out and receiving a brief on expected radiological conditions.

The EOF Radiation Protection Coordinator and his staff dispatch Offsite Radiological Monitoring Teams to preselected points in affected downwind sectors. Offsite environmental monitoring locations are identified in Plant Procedures. At preselected points, the team should perform external dose measurements, obtain air samples, determine contamination levels and obtain vegetation and liquid samples as required. From this point the team can be moved to determine the plume boundary, centerline of the plume and other factors necessary to determine impact of the release on the public and environment. This monitoring shall continue, as required, during the emergency so the need for protection measures can be quickly assessed.

Communications between the OSC, EOF, and Offsite Monitoring Teams shall be conducted in accordance with Section 4.0 of this plan.

Transportation for Offsite Radiological Monitoring Teams shall be provided in accordance with Emergency Plan Procedures. Deployment times may vary due to duration of the onsite briefing session, time required to obtain protective clothing and equipment and time to check equipment, if required.

CPNPP Offsite Radiological Monitoring Teams shall be equipped with two-way radios, survey equipment, including dose rate meters and air samplers, protective clothing and other equipment needed to evaluate radiological hazards under emergency conditions. This equipment shall allow for field evaluation of air samples and detection of radioiodine concentrations as low as 1×10^{-7} uCi/cc.

8.0 PROTECTIVE RESPONSE

Protective response represents actions taken for emergency workers and the public based on the emergency classification and the resulting assessment of plant status and radiological conditions. Guidelines for the choice of protective actions are provided in this section, including methods to notify the population-at-risk of the emergency.

8.1 ONSITE PROTECTIVE ACTIONS

Onsite plant personnel and visitors are warned of an emergency at CPNPP by announcements and alarms broadcast over the plant page-party system.

Personnel arriving or remaining onsite are to be notified of protective measures and shall be provided protective equipment, as necessary, depending on the actual radiological conditions existing during the emergency.

8.1.1 EVACUATION

During an emergency at CPNPP, the Emergency Coordinator may choose to evacuate certain areas, buildings, or the entire site. This decision to evacuate is made by the Emergency Coordinator based on the action that presents the least risk to non-essential personnel.

During an area or building evacuation, non-essential personnel should leave the affected area or building and report to the designated assembly area. Designated assembly areas include:

- Containment Building - shield wall outside containment hatch
- Radiation Controlled Area (RCA) - outside access control
- Protected Area (PA) - outside the Primary and/or Alternate Access Points

Personnel in buildings outside the Protected Area should use normal fire evacuation assembly areas.

During all evacuations, visitors are to remain with their escort until they are outside the affected area.

At a SITE AREA EMERGENCY classification or above, the Emergency Coordinator should order a site evacuation. This site evacuation includes the Exclusion Area, Squaw Creek Park, and Squaw Creek Reservoir. Should a site evacuation be ordered, non-essential personnel shall depart the site, preferably using normal site egress routes, as directed by the Emergency Coordinator. Personnel with Emergency Organization assignments shall report to their designated Emergency Response facility, unless otherwise directed.

During a site evacuation, station security personnel shall control access to the exclusion area.

8.1.2 ACCOUNTABILITY

Security is responsible for an initial accountability of all personnel within the Protected Area within approximately 30 minutes after the evacuation alarm has sounded. Security shall report

results of the initial accountability and attempt to locate missing personnel as specified by plant procedures.

After initial accountability, continuous accountability should be maintained in each onsite facility.

8.1.3 MONITORING OF EVACUEES

During a site evacuation, if the evacuees are potentially contaminated, the Emergency Coordinator should direct evacuees to proceed for radiological monitoring at an offsite Reception Center. At this center, evacuees are logged in/out, monitored for contamination, and decontaminated if required.

8.1.4 RESPIRATORY PROTECTION

During an emergency, air sampling is performed throughout the site area to ensure protective measures are implemented in a timely manner. These protective measures may include external exposure thresholds, DAC-hr tracking, ingestion of radioprotective drugs, relocation, respiratory protective equipment, or a combination of the above. Respiratory protective equipment is available onsite for issue in accordance with Radiation Protection procedures.

8.1.5 PROTECTIVE CLOTHING

Protective clothing is available from storage areas and Radiation Protection supplies located throughout the site. This clothing is standard anti-contamination clothing and includes coveralls, hoods, gloves, and boots.

8.1.6 RADIOPROTECTIVE DRUGS

A thyroid blocking agent such as Potassium Iodide (KI), supplied at various strategic onsite and offsite locations, shall be offered to CPNPP emergency response personnel in accordance with an Emergency Plan Procedure. Quantities of KI supplied at the onsite and offsite locations shall be maintained in accordance with provisions of Section 15, Appendix J. State or local government emergency plans and procedures describe KI use respective to offsite personnel.

8.2 OFFSITE PROTECTIVE ACTIONS

Personnel and visitors offsite, but within the owner-controlled area, are warned of an emergency by the Security Organization or by Squaw Creek Park personnel in accordance with the Squaw Creek Park Emergency Plan. Security personnel are notified of the emergency by Control Room personnel as described in Section 3.1. Squaw Creek Park personnel are notified of the emergency by the CPNPP Security organization in accordance with Security procedures.

Protective action recommendations (PARs) are formulated during an emergency by CPNPP personnel and are included in notifications to offsite authorities as specified in Section 3. These PARs are based on either existing plant conditions or projected offsite doses, and are updated as conditions warrant.

Offsite protective actions are then directed and implemented by State and local authorities based on the recommendations and information supplied by CPNPP.

Specific protective actions to be recommended are based on the guidance of the EPA's "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents."

8.2.1 EMERGENCY PLANNING ZONES

Emergency Planning Zones (EPZ) have been established surrounding CPNPP for planning purposes in the event of an accidental release of radioactive material from the site.

The Plume Exposure EPZ, or 10 mile EPZ, is divided into 22.5 degree sectors and concentric circles of one (1) mile increments. It is subdivided into Emergency Response Zones (ERZ), including separate zones for Glen Rose and Tolar.

A map of the Plume Exposure EPZ and its ERZs is contained in Section 15, Appendix F. Protective actions are recommended to State and local authorities based on the affected ERZs.

The Ingestion Exposure EPZ, or 50 mile EPZ, is divided into 22.5 degree sectors and concentric circles of ten (10) mile increments. A map of the Ingestion Exposure EPZ is contained in Section 15, Appendix G.

8.2.2 EVACUATION TIME ESTIMATES

Time estimates have been developed for evacuation of the Plume Exposure EPZ. The evacuation plan is included in the local County plans. It is the responsibility of the local authorities to execute the evacuation plan.

During an emergency at CPNPP, applicable Emergency Plan Procedures shall be used. These procedures specify responsibilities and actions of the Emergency Coordinator, EOF Radiation Protection Coordinator and TSC Onsite Radiological Assessment Coordinator regarding use of high range dosimeters, processing frequency of dosimetry, and criteria which allows emergency response personnel to receive radiation exposure in excess of limits set forth in 10 CFR, Part 20. Unless a lifesaving or urgent plant emergency condition requires a planned overexposure, all emergency response activities shall be performed so as not to exceed exposure limits established in 10 CFR, Part 20. Radiation Protection procedures governing frequency of dosimeter evaluation and maintenance of exposure records exist for routine operations. These procedures discuss proper use of self-reading dosimeters and establish frequency and criteria for TLD Badge evaluation.

Routine TLD Badge processing is accomplished by Radiation Protection personnel shipping TLD Badges to the processing vendor. The processing results are transmitted to CPNPP Radiation Protection for update of the record management computer. During emergency conditions Radiation Protection personnel shall be assigned to support 24-hour-per-day operation of shipping TLD Badges to the processor and updating the electronic results to a records management computer, if required.

Use of self-reading dosimeters permits timely tracking of personnel exposures. Decisions related to planned overexposure, TLD Badge processing and exposure extensions are based on each individual's current exposure history and self-reading dosimeter data. Personnel exposure history records are available to all emergency facility personnel.

CPNPP utilizes emergency exposure criteria recommended by the Environmental Protection Agency (EPA) and published in the "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents." The EPA guidelines were selected over the NCRP Report No. 39 ("Basic Radiation Protection Criteria") because of the more conservative nature of the EPA guidelines. Exposure guidelines provided in the EPA Manual shall be followed and doses to emergency response personnel shall be held to the lowest practical levels. Only the Emergency Coordinator may authorize emergency workers to receive doses in excess of 10 CFR, Part 20 limits. If time permits, the Emergency Coordinator or Radiation Protection Coordinator shall discuss rationale for exceeding 10 CFR, Part 20 limits with NRC representatives.

For lifesaving actions the following shall apply:

- a. Rescue personnel should be volunteers or professional rescue personnel.
- b. Rescue personnel should be familiar with consequences of exposure to radiation.
- c. Women capable of reproduction should not take part in these actions.
- d. Volunteers 45 or older, if available, should be selected.
- e. Planned individual emergency dose should not exceed 25 rems.

- f. Internal exposure should be minimized (as long as total effective dose equivalence is maintained ALARA) by using best available respiratory protection, and contamination should be controlled by use of available protective clothing.
- g. Normally, exposure under these conditions shall be limited to once in a lifetime.
- h. Persons receiving exposures as indicated above should be advised to avoid procreation for a period up to a few months.

For actions in less urgent emergency situations, where it is necessary to enter a hazardous area to protect facilities and equipment, eliminate further escape of effluents, or to control fires, the following shall apply:

- a. Persons performing planned action should be volunteers familiar with consequences of exposure to radiation and with task to be performed.
- b. Women capable of reproduction shall not take part in these actions.
- c. Planned individual emergency dose should not exceed 10 rems.
- d. Planned individual hands and forearms dose should not exceed 100 rems.
- e. Internal exposure shall be minimized (as long as total effective dose equivalence is maintained ALARA) by use of respiratory protection and contamination controlled by use of protective clothing.
- f. Normally, exposure under these conditions shall be limited to once in a lifetime.

9.2 CONTAMINATION CONTROL

Results of onsite and offsite contamination surveys, performed in accordance with approved Emergency Plan Procedures, shall be used as the basis for determining and posting radiologically controlled areas. Posting of a controlled area shall be accomplished in accordance with Radiation Protection Instructions.

Whenever ground or surface contamination levels in unrestricted areas exceed 1,000 DPM per 100 cm² Beta-Gamma removable within the Exclusion Area Boundary, but outside the Radiation Controlled Area, that contaminated area shall be isolated and treated as a radiation controlled area. Appropriate radiological protection and access control measures shall be implemented as described in Radiation Protection Instructions. In the event contamination levels in a radiation controlled area exceed 1000 DPM per 100 cm² Beta-Gamma removable, decontamination or other necessary protective actions shall be considered. Return of the affected area to normal use shall be permitted when contamination levels have been reduced to unrestricted area levels.

To ensure onsite personnel do not receive excess exposure via the ingestion pathway, drinking water and food supplies that have been outside the Control Room ventilation envelope and within a Radiation Controlled Area shall not be consumed without being surveyed by Radiation Protection personnel.

9.3

DECONTAMINATION

Decontamination shall be directed by personnel trained in radiation protection practices. Decontamination shall be performed in accordance with approved Emergency Plan Procedures and Radiation Protection Instructions. Emergency Plan Procedures prescribe that personnel decontamination is deemed necessary if contamination levels are found to be in excess of 1000 DPM per probe area (using a Ludlum Model HP-210 probe or equivalent in a low background area [<100 cpm]). Approved Emergency Plan Procedures and Radiation Protection Instructions list decontamination methods and techniques as well as actions to be taken in the event of severe skin contamination or suspected internal contamination.

Decontamination facilities are available and are described in Section 6.9.

Decontamination of personnel, equipment and areas depends on conditions at the time. Personnel decontamination is given first priority to minimize exposures and to release individuals as soon as possible back to the work force. Equipment and areas are decontaminated as conditions permit, with priority given to equipment or areas essential to recovery activities.

During an emergency, areas of the Station which are normally considered unrestricted access areas may become contaminated and as such shall be considered radiation controlled areas. Radiation Protection personnel should survey the Station and make changes as necessary during the course of the emergency. If the immediate area around the Station is contaminated, then a radiation controlled area access point may be established at the NOSF. The decontamination facility at the NOSF would then be used as required to decontaminate personnel leaving the Station.

9.4

RADIOACTIVE WASTE

Because of decontamination activities, limited amounts of radioactive waste may be generated or accumulated by the hospital, ambulance or other emergency response functions and may be brought to the NOSF Laboratory Facilities for temporary storage. As conditions permit, this radioactive waste shall be returned to the Station for processing.

10.0 MEDICAL AND PUBLIC HEALTH SUPPORT

10.1 HOSPITAL AND MEDICAL SUPPORT

Two area hospitals are equipped and their personnel have been trained to care for contaminated injured personnel or radiological overexposure requiring medical evaluation. A third area hospital is available to handle personnel with non-contaminated injuries. Medical services beyond the capabilities of the area hospitals (e.g., expertise, specialized support, or definitive care) may be provided by other institutions depending on the circumstances of the medical/radiological emergency.

The area hospitals are listed in Section 15.0, Appendix H.

10.2 ONSITE FIRST AID

A first aid station is maintained onsite and is equipped with standard supplies such as bandages, splints and stretchers. Pre-staged equipment for responders is located at the primary RCA access and Fire Brigade assembly areas. First aid kits with basic supplies are located throughout CPNPP. Eyewash stations are located throughout the plant at strategic locations.

Selected CPNPP personnel are trained to provide basic first aid and patient preparation for onsite personnel who become injured or ill. A number of CPNPP employees have also received basic first aid training and are capable of rendering first aid to injured or ill personnel. In addition, selected CPNPP Emergency Response Organization personnel receive annual instruction in handling injured, contaminated individuals.

10.3 TRANSPORTATION OF INJURED TO OFFSITE FACILITIES

A vehicle is available to transport injured personnel to the appropriate medical facility. Agreements with local ambulance services (see Section 15 Appendix H for a list) provide assistance as needed. Any injured and contaminated individual transported from CPNPP is accompanied by a Radiation Protection Technician who is equipped with suitable radiological monitoring equipment. Via the ambulance radio, any ambulance should be able to communicate with the staff at the receiving hospital. Should care beyond the capabilities of the area hospitals be required, arrangements for transporting the individual are made contingent on the injuries and radiological conditions.

11.0 REENTRY AND RECOVERY

Once the emergency has subsided at CPNPP and the situation is no longer considered a threat to onsite personnel or the general public, efforts shall be initiated to restore the affected unit(s) to full operation or place the affected unit(s) in a long-term safe shutdown condition until full operation can be resumed. The scope of these efforts depends on severity of the emergency, ranging from a simple close-out to a full-scale mobilization of personnel and resources to support a long-term recovery effort. If a recovery effort is deemed necessary, the CPNPP Recovery Organization shall be established to ensure personnel and resources are properly applied to that effort.

Transition from the CPNPP Emergency Organization to the CPNPP Recovery Organization is dictated by severity of the emergency. Once the Emergency Coordinator has established that conditions have subsided, he and other appropriate Luminant Power personnel assess the need for initiating a recovery effort. Emergency Plan Procedures describe the process by which Luminant Power management decides when an event should be closed out and the CPNPP Recovery Organization established. State and county emergency response organizations and the NRC shall be notified prior to initiating recovery phase.

If established, overall technical direction and control of the CPNPP Recovery Organization is assumed by the Recovery Manager. The CPNPP Recovery Organization absorbs the existing CPNPP Emergency Organization. Management of all activities conducted from the EOF, as well as direction and control of the CPNPP Emergency Organization, is assumed by the Recovery Manager. During the recovery phase, CPNPP Emergency Organization personnel continue their functional assignments. As appropriate, the TSC or EOF Communications Coordinator ensures supporting emergency response organizations are informed of the change in Station status and of the CPNPP organizational transition. Emergency Plan Procedures delineate requirements and actions to be taken for recovery phase activities, including transition to the CPNPP Recovery Organization.

Recovery operations include evaluation of historical and real-time data and reports, verification of system/equipment status and alignment, selection of proper corrective action and restoration activities, and acquisition of equipment and personnel to accomplish those activities.

Reentry into environs of the Station by selected personnel is one of the most important sources of information available to the CPNPP Recovery Organization. These activities should aid in ascertaining the resources, manpower and recovery actions necessary to restore the Station to operational status.

The Emergency Coordinator (or Recovery Manager) has the responsibility for authorizing initial reentry into an area previously evacuated for radiological reasons. Reentries shall be made and exposure guidelines established in accordance with criteria established in Emergency Plan Procedures. These procedures provide specific instructions and criteria for exposure control and, if necessary, a planned overexposure. All efforts shall be made to keep exposures as low as reasonably achievable (ALARA).

11.1 CPNPP RECOVERY ORGANIZATION

The Recovery Organization is composed of CPNPP personnel; Luminant Power resources are available as necessary. Contract personnel are used as needed to expand the capabilities of Luminant Power personnel. Since the magnitude of any recovery effort is dependent on the scope of the event, CPNPP Recovery Organization staffing requirements are difficult to predict in

advance; therefore, this plan only predesignates certain management level positions in the CPNPP Recovery Organization. Managers form their respective groups as appropriate to deal with recovery.

The basic CPNPP Recovery Organization is illustrated in Figure 11.1.

11.1.1 CPNPP RECOVERY ORGANIZATION -- FUNCTIONAL RESPONSIBILITIES

11.1.1.1 RECOVERY MANAGER

A member of senior CPNPP management is designated as the Recovery Manager and is responsible for directing actions of the CPNPP Recovery Organization.

Responsibilities and authorities assigned to the Emergency Coordinator in Section 1.0 of this plan are transferred to the Recovery Manager when the CPNPP Recovery Organization is formed, thus assuring continuity of resources, communications and other activities initiated by the CPNPP Emergency Organization.

11.1.1.2 OPERATIONS SUPPORT

Operations Support personnel are responsible for analysis and development of plans and procedures in direct support of operations with the objective of restoring the Station to operational status. Their primary responsibilities include:

- a. Providing direct support to shift operations.
- b. Analyzing instrument and control problems and developing modification and repair plans.
- c. Analyzing conditions and developing guidance for shift operations personnel regarding core protection.
- d. Developing out-of-normal and emergency procedures for operations support.

11.1.1.3 TECHNICAL SUPPORT

Technical Support personnel are responsible for:

- a. Determining need for and providing engineering and technical specialists to support other managers as required.
- b. Assuring design activities are adequately staffed and equipped to provide timely support.
- c. Providing direct interface between CPNPP personnel and others on administrative matters.
- d. Directing, coordinating and approving all engineering and design activities conducted on site during recovery.
- e. Developing any required modifications for radwaste systems in support of recovery operations.

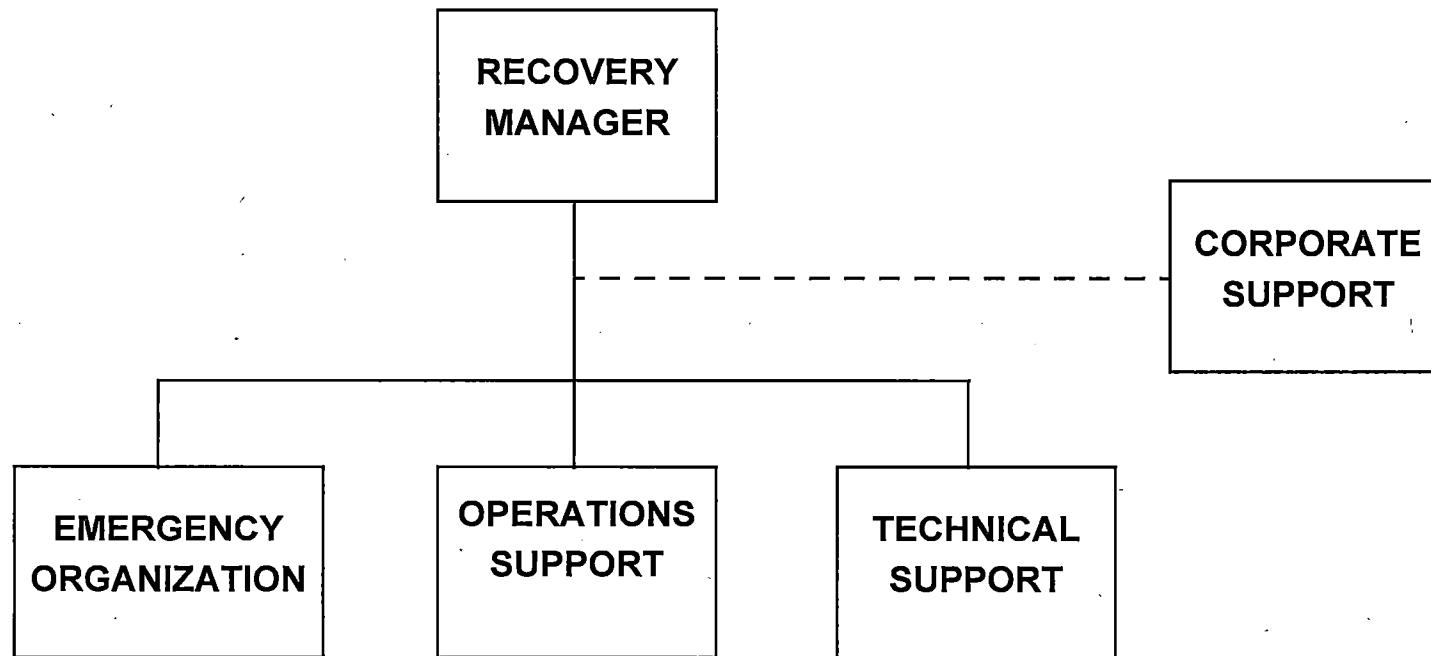
- f. Providing technical expertise for Station repair and modification activities in support of the resolution of mechanical and electrical problems.
- g. Providing qualified personnel to augment emergency repair and damage control teams.

11.1.1.4 CORPORATE SUPPORT

Luminant Power resources and personnel are available upon request by the Recovery Manager. These resources are discussed in Section 1.2 of this plan.

11.2 ESTIMATING TOTAL POPULATION EXPOSURE

The State oversees this activity. It is conducted in accordance with procedure 22 of appendix 7 of the Texas Radiological Emergency Management Plan.



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COMANCHE PEAK NUCLEAR POWER PLANT EMERGENCY PLAN
CPNPP RECOVERY ORGANIZATION
FIGURE 11.1

12.0 EXERCISES AND DRILLS

Emergency preparedness exercises are conducted to evaluate the integrated capability and a major portion of basic elements of the utility's overall emergency response. Drills are conducted to develop and maintain key skills, to evaluate segments of overall emergency response and to periodically confirm availability and operability of emergency equipment. Exercises and drills shall be conducted in accordance with NRC and FEMA rules (10 CFR, Part 50.47 and 44 CFR, Part 351) and approved Emergency Plan Procedures.

12.1 EXERCISES

Exercises are conducted to test adequacy of timing and content of implementing procedures and methods, emergency equipment and communication networks, and the public notification system, and ensure emergency organization personnel know their duties.

At least once every two (2) years, an exercise will be conducted involving full participation of local response organizations and at least partial participation of state organizations. The state fully participates with CPNPP at least once every four (4) years. Other exercises (or drills) should be conducted at least annually to test integrated portions of emergency response capabilities.

12.2 DRILLS

Drills for testing, developing and maintaining emergency response skills are conducted periodically at CPNPP. Drills are also used to evaluate emergency response personnel and allow for hands-on training. The drills should follow preplanned scenarios developed to thoroughly test response of personnel involved. During drills, if appropriate, on-the-spot correction of incorrect performance should be made and demonstration of proper performance offered by the drill controller. State personnel should periodically participate in radiological monitoring and health physics drills. The following drills are required:

12.2.1 COMMUNICATIONS DRILLS

Communications links between CPNPP, the DPS, and Hood County and Somervell County Emergency Operations Centers shall be tested monthly. Communications between CPNPP, state and federal agencies shall be tested quarterly. Communications between CPNPP, state and local Emergency Operations Centers and radiological monitoring teams shall be tested annually. Communications drills shall also address the aspect of understanding messages.

12.2.2 FIRE DRILLS

Fire drills shall be conducted in accordance with requirements of TRA-104, "Fire Protection Training." The Somervell County Volunteer Fire, Rescue, and EMS Service shall be invited to participate annually in one of the periodic drills.

12.2.3 EMERGENCY MEDICAL DRILLS

Offsite ambulance and medical support services participate in an annual drill, and may participate in conjunction with a CPNPP exercise.

12.2.4 RADIOLOGICAL MONITORING DRILLS

Station personnel assigned to radiological monitoring teams shall participate in annual drills to prepare them to perform air sampling and beta-gamma exposure rate determinations within the 10-Mile Emergency Planning Zone during the Plume Exposure Pathway phase. These drills shall include provisions for communications and record keeping.

Station personnel assigned to radiological monitoring teams should participate in drills to collect environmental samples such as soil, water, and vegetation. These drills maintain station personnel capable to assist, if necessary, state agencies during the Ingestion Pathway phase.

12.2.5 HEALTH PHYSICS DRILLS

Health physics drills shall be conducted semi-annually and involve response to and analysis of simulated elevated airborne and liquid samples and direct radiation measurements in the environment.

12.3 DRILL AND EXERCISE SCENARIOS

Drill and exercise scenarios are developed to provide a method to test and evaluate the CPNPP Emergency Preparedness Program. These scenarios are designed to allow free play in decision-making and shall include, as appropriate:

- a. Basic objective(s) of each drill and exercise, and appropriate evaluation criteria;
- b. Date(s), time period(s), location(s) and participating organizations;
- c. Simulated events;
- d. Time schedule of real and simulated initiating events;
- e. Narrative summary describing conduct of the exercise or drill which addresses simulated casualties, offsite fire department assistance, rescue of personnel, use of protective clothing, deployment of radiological monitoring teams, public information activities; and
- f. Description of arrangements for and advance materials to be provided to official observers.

The Emergency Planning Group is responsible for developing drill objectives, exercise objectives, and developing exercise scenarios. Scenarios and objectives developed for those exercises or drills requiring NRC and/or FEMA evaluation shall be approved by the Plant Manager* and submitted to the NRC and/or FEMA for review and approval.

12.4 CRITIQUE OF DRILLS AND EXERCISES

Drills and exercises provide the principal means for assessing effectiveness of the CPNPP Emergency Plan, its implementing procedures, and the state of emergency preparedness of personnel and equipment. As soon as possible after an exercise or drill, a critique is conducted to evaluate performance and lessons learned as a result of that activity. Objectives of the critique session are to evaluate emergency response of participating personnel, to assess

* See FSAR Section 13.1.

adequacy of dedicated emergency equipment, and to identify deficiencies in the CPNPP Emergency Plan and Emergency Plan Procedures. The critique compares observed emergency response of participants with response anticipated in the drill/exercise scenario. The critique, as appropriate, includes discussion of acceptable and unacceptable emergency responses, observed deficiencies and recommended corrective actions.

The Emergency Planning Group is responsible for conducting exercise critiques and for preparing a written summary of each exercise critique. This summary should include objectives of the exercise, list of participants, controllers, evaluators, observers and a list of identified deficiencies. This summary shall be provided to the Emergency Planning Manager. He is responsible for ensuring appropriate changes are incorporated in the CPNPP Emergency Plan and Emergency Plan Procedures.

In addition, the NRC/FEMA critique of the exercise may result in recommendations or requirements to Luminant Power for improving emergency preparedness at CPNPP. The Plant Manager* shall be responsible for ensuring Luminant Power compliance to such requirements. The Emergency Planning Manager is responsible for incorporating appropriate changes to the CPNPP Emergency Plan and Emergency Plan Procedures.

For each drill, the drill evaluator is responsible for preparing a written summary of the critique. This summary should include a list of participants, controllers, evaluators, observers and observed deficiencies. This summary shall be provided to the Emergency Planning Manager. He is responsible for ensuring appropriate changes are incorporated in the CPNPP Emergency Plan and Emergency Plan Procedures.

* See FSAR Section 13.1.

13.0 RADIOLOGICAL EMERGENCY RESPONSE TRAINING

The Emergency Response Organization (ERO) training program is described in TRA-105, "Emergency Preparedness Training". Instructions for personnel who routinely visit or are assigned to the site are provided in site access training.

Personnel not assigned to the CPNPP Emergency Response Organization receive information on reporting emergencies and expected actions in case of an emergency.

Personnel assigned to the CPNPP Emergency Response Organization receive initial training to qualify them for their respective position. This training consists of an overview of the CPNPP Emergency Plan, followed by specific position training (as applicable). Specific position training consists of:

- Accident Classification
- Dose Assessment and Projections
- Emergency Communications - Notifications
- Onsite Protective Actions
- Onsite and offsite Radiological Monitoring
- Protective Action Recommendation
- Facility/Position Walkdowns
- Medical Support

Personnel attend annual retraining to maintain their qualification.

Training is provided to the CPNPP Fire Brigade. This training is coordinated by the Nuclear Training Manager, and addresses methods and equipment used for fighting various types of fires that could occur onsite. Appropriate emphasis is placed on radiological aspects of fire fighting.

Security training is conducted by the CPNPP Security Department and is coordinated by the Security Manager. Training is provided to all security personnel based on each person's specific tasks. Appropriate emphasis is placed on emergency response required within radiologically controlled environments.

Training is offered to offsite emergency response organizations who may be called upon to help in an onsite emergency. Retraining is offered to the offsite emergency response organizations annually.

Emergency response training provides for formal critiques in order to identify areas that need correction. Formal critiques may be, but not limited to, any of the following:

- trainee exams
- self assessments
- reports (drill, exercise, and audit)
- trainee feedback

14.0 RESPONSIBILITY FOR PLANNING EFFORT

Personnel assigned to the Emergency Planning group are required to maintain proficiency in various facets of emergency preparedness. As a means of maintaining that proficiency, members may participate in activities such as drills and exercises, assist visits to other nuclear facilities, workshops and seminars, and formal training courses.

The Plant Manager* has overall responsibility for the emergency preparedness program and shall approve changes to the Emergency Plan. The Station Operations Review Committee (SORC) shall review changes to the Emergency Plan and submit recommended changes to the Operations Review Committee (ORC). The Emergency Planning Manager shall approve the Emergency Plan Procedures and is responsible for maintenance and coordination of the emergency preparedness program and training of the Emergency Response Organization (ERO).

Review of the Emergency Plan is on an annual basis. The review includes consideration of items identified during drills and exercises that could affect the Emergency Plan. The emergency action level procedure is reviewed annually with the State and local county governmental agencies. Review of the Emergency Plan Procedures is at least biennially. Copies of the Emergency Plan and Emergency Plan Procedures are distributed to the appropriate individuals and organizations with emergency response/planning responsibilities. These documents are controlled and changed/revised in accordance with station administrative procedures. Telephone numbers maintained for emergency response shall be reviewed and updated quarterly as necessary.

Section 15 of this plan maintains a list of the Emergency Plan Procedures with the corresponding plan section(s) and a list of organizations who provide support during an emergency. The letters of agreement with these organizations are maintained in the Emergency Planning office, and are reviewed annually.

An independent review of the emergency preparedness program shall be conducted at least every 24 months. An independent review shall also be conducted as necessary based on assessment by Luminant Power against performance indicators or after identifying a program change occurring that potentially could adversely affect emergency preparedness. In the latter case, the review shall be conducted as soon as practical but no later than 12 months after the change occurs. Independent reviews are reported to the appropriate company management personnel and governmental organizations.

* See FSAR Section 13.1.

- 15.0 APPENDICES**
- A. CPNPP Shift Crew Chart
 - B. Time/Distance/Dose (Thyroid) Curve for LOCA Condition at CPNPP
 - C. Time/Distance/Dose (Whole body, Gamma) Curve for a LOCA Condition at CPNPP
 - D. Time/Distance/Dose (Whole body, Total) Curve for a LOCA Condition at CPNPP
 - E. CPNPP Complex and Owner Controlled Area
 - F. CPNPP 0-10 Miles
 - 1. Demographic Information Map
 - 2. Area Map
 - G. CPNPP 10 - 50 Mile Map
 - H. List of Letters of Agreement and Supporting Emergency Plans
 - J. Emergency Equipment and Supplies
 - K. List Of Emergency Plan Procedures
 - M. CPNPP Evacuation Time Estimates and Staffing Estimates
 - N. Emergency Planning Zone (EPZ) Evacuation Time Estimates
 - P. Cross Index to NUREG-0654
 - Q. Definitions
 - R. (Removed From CPNPP Emergency Plan)
 - S. Corporate Emergency Management Plan

Note: The letters "I," "L," and "O" are not used as appendix designators.

Appendix A

CPNPP Shift Crew Chart

See FSAR Section 13.1.2.3 and
FSAR Table 13.1-2.

Appendix B
Time/Distance/Dose (Thyroid)
Curve for LOCA Condition at CPNPP

THIS APPENDIX HAS BEEN DELETED

Appendix C

Time/Distance/Dose (Whole body, Gamma)

Curve for a LOCA Condition at CPNPP

THIS APPENDIX HAS BEEN DELETED

Appendix D

Time/Distance/Dose (Whole body, Total)

Curve for a LOCA Condition at CPNPP

THIS APPENDIX HAS BEEN DELETED

Appendix E
CPNPP Complex and
Owner Controlled Area

FIGURE E.1
OWNER CONTROLLED AREA & EXCLUSION AREA BOUNDARY

(Figure not in electronic file)

[Click here to see the figure](#)

FIGURE E.2

CPNPP COMPLEX

(Figure not in electronic file)

[Click here to see the figure](#)

Appendix F

CPNPP 0-10 Miles

1. Demographic Information Map

2. Area Map

SECTOR DESIGNATORS

<u>Section Designators*</u>	<u>Centerline of Sections</u>
A	N
B	NNE
C	NE
D	ENE
E	E
F	ESE
G	SE
H	SSE
J	S
K	SSW
L	SW
M	WSW
N	W
P	WNW
Q	NW
R	NNW

- * The letters -I- and -O- have been omitted from these sector designators to eliminate confusion between letters and numbers.

POPULATION DISTRIBUTION BY SECTOR AND AREA (0 - 10 MILES)

SECTOR AND DIRECTION

DISTANCE FROM PLANT	ESTIMATED POPULATION DISTRIBUTION	A N	B NNE	C NE	D ENE	E E	F ESE	G SE	H SSE	J S	K SSW	L SW	M WSW	N W	P WNW	Q NW	R NNW
1 - 2 miles	I	0	0	0	0	0	3	0	0	0	3	45	12	9	3	0	0
	II	0	0	0	0	0	3	0	0	0	3	35	10	7	3	0	0
	III	0	0	0	0	0	4	0	0	0	4	53	14	14	3	0	0
2 - 3 miles	I	6	9	42	9	0	9	6	3	14	0	12	3	12	6	0	6
	II	7	10	47	6	0	7	4	3	10	0	9	3	15	7	0	6
	III	13	20	91	10	0	11	7	4	16	0	14	4	28	13	0	10
3 - 4 miles	I	23	40	20	29	26	62	26	12	3	9	9	6	20	23	0	0
	II	27	46	23	30	21	50	21	10	3	7	7	6	25	25	0	0
	III	50	87	44	51	31	74	31	14	4	11	11	10	44	47	0	0
4 - 5 miles	I	37	17	104	20	26	84	76	2260	185	51	45	3	14	31	0	20
	II	43	19	116	23	21	67	61	1801	147	41	36	3	16	35	0	23
	III	81	37	221	44	31	100	91	2686	219	61	53	4	30	67	0	44
5 - 10 miles	I	3639	1207	409	144	189	549	115	726	98	180	87	115	79	196	348	362
	II	4359	1671	464	162	150	437	92	578	78	143	70	116	90	221	395	411
	III	8263	2599	880	302	223	653	136	863	117	214	104	194	171	420	749	779

KEY:

- I BASED ON THE YEAR 1976 (ESTIMATED) POPULATION
- II BASED ON THE YEAR 1980 (ESTIMATED) POPULATION
- III BASED ON THE YEAR 2000 (ESTIMATED) POPULATION

TABLE F.1

FIGURE F.1
POPULATION DISTRIBUTION BY SECTOR AREA
0 TO 10 MILES

(Figure not in electronic file)

[Click here to see the figure](#)

FIGURE F.2
10 MILE EMERGENCY PLANNING ZONE

(Figure not in electronic file)

[Click here to see the figure](#)

Appendix G

CPNPP 10 - 50 Mile Map

FIGURE G.1
POPULATION DISTRIBUTION BY SECTOR-AREA
10 TO 50 MILES

(Figure not in electronic file)

[Click here to see the figure](#)

Appendix H

List of Letters of Agreement

and

Supporting Emergency Plans

LIST OF
LETTERS OF AGREEMENT

Air Evac Emergency Medical Service - Emergency treatment and transportation of critically injured/burned and contaminated patients

American Red Cross - Support mass care needs at three reception centers, establish shelters for evacuees, registration of evacuees, and provide mental health and health services for evacuees and emergency workers, as needed

City of Benbrook - Reception Center

City of Cleburne, Texas - Reception Center

City of Stephenville - Reception Center

City of Granbury - Joint Information Center (JIC)

Hood County Sheriff - Law enforcement, assist evacuation efforts, traffic control, security

Hood County - CodeRED warning system partnership with CPNPP

Lake Granbury Medical Center - Treatment of contaminated injured

Granbury/Hood County Emergency Medical Service, Inc. dba Texas Emergency Medical Services - Emergency treatment and transportation of contaminated injured

South Texas Project Nuclear Operating Company - Backup post accident sample and analysis

Institute of Nuclear Power Operations (INPO) - Coordinate assistance from other utilities

National Weather Service - Weather forecasts

Somervell County Sheriff - Law enforcement, assist evacuation efforts, traffic control, security

Somervell County Fire Department and EMS Service - Local fire fighting support and emergency treatment/transportation of contaminated injured

Somervell County - CodeRED warning system partnership with CPNPP

Indian Harbor Volunteer Fire/EMS Department - Local fire fighting support

DCBE/Acton Volunteer Fire Department - Local fire fighting support

Granbury Volunteer Fire Department - Local fire fighting support

Texas Department of Health - Assistance to local government in the area of protective actions and environmental sampling

Texas Department of Public Safety - Law enforcement, assist evacuation efforts, traffic control, coordinates with and assists local law enforcement

Texas Health Hospital, Cleburne - Treatment of contaminated injured

NOTE: This is a list of agreements referring to the concept of operations developed between Federal, State, and local agencies, and other support organizations having an emergency response role within the Emergency Planning Zones. These documents are maintained in the files of Emergency Planning.

**LIST OF
SUPPORTING EMERGENCY RESPONSE PLANS**

- (1) Hood County Emergency Management Plan and Manual of Emergency Procedures
Source: County Government
- (2) Somervell County Emergency Management Plan and Manual of Emergency Procedures
Source: County Government
- (3) Texas Emergency Management Plan
Source: Texas Department of Public Safety
- (4) Westinghouse Emergency Response Plan
Source: Westinghouse Electric Corporation - Water Reactors Division
- (5) Squaw Creek Park Emergency Plan
Source: Squaw Creek Park
- (6) Region 4 Radiological Assistance Program Plan
Source: Department of Energy

NOTE: The supporting emergency response plans listed above are maintained at CPNPP, but are not contained within the body of the CPNPP Emergency Plan.

Appendix J

Emergency Equipment

and Supplies

EMERGENCY EQUIPMENT AND SUPPLIES

Luminant Power maintains emergency response equipment and supplies in onsite and offsite facilities, cabinets, and footlockers. Onsite this equipment is staged in such places as the Control Room, Technical Support Center, Operations Support Center, Emergency Operations Facility and Nuclear Operations Support Facility (NOSF). Offsite this equipment is staged in such places as county Emergency Operations Centers (EOCs), hospitals, and Relocation Centers.

Self-Contained Breathing Apparatus (SCBAs) and spare SCBA bottles are maintained for the Control Room; SCBAs are also maintained at the NOSF.

Two Three company vehicles equipped to support radiological monitoring **activites activities** are available for use by Offsite Field Monitoring Teams. **Two Three** offsite field monitoring kits are located in the NOSF. The kits contain supplies and equipment represented in the listing below.

The specific type and amount of equipment and supplies in each onsite or offsite facility, location, or kit is identified on a facility inventory worksheet. The inventory worksheet is prescribed by and maintained in accordance with an Emergency Plan Procedure.

The following listing, by category, represents typical emergency response equipment and supplies maintained:

Personal Protection and Dosimetry

Coveralls, shoe covers, gloves, hoods

Thyroid Blocking drugs (Potassium Iodide [KI])

Thermoluminescent Dosimeter (TLD)

Radiological Monitoring

Geiger-Mueller (GM) and Ionization Chamber instruments

Air Sampler, equipped with sampler head for particulates and silver zeolite collectors

Particulate filters and Silver Zeolite cartridges

Calculators

Contamination Control

Modesty clothing, plastic bags, signs/barricades, Step-Off Pads, tape, decontamination supplies

Communications

Vehicle-installed radios, base stations, handheld radios

Miscellaneous

Portable lights, Instrument check source, clerical supplies, maps, clipboards, tweezers, etc.

Appendix K
List Of Emergency Plan Procedures

LIST OF EMERGENCY PLAN PROCEDURES

Procedure No.	Procedure Title	References
EPP-100	Maintaining Emergency Preparedness	3.7, 3.8, 5.0, 6.6, 6.9, 6.11, 6.13, 12.0, 13.0, 14.0, Appendix H, J
EPP-109	Duties and Responsibilities of the Emergency Coordinator/ Recovery Manager	1.1.2.2, 11.0
EPP-116	Emergency Repair and Damage Control and Immediate Entries	6.2
EPP-121	Reentry, Recovery and Closeout	11.0
EPP-201	Assessment of Emergency Action Levels, Emergency Classification and Plan Activation	2.0, 2.1, 2.2, Table 2.1
EPP-202	Emergency Communications Systems and Equipment	3.0, 4.0
EPP-203	Notifications	3.0, 4.0, Table 1.2
EPP-204	Activation and Operation of the Technical Support Center (TSC)	1.0, 1.1.2.2, Table 1.1 and 1.2, 6.0, 6.1
EPP-205	Activation and Operation of the Operations Support Center (OSC)	1.0, 1.1.2.2, Table 1.1 and 1.2, 6.0, 6.3
EPP-206	Activation and Operation of the Emergency Operations Facility (EOF)	1.0, 1.1.2.2, Table 1.1 and 1.2, 6.0, 6.4
EPP-207	Activation and Operation of the Joint Information Center	1.0, 1.1.2.2, Table 1.1 and 1.2, 6.0, 6.5
EPP-303	Operation of Computer Based, Emergency Dose Assessment System	6.13, 7.0
EPP-304	Protective Action Recommendations	8.0, 8.1, 8.2
EPP-305	Emergency Exposure Guidelines and Personnel Dosimetry	9.0, 9.1
EPP-306	Use of Thyroid Blocking Agents	1.1.2.2, 8.1.6
EPP-309	Onsite/In-Plant Radiological Surveys and Offsite Radiological Monitoring	6.7, 7.3, 9.2, Table 1.2
EPP-312	Core Damage Assessment	7.0
EPP-314	Evacuation and Accountability	4.1.8, 8.1.1, 8.1.2, 8.2.2
TRA-105	Emergency Preparedness Training	13.0

Appendix M

CPNPP Evacuation Time

Estimates and Staffing

Estimates

CPNPP Evacuation Time Estimates

The time estimate for evacuating CPNPP is projected to be 114 minutes. Justification for this time estimate is provided by the following:

$$T(ev) = Td + Tn + Tm + Tt$$

Where:

T(ev) = (114 minutes) Time for evacuation of 2,500 persons from the CPNPP station.

Td = (15 minutes) Time required for detection of accident, data analysis and decision to evacuate.

Tn = (16 minutes) Time required to notify personnel.

Tm = (15 minutes) Time required for personnel to mobilize and get under way.

Tt = (68 Minutes) Travel time to leave affected area (Distance: five miles) in the Manual of Protective Action Guides for Nuclear Incidents, page 1.34, a traffic lane capacity at 35 miles per hour and four persons per car is predicted to be 10,000 persons per hour. Using two traffic lanes and adjusting lane capacity stated above to a more conservative condition of 20 miles per hour and two persons per car, it is projected that travel time for 2,500 persons will be 68 minutes.

The time estimate for evacuating personnel from the Exclusion Area by boat is projected to be 85 minutes. Justification of this estimate is provided by the following:

$$T(ev) = Td + Tn + Tm + Tt$$

Where:

T(ev) = (85 minutes) Time estimate to evacuate individuals from Exclusion Area on SCR. A typical situation could be individuals on SCR performing environmental monitoring tasks.

Td = (15 minutes) Time required for detection of accident, data analysis and decision to evacuate.

Tn = (35 minutes) Time to notify individuals to evacuate affected area. 15 minutes estimated to have boat lake-ready. 20 minutes for actual travel time.

Tm = (15 minutes) Time required for individuals to make ready and get under way.

Tt = (20 minutes) Travel time required to leave affected area.

CPNPP Staffing Estimates

In addition to personnel on shift during an emergency, capability for increasing personnel in a timely manner is presented in **Table 1.1**. Response time estimates were arrived at using the following:

$$Ta = Tn + Tp + Tt + Tw$$

Where:

Ta = Time for personnel to arrive in facilities

Tn = (10 minutes) Time required to notify personnel

Tp = (10 minutes) Preparation time for personnel

Tt = Travel time to plant

Tw = (5 minutes) Walking time from parking areas to facilities

The following percentages indicates where the majority of the emergency response organization lives:

15 percent of employees live in the vicinity of Glen Rose-Walnut Springs.

40 percent of employees live in Acton-Granbury-Tolar area.

45 percent of employees live in Cleburne, Stephenville and Ft. Worth area.

The range of travel times from these general areas to CPNPP are:

Glen Rose-Walnut Springs - 10 to 30 minutes

Acton-Granbury-Tolar - 20 to 40 minutes

Cleburne-Stephenville-Ft. Worth - 30 to 80 minutes

From information provided by the emergency response organization, approximately 85 percent of the organization could travel to CPNPP within 45 minutes under normal driving conditions. Under adverse driving conditions (the worst would be ice storms) approximately 30 minutes would be added to travel times.

TSC and EOF Activation Times

The Technical Support Center (TSC) and Emergency Operations Facility (EOF) are **manned** **staffed** by additional personnel responding to the emergency notification. With the majority of the

emergency response organization arriving **within 45 after 50** minutes travel time, activation time for both facilities would be 70 minutes. This time estimate is based on the following:

$$Ta = Tn + Tp + Tt + Tw$$

Where:

Ta = **(70 80)** minutes Time for personnel to arrive in facilities

Tn = (10 minutes) Time required to notify personnel

Tp = (10 minutes) Preparation time for personnel

Tt = **(45-50)** minutes Travel time for personnel

Tw = **(5 10)** minutes Walking time from parking areas to

facilities

If the emergency was during an ice storm, it could take up to one hour and forty minutes for approximately 85 percent of the emergency response organization to arrive in their respective facilities.

Appendix N
Emergency Planning
Zone (EPZ) Evacuation
Time Estimates

Comanche Peak Nuclear Power Plant (CPNPP) Evacuation Time Estimate Summary

In order to ensure the safety of the public living in the vicinity of nuclear power plants in the nation, the U.S. Nuclear Regulatory Commission (NRC) requires licensees to develop and update evacuation times estimates (ETEs) for areas within the emergency planning zone (EPZ). Updates are required following the availability of data from the decennial census (10 years) or when the sensitivity factor for changes in population within the EPZ has been exceeded. This appendix contains information from the ETE update performed in 2012. This update implements the requirements of the revised regulations relevant to ETE updates in accordance with the guidance provided in NUREG/CR-7002, Criteria for Development of Evacuation Time Estimate Studies.

Luminant Generation Company contracted KLD Engineering, P.C. to estimate evacuation times for the 2012 populations within the 10-mile plume exposure pathway emergency planning zone (EPZ) surrounding the Comanche Peak Nuclear Power Plant (CPNPP). This appendix provides a summary of the final report describing the methods used to obtain population data and to estimate evacuation times and estimated population figures, evacuation road network information, and ETEs.

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

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

The permanent resident population is made up of individuals residing in the 10-mile EPZ. The total year 2012 permanent resident populations within the 10-mile EPZ for CPNPP are estimated to be 35,199. The transient population consists of workers employed within the area, recreational sportsmen, and visitors. The total peak transient population within the 10-mile EPZ is estimated to be 17,787. Thirteen (13) schools, Mambrino Elementary School, Premier High School, Brawner Intermediate School, Emma Robertson Elementary School, Tolar High School, Tolar Elementary School, Tolar Junior High School, North Central Texas Academy, Brazos River Charter School, Glen Rose Elementary School, Glen Rose High School, Glen Rose Intermediate School and Glen Rose Junior High School, were identified in the CPNPP-EPZ. KLD Engineering, P.C. contacted the schools to collect current enrollment, staff figures, and the evacuation plan. The total peak population for the schools in the EPZ is estimated to be 4,171. Transit dependent permanent residents in the EPZ are estimated to be 707. This study also considered the voluntary evacuees, who are also known as shadow evacuees that reside within 10 to 15 miles from CPNPP.

KLD Engineering, P.C. utilized a computer traffic simulation model, DYNEV, to perform the ETE analyses. For the analysis, the 10-mile plume exposure pathway EPZ was divided into 31 unique geographic areas based on two-mile, five-mile, and ten-mile radius rings, the 16, 22.5-degree PAZs, as well as keyhole and staged evacuation logic. In order to represent the most realistic emergency scenarios, evacuations for the 31 geographic evacuation areas were modeled individually for the midweek daytime, midweek - weekend evening, and weekend daytime scenarios. Each of these scenarios was then considered under both normal and adverse weather conditions using the 2012 population estimations. A total of 12 evacuation scenarios

were considered as part of this study to represent different wind, temporal, seasonal and weather conditions.

Both 100% and 90% ETEs for each scenario were collected. The 100% ETEs for the evacuation areas ranged from 4:00 - 4:10 for the normal scenarios, and from 4:00 - 4:10 for those occurring in adverse weather. The 90% ETEs for the evacuation areas ranged from 1:25 - 2:25 for the normal scenarios, and from 1:25 - 2:45 for those occurring in adverse weather.

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

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

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

The full Evacuation Time Estimate was submitted for NRC review in accordance with Section IV of Appendix E to 10 CFR Part 50. Following the NRC review, the results of the study and recommendations will be reviewed with applicable offsite agencies. The review will focus on the utilization of the results of the evacuation simulations provided in the ETE for comparison to existing protective action strategies. Modifications, if any, will be incorporated as part of the ongoing emergency planning process.

Appendix P

Cross Index to NUREG-0654

1.0 INTRODUCTION

The attached matrix cross references specific sections of the Comanche Peak Nuclear Power Plant (CPNPP) Emergency Plan to planning elements set forth in Revision 1 of NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants."

2.0 OVERVIEW

The CPNPP Emergency Response Organization is derived from and closely parallels the normal plant operating organization. Additional support in the event of a radiological emergency at CPNPP is provided by the Luminant Power corporate structure as well as local, state and federal governments. Luminant Power recognizes the need to provide adequate protection to plant employees and the population-at-risk during a radiological emergency at CPNPP. In order to respond to NRC/FEMA guidance (NUREG-0654), the following cross-reference guide is provided:

Emergency Plan/NUREG-0654 Cross Reference

NUREG-0654
Planning Standards and
Evaluation Criteria

CPNPP
Emergency Plan

A. ASSIGNMENT OF RESPONSIBILITY

1.a	Overall Emergency Response Organization	1.1, 1.2
1.b	Concept of Operation	1.1, 1.1.2, 1.2, Table 1.1
1.c	Diagram of Organizational Inter-Relationships	Figure 1.1
1.d	Identification of Command & Control	1.1.2.2
1.e	24-hour Operation	1.1.2.1, Table
2.a	Functions and Responsibilities	1.1 N/A *
2.b	Legal Basis for Authorities	N/A
3.	Letters of Agreement	1.2, Appendix H
4.	Continuity of Operations	1.1.2.1, 1.1.2.2, Table 1.1

B. ONSITE EMERGENCY ORGANIZATION

1.	Onsite Emergency Response Organization	1.1.2.1, Table
2.	Identification of Onsite Command & Control	1.1 1.1.2.1,
3.	Line of Succession for Command & Control	1.1.2.2, Table 1.1
4.	Command and Control Functions and Responsibilities	1.1.2.2
5.	Other Functions & Responsibilities	1.1.2.1, 1.1.2.2, Table
6.	Diagram of Organizational Interfaces	1.1 Figure 1.1
7.	Onsite Staff Augmentation by Corporate Personnel	N/A
7.a	Staff Augmentation by Logistical Support	1.1.2.2, Figure 1.5

* "N/A" indicates item not marked as applicable to licensee in NUREG-0654 Criteria Matrix.

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7.b Staff Augmentation by Technical Support	1.1.2.2, Figure
7.c Staff Augmentation by Liaison Support	1.3 1.1.2.1, 1.2.1.2, Figure
7.d Staff Augmentation by Public Information Support	1.1 1.1.2.2, Figure 1.6
8. Identification of Contractors and Private Organization Support	1.2.3, Figure 1.1, Appendix H
9. Letters of Agreement with Local Agencies	1.2.2, Appendix H
C. <u>EMERGENCY RESPONSE SUPPORT AND RESOURCES</u>	
1.a Authorities to Request Federal Assistance	1.1.2.2, 1.2.5
1.b Requirements for Federal Assistance	1.2.5
1.c Resources Available to Support Federal Response	1.2.5
2.a State and Local Representatives Stationed at the EOF	N/A
2.b Licensee Representative Stationed at the EOC	1.1.2.2, 1.2.2
3. Identification of Radiological Laboratories	1.2.3, 1.2.4, 1.2.5, 6.7, 6.8
4. Identification of Outside Assistance	1.2.1, 1.2.2, 1.2.3, 1.2.4, 1.2.5, Appendix H
D. <u>EMERGENCY CLASSIFICATION SYSTEM</u>	
1. Emergency Classification System	2.0, 2.1, Table
2. Initiating Conditions for Emergency Action Levels	2.1 2.2, Table 2.1
3. State and Local Emergency Classification System	N/A

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4.	State and Local Emergency Response Implementing Procedures	N/A
E. NOTIFICATION METHODS AND PROCEDURES		
1.	Notification of Emergency Response Organizations	3.0
2.	Notification of Emergency Response Personnel	3.0, 4.1.1, 4.4, 4.5
3.	Content of Initial Emergency Messages	3.1.1
4.	Content of Follow-Up Messages	3.1.3
5.	Release of Information to the Public	N/A
6.	Notification of the Public	3.2
7.	Content of Messages to the Public	5.1
F. EMERGENCY COMMUNICATIONS		
1.a	24 Hour Communications	1.1.2.1, 4.1
1.b	Communications with State & Local Governments within EPZ	4.0, 4.1.9, 4.3, Table 4.1
1.c	Communications with Federal Emergency Response Organizations	4.0, 4.2, 4.3, Table 4.1
1.d	Communications with the EOF, EOC and Field Teams	4.0, 4.1.2, 4.1.4, 4.1.5, 4.1.7, 4.1.9,
1.e	Alert and Activation of Emergency Response Personnel	Table 4.1 3.0, 4.0, 4.1.1, 4.4, 4.5
1.f	Communications between NRC, EOF & Field Teams Assembly Area	4.0, 4.1.5, 4.2, 4.3, Table 4.1
2.	Communications with Medical Support Facilities	4.0, 4.1.5, 10.3
3.	Periodic Testing of Emergency Communications System	12.2.1, 12.3

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<u>G. PUBLIC EDUCATION AND INFORMATION</u>	
1.	Public Education Program
2.	Education of the Transient Public within the EPZ
3.a	Points of Contact and Accommodations for News Media
3.b	Designated Area for News Media in the EOF
4.a	Identification of Designated Spokesperson
4.b	Exchange of Information Among Spokespersons
4.c	Arrangements for Dealing with Rumors
5.	Information Programs for News Media
<u>H. EMERGENCY FACILITIES AND EQUIPMENT</u>	
1.	Establishment of TSC and OSC
2.	Establishment of the EOF
3.	Establishment of the EOC
4.	Activation and Staffing of Emergency Response Facilities
5.a	Geophysical Phenomena Monitors
5.b	Radiological Monitoring System
5.c	Provisions for Onsite Fire & Combustion Products Detectors
6.a	Provisions for Offsite Geophysical Phenomena Monitors
6.b	Provisions for Offsite Radiological Monitors
6.c	Laboratory Facilities

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7. Offsite Radiological Monitoring Equipment		6.11, Appendix J
8. Meteorological Instrumentation & Procedures		6.13.5
9. Operations Support Center and Supplies		6.3, Appendix J
10. Emergency Equipment Maintenance		6.11
11. Identification of Emergency Equipment		Appendix J
12. Point for Sample Receipt & Analysis of Field Data & Samples		6.7, 6.8
I. ACCIDENT ASSESSMENT		
1. Parameters for Off-Normal Conditions and Accidents		Table 2.1, 7.0
2. Provisions for Initial and Continuing Accident Assessment		6.13.3, 7.0
3.a Provisions for Determining Source Terms of Release		7.0, 7.1
3.b Provisions for Determining Magnitude of Release		6.13.1, 6.13.2, 6.13.3, 6.13.10, 7.1
4. Relationship of Release to Exposure and/or Contamination		7.2
5. Access to Meteorological Information		6.13.5, 7.1
6. Methodology for Determining Release Rates and Projected Doses		7.2
7. Provisions for Field Monitoring within the Plume Exposure EPZ		Appendix J, 7.3.2
8. Provisions for Rapid Assessment of Radiological Releases		4.0, 7.0
9. Capabilities to Detect and Measure Radioiodines		6.6, 7.0, 7.3.2
10. Provisions for Relating Measured Parameters to Dose Rates		7.2

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11.	Provisions for Locating & Tracking Radioactive Plume	N/A
J. <u>PROTECTIVE RESPONSE</u>		
1.	Provisions for Notification of Onsite Personnel	8.1
2.	Provisions for Evacuation from Site	8.1.1
3.	Provisions for Radiological from Site of Evacuated Site Personnel	8.1.3
4.	Provisions for Evacuating Non-Essential Onsite Personnel	8.1.1
5.	Provisions for Accountability of Onsite Personnel	8.1.2
6.a	Provisions for Onsite Use of Respiratory Protection	8.1.4
6.b	Provisions for Onsite Use of Protective Clothing	8.1.5
6.c	Provisions for Onsite Use of Radioprotective Drugs	8.1.6
7.	Mechanism for Recommendation of Protective Actions	8.2
8.	Time Estimates for Evacuation Within Plume Exposure EPZ	8.2.2, Appendices F, G, M, N
9.	State & Local Capabilities for Implementing Protective Measures	N/A
10.a	Maps Showing Evacuation Route Areas, & Relocation Centers, etc.	Appendices F, G, M, N
10.b	Maps Showing Population Distribution	Appendices F, G,
10.c	Means for Notifying Transient and Resident Population	N 3.2, 5.0
10.d	Means for Protecting Individuals With Impaired Mobility	N/A

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10.e	Provisions for Offsite Use of Radioprotective Drugs	8.1.6
10.f	Decision Making Process for Administering Radioprotective Drugs	N/A
10.g	Means of Relocation	N/A
10.h	Identification of Relocation Centers	N/A
10.i	Projected Traffic Capacities of Evacuation Routes	N/A
10.j	Control of Access to Evacuated Areas	N/A
10.k	Contingency Measures Regarding Use of Evacuation Routes	N/A
10.l	Evacuation Time Estimates for Sectors within the Plume Exposure EPZ	8.2.2
10.m	Basis of Choice for Recommended Protective Actions	8.2, Appendices B, C, D, M, N
11.	Protective Measures for Ingestion Pathway EPZ	N/A
12.	Means for Registering & Monitoring Evacuees at Relocation Centers	N/A

K. RADIOLOGICAL EXPOSURE CONTROL

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1.c	Onsite Exposure Guidelines for Performing Assessment	9.0
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1.f	Onsite Exposure Guidelines for Providing Ambulance Service	9.1
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2.	Onsite Radiation Protection Program	9.0, 9.1
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3.b	Maintenance of Emergency Personnel Dose Records	9.0
4.	Decision Making Process for Authorizing Excess Exposure	9.1
5.a	Action Levels for Determining Need for Decontamination	8.1.3, 9.2, 9.3
5.b	Decontamination of Emergency Personnel and Equipment	9.3, 9.4
6.a	Provisions for Access Control to Onsite Contaminated Areas	9.2, 9.3
6.b	Provisions for Onsite Control of Drinking Water and Foodstuffs	9.2
6.c	Criteria for Permitting Return of Areas & Items to Normal Use	9.2
7.	Provisions for Decontamination of Relocated Onsite Personnel	6.9, Figure 6.1, 8.1.3
L.	<u>MEDICAL AND PUBLIC HEALTH SUPPORT</u>	
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2.	Provisions for Onsite First Aid Capability	10.2, 13.0 10.1,
3.	Listing of Hospitals and Other Emergency Medical Services	Appendix H

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M.	<u>RECOVERY AND REENTRY PLANNING AND POST ACCIDENT OPERATION</u>	
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	2. Licensee Recovery Organization	11.1.1, Figure
	3. Initiating of Recovery Operations	11.1 3.0, 4.0, 11.0
	4. Methods for Periodically Estimating Total Population Exposure	11.2
N.	<u>EXERCISES AND DRILLS</u>	
	1.a General Content of Emergency Preparedness Exercises	12.0
	1.b General Conduct of Emergency Preparedness Exercises	12.1
	2.a Provisions for Conducting Communications Drills	12.2.1
	2.b Provisions for Conducting Fire Drills	12.2.2
	2.c Provisions for Conducting Medical Emergency Drills	12.2.3
	2.d Provisions for Conducting Radiological Monitoring Drills	12.2.4
	2.e Content and Conduct of (1) Health Physics Drills	12.2.5
	2.e Conduct of In-plant Liquid Sample Analysis Drills	12.2.5
	3.a Objectives and Evaluation Criteria for Each Drill and Exercise	12.3
	3.b Date, Time, Location and List of Participants for Each Drill & Exercise	12.3

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3.c	Summary of Simulated Events in Scenarios for Drills & Exercises	12.3
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4.	Provisions for Observing, Evaluating and Critiquing Exercises	12.4
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1.a	Provisions for Training Offsite Emergency Response Organizations	13.0
1.b	Participation in Training by Offsite Emergency Response Organizations	13.0
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3.	Content of Training for Onsite First Aid Teams	10.2
4.a	Training Program for Emergency Response Organization Management	13.0
4.b	Training Program for Accident Assessment	13.0
4.c	Training Program for Field Teams and Analysis Personnel	13.0
4.d	Training Program for Police, Security, and Fire Fighting Personnel	13.0
4.e	Training Program for Reentry and Recovery Teams	13.0

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4.f. Training Program for First Aid and Rescue Personnel	10.2
4.g. Training Program for Local Emergency Response Support Personnel	13.0
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4.j. Training Program for Personnel Communicating Information and/or Instructions	13.0
5. Provisions for Retraining Emergency Response Personnel	13.0
 P. <u>PLANNING EFFORT</u>	
1. Provisions for Training Emergency Planners	14.0
2. Overall Authority and Responsibility for Emergency Planning	14.0
3. Identification of Emergency Planning Coordinator (Supervisor)	14.0
4. Provisions for Plan Maintenance	14.0
5. Provisions for Plan & Procedures Distribution	14.0
6. Listing of Supporting Plans and Sources	14.0, Appendix H
7. Appendix to Plan Listing Implementing Procedures	14.0, Appendix K
8. Plan Table of Contents and Cross-Reference Matrix	i, Appendix P
9. Conduct of Independent Reviews	14.0
10. Provisions for Updating Telephone Lists	14.0

Appendix Q

Definitions

DEFINITIONS

ACCESS CONTROL POINT

A designated entry/exit point for personnel entering/exiting implant Radiation Controlled Areas. The Access Control Point is supervised by radiation protection personnel.

ACCOUNTABILITY

The process of identifying the names of individuals in the Protected Area who are unable to contact Security after announcement of a site evacuation.

ACTIVATION

Condition where an Emergency Response Facility is staffed with the minimum personnel and capable of performing the functions defined in Table 1.1.

ADMINISTRATIVE DOSE LEVELS

Allowable dose levels imposed by Luminant Power - levels less than Federal Occupation Dose Limits and less than Emergency Dose Limits.

AFFECTED POPULATION

Those individuals within the minimum affected area.

ALERT AND NOTIFICATION SYSTEM

A system of sirens and activation consoles used to alert the populace within 10 miles of CPNPP to an emergency. This system is also known as the Outdoor Warning System (OWS) as well as the Siren System.

AS BUILT DRAWINGS

Drawings which provide location, configuration or design of buildings, systems and components throughout CPNPP.

ASSEMBLY AREAS

Locations in and around CPNPP where personnel assemble in the event of an emergency when the Emergency Coordinator calls for a building/protected area evacuation.

DECLARED EMERGENCY

Any event assigned an emergency classification.

DEDICATED (or DESIGNATED) EMERGENCY EQUIPMENT

Any items which are staged primarily for use by the Emergency Response Organization.

EMERGENCY ACTION LEVEL

Plant or radiological parameters which provide a basis for determining the appropriate Emergency Classification during an emergency situation.

EMERGENCY OPERATIONS CENTERS (EOCs)

Facilities established by local governments for controlling resources in an emergency situation.
(NOTE: State and local county plans define EOC as "Emergency Operating Center".)

EMERGENCY RESPONSE EQUIPMENT

Any item which is identified or made available for emergency response.

EMERGENCY OPERATIONS FACILITY (EOF)

The onsite emergency response facility from which management of the overall CPNPP emergency response, including coordination with federal, state and local officials, will occur.

EMERGENCY RESPONSE ORGANIZATION (ERO)

Personnel assigned to perform selected emergency response tasks during a declared emergency.

EMERGENCY RESPONSE ORGANIZATION ROSTER

A listing of Emergency Response Organization personnel.

EMERGENCY REPAIR AND DAMAGE CONTROL ACTIVITIES

Activities required to mitigate emergency conditions.

ENGINEERING WORKBOOK

A notebook containing various calculation tables, formulas and figures.

FRISKER

A portable count rate instrument sensitive to low levels of radioactive contamination.

IN-PLANT

Buildings or structures, located inside the Protected Area, directly associated with plant primary, secondary, control, or fuel-handling system (e.g., the Auxiliary Building, Containment Buildings, Safeguards Buildings, Fuel Building, Control Building, and Turbine Building).

JOINT INFORMATION CENTER

The JIC is the single point on site from which information regarding an emergency condition at CPNPP will be disseminated to the public and news media.

NONESSENTIAL PERSONNEL

Personnel in one or more of the following categories:

Employees not having emergency response organization assignments, excluding on-shift Nuclear Operations personnel.

Visitors

Contractors (excluding Security organization), unless authorized by the Emergency Coordinator.

Individuals involved in non-operational activities permitted by the FSAR within the Exclusion Area.

Squaw Creek Park patrons.

Other persons who may be in a public access area or passing through the Owner Controlled Area.

OFFSITE

All areas not covered under the definition of "onsite."

ONSITE

The land area forming the peninsula on which CPNPP is sited. The western boundary of this area is the western-most evaporation pond.

OPERATIONS SUPPORT CENTER (OSC)

The onsite emergency response staging area where the Emergency Repair and Damage Control Group personnel assemble and are dispatched during an emergency.

PERIODIC DEFINITIONS

The following definitions are applicable to those plan events/tasks which occur on a regular basis:

"Monthly" means once during a calendar month;

"Quarterly" means once during a calendar quarter;

"Semi-annual" or "Semi-annually" means twice during a calendar year;

"Annual" or "Annually" means once during a calendar year.

PLANT EVACUATION ROUTES

Predetermined evacuation routes designated by signs located throughout the plant.

PLANT PERSONNEL

Personnel employed or contracted by Luminant Power who are involved in the operation, construction or maintenance at CPNPP.

RUMOR CONTROL

Personnel in the Joint Information Center (JIC) dedicated to answer questions and dispel rumors from residents or media during an emergency situation.

SHIFT MANAGER

A member of management, holding a Senior Reactor Operator's license, in charge of Control Room functions.

SITE EVACUATION

Withdrawal of non-essential personnel from the Exclusion Area.

SQUAW CREEK PARK

A park, owned and controlled by Luminant Power, that provides restricted access to Squaw Creek Reservoir.

TECHNICAL SUPPORT CENTER (TSC)

The TSC is the onsite emergency response facility located in close proximity to the Control Room, providing plant management and technical support to Control Room personnel during an emergency.

Appendix R

(Removed From CPNPP

Emergency Plan)

Appendix S

Corporate Emergency

Management Plan

THIS APPENDIX HAS BEEN DELETED

COMANCHE PEAK NUCLEAR POWER PLANT
EMERGENCY PLAN (EP)
EFFECTIVE LISTING FOR SECTIONS, TABLES, AND FIGURES

BELOW IS A LEGEND FOR THE EFFECTIVE LISTING OF SECTIONS, TABLES, AND FIGURES:

Revision 0 (FSAR Amendment 12)	Submitted to the NRC October 8, 1980
Revision 1 (FSAR Amendment 16)	Submitted to the NRC March 31, 1981
Revision 2 (FSAR Amendment 28)	Submitted to the NRC October 26, 1981
Revision 3 (FSAR Amendment 32)	Submitted to the NRC May 21, 1982
Revision 4 (FSAR Amendment 34)	Submitted to the NRC August 20, 1982
Revision 5 (FSAR Amendment 35)	Submitted to the NRC October 12, 1982
Revision 6 (FSAR Amendment 39)	Submitted to the NRC March 8, 1983
Revision 7 (FSAR Amendment 43)	Submitted to the NRC August 29, 1983
Revision 8 (FSAR Amendment 48)	Submitted to the NRC April 30, 1984
Revision 9 (FSAR Amendment 58)	Submitted to the NRC June 30, 1986
Revision 10 (TXX-88625)	Submitted to the NRC August 22, 1988
Revision 11	August 31, 1989
Revision 12	September 28, 1990
Revision 13	January 31, 1992
Revision 14	June 12, 1992
Revision 15	June 1, 1993
Revision 16	September 10, 1993
Revision 17	January 1, 1994
Revision 18	January 31, 1994
Revision 19	November 1, 1994
Revision 20	January 6, 1995
Revision 21	March 10, 1995
Revision 22	June 16, 1995
Revision 23	August 23, 1995
Revision 24	April 19, 1996
Revision 24 (ERRATA)	April 25, 1996
Revision 25	October 1, 1996
Revision 26	October 15, 1997
Revision 27	July 24, 1998
Revision 28	December 17, 1999
Revision 29	March 3, 2000
Revision 30	March 13, 2003
Revision 31	June 20, 2003
Revision 32	May 17, 2005
Revision 33	January 19, 2006
Revision 34	January 30, 2007
Revision 35	May 28, 2008
Revision 36	January 8, 2009
Revision 37	April 2, 2009
Revision 38	November 4, 2010
Revision 39	February 21, 2013

CPNPP/EP

Revision 40
Revision 41
Revision 42

September 30, 2015
January 6, 2017
August 2, 2018

CPNPP/EP

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EPLAN LOT	Revision 41
EPLAN LOF	Revision 37
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Section 13.0	Revision 37
Section 14.0	Revision 37
Section 15.0	Revision 37
Appendix A	Revision 37
Appendix B	Deleted
CPNPP/EP	EL-3
	Revision 42

CPNPP/EP

Appendix C	Deleted
Appendix D	Deleted
Appendix E	Revision 37
Figure E.1	Revision 12
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Appendix J	Revision 39
Appendix K	Revision 37
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Figure N.3	Deleted
Figure N.4	Deleted
Figure N.6	Deleted
Appendix P	Revision 39
Appendix Q	Revision 37
Appendix R	Revision 37
Appendix S	Deleted
EL-1	Revision 42
EL-2	Revision 42
EL-3	Revision 42
EL-4	Revision 42

Emergency Plan - Description of Changes

Emergency Plan - Revision 33

LDCR-EP-2005-2 (EVAL-2005-003329-01) (RJK):

The capability to respond to significant events at CPSES is enhanced by the addition of new letters of agreement (MOU's) with four area fire departments. The letters have been secured and the resources of these departments are available to enhance CPSES response to such an event.

Sections Revised: 15-H

Tables Revised: None

Figures Revised: None

LDCR-EP-2005-3 (EVAL-2005-002793-01) (RJK):

Update Eplan Section 2 classification definitions to match NRC Bulletin 2005-02. Also update the references in the back of Section 2

Sections Revised: 2

Tables Revised: None

Figures Revised: None

LDCR-EP-2006-1 (CPSES-200600062) (RJK):

These editorial changes are administrative and contain no technical changes. The electronic files have been converted from Microsoft Word to Adobe Framemaker and published in Adobe Portable Document Format (PDF). The type of changes include changes such as (1) correction of spelling errors, (2) correction of inadvertent word processing errors from previous changes, and (3) style guide changes (e.g., changing from a numbered bullet list to an alphabetized bullet list and vice versa, change numbering of footnote naming scheme). The entire EP will be reissued as Revision 33 (except as noted below). For the text and tables there will be no change bars in the page margins for the editorial changes. Some Figures and Tables will retain a revision number prior to Revision 33 since the source file is not in Adobe Framemaker (e.g. scanned page). The list of effective pages is being replaced with an effective list of sections, tables, and figures.

Sections Revised: All

Tables Revised: All (except as noted above)

Figures Revised: All (except as noted above)

Emergency Plan - Description of Changes

Emergency Plan - Revision 34

LDCR-EP-2006-2 (EVAL-2004-001966-04) (RJK):

The CPSES Seismic Instrumentation System is being upgraded to replace an aging and obsolete system. The new system will still provide information to the plant staff to enable evaluation of plant conditions and for plant staff to make the resulting emergency declarations. The EP-related functions provided by the existing system will still be provided by the replacement system, and therefore this change does not constitute a decrease in effectiveness of the CPSES Emergency Plan.

Emergency Plan - Revision 35

LDCR-EP-2008-1 (EVAL-2008-000685-02) (RJK):

Section 1, 3, 4 and 12 - Remove references to the Waco location of the Department of Public Safety (DPS). The licensee responsibilities remain the same without regard to the location of the receiving authority for notifications and communications.

LDCR-EP-2008-2 (EVAL-2008-000746-02) (RJK):

Section 6.4.6 - Change location of the Alternate EOF. New location is a dedicated response-ready facility versus the previous dual-use facility that required ad hoc setup to obtain continuity of function.

Emergency Plan - Revision 36

LDCR-EP-2008-10 (EVAL-2006-001694-02) (JEB):

This changes the current northern boundary of the Emergency Response Zones (ERZ) in the Granbury Area by adjusting the northern boundary of Zones 4E and 1D northward to Pearl Street and deleting the city of Granbury as an ERZ of its own. This change to the ERZ's will more clearly define the physical location of the Northern-most boundary of the 10 mile EPZ for the purpose of evacuation planning and execution, and will eliminate confusion with respect to use of the term "Granbury" in implementation of Protective Action Decisions by local officials.

Emergency Plan - Revision 37

LDCR-EP-2008-8 (EVAL-2008-001718-06) (JEB):

LDCR EP-2008-008 (tracked by EVAL-2008-001718-06) changes throughout the Plan; TXU Power to Luminant Power and Comanche Peak Steam Electric Station (CPSES) to Comanche Peak Nuclear Power Plant (CPNPP). The revision also changes any BRC reference to their new name; Department of State Health Services (DSHS). These changes do not affect the operating organizations or corporate structures with respect to the Emergency Plan.

Emergency Plan - Description of Changes

LDCR-EP-2008-8 (EVAL-2008-001718-06) (JEB) (continued):

Change from TXU Power to Luminant Power as the licensee was approved by the NRC in their Order of 9/17/07 and Amendment 139 to the Operating Licenses. In addition, Luminant Power as the new licensee changed the station name to Comanche Peak Nuclear Power Plant (CPNPP) concurrently. Both changes do not affect the operating organization or corporate support structure with respect to the Emergency Plan.

Also change all references to Texas Bureau of Radiation Control (BRC) to Texas Department of State Health Services (DSHS). This offsite bureau was renamed, but retains all functional capabilities and authorities under the State of Texas Emergency Response Plan.

This LDCR is an administrative change only, reflecting these name changes.

LDCR-EP-2008-3 (EVAL-2008-001718-01) (JEB):

LDCR EP-2008-003 (tracked by SMF EVAL-2008-001718-01) deletes the language in Section 4.1.6 describing a direct phone line between plant operators and the Systems Operations Center. As a result of deregulation, the direct phone line no longer exists.

LDCR-EP-2008-4 (EVAL-2008-001718-02) (JEB):

LDCR EP-2008-004 (tracked by SMF EVAL-2008-001718-02) changes Section 5.1 terminology from "news conferences" to "press briefings" and designates the Joint Information Center (JIC) as the location for public information releases during emergencies.

LDCR-EP-2008-5 (EVAL-2008-001718-03) (JEB):

LDCR EP-2008-005 (tracked by SMF EVAL-2008-001718-03) clarifies in Section 10.3 that the ambulance radio can be used to communicate with the local hospital during transport of contaminated and injured personnel.

LDCR-EP-2008-7 (EVAL-2008-001718-05) (JEB):

LDCR EP-2008-007 (tracked by EVAL-2008-001718-05) enhances the Section 6.4.6 description of the physical location and functional capabilities of the Alternate Emergency Operations Facility.

LDCR-EP-2008-9 (EVAL-2008-001718-07) (JEB):

LDCR EP-2008-009 (tracked by EVAL-2008-001718-07) corrects a listing in the Emergency Plan/NUREG-0654 Cross Reference in Appendix P, Sect J. 10.c. The referenced information was moved in an earlier revision but the cross reference was not changed.

Emergency Plan - Description of Changes

LDCR-EP-2009-1 (EVAL-2008-002039-04) (JEB):

LDCR EP-2009-001 (tracked by SMF EVAL-2008-002039-04) changes references in Section 9.0 from thermo luminescent dosimeters (TLDs) to Optically Stimulated Luminescence (OSL) Badges. This change acknowledges the recent switch from TLDs to OSLs.

Emergency Plan - Revision 38

LDCR-EP-2010-1 (EV-CR-2010-007894-1) (JEB):

TOC

Table of Contents revised to list 2.1.1.a as "Unusual Event" (instead of Notification of Unusual Event)

Section 1

Section 1 is revised to insert "Unusual Event" in the place of "Notification of Unusual Event" to reflect the updated designation of that emergency classification. Affected pages include 1-1, 1-3, 1-41-7

Table 1.2 is revised to update the lowest emergency classification designation to Unusual Event (instead of Notification of Unusual Event)

Section 2

Page 2-1 is changed to insert "Unusual Event" in the place of "Notification of Unusual Event."

Page 2-3 updated to include NEI-99-01 Revision 5, "Methodology for Development of Emergency Action Levels" in the IC/EAL basis document list.

Table 2.1

The initiating conditions for EAL classifications listed in Table 2.1 were revised to reflect the NRC approved NEI 99-01 Rev. 5 based EALs.

Section 3

The lowest event classification is changed from "Notification of Unusual Event" to "Unusual Event" to match NEI 99-01 Rev. 5 and current industry practices. The term "Emergency Action Level (EAL) Identifier" is used for consistency with the new EALs.

Emergency Plan - Description of Changes

Emergency Plan - Revision 39

LDCR-EP-2013-1 (EV-CR-2011-013606-10) (JEB):

Revise Emergency Plan Section 1 (1.1.2.1) to include results of the On-Shift Staffing Analysis required by 10 CFR 50, Appendix E.

Table 1.1 of the E-Plan reflects the results of the staffing study. Table 1.1 did not have to be revised, only new wording added to 1.2.1.1 to describe the required staffing study.

LDCR-EP-2013-2 (EV-CR-2012-002886-1) (JEB):

Update the Appendix P table which cross-references the CPNPP Emergency Plan contents with the requirements in NUREG-0654 "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants."

LDCR-EP-2013-3 (EV-CR-2012-002878-1) (JEB):

Appendix H revised to update the listing of Letters of Agreement and supporting emergency plans. This change has no impact on emergency plan functions as it only changes supplemental information. The deletion of the TolarFire Department removes a tertiary local VFD whose capabilities are still available under local mutual aid agreements with primary responding fire departments.

LDCR-EP-2012-1 (EV-CR-2012-001382-2) (JEB):

E-Plan Section 4 revised to reflect change from PBX (private branch exchange) phone system to Intraplant Phone System (ITS), currently consisting of the VoIP (voice over internet protocol) phone system. The microwave communications system is also removed (no longer designated as an alternate communications system) from Section 4. Table 4.2 revised to update an interface to "Offsite Monitoring Team Director/Communicator."

LDCR-EP-2012-2 (EV-CR-2012-010400-2) (JEB):

Administrative revision to E-Plan Section 9 and Appendix J to reflect the January 1, 2013 dosimetry change from OSL (optically stimulated luminescence) to TLD (thermoluminescent dosimeter). Reference CR-2012-010400

Emergency Plan - Description of Changes

Emergency Plan - Revision 40

LDCR-EP-2015-3 (EV-CR-2015-004563-2) (JEB):

Table 1.1 changes to reflect Operations minimum staffing increases resulting from the NEI 12-01, "Guideline for Assessing Beyond Design Basis Accident Response Staffing and Communications Capabilities" based Phase II staffing study. The assessment was necessary to respond to information requests contained in NRC letter "Request for Information Pursuant to title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-Ichi Accident," dated March 12, 2012.

Emergency Plan - Revision 41

LDCR-EP-2015-4 (EV-CR-2014-012646-9) (JEB):

Incorporation of description and use of NEI 99-01, Rev. 6, Development of Emergency Action Levels for Non-Passive Reactors.

LDCR-EP-2015-2 (EV-TR-2016-001102-1) (JEB):

Remove outdated data/references and replace with revised CPNPP Evacuation Time Estimate (ETE) Summary which was developed from NEI EPFAQ 12-17, Example Evacuation Time Estimate Summary.

LDCR-EP-2016-1 (EV-CR-2015-005680-3) (JEB):

Add section 6.14 to the Emergency Plan to described the alternative facility (or facilities) as described in 10CFR50 Appendix E, IV.E.8.d.

Emergency Plan - Revision 42

LDCR-EP-2018-1 (EV-TR-2018-002999-1) (JEB):

Remove pagers and replace facsimile, fax and or telecopier with electronic communication.

**COMANCHE PEAK NUCLEAR POWER PLANT
EMERGENCY PLAN
UNITS 1 AND UNIT 2**

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11.1	CPSES Recovery Organization

The objective of the Comanche Peak Nuclear Power Plant (CPNPP) Emergency Preparedness Program is to protect the health and safety of the general public, persons visiting or temporarily assigned to the station, and station employees in the event of an emergency at the station.

To meet this objective, the CPNPP Emergency Plan creates a high order of preparedness and ensures an orderly and timely decision-making process in times of stress. Emphasis is placed on maintaining emergency preparedness through training, drills, and exercises. It further assures availability of equipment, supplies, and essential services. This plan also provides for coordination of onsite and offsite emergency response.

Specific details for execution of this plan are incorporated by implementing procedures referred to as Emergency Plan Procedures. While this document outlines overall aspects of emergency preparedness, Emergency Plan Procedures contain specific individual responsibilities and establish instructions for accomplishing specific tasks. A list of Emergency Plan Procedures is maintained in [Section 15.0, Appendix K](#). The CPNPP Emergency Plan and Emergency Plan Procedures are also complemented by many general and/or discipline specific provisions that are related to emergency preparedness but which are incorporated into other station procedures (e.g. Operations, Security, Chemistry, Radiation Protection).

The CPNPP Emergency Plan provides direction and coordination of the CPNPP Emergency Response Organization (ERO). Emergency Plan Procedures detail various job functions in support of the Emergency Plan and assure a smooth transition from normal mode to emergency mode of operation. Assignment of CPNPP Emergency Response Organization personnel to job functions is discussed in this plan. Additional assistance may be provided to the onsite group by offsite company personnel, local, state, and federal agencies, and contract personnel as required.

The normal organization of station personnel is discussed in [Section 1.1.2.1](#) which describes and assigns authority and responsibility for declaring an emergency. Upon declaration of an emergency, individuals in the normal operating organization assume Emergency Response Organization responsibilities.

Criteria are established to promptly determine the emergency classification. Emergency classifications for CPNPP are Unusual Event, Alert, Site Area Emergency, and General Emergency. Degree of involvement of onsite, local, state, and federal personnel depends on the emergency classification. At the least severe classification, Unusual Event, the emergency situation may have no potential for escalation to a more severe classification and there may be no effect on station operating status. Response to this situation should involve only onsite personnel and would not necessitate mobilization of the offsite emergency organization. If an emergency event results in a higher classification and offsite consequences require protective action, then local, state, and federal agencies along with additional company personnel would become involved to assist in mitigation of the emergency. The interrelationships between CPNPP, local, state, federal, and any private agencies are described throughout this plan section and are shown in [Figure 1.1](#).

This plan does not address operation of station equipment as this is covered in operating, abnormal operating and emergency operating procedures. This plan and its implementing procedures are designed to interface with, but not interfere with, objectives of the Security Plan, the Fire Protection Report, and the Spill Prevention Control and Countermeasure Plan. The

CPNPP Emergency Plan is designed to complement the Texas Emergency Management Plan and to interface with Hood and Somervell County Emergency Operations Plans.

The CPNPP Emergency Plan is designed to provide guidance when confronting an emergency. Emergency Plan Procedures provide guidance and information to ensure the purpose of the Emergency Plan is achieved. The Emergency Plan reflects management's recognition of a need to cope with a broad spectrum of consequences and prescribes actions necessary for onsite personnel to activate support groups and establish communications to protect the public and CPNPP.

1.1 CONCEPT OF OPERATION

The Emergency Plan includes provisions for actions to be taken during three phases of emergency management:

- Preparedness
- Response
- Recovery

1.1.1 PREPAREDNESS

Actions and activities associated with this phase are described in various sections of this Plan, and include the development and maintenance of the following:

- Emergency Plan with supporting appendices, implementing procedures, facilities, and equipment.
- Training, drill, and exercise programs.
- Review of the Emergency Preparedness Program.

1.1.2 RESPONSE

Actions and activities required to place the station in a safe stable condition, to protect the health and safety of the public, and to initiate requests for assistance.

The CPNPP response to an emergency event begins with the personnel resources assigned on-shift. On-shift personnel are augmented as determined by the Emergency Coordinator and in accordance with this plan and the emergency classification. Prior to declaring an Alert, the Shift Manager (Emergency Coordinator) has the authority to call in any portion of the augmentation staff specified in [Table 1.1](#) as may be required for emergency response. The organized response of the on-shift and any augmented personnel resources identified in this plan represents the CPNPP Emergency Response Organization. Staffing of the entire CPNPP Emergency Response Organization shall be initiated in the event of an Alert or higher classification. On-shift staffing and staff augmentation assignments for emergencies are identified in [Table 1.1](#). Predetermined response actions, based on the emergency classification declared, are identified in [Table 1.2](#). The total emergency response organization includes support by local, state, federal, and private sector organizations. [Figure 1.1](#) shows the interfaces between the various organizations.

A brief discussion of the purpose of each emergency classification and predetermined response actions is provided below.

Unusual Event (UE)

The purpose of this classification is to:

- assure preliminary emergency response actions have been implemented,
- bring operating staff to a state of readiness, and
- provide for systematic handling of unusual events, information and decision making.

At the UE, key CPNPP personnel as well as State and local officials are notified.

Alert

The purpose of this classification is to:

- assure emergency response personnel are readily available to respond if the situation becomes more serious or to perform confirmatory radiological monitoring, if required, and
- provide offsite authorities with current status information.

In addition to actions taken for an UE, at the Alert callout of the CPNPP ERO is initiated and the Technical Support Center (TSC) and Operations Support Center (OSC) are activated and the Emergency Operations Facility (EOF) and Joint Information Center (JIC) are staffed to augment the operating staff.

Site Area Emergency

The purpose of this classification is to:

- assure emergency response facilities are staffed,
- assure radiological monitoring teams are deployed,
- assure personnel required for evacuation of near-site areas are at their duty stations if the situation becomes more serious,
- provide for consultation with offsite authorities, and
- provide periodic updates to the public through offsite authorities.

In addition to actions taken for an UE and/or Alert, at the Site Area Emergency:

- all CPNPP Emergency Response Facilities are activated (OSC, TSC, EOF, and JIC),
- non-essential personnel are evacuated from the CPNPP site unless otherwise directed by the Emergency Coordinator,
- the State and county EOC's are staffed and activated,

- the County Judge(s) will consider evacuation of schools and special facilities as well as make a decision on any protective action recommendations, and
- the County Judge(s) request the Relocation Centers to be activated.

General Emergency

The purpose of this classification is to:

- initiate predetermined protective actions for the public,
- provide continuous assessment of plant information and radiological monitoring measurements taken by licensee and offsite organizations,
- initiate additional measures as indicated by actual or potential radiological releases,
- provide for consultation with offsite authorities, and
- provide periodic updates to the public through offsite authorities.

In addition to actions taken at the UE, Alert, and/or Site Area Emergency, at the General Emergency the County Judge(s) decide which protective action recommendations to implement.

1.1.2.1 CPNPP ORGANIZATION

The initial response starts with the normal Operations shift. The operating organization, along with minimum on-shift complement is discussed in the [Final Safety Analysis Report, section 13.1](#).

The Operations shift is responsible for the safe operation of the plant and provides for 24-hour per day emergency response. The Operations shift responds to all abnormal and emergency events and takes action as necessary to mitigate the consequences of an event. Minimum response actions, based upon the emergency classification declared, are identified in [Table 1.2](#). Details regarding these actions are specified in the Emergency Plan Procedures.

10 CFR 50 Appendix E requires each utility to perform a detailed staffing analysis for specified scenarios to determine if the minimum staffing designated in the Emergency Plan is sufficient to permit required mitigation response and effectively implement the Emergency Plan. Nuclear Energy Institute (NEI) document NEI 10-05, "Assessment of On-Shift Emergency Response Organization Staffing and Capabilities," Revision 0, dated June 2011 (ADAMS Accession No. ML111751698) established a standard methodology for a licensee to perform the required staffing analysis. Interim Staff Guidance, NSIR/DPR-ISG-01 endorses the use of guidance in NEI 10-05, "Assessment of On-Shift Emergency Response Organization Staffing and Capabilities."

Table 1.1 of the Emergency Plan reflects the results of the Comanche Peak On-Shift Staffing Analysis. The Comanche Peak On-Shift Staffing Analysis is retained as a record in the Reference Table of the Comanche Peak Document Management System.

The On-Shift Emergency Response Organization consists of the following positions:

Shift Manager

- At the onset of an event, assess, classify, and declare the emergency.
- Assume the duties and responsibilities of the Emergency Coordinator.
- Implement response actions based upon the emergency classification declared.

Shift Technical Advisor

- Provide engineering expertise and advice regarding plant transient analysis, accident mitigation, core/thermal hydraulics, and other matters related to operational safety.
- Perform dose assessment.

Control Room Communicator

- Notify the CPNPP ERO of the event.
- Notify state and local offsite agencies by initial and follow-up notifications.
- Notify the Nuclear Regulatory Commission (NRC) of the event.
- Notify other selected personnel.

Radiation Protection Technicians

- Perform in-plant and onsite radiological surveys.
- Provide radiological control coverage for emergency repair, search and rescue, first aid, fire fighting and other activities.
- Provide radiological support to emergency response facilities.

Chemistry Technicians

- Perform in-plant chemistry sampling and analysis.
- Function as part of the CPNPP First Aid Team.

Security Shift Supervisor

- Control access to site property.
- Assist with site evacuation.
- Perform personnel accountability.

Emergency Teams

- Emergency Repair & Damage Control

- Perform maintenance activities associated with mechanical equipment, electrical equipment, and instrumentation and control systems.
- Fire Brigade
 - Perform fire fighting activities in accordance with station procedures.
 - Perform rescue activities.
- First Aid
 - Provide first aid services to injured personnel.
 - Provide transportation to local hospitals.

1.1.2.2 CPNPP EMERGENCY RESPONSE ORGANIZATION (ERO)

The Operations shift is staffed to be self-reliant for a period of time to allow for the notification of other personnel and the staffing and activation of emergency response facilities per **Section 6.0, "Facilities and Equipment."**

In addition to Operations shift personnel, other personnel in the CPNPP ERO assume roles in supporting the overall emergency response. The CPNPP ERO is outlined in **Figures 1.2 through 1.6**. Emergency Response Organization positions and principal responsibilities not discussed in **Section 1.1.2.1**, are discussed below.

Emergency Coordinator

Has responsibility and authority to immediately and unilaterally initiate all provisions of the CPNPP Emergency Plan, and for evaluation, coordination and control of all onsite activities related to the emergency response until the event is closed out or the CPNPP Recovery Organization is formed.

- a. Additional principal responsibilities include:
 - Assessment, classification, and declaration of an emergency.
 - Ensuring notification of officials in Hood and Somervell counties, Texas Department of Public Safety, the Nuclear Regulatory Commission, and other organizations as needed.
 - Approving shift schedules that support long-term emergency response to permit continuous operation.
 - Authorizing onsite protective actions.
 - Requesting and providing support to federal, state and local personnel, as appropriate.
 - Coordinating offsite CPNPP emergency response activities with activities conducted onsite.

b. The Emergency Coordinator shall NOT delegate the decision-making authority for:

- recommending use of Potassium Iodide
- authorizing reentry into evacuated onsite areas
- authorizing personnel exposures in excess of 10CFR20 limits
- making protective action recommendations to offsite authorities
- approval of notification messages.

c. The duties and responsibilities of the Emergency Coordinator are transferred after the successor has been briefed on current plant status and status of offsite and onsite emergency response activities and as described below:

Upon classifying an event, the Shift Manager assumes the role of Emergency Coordinator. The Technical Support Center (TSC) Manager relieves the Shift Manager of Emergency Coordinator duties at an Alert or higher emergency classification. The TSC Manager may relieve the Shift Manager of Emergency Coordinator duties at an Unusual Event. After the Emergency Operations Facility (EOF) has been activated, the duties of Emergency Coordinator may be transferred to the EOF Manager; however, the responsibility to assess, classify, and declare the emergency shall remain with the TSC Manager unless the TSC and EOF Manager agree to transfer this function.

CR Operations (Ops) Advisor

The CR Ops Advisor serves as the contact point between the operating crew and the TSC staff.

Technical Support Center Manager

The TSC Manager is responsible for activation and control of emergency response activities conducted in the TSC. The TSC Manager relieves Control Room personnel of administrative functions and decisions and maintains direction and control of onsite emergency response activities conducted within the Protected Area which are required to place the plant in a safe, stable condition.

TSC Communications Coordinator

The TSC Communications Coordinator is responsible for coordinating communications activities in the TSC. Prior to EOF activation the position is also responsible for administrative and logistical support.

TSC Onsite Radiological Assessment Coordinator

The TSC Onsite Radiological Assessment Coordinator provides backup dose assessment capabilities and is responsible for directing the onsite radiological assessment activities and ensuring the radiological safety of personnel onsite.

TSC Operations (OPs) Coordinator

The TSC OPs Coordinator serves as the Operations representative to the TSC staff and as the contact point between the TSC and the operating crew.

TSC Engineering Team Coordinator

The TSC Engineering Team Coordinator is responsible for directing and coordinating activities of the TSC Engineering Team to assess plant status and severity of emergency conditions.

TSC Engineering Team

The TSC Engineering Team is composed of at least four individuals with the experience and competence to provide technical support to the Control Room staff in the following areas:

- core reactivity monitoring and damage assessment;
- damage assessment (Mechanical/Electrical/I&C) and corrective action development;
- operations data and procedure interface; and
- engineering data analysis, including core thermal hydraulics.

With the location of the TSC being in close proximity to the Control Room (less than one minute transit time), contact is made with the Control Room staff for assistance and if necessary or requested an engineer(s) can promptly relocate to the Control Room.

Operations Support Center Manager

The OSC Manager is responsible for activation and control of emergency response activities conducted in the OSC. The OSC Manager is also responsible for dispatching and coordinating personnel to assist in emergency repair and damage control activities, performing radiological surveys, personnel rescue operations, establishing controlled areas, and implementing recovery actions.

OSC Radiation Protection Coordinator

The OSC Radiation Protection Coordinator directs the activities of the RP Technicians and is responsible for providing radiological protective measures for teams dispatched from the OSC.

OSC Chemistry Coordinator

The OSC Chemistry Coordinator directs the activities of the Chemistry Technicians and is responsible for coordinating requests for chemical analysis and for coordinating medical response and spill control teams from the OSC.

OSC Emergency Response and Damage Control (ERDC) Coordinator

The OSC ERDC Coordinator directs the activities of the Maintenance personnel, and is responsible for coordinating emergency repair and damage control teams dispatched from the OSC.

Company Spokesperson

The Company Spokesperson is responsible for coordinating with the Emergency Coordinator and approving public information releases issued by Luminant Power from the JIC.

Information Coordinator

The Information Coordinator is responsible for gathering and communicating current technical event related information from the Emergency Coordinator to the JIC.

JIC Communicator

JIC Communicator is responsible for receiving the information from the Information Coordinator and forwarding that information to the Company Spokesperson and/or JIC Director.

Information Liaison

The Information Liaison informs corporate communications, government sources, and media news services of event developments and obtains emergency-related information from outside sources.

Joint Information Center Director

The JIC Director schedules, coordinates and hosts press briefings and approves access to the JIC.

Press Release Writer

The Press Release Writer prepares press releases from approved information for dissemination to the media.

Rumor Control Coordinator

The Rumor Control Coordinator reviews received rumors and media broadcasts for consistency with approved information and reports findings to the Company Spokesperson.

JIC Support Staff (Aides)

The JIC Support Staff:

- host media representatives,
- set up and monitor audio visual equipment,
- record news conferences,
- monitor media broadcasts for event related information, and
- answer telephone requests for information from the public and the media.

EOF Manager

The EOF Manager is responsible for activation and control of emergency response activities conducted in the EOF.

EOF Communications Coordinator

The EOF Communications Coordinator is responsible for coordinating communications activities in the EOF.

EOF Radiation Protection Coordinator

The EOF Radiation Protection Coordinator (RPC) and staff (see [Figure 1.5](#)) are responsible for coordinating Luminant Power offsite radiological monitoring efforts. The EOF RPC is also responsible for coordinating Luminant Power offsite radiological assessment activities with those of local, state and federal agencies.

- a. The EOF Offsite Radiological Assessment Coordinator (OFFRAC), who reports to the EOF RPC, is responsible for coordinating the efforts of the offsite radiological assessment team in performing activities such as:
 - Nuclear Operations Support Facility (NOSF) habitability, and
 - dose projections and assessment.
- b. The Offsite Monitoring Team Director, who reports to the EOF RPC, is responsible for coordinating the efforts of the offsite radiological monitoring team(s) in performing activities such as:
 - locating and tracking the offsite plume, and
 - offsite monitoring team direction and control.

EOF Logistical Support Coordinator

The EOF Logistical Support Coordinator and his staff (see [Figure 1.5](#)) coordinate requests from the ERO for administrative and logistical assistance. These requests include such items as meals, parts and supplies, transportation, and manpower issues (such as shift relief schedules).

EOF/TSC Liaison

The EOF/TSC Liaison provides technical support (which includes classification input if required) to the EOF Management team and serves as a liaison between the EOF personnel and the TSC Engineering team.

EOF Security Coordinator

The EOF Security Coordinator is responsible for coordinating onsite security force activities.

Emergency Planning (EP) Advisors

EP Advisors assist the ERO with facility activation and provide expertise and information to ERO personnel concerning both utility and offsite supporting emergency facilities, communication capabilities, personnel and equipment resources, and procedural requirements.

State and Local EOC Advisors

Station personnel assigned to augment and advise state/county emergency organizations. Duties of the Local EOC Advisors are described in [Section 1.2.2](#), "Local Services Support".

Emergency Communicators

Designated personnel, as depicted on [Table 4.2](#), are assigned the function of providing an interface between the CPNPP emergency facilities, accident assessment teams, and State/Local/Federal authorities. The communicators use dedicated equipment, as depicted on [Table 4.1](#), to perform these functions.

Administrative and Clerical Support Personnel

Various administrative and clerical support personnel are used in the emergency response facilities for duties such as maintaining logs, answering telephones, and distributing information.

Board Recorders

Various personnel are assigned to post and update status boards within the emergency response facilities. These personnel use dedicated boards and communications equipment to facilitate the sharing of information between facilities.

1.1.3 RECOVERY

Actions taken to return the plant to an operational status or maintain long-term safe shutdown condition after the emergency response actions have been completed. If a recovery effort is deemed necessary, the CPNPP Recovery Organization is established in accordance with [Section 11.0](#) "Recovery and Reentry."

1.2 EMERGENCY RESPONSE SUPPORT AND RESOURCES

1.2.1 CORPORATE SUPPORT

Luminant Power maintains sufficient management and personnel resources at the CPNPP site to effectively staff (24 hours) the CPNPP Emergency Response Organization and its intended emergency mitigation functions. This arrangement preempts the need for a separate organization of offsite corporate personnel to be identified for, and incorporated in, the CPNPP Emergency Response Organization; however, in the event of an emergency requiring assistance from offsite organizations, Luminant Power management is fully committed to providing other resources to assist the CPNPP Emergency Response Organization. Examples of other corporate capabilities existing within Luminant Power include public information services, materials procurement services, contract manpower and construction services, legal and insurance services, and additional technical support.

1.2.2 LOCAL SERVICES SUPPORT

The local response organizations involved with emergencies at CPNPP are the Hood County and Somervell County Emergency Organization. Each county has an emergency operations plan which describes the county's emergency response. The County Judge is in charge of the emergency organizations and has the legal authority for protective action decision making within their respective county. To assist the county emergency organizations, Luminant Power sends a representative who is familiar with station operations and the CPNPP Emergency Plan to each county Emergency Operations Center. The representative functions as an advisor and may act as liaison between the county officials and the CPNPP Emergency Response Organization; however, these representatives are not company spokespersons.

Support from local organizations may be obtained through direct notification to the individual organization. Letters of Agreement from each organization to provide their respective emergency assistance to CPNPP are maintained onsite. A list of Letters of Agreement is provided in **Section 15.0, Appendix H**, which identifies the local services support organizations.

1.2.3 PRIVATE SECTOR SUPPORT

Support from private sector organizations may be obtained through direct notification to the individual organization. The following organizations provide services, if requested:

- Westinghouse Corporation

Westinghouse Corporation, the designer for the Nuclear Steam Supply System (NSSS), has an emergency response group which provides for emergency engineering assistance to facilities having a NSSS designed by Westinghouse. This assistance is available on a 24-hour/day, 7-day/week basis. Details of the response is contained in the Westinghouse Emergency Response Plan.

- Institute of Nuclear Power Operations (INPO)

INPO is an industry technical association whose Emergency Preparedness Division acts as a clearinghouse for maintaining a roster of individuals and skills available to each utility for augmenting the onsite ERO. INPO also serves as a clearinghouse for maintaining an inventory listing of material, equipment, and services which may be used to supplement onsite resources. Details of the response is contained in a letter of agreement.

- Houston Lighting and Power

The South Texas Project provides a backup service for analyzing Post Accident Samples. A Letter of Agreement outlines the analyzing capabilities of the South Texas Project Laboratory.

- American Nuclear Insurers (ANI)

Luminant Power maintains a policy with ANI. ANI has agreed to assume responsibility for promptly assisting members of the public who may be adversely affected by an event at CPNPP. This insurance policy alleviates the immediate financial burden that may be incurred by members of the public due to evacuation and relocation associated with an incident. ANI will have their representatives on the scene, prepared to commence the distribution of emergency funding at the earliest possible time, on a 24-hour a day basis.

1.2.4

STATE AGENCIES

The State of Texas has developed a Radiological Emergency Management Plan as a part of the State of Texas Emergency Management Plan. The fundamental legislation providing the basis for emergency response by civil authorities is the Texas Disaster Act of 1975, as amended. This act creates a Division of Emergency Management. The Division of Emergency Management is part of the Governor's office and is placed under the Director of the Texas Department of Public Safety by an Executive Order of the Governor. The duties and responsibilities of the principle and support agencies of the State of Texas are summarized below. The Commissioners of the Texas Department of Agriculture and the Texas Department of Health are responsible for implementing protective actions within the Ingestion Exposure EPZ in accordance with the Texas Emergency Management Plan. A detailed discussion of the state's response is contained in the Texas Emergency Management Plan and supporting Letters of Agreement. See [Section 15.0, Appendix H](#) for a list of Letters of Agreement.

- Division of Emergency Management

The Division of Emergency Management (DEM) is the agency responsible for coordinating overall response to emergency situations in the State of Texas. The Director, DEM, assumes overall direction and control of the state's response to an emergency condition at CPNPP.

- Texas Department of Public Safety

The Texas Department of Public Safety (DPS) serves as the primary communication contact and coordinates emergency communications between CPNPP and the State of Texas, Hood and Somervell Counties. The DPS coordinates with the local law enforcement officials and assists in maintaining traffic control, protecting life and property, establishing road-blocks, and alerting and warning persons in the affected area. Highway Patrol Captains serve as Chairmen of the Disaster District Committees. Requests for assistance from the local county EOC's are forwarded to the appropriate disaster district. Requests that exceed the District's capability are forwarded to the state EOC in Austin. Response time for DPS personnel from the Disaster District to the station is approximately 2 hours.

- Texas Department of Health

The Texas Department of State Health Services (DSHS), is the responsible agency for providing technical assistance and advice to local governments during a radiological emergency at CPNPP. Once notified of a Site Area or General Emergency by DEM, the DSHS will establish a communication link from their Austin office to the station. The DSHS dispatches response teams to the station in accordance with provisions of the Texas Radiological Emergency Management Plan. The DSHS response is directed by the Bureau Chief. The response team is capable of providing environmental sampling and radiological monitoring, including a mobile radiological laboratory. This laboratory serves to analyze low-level radiological environmental samples. CPNPP provides telephone and electrical hook-ups for use by the laboratory. It is expected that DSHS personnel and the laboratory should arrive at pre-determined locations within approximately four hours of notification. Space and telephone lines have been provided in the EOF for the response team. The DSHS also provides assessment of offsite hazards and protective action recommendations.

The CPNPP Emergency Coordinator is authorized to request federal assistance on behalf of the station under provisions of the Federal Radiological Emergency Response Plan. The CPNPP Emergency Coordinator requests federal assistance by contacting the NRC. The Federal Emergency Management Agency (FEMA) is also a federal agency responding to CPNPP.

To support the federal emergency response efforts, the following facilities are available:

- Airports: Granbury, Cleburne, Stephenville, Meacham in Fort Worth, Love Field in Dallas, and Dallas-Fort Worth International
- Motels: Granbury, Cleburne, Stephenville, Dallas, and Fort Worth
- CPNPP: Working space within the CPNPP Emergency Response Facilities (ERFs) has been allocated for co-location of NRC personnel. Phones are available for NRC personnel within the ERFs.

- Nuclear Regulatory Commission

Specific responsibilities assigned to the NRC include:

Notification of FEMA whenever a radiological event occurs or when there is a high potential for such an event.

Monitoring operational data and assuring that adequate information and recommendations are being provided to offsite agencies.

As a back-up to CPNPP, providing a technical assessment of onsite radiological and plant conditions to FEMA and other federal agencies, and keeping state and local offsite agencies apprised of any operational discussions that may affect offsite protective actions.

In coordination with CPNPP and state and local offsite agencies, disseminate onsite data to FEMA and federal agencies, the news media, and the general public.

Methods of notifying the NRC are discussed in **Section 3.0**, "Notification Methods and Procedures." The NRC may be expected onsite within 4 hours of receiving notification of the event.

- Federal Emergency Management Agency

FEMA is responsible for coordinating all offsite federal agency responses. Specific responsibilities assigned to FEMA include:

Coordination of federal support to state and local officials.

Dissemination of data on offsite support actions to the federal agencies.

FEMA may send personnel to the EOF to coordinate activities with CPNPP, NRC, and the state.

TABLE 1.1
STAFFING REQUIREMENTS FOR EMERGENCIES
Page 1 of 4

FUNCTIONAL AREA	TASK	ONSHIFT ^(c)	ADDITIONS WITHIN MINUTES OF ALERT		ADDITIONS AT SAE OR GE
			60	90	
Station Operations	Assessment of Operational Aspects	Shift Manager (SRO) Unit Supervisor (SRO)(2) Reactor Operators (RO) (4) Nuclear Equipment Operators (7)			
Emergency Direction and Control ^(b)	Direction and control of onsite emergency activities as Emergency Coordinator.	Shift Manager (SRO) ^(a)		TSC Manager	EOF Manager
Communications	Notify station, local, state, and federal personnel and maintain communications.	Communicator		TSC Communications Coordinator TSC ENS Communicator	EOF Communications Coordinator
Security	Site access control and personnel accountability	Security Shift Supervisor Security Officers (Per Security Plan)	Local Support		EOF Security Coordinator
Public Information	Approve release of public information	Shift Manager ^(a)		TSC Manager ^(a)	Company Spokesperson
Logistics	Obtain/Expedite needed resources for the ERO.	Shift Manager ^(a)		TSC Communications Coordinator ^(a)	EOF Logistical Support Coordinator
Station System Engineering	Coordination/Control Technical Support	Shift Technical Advisor		TSC Engineering Team Coordinator TSC Eng Team (4)	

TABLE 1.1
STAFFING REQUIREMENTS FOR EMERGENCIES
Page 2 of 4

FUNCTIONAL AREA	TASK	ONSHIFT ^(c)	ADDITIONS WITHIN MINUTES OF ALERT		ADDITIONS AT SAE OR GE
			60	90	
Radiological Assessment	In-plant Survey	R.P. Technician		R.P. Technician	
	Chem/ Radiochemistry	Chemistry Technician		Chemistry Technician	
	Onsite Surveys	R.P. Technician		R.P. Technician	
	Offsite Surveys		Monitoring Team (2)	Vehicle Drivers (2)	
	Dose Assessment	Shift Technical Advisor ^(a)	TSC OnRAC	EOF Dose Assessor	
	Protective Actions	R.P. Technicians (2) ^(a)	R.P. Technicians (2)	R.P. Technician	
	Coordination/Control	Shift Manager ^(a)	TSC OnRAC ^(a)	EOF R.P. Coordinator	
System Corrective Action	Emergency Repair and Damage Control (ERDC)	Nuclear Equipment Operator ^(a)		OSC Manager Mechanic Electrician I&C Technician	

TABLE 1.1
STAFFING REQUIREMENTS FOR EMERGENCIES
Page 3 of 4

FUNCTIONAL AREA	TASK	ONSHIFT ^(c)	ADDITIONS WITHIN MINUTES OF ALERT		ADDITIONS AT SAE OR GE
			60	90	
Fire	Fire Fighting and Rescue	Fire Brigade (5) ^(a)	Local Support		
Medical	First Aid	First Aid Team Member Chemistry Technician ^(a)	Local Support		
TOTAL		21	5	22	6

- (a) May be provided by onshift or augmentation personnel assigned other functions.
- (b) Shift Manager serves in this capacity until relieved by a designated individual ([Section 1.1.2.2](#)).
- (c) The minimum onshift crew composition may be one (1) less than the minimum specified for any position during normal operations for a period of time not to exceed two (2) hours in order to accommodate unexpected absence, provided immediate action is taken to fill the required position. This exception does not permit any crew composition to be unmanned upon shift turnover due to an oncoming crew member being late or absent. This exception is not applicable during declared emergencies.

TABLE 1.1
STAFFING REQUIREMENTS FOR EMERGENCIES
Page 4 of 4

ON SHIFT MINIMUM PERSONNEL	
POSITION	# ON SHIFT
Shift Manager	1
Unit Supervisor	2
Shift Technical Advisor	1
Reactor Operator	4
Nuclear Equipment Operator	7
Chemistry Technician	1
RP Technician	2
Security Supervisor	1
*Security Officers - As per Security Plan	*
Control Room Communicator	1
First Aid Team Member (Chemistry or other First Aid Qualified personnel)	1
Total	21+*

TABLE 1.2
PREDETERMINED RESPONSE ACTIONS
PAGE 1 OF 1

PREDETERMINED RESPONSE ACTIONS	UE	ALERT	SAE	GE
Notify state and local authorities within 15 minutes of declaring the event.	X	X	X	X
Notify the Nuclear Regulatory Commission (NRC) immediately after notification of the state and local authorities but not later than one (1) hour after declaring the event.	X	X	X	X
Staff and activate the Emergency Response Facilities: Technical Support Center (TSC) Operations Support Center (OSC) Emergency Operations Facility (EOF) Joint Information Center (JIC)		X ₁	X	X
Activate the Emergency Response Data System (ERDS) as soon as possible but not later than one (1) hour after declaring the event.		X	X	X
Assess the event and respond accordingly.	X	X	X	X
Dispatch Onsite Survey Teams.		X	X	X
Dispatch Offsite Monitoring Teams.			X	X
Provide periodic plant status updates to offsite authorities.	X	X	X	X
Provide periodic assessments of meteorological conditions to offsite authorities.		X	X	X
Provide periodic media briefings.			X	X
Provide senior onsite technical and management staff available for consultation with NRC and state on periodic basis.			X	X
Provide release rate and dose projection information.		X	X	X
Recommend protective actions to offsite officials.				X
Escalate to more severe class, if appropriate.	X	X	X	
Closeout the event with verbal summary to offsite authorities followed by written summary.	X ₂	X ₂	X ₂	X ₂

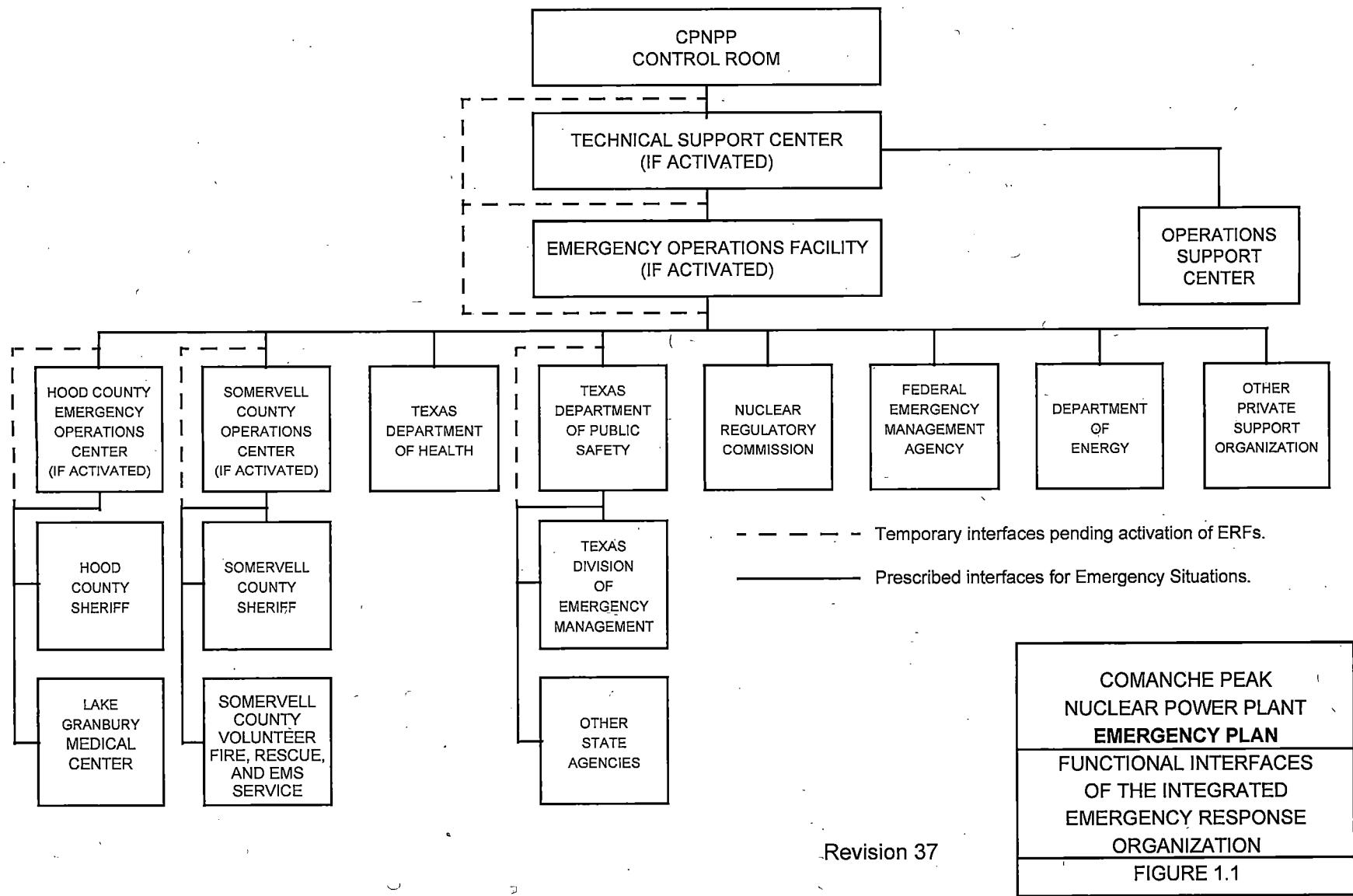
1 EOF and JIC activated at the SAE.

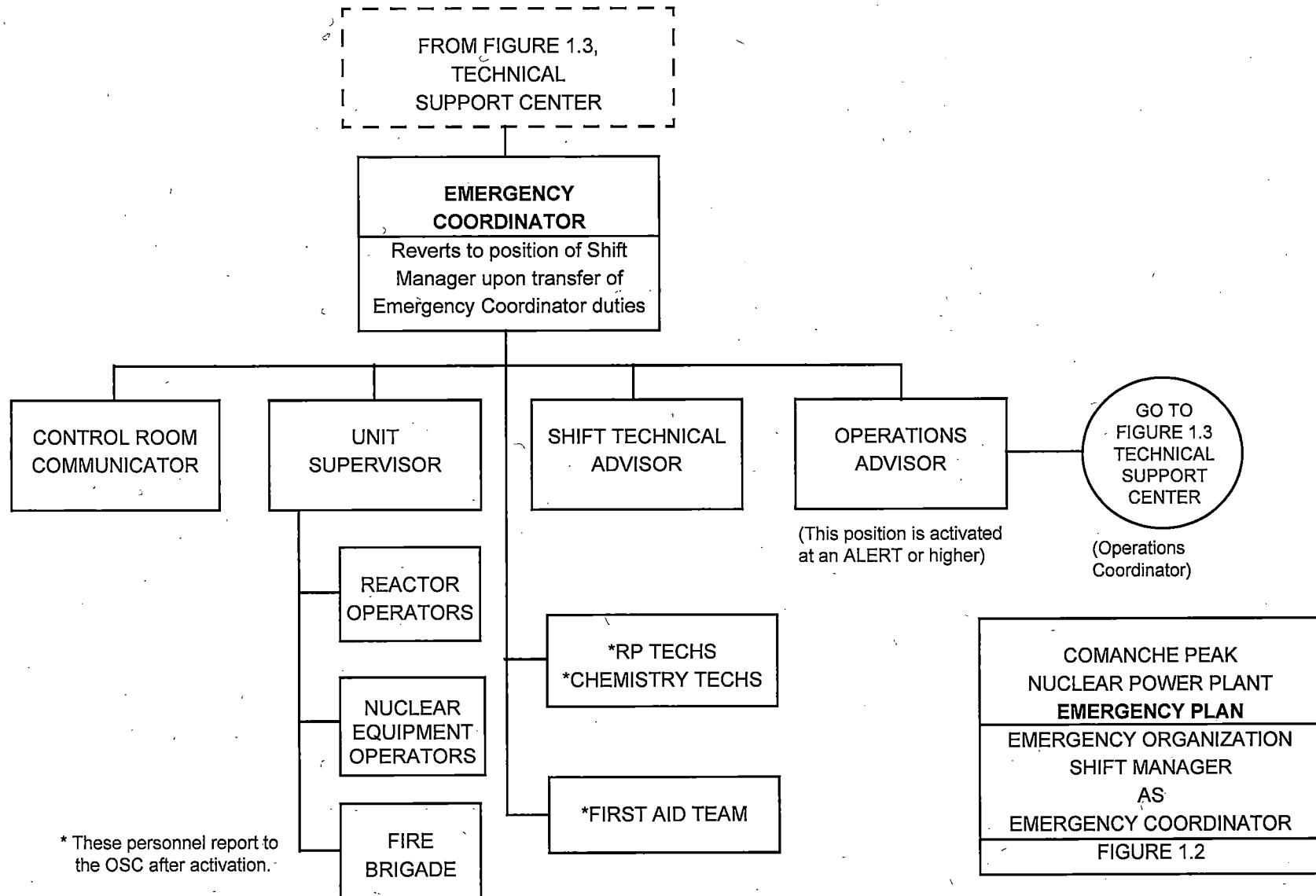
2 Notification Message Form used to closeout the emergency may be used to satisfy the requirements of verbal notification and written summary to offsite agencies.

UE Unusual Event

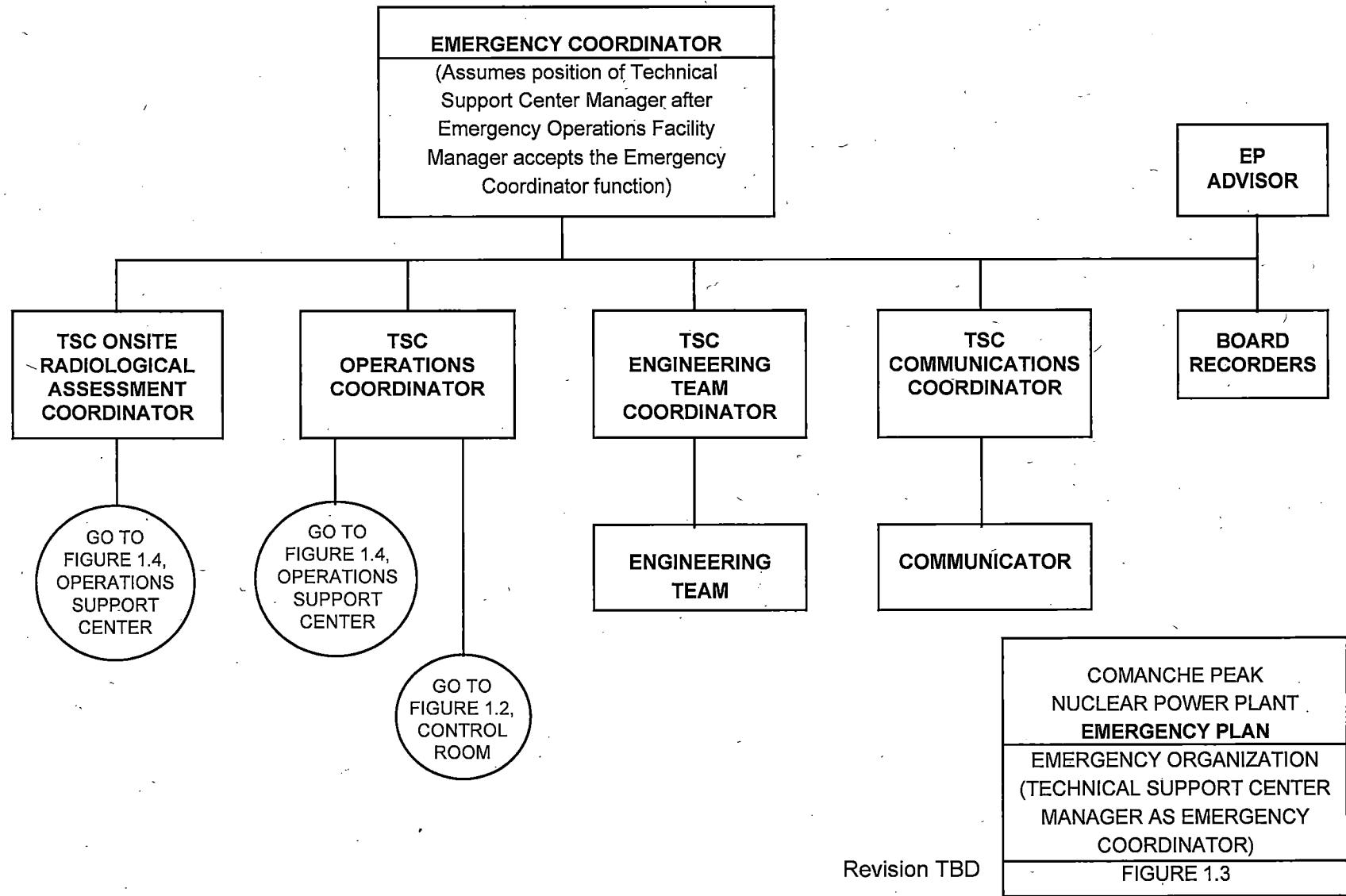
SAE Site Area Emergency

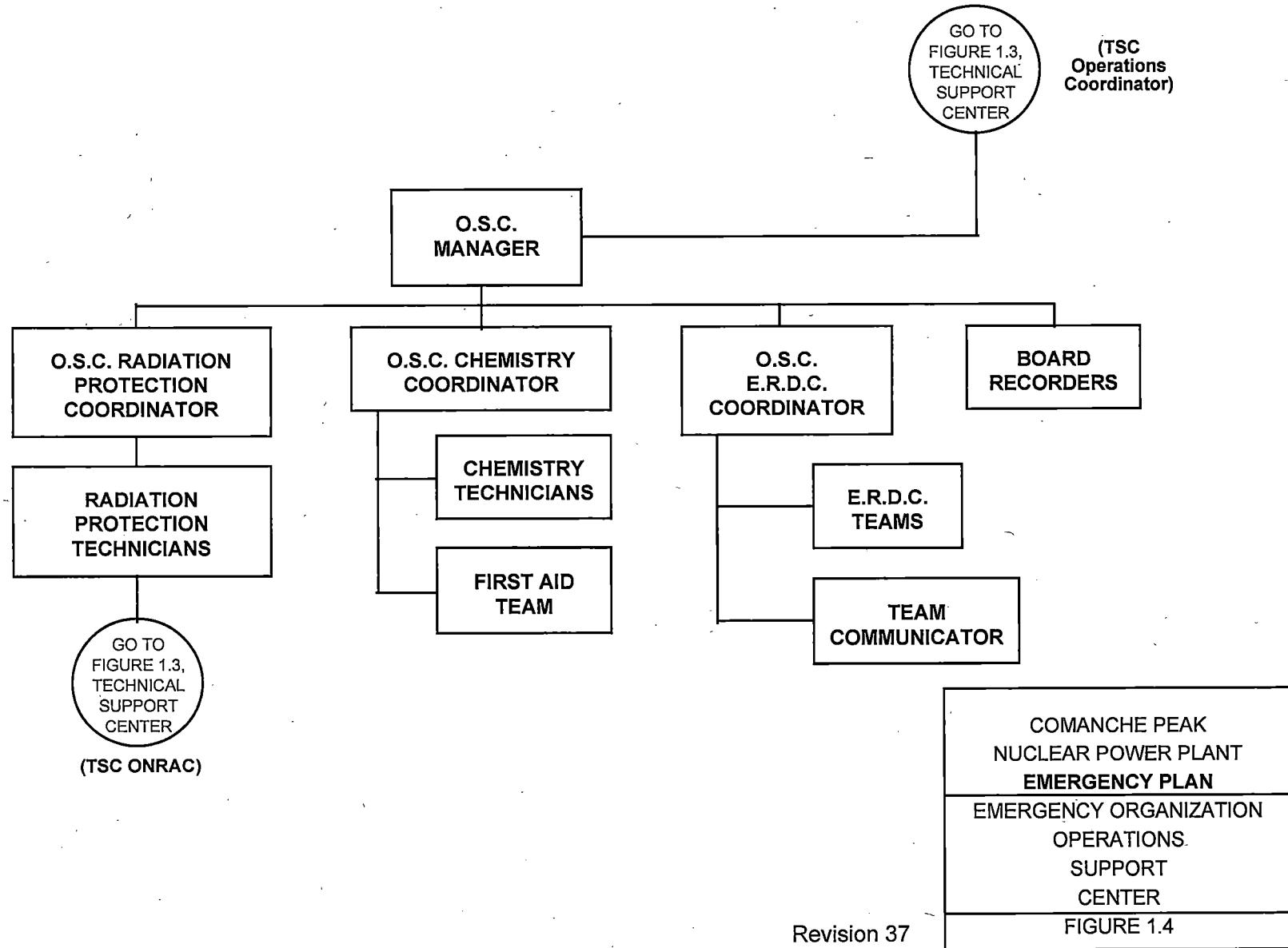
GE General Emergency

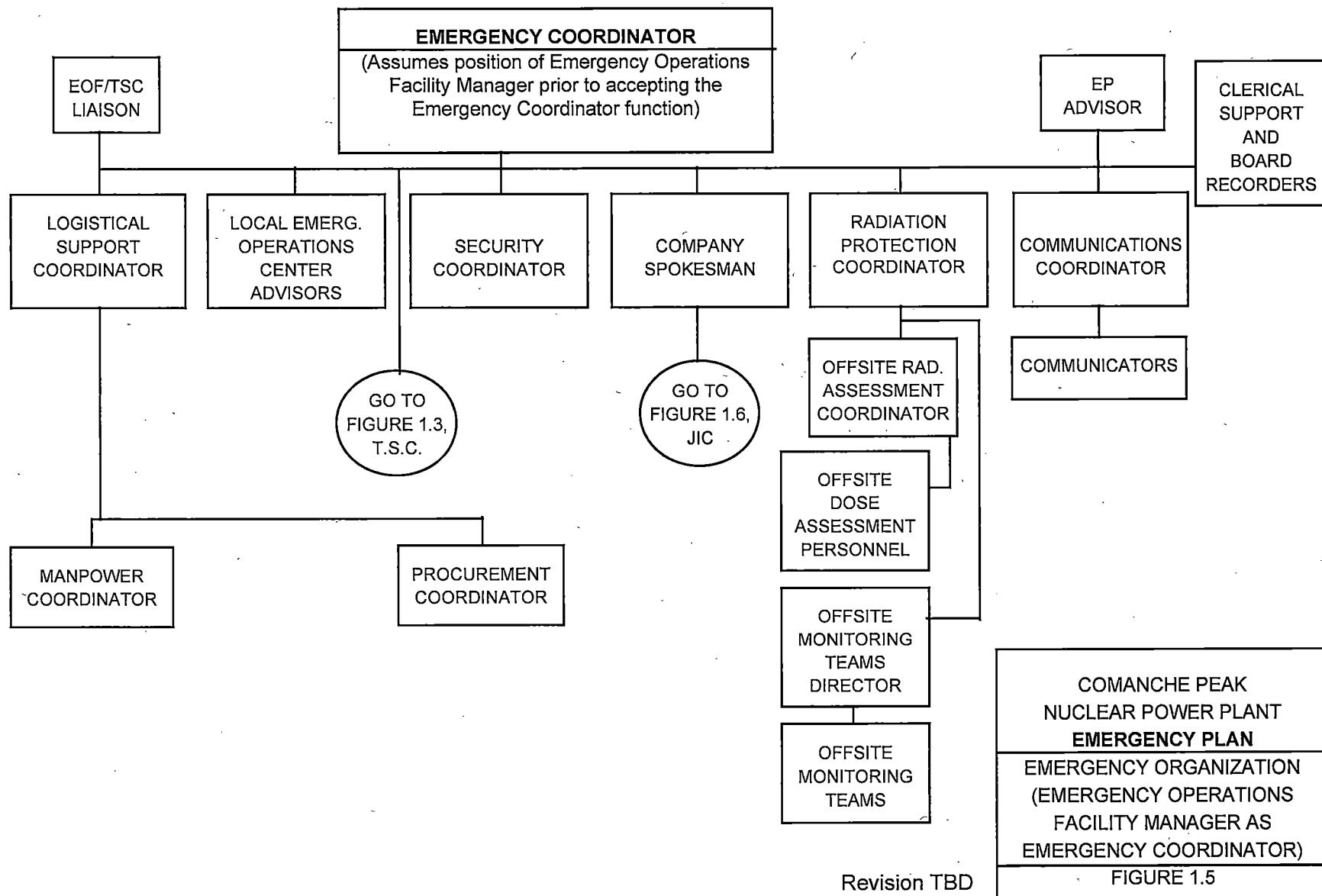


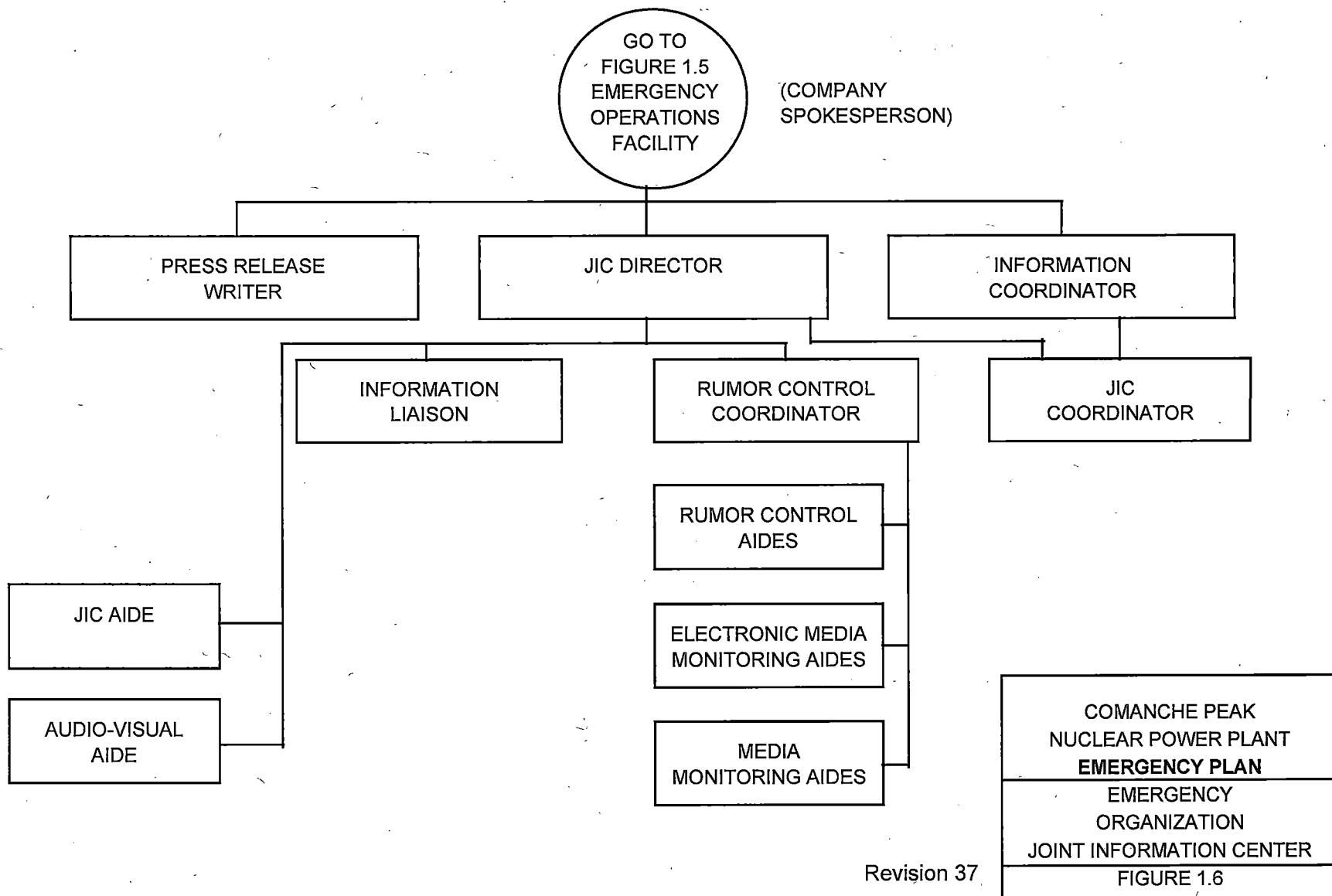


Revision TBD









2.0 EMERGENCY CLASSIFICATION SYSTEM

Emergency conditions are situations which cause or threaten to cause hazards affecting the health and safety of employees or the public, or which may result in property damage. This section describes the system to be utilized at CPNPP to classify possible radiological and other emergency conditions. This system is based on guidance set forth in NEI 99-01, Revision 6, and is compatible with that used by state and local agencies. Emergency Action Levels (EAL) established for each emergency classification have been accepted by offsite authorities responsible for implementing protective measures for the population-at-risk.

2.1 EMERGENCY CLASSIFICATIONS

The four Emergency Classifications are:

- a. Unusual Event
- b. Alert
- c. Site Area Emergency
- d. General Emergency

The first two classes, Unusual Event and Alert, are designed to provide early notification to offsite officials of the occurrence of minor events at CPNPP which might escalate if incorrect actions were taken or subsequent equipment failure occurred. The Site Area Emergency class includes conditions in which releases are occurring or are expected to occur, or where core degradation may be indicated. The General Emergency class includes situations in which actual or imminent core degradation or melting is occurring with potential for or loss of containment integrity. A gradation of responses is provided to assure prompt action whether the event intensifies or diminishes.

Initiating Conditions (ICs) which determine the appropriate classification are generally described in the following paragraphs and in [Table 2.1](#). Specific instrument readings, parameters or equipment status are used to determine whether an Emergency Action Level has been reached as specified in the appropriate Emergency Plan Procedures. If an emergency changes in severity the situation is reassessed and reclassified (if appropriate) and corresponding actions will be taken.

2.1.1 A brief discussion of each emergency classification is provided below.

a. UNUSUAL EVENT

This classification includes the least severe events requiring offsite notification. This emergency classification will be declared whenever events are in process or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility

protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.

b. ALERT

The Alert class is the second emergency classification in increasing order of severity. An Alert will be declared whenever events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of hostile action. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.

c. SITE AREA EMERGENCY

The Site Area Emergency class is the third emergency classification in increasing order of severity. A Site Area Emergency will be declared whenever events are in process or have occurred which involve an 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 Protective Action Guideline exposure levels beyond the site boundary.

d. GENERAL EMERGENCY

The General Emergency class is the most severe emergency classification. A General Emergency will be declared whenever events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity or hostile action that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.

2.2 EMERGENCY CLASSIFICATION INITIATING CONDITIONS

Emergency Plan Procedures identify specific conditions and associated limits which serve as the basis for initiating appropriate accident assessment and emergency response actions prescribed in this plan. As the severity of each event is identified, the event is classified (or reclassified), based on instrument readings, equipment status and other parameters set forth in appropriate Emergency Plan Procedures to assure appropriate emergency response actions.

The ICs/EALs specified in Emergency Plan Procedures are based on criteria in one or more of the following documents:

- a. Plant system design specifications
- b. Plant Technical Specification limits
- c. FSAR accident analyses
- d. 10CFR, Part 20 and 10CFR, Part 100 limits
- e. EPA Protective Action Guides

- f. NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations"
- g. NEI 99-01, Revision 6, "Development of Emergency Action Levels for Non-Passive Reactors"

TABLE 2.1
INITIATING CONDITION FOR EMERGENCY CLASSIFICATIONS
PAGE 1 OF 3

Categories	GE	SAE	Alert	UE
ALL Modes				
Abnormal Rad Levels / Rad Effluent (R)	Rad Effluent	Rad Effluent	Rad Effluent	Rad Effluent
	Irradiated Fuel Event	Irradiated Fuel Event	Irradiated Fuel Event	Irradiated Fuel Event
			Area Radiation Levels	
ISFSI (E)				Confinement Boundary
Hazards (H)	Security	Security	Security	Security
				Seismic Event
				Natural or Tech Hazard
				Fire
		Hazardous Gases		
		Control Room Evacuation	Control Room Evacuation	
	EC Judgment	EC Judgement	EC Judgement	EC Judgement

TABLE 2.1
INITIATING CONDITIONS FOR EMERGENCY CLASSIFICATIONS
PAGE 2 OF 3

Categories	GE	SAE	Alert	UE
HOT Conditions				
System Malfunctions (S)	Loss of Emergency AC Power	Loss of Emergency AC Power	Loss of Emergency AC Power	Loss of Emergency AC Power
		Loss of Vital DC Power		
			Loss of Control Room Indications	Loss of Control Room Indications
				RCS Activity
				RCS Leakage
		RPS Failure	RPS Failure	RPS Failure
				Loss of Comm.
				CMT Failure
			Hazardous Event Affecting Safety Systems	
Fission Product Barriers (F)	Fission Product Barrier Degradation	Fission Product Barrier Degradation	Fission Product Barrier Degradation	

TABLE 2.1
INITIATING CONDITION FOR EAL CLASSIFICATIONS
PAGE 3 OF 3

Categories	GE	SAE	Alert	UE
COLD Conditions				
Cold SD / Refueling System Malfunct. (C)	RCS Level	RCS Level	RCS Level	RCS Level
			Loss of Emergency AC Power	Loss of Emergency AC Power
			RCS Temp.	RCS Temp
				Loss of Vital DC Power
				Loss of Comm.
		Hazardous Event Affecting Safety Systems		

3.0 NOTIFICATION METHODS AND PROCEDURES

This section describes methods for notifying local and State authorities and the CPNPP Emergency Response Organization (ERO) in the event of a declared emergency classification at CPNPP. Details required in INITIAL and FOLLOWUP messages are also described.

Emergency Plan Procedures (EPP's) describe processes for performing these notifications and contain the message format for transmitting information to local and State Emergency Operation Centers (EOCs). EPPs also describe maintenance of the CPNPP ERO Roster and the Emergency Facility Telephone Directory that lists emergency telephone numbers for offsite agencies and authorities.

Upon declaration of an emergency at CPNPP, the CPNPP ERO and the CPNPP Security Shift Supervisor are notified using either the plant page party system, the intraplant telephone system or commercial telephone (see [Section 1.1.2](#) discussion of notification).

Offsite authorities are notified via dedicated telephone, commercial telephone or electronic communication.

More information regarding communication systems may be found in [Section 4](#).

This plan section also describes how the populace within the 10-Mile Emergency Planning Zone (EPZ) is alerted to and advised of a CPNPP emergency by local officials.

3.1 NOTIFICATIONS

3.1.1 INITIAL NOTIFICATIONS

INITIAL notifications from CPNPP to local and State authorities are performed when the following conditions occur:

- Initial declaration of an emergency classification (Unusual Event, Alert, Site Area Emergency, General Emergency)
- Escalation of an emergency classification
- Initial Protective Action Recommendation (PAR)
- Change in a PAR
- Emergency termination

INITIAL notifications shall begin no later than fifteen (15) minutes after one of the above conditions are met.

INITIAL notifications are made to the following offsite authorities/locations:

- Somervell County EOC
- Hood County EOC
- Texas Department of Public Safety

INITIAL notifications, either verbal or via Notification Message Form, to Somervell County EOC, Hood County EOC, and DPS provide the following information:

- CPNPP Communicator's name
- Emergency Classification and Emergency Action Level (EAL) Identifier
- Warning of whether an emergency-related radiological release is occurring
- PARs, if any and if so, what sectors and Emergency Response Zones (ERZs) are affected.

The first Notification Message Form sent from CPNPP to offsite authorities is verified authentic as specified in the Texas Department of Public Safety Communications Operating Procedures.

3.1.2 NOTIFICATION OF NRC

The NRC Operations Center should be immediately notified after notification is made to those offsite authorities identified above. The NRC should always be notified within one hour after the emergency was declared.

3.1.3 FOLLOWUP NOTIFICATIONS

FOLLOWUP notifications are made to status ongoing emergency response efforts.

FOLLOWUP notifications are made to offsite authorities approximately every hour unless otherwise requested by these authorities.

In addition to information required for an INITIAL notification, the following information is provided in the FOLLOWUP notification:

- Meteorological conditions-wind velocity and direction; temperature, atmospheric stability data, and form of precipitation, if any, is provided if requested.
- IF needed, requests for onsite support.
- IF requested, by the Texas Department of State Health Services:
 - a. Type of radiological material release (whether actual or projected): airborne, waterborne or surface spill and estimated or known release duration
 - b. Estimated or known quantities of radioactive material released.

- c. Point of release
- d. Chemical and physical form of released material, including estimates of relative quantities and concentrations of noble gases, radioiodines and particulates.
- e. Estimates or known quantities of radioactive surface contamination, onsite or offsite.
- f. Actual or projected dose rates and integrated doses at the site boundary, and at two, five and 10 miles, and affected sectors and Emergency Response Zones (ERZs).
- g. Prognosis for escalation or termination of emergency based on current plant information.
- h. Licensee emergency response actions underway.

3.2 PUBLIC WARNING

An Alert and Notification System consisting of 72 sirens within the 10-Mile Emergency Planning Zone (EPZ) is owned, maintained and tested by Luminant Power in accordance with CPNPP Emergency Plan Procedures. The system was designed, installed and tested to meet the requirements of the Federal Emergency Management Agency (FEMA). The resident and transient population within the 10-mile EPZ is alerted to an emergency at CPNPP by the Alert and Notification System. Upon being alerted by this system, the populace has been informed to tune their radios to the primary Emergency Alert System (EAS) station to obtain current information and recommended protective actions.

The EAS provides emergency related information to the general public in the CPNPP area over radio station WBAP (820 AM) and other broadcast media which re-broadcast EAS messages provided by the primary station. CPNPP and state emergency response personnel provide protective action recommendations to local officials; however, information and instructions provided to the general public via the EAS originates from the county officials.

Local officials, primarily County Judges and County Sheriffs, authorize use of and are responsible for operating the Alert and Notification System and providing messages to the EAS stations. Preformatted EAS messages are included in county and State emergency plans.

Operation of the Alert and Notification System is accomplished from either county's Emergency Operations Center (EOC). Normally, each county EOC will operate those sirens within its jurisdiction; however, if needed, either EOC can operate the entire system. The 10-mile EPZ is divided into quadrants. Sirens located in each quadrant are programmed to a unique control code. Each quadrant can be activated independently; however, each siren can be operated individually for purposes of testing.

3.3 METHODS OF PROVIDING PUBLIC INFORMATION REGARDING PROTECTIVE ACTION MEASURES

Public warning, discussed above, is part of the mechanism for providing information to the public. Preceding and continuing into the CPNPP operations phase, emergency response information is provided to the public within the 10-mile EPZ. Local residents are provided printed media which

provides instructions for emergency actions. Information regarding emergency actions is also provided by printed media at various locations or establishments within the 10-mile EPZ, and in local telephone directories. Additional information about public information is provided in **Section 5** of this plan.

4.0 EMERGENCY COMMUNICATIONS

Comprehensive communication systems are provided to ensure reliable intraplant communications, plant-to-offsite telephone and carrier communications, and offsite emergency response communications with public safety agencies. **Table 4.1**, "Communications Interfaces" describes CPNPP communication interfaces between each emergency response facility and various responding organizations and offsite agencies.

Effective communications between personnel during plant start-up, operation, shutdown, refueling and maintenance activities are provided by Intraplant Telephone System (ITS), sound-powered telephone, plant page-party system and two-way radio systems.

Emergency Plan Procedures provide instructions for notification of CPNPP emergency response personnel, and offsite organizations who respond to, or are required to be cognizant of, an emergency at CPNPP. Procedures also control emergency response personnel call lists and provide instructions for completing initial and follow-up notification messages to ensure accurate information is transmitted to offsite authorities.

Communications responsibilities for organizations are described in **Table 4.2**, "Emergency Response Communications Responsibilities and Interfaces." This table lists titles of individuals who have primary responsibilities for emergency response communications.

4.1 SYSTEM DESCRIPTION

The following systems comprise intraplant and plant-to-offsite communication systems for both units at CPNPP:

4.1.1 PUBLIC ADDRESS SYSTEM

The plant page-party system, part of the public address system, provides two independent channels of communication: page and party lines. Page-party line loud speakers are powered by individual amplifiers, and power to this system is supplied from a source which remains available in the event of a loss of offsite power.

The system layout allows Control Room personnel to announce emergency information to all plant areas and permanent buildings for both units. Similar capabilities exist in the Technical Support Center and the Emergency Operations Facility for use by Emergency Coordinators. This system also permits two-way communications between two or more locations. Speakers and microphone handsets are installed at locations vital to operation of the plant and safety of personnel. Voice paging channel output is audible over expected noise levels under normal and emergency conditions.

Four independent party lines are provided to permit communications between handset stations only, thereby making the plant and Control Room paging channel available to others. At least one independent party line, to be selected by the on-shift Control Room staff, should be dedicated for use during any ongoing emergency. All four party lines are available at all handset

stations, except those located in plant elevators where only one party line is available. Selection of a desired channel is achieved by a multi-position switch provided as part of the handset station. The page channels and the party line channels are independent and may be used simultaneously without interference.

4.1.2 INTRAPLANT TELEPHONE SYSTEM

The Intraplant Telephone System (ITS), is provided for uninterrupted private communication between virtually all areas of Comanche Peak Nuclear Power Plant.

The ITS is integrated with the public telephone system and configured such that a single failure in either does not affect safe and reliable operation of the other system. Power is supplied to the ITS from the non-ESF bus. When the Integrated Telephone System's normal AC power supply is lost, electric generators and battery backup power supply keep the ITS operational. In addition, a number of predetermined telephone stations which get their power from the public telephone system remain operable.

4.1.3 INTRAPLANT SOUND-POWERED TELEPHONE SYSTEM

A sound powered telephone system, independent of other communications systems and external power sources, is provided to serve three purposes: (1) provide communications in critical in-plant areas, (2) serve as backup to plant page-party system in critical in-plant areas, and (3) provide uninterruptible communication channels for maintenance, calibration, testing and refueling activities. This system provides standby communications capability and does not depend on external sources of power.

This system consists of three subsystems per unit as follows:

- Subsystem One: Maintenance Loops - Consists of two-channel, hard-wired communications link between Control Room area and critical in-plant areas.
- Subsystem Two: Refueling Loops - Consists of two-channel, hard-wired communications link between Control Room area and fuel handling areas. This subsystem is provided primarily for refueling operations.
- Subsystem Three: Emergency Loops - Consists of a two-channel, hard-wired communications link between Remote Shutdown Panel and safety related equipment areas. Cables of this subsystem are routed in separate conduits from other subsystems. This subsystem is provided primarily for communications in the unlikely event the Control Room becomes uninhabitable.

The headset jack stations are located on panels in the Control Room and in critical areas.

Communications can be established between the Control Room and any local panel or between any two local panels by plugging the headsets into jack stations mounted in the Control Room, or in or near the panels. The number and location of sound-powered telephone system receptacles provide for sufficient communications to place the plant in hot shutdown or cold shutdown mode from the Control Room or Remote Shutdown Panel and other areas. The sound-powered telephone system can be used as backup to the plant page-party system in critical equipment

areas of the plant. One independent howler loop per unit is provided for sound-powered signaling.

4.1.4 INTRAPLANT RADIO TRANSMITTER-RECEIVER SYSTEM

Two-way radio transmitter-receiver systems, operating on unique wavelengths, is provided for emergency response communications between emergency response support personnel (e.g., onsite and offsite radiological monitoring teams and emergency repair and damage control teams) and various emergency response facilities. Details of this system can be found in the applicable Emergency Plan Procedure.

For the CPNPP Security Organization's use, separate communication channels of unique wavelength are provided to enable two-way radio communication between security posts and the various plant buildings. Portable transmitter-receivers are provided to Security personnel for communication between areas of the plant.

To improve reception in plant buildings, monitor receivers or coaxial slotted cables, or both, are installed where required. The radio transmitter carrier frequencies are chosen to preclude interference with radio controlled cranes and carrier frequencies used by the Switchyard remote supervisory carrier current equipment.

The intraplant radio system has been upgraded to carry the station operations frequency. This modification allows operations or maintenance personnel, as well as emergency response personnel, to use a radio inside station structures.

4.1.5 PUBLIC TELEPHONE SYSTEM

The public telephone system is interconnected to the Intraplant Telephone System. This permits access to the public telephone system from virtually any area within Comanche Peak Nuclear Power Plant.

4.1.6 OTHER TELEPHONE LINES

A number of trunk lines provide direct communications between offsite locations and various CPNPP facilities. These lines allow offsite emergency response organizations to contact CPNPP emergency response personnel at any time to verify initial communications and to establish, if necessary, communications with their personnel and facilities stationed onsite; allow CPNPP radiological monitoring teams to transmit field data should their radio fail, and allow the general public direct access to CPNPP Public Information personnel manning rumor control telephones.

4.1.7 EMERGENCY EVACUATION ALARM SYSTEM

The emergency evacuation alarm is generated by a solid state multifrequency audio oscillator capable of producing five distinctive tones which can be heard over all plant paging zones, except the Control Room, via the plant page-party system. The evacuation alarm is a pulse tone at a frequency of 475 (± 25) hertz at a rate of 4.5 (± 0.5) cycles/sec. This tone meets specifications described in ANSI/ANS 2.3-1979 and Regulatory Guide 8.5.

The emergency evacuation alarm system, including the multifrequency audio oscillator, is powered by a source which remains available in the event of a loss of offsite power and provides a unique alarm signal to prompt personnel evacuation in the event of an emergency. This alarm

is initiated by the Control Room operator in the event that a site evacuation is ordered by the Emergency Coordinator.

4.1.8 DIRECT LINE TO STATE AND LOCAL EMERGENCY OPERATIONS CENTERS

A dedicated line has been established that simultaneously links CPNPP with the Texas Department of Public Safety, the Somervell County Emergency Operations Center and the Hood County Emergency Operations Center. When a call has been initiated, the other telephones ring until answered. Communications by CPNPP individuals, unrelated to an emergency, exercise/drill, system test or Public Information notification shall not be conducted on this line.

4.2 FEDERAL TELECOMMUNICATIONS SYSTEM

The Federal Telecommunications System (FTS) is an independent phone link used for communications between CPNPP and the NRC. At CPNPP, the FTS lines are used as the Emergency Notification System (ENS), Health Physics Network (HPN), and for NRC personnel communications. Extensions to the FTS are in the Control Room, Technical Support Center (TSC) and Emergency Operations Facility (EOF). A communications equipment test shall be conducted monthly in accordance with applicable Emergency Plan Procedures and shall involve the ENS telephone in the Control Room and the ENS and HPN telephones in the TSC and EOF.

4.3 ELECTRONIC COMMUNICATION

Electronic communications capability is provided between the Control Room, Technical Support Center, Emergency Operations Facility, Operations Support Center, Corporate Office, NRC, state agencies and local county Sheriff's offices.

4.4 AUTODIAL CALLING SYSTEM

An automatic dialing system is one of the methods used to call-out Emergency Response Personnel. The system is used at an Alert or higher class emergency. As an individual is contacted, a message is played informing that an emergency is in progress and of the action(s) which should be taken. This system uses multiple telephone lines to contact the response organization. Should this system fail to operate, a backup notification method shall be used to contact emergency personnel.

TABLE 4.1
COMMUNICATIONS INTERFACES
PAGE 1 OF 1

	Control Room	Technical Support Center	Operations Support Center	Emergency Operations Facility	JIC	Security
Control Room		A, C, D, E, F, G	A, B, F, G	A, B, C, D, F, G	A, G	A, F
Technical Support Center	A, C, D, E, F, G		A, B, F, G	A, B, C, D, F, G	A, G	A, F
Operations Support Center	A, B, F, G	A, B, F, G		A, B, F, G		A, F
Emergency Operations Facility	A, B, C, D, F, G	A, B, C, D, F, G	A, B, F, G		A, G	A, F
JIC	A, G	A, G		A, G		
Security	A, F	A, F	A, F	A, F		
NRC Regional Incident Resp Ctr	A, D, G	A, D, G		A, D, G		
NRC Operations Center	A, D, G	A, D, G		A, D, G		
Dept of Public Safety	A, C, G	A, C, G		A, C, G	A	
Texas Department of State Health Services, Austin		A, G		A, G	A	
Hood County EOC	A, C, G	A, C, G		A, C, G	A	A, B
Somervell County EOC	A, C, G	A, C, G		A, C, G	A	A, B
Offsite Support Agencies and Off-duty personnel	A	A		A		A
Access Control		A	A, F			
Onsite/Implant Survey Teams		B, E, F	B, F			
Offsite Monitoring Teams			A, B	A, B		
System Dispatcher	A, H					
Corporate Security				A		A
Luminant Power Divisions		A, G		A, G		
Uninvolved Government Officials				A		
Offsite Support Contractors				A		
INPO and Other Utilities		A, G		A, G		

A Telephone

E Sound-Powered Telephone

B Two-way radio

F Plant Page-Party System/All-Page

C State/County Dedicated System

G Electronic Communication

D Federal Telecommunications System

H Point-to-point

Note: This table shows communication interfaces between organizations which normally communicate with one another. If no communication is expected between organizations, then no interface is shown.

TABLE 4.2
EMERGENCY RESPONSE COMMUNICATIONS
RESPONSIBILITIES AND INTERFACES
PAGE 1 OF 1

Emergency Response Facility/Organization	Primary Responsibility	Interface
Control Room	Shift Manager	Control Room personnel
Technical Support Center	TSC Manager	Communicator
Emergency Operations Facility	EOF Manager	Communicator
Operation Support Center	OSC Manager	Team Communicator
Onsite Survey Teams	OSC Manager	Team Communicator
Offsite Monitoring Teams	EOF Radiation Protection Coordinator	Offsite Monitoring Team Director/Communicator
Hood County Emergency Operations Center	County Sheriff	Dispatcher
Somervell County Emergency Operations Center	County Sheriff	Dispatcher
Texas Department of Public Safety	Communications Supervisor	Dispatcher
NRC Operations Center	Duty Officer	Duty Officer
NRC-Region IV	Duty Officer	Duty Officer
Lake Granbury Medical Center	Hospital Administrator	Hospital Operator

NOTE: The individual delegated responsibility for communications is not required to operate the equipment.

5.0 PUBLIC EDUCATION AND INFORMATION

A public information program has been developed with state and local governments to inform the public within the 10-mile Emergency Planning Zone (EPZ). Emergency information is provided annually to residents through the distribution of printed media as decided by Luminant Power management; information is provided annually to the transient population by placement of posters and distribution of printed media to selected local businesses, public buildings, recreational areas, etc.

The information provided addresses the following:

- Method of public notification
- Protective actions
- Instructions for evacuation
- A map of the EPZ showing evacuation zones and routes
- The location of Relocation Centers
- Primary EAS station that broadcasts emergency information
- Telephone numbers for obtaining information
- A method for those with special needs to inform the local responsible agency of their location and the nature of the special assistance required.
- Educational information on radiation

The news media is provided information and offered training annually about emergency plans, radiation and contact points for information during an emergency.

5.1 PUBLIC INFORMATION RELEASES DURING EMERGENCY CONDITIONS

In the event of an emergency, press briefings may be conducted at the Joint Information Center. Press briefings are coordinated with federal, state and local public information personnel. Any emergency related public information releases shall be made in accordance with Emergency Plan Procedures.

5.2 RUMOR CONTROL

Telephones are established for rumor control. During an emergency, personnel use these telephones as part of the public information response.

6.0 EMERGENCY FACILITIES AND EQUIPMENT

This section describes emergency response facilities and equipment used by the CPNPP Emergency Response Organization in the event an emergency is declared at CPNPP.

Facility activation is dependent on the emergency classification declared; however, the Emergency Coordinator has the option of activating one or all of the CPNPP emergency response facilities at an emergency classification less severe than that prescribed in Emergency Plan Procedures. Details regarding activation and staffing of each emergency response facility are provided in the Emergency Plan Procedures.

6.1 CONTROL ROOM

6.1.1 FUNCTION

The Control Room (CR) is the onsite location from which the CPNPP is operated. The CR is also the location where the initial assessment and coordination of corrective actions for emergency conditions takes place.

6.1.2 LOCATION

The CR is located at elevation 830' 0" of the Control Building.

6.1.3 STAFFING AND TRAINING

The CR, because of its role in normal Station operations, is always staffed and functional. The staffing requirements and responsibilities of CR personnel are discussed in [Section 1.1.2.1](#).

[Table 1.1](#) shows the staffing requirements for emergencies. [Figure 1.2](#) shows an organizational chart of the CR staff.

Training of CR staff is referenced in [Section 13.0](#).

6.1.4 HABITABILITY

The habitability system for the CR is described in [FSAR Section 9.4.1](#), "Control Room Area Ventilation System". The CR is designed to be habitable following design basis accidents (See [FSAR Section 15.6.5.4](#)). Details of CR habitability are presented in the CPNPP Design Basis Documents (DBDs).

6.1.5 COMMUNICATIONS

The communication system for the CR is described in [Section 4.0](#) and [Table 4.1](#).

Emergency response personnel in other emergency facilities interface with the CR staff through the Technical Support Center. Only personnel performing activities coordinated directly by the CR staff communicate directly with the CR.

6.2 TECHNICAL SUPPORT CENTER

6.2.1 FUNCTION

The CPNPP Technical Support Center (TSC) provides the following functions:

- Provide plant management and technical support to plant operations personnel during emergency conditions.
- Relieve the control room operators of peripheral duties and communications not directly related to reactor system manipulations.
- Prevent congestion in the control room.
- Perform Emergency Operations Facility (EOF) functions until the EOF is activated.
- Serve as primary communications center for the plant during the emergency.
- Provide technical support during recovery operations following an emergency.

The TSC is the emergency operations work area for designated technical, engineering and senior management personnel, and a small staff of NRC personnel. The TSC Manager uses the resources of the TSC to provide guidance and technical assistance to the Control Room during an emergency. The TSC has facilities to support plant management and technical personnel who will be assigned there during an emergency.

6.2.2 LOCATION

The TSC is located above the Control Room, at elevation 840' 6" of the Control Building. The TSC and CR are connected by a common stairwell, which may provide face-to-face interaction between CR personnel and the TSC Manager. TSC personnel have access to information in the CR that is not available through the TSC data system.

The stairwell between the TSC and CR is located outside the CR environment; therefore, provisions have been made for safe and timely movement of personnel under emergency conditions. These provisions include considerations of effects of direct radiation and airborne radioactivity from inplant sources.

There are no major security barriers between the TSC and CR, other than access stations at each facility.

6.2.3 STAFFING AND TRAINING

Personnel assigned to the TSC are notified at an Alert or higher emergency classification and should activate the facility as soon as possible with a goal of ninety (90) minutes in accordance with Emergency Plan Procedures. Activation of the TSC ensures only designated operating personnel are in the CR and that needed technical support is provided without obstructing plant manipulations or overcrowding the CR.

The staffing requirements and responsibilities of TSC personnel are discussed in [Section 1.1.2.2](#). [Table 1.1](#) shows the staffing requirements for emergencies. [Figure 1.3](#) shows an organizational chart of the TSC staff.

Training of TSC staff is referenced in [Section 13.0](#).

6.2.4 SIZE

The TSC is located in an area that is large enough to provide:

- Work space for the personnel assigned to the TSC.
- Space for the TSC Data Display Equipment.
- Space for unhindered access to communication equipment by all TSC personnel.
- Space for storage of and/or access to plant records and historical data.
- A separate room for private NRC consultations.

The TSC working space is sized for 25 persons, including five NRC personnel. The TSC floor space is approximately 1500 sq. ft.

6.2.5 STRUCTURE

The TSC is located in a Seismic Category I structure, which is able to withstand the most adverse conditions expected, including earthquakes, high winds, and floods.

6.2.6 HABITABILITY

The Habitability System for the TSC is the same system that is provided for the CR. See [Sections 6.1.4](#) and [6.6](#) for a more detailed description of facility habitability.

6.2.7 COMMUNICATIONS

The communication system for the TSC is described in [Section 4.0](#) and [Table 4.1](#).

6.2.8 INSTRUMENTATION, DATA SYSTEM EQUIPMENT, AND POWER SUPPLIES

The TSC Data System is provided as part of the integrated Emergency Response Facility (ERF) Computer System. The ERF Computer System gathers, stores, and displays data needed in the TSC to analyze the plant conditions. The TSC Data System performs its function independent of action in the CR and without degradation or interfering with CR and plant functions. Details of the ERF Computer System are described in [FSAR Section III.A.1.2](#) and the CPNPP DBDs.

6.2.9 RECORDS AVAILABILITY AND MANAGEMENT

The TSC has a repository of plant records and procedures at the disposal of the TSC personnel to aid in their technical analysis and evaluation of emergency conditions. The following reference material is provided in the TSC:

- CPNPP FSAR
- Plant Technical Specifications
- Operating Instructions, Both Normal and Emergency
- Technical Manuals
- As-Built Drawings

6.3 OPERATIONS SUPPORT CENTER

6.3.1 FUNCTION

The Operations Support Center (OSC) is the onsite emergency response staging area separate from the CR and TSC, where operations support personnel assemble and are dispatched during an emergency. The OSC functions to:

- Provide a location where plant support can be coordinated during an emergency.
- Restrict CR access to support personnel specifically requested by the Shift Manager.

6.3.2 LOCATION AND SIZE

The OSC is located in the office space in the Control Building on the 810' elevation. This location provides immediate access to the plant as well as the TSC.

6.3.3 STAFFING AND TRAINING

Personnel assigned to the OSC are notified at an Alert or higher emergency classification and should activate the facility as soon as possible with a goal of ninety (90) minutes in accordance with Emergency Plan Procedures.

The staffing requirements and responsibilities of OSC personnel are discussed in [Section 1.1.2.2](#). [Table 1.1](#) shows the staffing requirements for emergencies. [Figure 1.4](#) shows an organizational chart of the OSC staff.

Training of OSC staff is referenced in [Section 13.0](#).

6.3.4 HABITABILITY

The OSC has the same habitability conditions as the Turbine Building but is monitored for airborne radioactivity and external (gamma) radiation (see [Section 6.6](#)). If the OSC should be unavailable for use or require evacuation, personnel should be relocated to a safe area as specified by the Emergency Plan Procedures.

6.3.5 COMMUNICATIONS

The communication system for the OSC is described in [Section 4.0](#) and [Table 4.1](#).

6.4 EMERGENCY OPERATIONS FACILITY

6.4.1 FUNCTION

The CPNPP Emergency Operations Facility (EOF) is the emergency response facility which provides the following functions:

- Management of overall CPNPP response during an emergency condition.
- Coordination of radiological and environmental assessment.
- Determination of recommended public protective actions.
- Coordination of emergency response activities with federal, state, and local agencies.

The EOF is equipped with technical data displays to assist EOF personnel in diagnosis of plant conditions and to evaluate potential or actual release of radioactive materials to the environment.

6.4.2 LOCATION

The EOF is located in the Nuclear Operations Support Facility (NOSF) which is 1.2 miles west of the reactor site.

6.4.3 STAFFING AND TRAINING

Personnel assigned to the EOF are notified at an Alert or higher emergency classification and should activate the facility as soon as possible with a goal of ninety (90) minutes if a Site Area or General Emergency is declared in accordance with Emergency Plan Procedures.

When the EOF is activated, security protection will be upgraded to restrict access to those personnel assigned to the facility.

The staffing requirements and responsibilities of EOF personnel are discussed in [Section 1.1.2.2](#). [Table 1.1](#) shows the staffing requirements for emergencies. [Figure 1.5](#) shows an organizational chart of the EOF staff.

Training of EOF staff is referenced in [Section 13.0](#).

6.4.4 SIZE

The EOF is large enough to provide the following:

- Work space for the personnel assigned to the EOF.
- Space for the EOF Data Display Equipment.
- Space for unhindered access to communication equipment by all EOF personnel.
- Space for storage of and/or access to plant records and historical data.
- A separate room for private NRC consultations.

The EOF working space is sized for 45 persons, including federal, state, and local emergency response personnel. The EOF floor space is approximately 3,200 sq. ft.

The EOF has been designed and is equipped to support continuous operations over an extended period of time.

6.4.5 STRUCTURE

The EOF is a well engineered building meeting the Uniformed Building Code. It is designed for the expected life of the plant. The walls and ceilings are approximately eight (8) inches of concrete. The ventilation system and structure are not seismically qualified.

6.4.6 HABITABILITY

The EOF has special shielding and ventilation provisions for habitability. The EOF is shielded to provide a gamma protection factor of ≥ 15 . The dedicated ventilation system has a High Efficiency Particulate (HEPA) filter which filters the incoming air. The ventilation system maintains a slight positive pressure in the EOF.

Should evacuation of the EOF be required, the Alternate Emergency Operations Facility, located in the Daffan Industrial Park on Hwy 51 north of Granbury in Hood County may be used as an alternate location. This facility provides for continuity of EOF dose prediction and decision making functions using a combination of dedicated and portable backup equipment. Radiological assessment activities may be relocated to the state's mobile radiological laboratory.

6.4.7 COMMUNICATIONS

The communication system for the EOF is described in [Section 4.0](#) and [Table 4.1](#).

6.4.8 INSTRUMENTATION, DATA SYSTEM EQUIPMENT, AND POWER SUPPLIES

The EOF Data System is provided as part of the integrated Emergency Response Facility (ERF) Computer System. The ERF Computer System gathers, stores, and displays data needed in the EOF to analyze the plant conditions. The EOF Data System performs its function independent of action in the CR and without degradation or interfering with CR and plant functions. Details of the ERF Computer System are described in FSAR Section III.A.1.2 and the CPNPP DBDs.

6.4.9 RECORDS AVAILABILITY AND MANAGEMENT

The EOF has ready access to plant records, procedures, and emergency plans needed to exercise overall management of CPNPP emergency response resources. The EOF reference material includes:

- CPNPP FSAR
- Plant Technical Specifications
- Operating Instructions, Both Normal and Emergency
- Off-site Population Distribution Data
- Evacuation Plans

6.5 JOINT INFORMATION CENTER

6.5.1 FUNCTION

The function of the JIC is to provide a single contact point at CPNPP for dissemination of emergency related information to the news media.

6.5.2 LOCATION

The JIC is located in Granbury, Texas at the Granbury City Hall, 116 W. Bridge, which is greater than 10 miles from the reactor site.

6.5.3 STAFFING AND TRAINING

Personnel assigned to the JIC are notified at an Alert or higher emergency classification and should activate the facility as soon as possible with a goal of ninety (90) minutes if a Site Area or General Emergency is declared in accordance with Emergency Plan Procedures.

The staffing requirements and responsibilities of JIC personnel are discussed in [Section 1.1.2.2](#). [Table 1.1](#) shows the staffing requirements for emergencies. [Figure 1.6](#) shows an organizational chart of the JIC staff.

Training of JIC staff is referenced in [Section 13.0](#).

6.5.4 SIZE

The JIC is large enough to provide for the following:

- Working space for the personnel assigned to the JIC.
- Space for unhindered access to communications equipment by all JIC personnel.
- Space for accommodating 75 media personnel.

6.5.5 HABITABILITY

There are no special habitability provisions taken for the JIC.

6.5.6 COMMUNICATIONS

The communication system for the JIC is described in [Section 4.0](#) and [Table 4.1](#).

6.6 EMERGENCY RESPONSE FACILITIES RADIOLOGICAL HABITABILITY

In addition to the habitability provisions provided for each facility, the TSC, OSC, and EOF are monitored for airborne radioactivity and external (gamma) radiation.

For radioiodines, portable equipment capable of continuously detecting radioiodine air activity as low as 1.0E-07 microcuries per cubic centimeter ($\mu\text{Ci}/\text{cc}$) is used.

Noble gas (external gamma exposure) is continuously monitored using a gamma detection device set to alarm at a predetermined exposure rate or dose.

6.7 LABORATORY FACILITIES IN EOF-NOSF

The teaching laboratory facility at the EOF-NOSF complex covers approximately 1,200 square feet and is located just outside the main entrance to the EOF.

This teaching laboratory can perform radiological analysis of low activity samples to identify radionuclides and their respective activities. Considerations on the use of the laboratory are discussed in [FSAR section III.D.3](#).

The NOSF is the control point for receipt of field samples.

6.8 OTHER RADIOLOGICAL LABORATORY SUPPORT

In addition to chemical and radiochemical laboratory facilities located at CPNPP, the following resources are available to Luminant Power in support of emergency response activities:

- Texas Department of State Health Services mobile laboratory. (See [Section 1.2.4](#))
- Chemical and radiochemical laboratory facilities of neighboring nuclear utilities as coordinated by INPO.
- Houston Lighting and Power (See [Section 1.2.3](#))

6.9 DECONTAMINATION FACILITIES

The in-plant decontamination facility is described in [FSAR Section 12.5.2.2](#).

An offsite decontamination facility illustrated in [Figure 6.1](#) is located in the Nuclear Operations Support Facility (NOSF) for use during emergency situations. Suitable decontaminants and clothing are provided. Water used for decontamination at the NOSF decontamination facility can be retained in a separate storage tank for later sampling, and if required, processing. Any solid waste generated as a result of decontamination activities shall be introduced into the Station radioactive waste processing system when appropriate.

6.10 ONSITE EMERGENCY AID FACILITIES

Onsite first aid capabilities are described in [Sections 10.2](#) and [10.3](#).

6.11 EMERGENCY EQUIPMENT AND SUPPLIES

Each emergency response facility, as well as local hospitals and the NOSF, is supplied with emergency equipment and supplies suitable to the response expected from that facility. [Section 15.0, Appendix J](#) provides a representative listing of the emergency equipment and supplies maintained.

Inspections of the operational readiness of emergency equipment and supplies are conducted quarterly and after use. Deficiencies noted during inspections are corrected. Use of inspection checklists and follow-up actions ensures that equipment is ready for use. Sufficient reserves of equipment are maintained to replace those undergoing calibration or repair.

6.12 STATE AND LOCAL EMERGENCY OPERATIONS CENTERS

The State of Texas Emergency Operations Center (EOC) is located at Headquarters, Department of Public Safety in Austin. This facility is not continuously staffed. Its activation is at Site Area Emergency or higher classification in accordance with the Texas Emergency Management Plan.

The two county EOC's, within the 10-Mile Emergency Planning Zone, are located in county law enforcement centers. The Hood County EOC is in Granbury and the Somervell County EOC is in Glen Rose. These law enforcement centers are continuously staffed. County EOC activation is at Site Area Emergency or higher classification in accordance with the respective county Manual of Emergency Procedures.

6.13 ASSESSMENT SYSTEMS AND EQUIPMENT

The following paragraphs identify systems and equipment to be used by the CPNPP Emergency Response Organization to assess plant systems status, inplant, onsite and offsite radiological conditions, and overall safety status of the plant.

6.13.1 SAFETY PARAMETER DISPLAY SYSTEM

The Safety Parameter Data System (SPDS) is designed to provide indications to detect the approach to, the existence of, and the recovery from inadequate core cooling. The SPDS also provides a minimum set of parameters from which abnormal plant operating conditions may be quickly assessed. The SPDS data is displayed in the CR, TSC, and EOF.

A detailed description of the SPDS system is given in [FSAR Section III.A.2.1](#).

6.13.2 EMERGENCY RESPONSE FACILITY COMPUTER SYSTEM

See [Sections 6.2.8](#) and [6.4.8](#).

6.13.3 RADIATION MONITORING SYSTEM

The CPNPP Radiation Monitoring System (RMS) is comprised of the following subsystems:

- Area Radiation Monitoring System (ARMS), which continually monitors radiation fields in various areas within the plant. The ARMS is described in [Section 12.3.4](#) of the FSAR.
- Process Radiation Monitoring System (PRMS), which provides a means for assessing radioactivity levels in plant process and effluent streams. The PRMS is described in [Section 11.5.1.2](#) of the FSAR.

The RMS data is displayed in the CR, TSC, OSC, and EOF.

6.13.4 HEALTH PHYSICS INSTRUMENTATION

The CPNPP Radiation Protection Department maintains a supply of health physics laboratory and portable survey equipment. While this equipment is used routinely during normal station operations, it is also available to supplement the emergency response radiological monitoring

equipment. [FSAR Table 12.5-1](#) provides a listing of the health physics laboratory and portable survey equipment routinely maintained at CPNPP.

6.13.5 METEOROLOGICAL MEASUREMENTS PROGRAM

The Meteorological Measurements Program is designed to measure the parameters needed to evaluate the dispersive characteristics of the site for both the routine operational and the hypothetical accidental releases of radionuclides to the atmosphere. The program is described in detail in [Section 2.3.3 of the FSAR](#).

The meteorological data can be displayed in the CR, TSC, and EOF.

The National Weather Service office in Fort Worth is contacted if additional meteorological data or forecasts are required. The National Weather Service also provides back-up meteorological information during emergencies.

6.13.6 SEISMIC INSTRUMENTATION

Seismic instrumentation is provided so that in case of an earthquake, it can be quickly determined whether the OBE has been exceeded and it is required to shutdown both units.

The instrumentation is described in [Section 3.7B.4](#) of the FSAR. A schematic diagram is presented in [FSAR Figure 3.7B-54](#).

Recorded information is available in the CR.

6.13.7 HYDROLOGICAL MONITORING

Hydrological monitoring equipment installed at CPNPP provides data on the water level in Squaw Creek Reservoir. Operations personnel provide this information to the Control Room. Lake level may also be determined using SSI level indication available in the Control Room.

Based on information contained in [Section 2.0](#) of both the CPNPP FSAR and Environmental Report, which discuss low probability of a significant hydrological event occurring within the CPNPP area, the requirement for accessing offsite hydrological monitoring equipment is considered unnecessary.

6.13.8 PROCESS MONITOR INSTRUMENTATION

[FSAR Table 7.2-3](#) lists the principle reactor trip system instrumentation, and [FSAR Table 7.5-1](#) summarizes main control board indications available to CR personnel.

6.13.9 FIRE DETECTION INSTRUMENTATION

A complete description of the CPNPP Fire Protection Program is provided in the [CPNPP FSAR](#), [Section 9.5.1](#), and [Fire Protection Report](#).

6.13.10 ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM

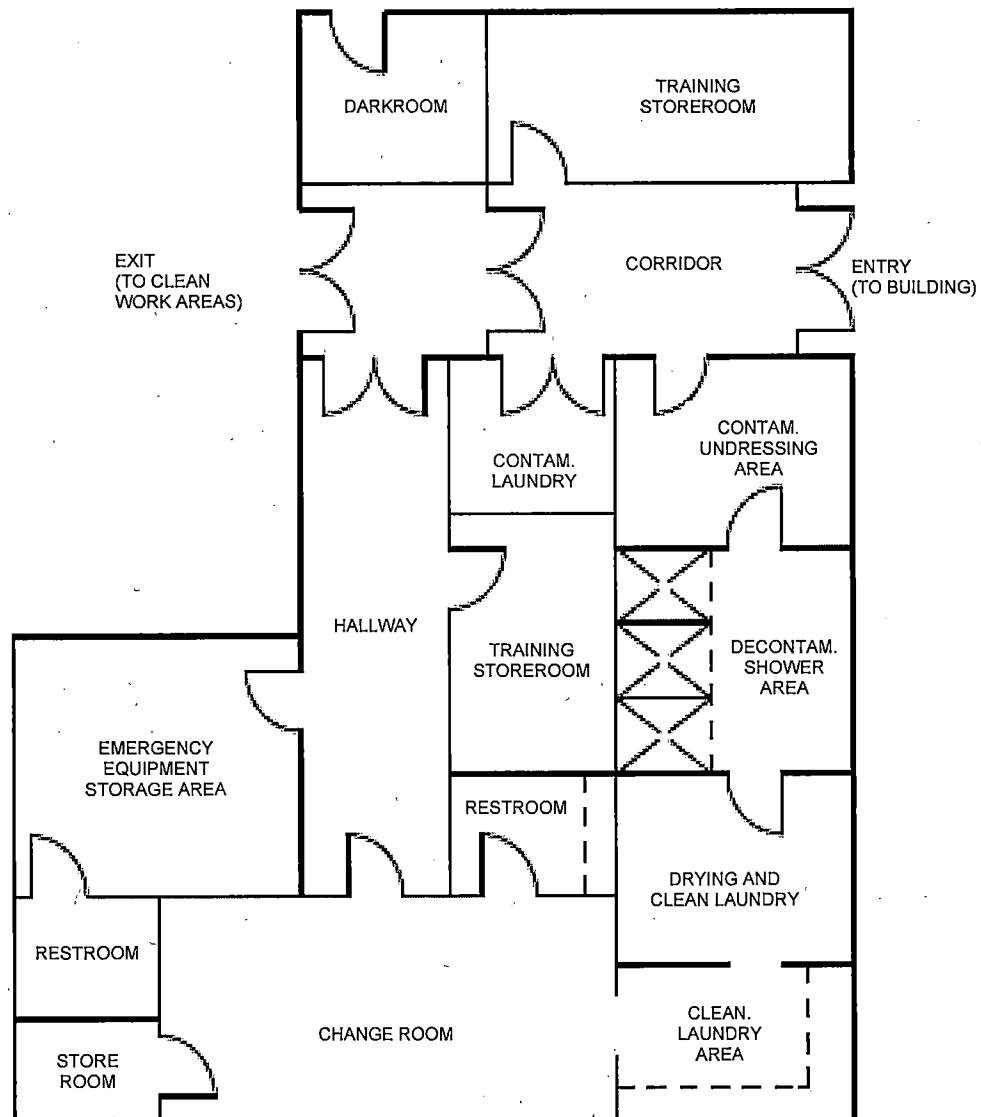
The CPNPP Environmental Radiological Monitoring Program is described in the CPNPP Offsite Dose Calculation Manual.

6.14 ALTERNATIVE FACILITY

The alternative facility is accessible even if the site is under threat of or experiencing a hostile action. The alternative facility provides the following functions:

- Staging area for augmentation of the emergency response staff;
- Communications with the EOF, Control Room and plant security;
- Perform offsite notifications; and
- Engineering assessment activities, including damage control team planning and preparation.

The alternative facility and its location are described in the Emergency Response Facility implementing procedures.



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COMANCHE PEAK NUCLEAR POWER PLANT EMERGENCY PLAN
EMERGENCY OPERATIONS DECONTAMINATION FACILITIES IN THE NUCLEAR OPERATIONS SUPPORT FACILITY
FIGURE 6.1

7.0 ACCIDENT ASSESSMENT

Initial response to an emergency at CPNPP is from the Control Room. Abnormal events observed in or near plant facilities are reported to Control Room personnel, who take appropriate actions to correct the problem. The Control Room staff has numerous assessment tools available to aid in diagnosing problems and to assist in placing the plant in a safe and stable condition.

Primary systems used in assessment of any radiological incident are the Digital Radiation Monitoring System (DRMS) and Emergency Response Facility Computer System (ERFCS). The DRMS and ERFCS are used by the plant operating staff to analyze steady state and dynamic behavior of plant systems and to classify the emergency. Proper assessment and classification of the emergency is important not only to accident mitigation, but also to ensure proper resources and predetermined protective measures are employed to protect plant personnel and the public. Upon recognition of an abnormal or emergency condition, plant operations personnel implement prearranged response procedures. The Control Room staff evaluates conditions and, if appropriate, classifies the emergency into one of four Emergency Classifications. To accomplish this, operational parameters and radiation monitoring instrument readings, or other symptoms indicative of system degradation would be evaluated against the Emergency Action Level criteria. These criteria are provided in the appropriate Emergency Plan Procedures. The Emergency Action Levels provided in these procedures are based on instrument readings or identified abnormal conditions which relate to the classification.

If core damage is suspected, appropriate procedures may be used to estimate the extent of damage. A core damage assessment procedure is provided in the Emergency Plan Procedures.

A contingency sampling plan that may be used post-accident for obtaining potentially useful information about liquids or gases inside containment has been developed and is maintained in Chemistry procedures.

The following provides a general description of the capabilities and resources available to emergency response personnel in evaluating onsite and offsite radiological conditions during an emergency.

7.1 COMPUTER ASSESSMENT OF RADIOLOGICAL CONDITIONS

The DRMS and ERFCS receive data from the Area Radiation Monitoring System (ARMS) and Process Radiation Monitoring System (PRMS). DRMS data provides radioactive materials source term and release rate information.

The ERFCS also collects and stores meteorological data. This data is used by dose assessment personnel to calculate offsite doses which are provided to the Emergency Coordinator to help formulate offsite protective action recommendations.

7.2 CALCULATION OF OFFSITE DOSES

A computer-based dose projection program is used to estimate the offsite consequences of a radiological release from CPNPP to the surrounding public. The dose assessment program is site specific and consists of a straight-line Gaussian plume model for initial dose projections within the Plume Exposure Emergency Planning Zone (EPZ) and a separate segmented-plume model for tracking of wind shifts and plume deposition over portions of the Ingestion Exposure EPZ. This program can use system parameters from the Plant Computer System (PCS),

radiation monitor instrument readings from the Radiation Monitoring System (RMS), or the results from in-plant sampling to estimate the source term and release rate. These values are then used, with meteorological parameters from the PCS, to estimate plume location and calculate projected doses to the public. If system or monitor parameters are unavailable, default or estimated information can be used to generate dose projections. Once information becomes available from the offsite survey teams, this data may be used by the software to update projected doses and plume location based on field observations.

The dose projection program provides terminology and concepts consistent with 10CFR20 requirements and EPA-400 guidance.

Dose projections are used by radiological assessment personnel for development of protective action recommendations, to predict plume location for dispatching and control of Offsite Field Teams, as well as estimating the dose received by persons exposed to the plume. Once field data becomes available from CPNPP onsite radiological survey teams and offsite radiological monitoring teams, projected dose information is reevaluated and protective action recommendations to offsite officials are updated as required.

Computers are provided in the appropriate emergency facilities to enable backup means of performing dose assessment. Wall maps of the area which are used for plume tracking and field team placement are maintained in the TSC and EOF. Wall maps are not available in the Control Room, since it is not likely Control Room personnel would be directing field teams.

7.3 ONSITE AND OFFSITE RADIOLOGICAL CONDITIONS

In the event of an uncontrolled release of radioactive materials, the protection of onsite personnel shall be given as high a priority as is given for protection of the general public. A release to the environment is normally monitored by permanently installed, real-time monitoring instruments located at effluent release points. Information from these monitors will be used to predict onsite and offsite radiological conditions, thus reducing the potential for unexpected or unnecessary exposure to radiation. Radiation hazards within plant structures are also monitored by area radiation monitors which provide data regarding specific areas of the plant to the plant staff. To further aid in assessing potential onsite radiation hazards, in-plant and onsite radiological survey activities will be conducted to determine whether additional protective actions should be taken for protection of personnel remaining on site.

7.3.1 ONSITE RADIOLOGICAL ASSESSMENT

Initially, during an emergency condition, the on-shift Radiation Protection and Chemistry Technicians perform onsite and in-plant radiological assessment, and sampling activities, respectively, as directed by the Shift Manager.

Once the TSC is activated, responsibilities for onsite and offsite radiological assessment and survey activities shall be assumed by the TSC Onsite Radiological Assessment Coordinator. As CPNPP Emergency Organization personnel become available, onsite radiological survey teams shall be formed as required and dispatched from the OSC. Onsite Survey Teams initially shall be composed of at least two members, at least one of which shall be a Radiation Protection technician. The Onsite Survey Team(s) perform required onsite and in-plant surveys in accordance with approved Emergency Plan Procedures.

Once the EOF is activated, overall responsibility for offsite radiological assessment shall be assumed by the EOF Radiation Protection Coordinator.

Communications between the Control Room, TSC, OSC, EOF and the Onsite Survey Team(s) shall be conducted in accordance with [Section 4.0](#) of this plan.

Transportation for Onsite Survey Team(s) is provided in accordance with Emergency Plan Procedures. Based on arrival time(s) of CPNPP Emergency Organization personnel, Onsite Survey Teams should be deployed within 15 to 30 minutes after arrival on site. Deployment time may vary due to duration of onsite briefing session, time required to obtain protective clothing and equipment and time required to prepare for entry into plant environs.

7.3.2 OFFSITE RADIOLOGICAL ASSESSMENT

Once the EOF is activated, the EOF Radiation Protection Coordinator assumes responsibilities for coordinating offsite radiological assessment and monitoring activities. Each Offsite Radiological Monitoring Team should be composed of at least two members, one of which shall be trained and qualified to perform monitoring activities.

In the event that dose projection or onsite monitoring results indicate the potential for radioactivity release with offsite dose consequences, a Radiological Offsite Monitoring Team can be dispatched. Deployment time for the first offsite team dispatched is estimated to be within 60 to 90 minutes of an Alert or higher classification. This time includes team arrival, equipment check out and receiving a brief on expected radiological conditions.

The EOF Radiation Protection Coordinator and his staff dispatch Offsite Radiological Monitoring Teams to preselected points in affected downwind sectors. Offsite environmental monitoring locations are identified in Plant Procedures. At preselected points, the team should perform external dose measurements, obtain air samples, determine contamination levels and obtain vegetation and liquid samples as required. From this point the team can be moved to determine the plume boundary, centerline of the plume and other factors necessary to determine impact of the release on the public and environment. This monitoring shall continue, as required, during the emergency so the need for protection measures can be quickly assessed.

Communications between the OSC, EOF, and Offsite Monitoring Teams shall be conducted in accordance with [Section 4.0](#) of this plan.

Transportation for Offsite Radiological Monitoring Teams shall be provided in accordance with Emergency Plan Procedures. Deployment times may vary due to duration of the onsite briefing session, time required to obtain protective clothing and equipment and time to check equipment, if required.

CPNPP Offsite Radiological Monitoring Teams shall be equipped with two-way radios, survey equipment, including dose rate meters and air samplers, protective clothing and other equipment needed to evaluate radiological hazards under emergency conditions. This equipment shall allow for field evaluation of air samples and detection of radioiodine concentrations as low as 1×10^{-7} uCi/cc.

8.0 PROTECTIVE RESPONSE

Protective response represents actions taken for emergency workers and the public based on the emergency classification and the resulting assessment of plant status and radiological conditions. Guidelines for the choice of protective actions are provided in this section, including methods to notify the population-at-risk of the emergency.

8.1 ONSITE PROTECTIVE ACTIONS

Onsite plant personnel and visitors are warned of an emergency at CPNPP by announcements and alarms broadcast over the plant page-party system.

Personnel arriving or remaining onsite are to be notified of protective measures and shall be provided protective equipment, as necessary, depending on the actual radiological conditions existing during the emergency.

8.1.1 EVACUATION

During an emergency at CPNPP, the Emergency Coordinator may choose to evacuate certain areas, buildings, or the entire site. This decision to evacuate is made by the Emergency Coordinator based on the action that presents the least risk to non-essential personnel.

During an area or building evacuation, non-essential personnel should leave the affected area or building and report to the designated assembly area. Designated assembly areas include:

- Containment Building - shield wall outside containment hatch
- Radiation Controlled Area (RCA) - outside access control
- Protected Area (PA) - outside the Primary and/or Alternate Access Points

Personnel in buildings outside the Protected Area should use normal fire evacuation assembly areas.

During all evacuations, visitors are to remain with their escort until they are outside the affected area.

At a SITE AREA EMERGENCY classification or above, the Emergency Coordinator should order a site evacuation. This site evacuation includes the Exclusion Area, Squaw Creek Park, and Squaw Creek Reservoir. Should a site evacuation be ordered, non-essential personnel shall depart the site, preferably using normal site egress routes, as directed by the Emergency Coordinator. Personnel with Emergency Organization assignments shall report to their designated Emergency Response facility, unless otherwise directed.

During a site evacuation, station security personnel shall control access to the exclusion area.

8.1.2 ACCOUNTABILITY

Security is responsible for an initial accountability of all personnel within the Protected Area within approximately 30 minutes after the evacuation alarm has sounded. Security shall report

results of the initial accountability and attempt to locate missing personnel as specified by plant procedures.

After initial accountability, continuous accountability should be maintained in each onsite facility.

8.1.3 MONITORING OF EVACUEES

During a site evacuation, if the evacuees are potentially contaminated, the Emergency Coordinator should direct evacuees to proceed for radiological monitoring at an offsite Reception Center. At this center, evacuees are logged in/out, monitored for contamination, and decontaminated if required.

8.1.4 RESPIRATORY PROTECTION

During an emergency, air sampling is performed throughout the site area to ensure protective measures are implemented in a timely manner. These protective measures may include external exposure thresholds, DAC-hr tracking, ingestion of radioprotective drugs, relocation, respiratory protective equipment, or a combination of the above. Respiratory protective equipment is available onsite for issue in accordance with Radiation Protection procedures.

8.1.5 PROTECTIVE CLOTHING

Protective clothing is available from storage areas and Radiation Protection supplies located throughout the site. This clothing is standard anti-contamination clothing and includes coveralls, hoods, gloves, and boots.

8.1.6 RADIOPROTECTIVE DRUGS

A thyroid blocking agent such as Potassium Iodide (KI), supplied at various strategic onsite and offsite locations, shall be offered to CPNPP emergency response personnel in accordance with an Emergency Plan Procedure. Quantities of KI supplied at the onsite and offsite locations shall be maintained in accordance with provisions of [Section 15, Appendix J](#). State or local government emergency plans and procedures describe KI use respective to offsite personnel.

8.2 OFFSITE PROTECTIVE ACTIONS

Personnel and visitors offsite, but within the owner-controlled area, are warned of an emergency by the Security Organization or by Squaw Creek Park personnel in accordance with the Squaw Creek Park Emergency Plan. Security personnel are notified of the emergency by Control Room personnel as described in [Section 3.1](#). Squaw Creek Park personnel are notified of the emergency by the CPNPP Security organization in accordance with Security procedures.

Protective action recommendations (PARs) are formulated during an emergency by CPNPP personnel and are included in notifications to offsite authorities as specified in [Section 3](#). These PARs are based on either existing plant conditions or projected offsite doses, and are updated as conditions warrant.

Offsite protective actions are then directed and implemented by State and local authorities based on the recommendations and information supplied by CPNPP.

Specific protective actions to be recommended are based on the guidance of the EPA's "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents."

8.2.1 EMERGENCY PLANNING ZONES

Emergency Planning Zones (EPZ) have been established surrounding CPNPP for planning purposes in the event of an accidental release of radioactive material from the site.

The Plume Exposure EPZ, or 10 mile EPZ, is divided into 22.5 degree sectors and concentric circles of one (1) mile increments. It is subdivided into Emergency Response Zones (ERZ), including separate zones for Glen Rose and Tolar.

A map of the Plume Exposure EPZ and its ERZs is contained in [Section 15, Appendix F](#). Protective actions are recommended to State and local authorities based on the affected ERZs.

The Ingestion Exposure EPZ, or 50 mile EPZ, is divided into 22.5 degree sectors and concentric circles of ten (10) mile increments. A map of the Ingestion Exposure EPZ is contained in [Section 15, Appendix G](#).

8.2.2 EVACUATION TIME ESTIMATES

Time estimates have been developed for evacuation of the Plume Exposure EPZ. The evacuation plan is included in the local County plans. It is the responsibility of the local authorities to execute the evacuation plan.

9.0 RADIOLOGICAL EXPOSURE CONTROL

During an emergency at CPNPP, applicable Emergency Plan Procedures shall be used. These procedures specify responsibilities and actions of the Emergency Coordinator, EOF Radiation Protection Coordinator and TSC Onsite Radiological Assessment Coordinator regarding use of high range dosimeters, processing frequency of dosimetry, and criteria which allows emergency response personnel to receive radiation exposure in excess of limits set forth in 10 CFR, Part 20. Unless a lifesaving or urgent plant emergency condition requires a planned overexposure, all emergency response activities shall be performed so as not to exceed exposure limits established in 10 CFR, Part 20. Radiation Protection procedures governing frequency of dosimeter evaluation and maintenance of exposure records exist for routine operations. These procedures discuss proper use of self-reading dosimeters and establish frequency and criteria for TLD Badge evaluation.

Routine TLD Badge processing is accomplished by Radiation Protection personnel shipping TLD Badges to the processing vendor. The processing results are transmitted to CPNPP Radiation Protection for update of the record management computer. During emergency conditions Radiation Protection personnel shall be assigned to support 24-hour-per-day operation of shipping TLD Badges to the processor and updating the electronic results to a records management computer, if required.

Use of self-reading dosimeters permits timely tracking of personnel exposures. Decisions related to planned overexposure, TLD Badge processing and exposure extensions are based on each individual's current exposure history and self-reading dosimeter data. Personnel exposure history records are available to all emergency facility personnel.

9.1 EMERGENCY EXPOSURE CRITERIA

CPNPP utilizes emergency exposure criteria recommended by the Environmental Protection Agency (EPA) and published in the "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents." The EPA guidelines were selected over the NCRP Report No. 39 ("Basic Radiation Protection Criteria") because of the more conservative nature of the EPA guidelines. Exposure guidelines provided in the EPA Manual shall be followed and doses to emergency response personnel shall be held to the lowest practical levels. Only the Emergency Coordinator may authorize emergency workers to receive doses in excess of 10 CFR, Part 20 limits. If time permits, the Emergency Coordinator or Radiation Protection Coordinator shall discuss rationale for exceeding 10 CFR, Part 20 limits with NRC representatives.

For lifesaving actions the following shall apply:

- a. Rescue personnel should be volunteers or professional rescue personnel.
- b. Rescue personnel should be familiar with consequences of exposure to radiation.
- c. Women capable of reproduction should not take part in these actions.
- d. Volunteers 45 or older, if available, should be selected.
- e. Planned individual emergency dose should not exceed 25 rems.

- f. Internal exposure should be minimized (as long as total effective dose equivalence is maintained ALARA) by using best available respiratory protection, and contamination should be controlled by use of available protective clothing.
- g. Normally, exposure under these conditions shall be limited to once in a lifetime.
- h. Persons receiving exposures as indicated above should be advised to avoid procreation for a period up to a few months.

For actions in less urgent emergency situations, where it is necessary to enter a hazardous area to protect facilities and equipment, eliminate further escape of effluents, or to control fires, the following shall apply:

- a. Persons performing planned action should be volunteers familiar with consequences of exposure to radiation and with task to be performed.
- b. Women capable of reproduction shall not take part in these actions.
- c. Planned individual emergency dose should not exceed 10 rems.
- d. Planned individual hands and forearms dose should not exceed 100 rems.
- e. Internal exposure shall be minimized (as long as total effective dose equivalence is maintained ALARA) by use of respiratory protection and contamination controlled by use of protective clothing.
- f. Normally, exposure under these conditions shall be limited to once in a lifetime.

9.2 CONTAMINATION CONTROL

Results of onsite and offsite contamination surveys, performed in accordance with approved Emergency Plan Procedures, shall be used as the basis for determining and posting radiologically controlled areas. Posting of a controlled area shall be accomplished in accordance with Radiation Protection Instructions.

Whenever ground or surface contamination levels in unrestricted areas exceed 1,000 DPM per 100 cm² Beta-Gamma removable within the Exclusion Area Boundary, but outside the Radiation Controlled Area, that contaminated area shall be isolated and treated as a radiation controlled area. Appropriate radiological protection and access control measures shall be implemented as described in Radiation Protection Instructions. In the event contamination levels in a radiation controlled area exceed 1000 DPM per 100 cm² Beta-Gamma removable, decontamination or other necessary protective actions shall be considered. Return of the affected area to normal use shall be permitted when contamination levels have been reduced to unrestricted area levels.

To ensure onsite personnel do not receive excess exposure via the ingestion pathway, drinking water and food supplies that have been outside the Control Room ventilation envelope and within a Radiation Controlled Area shall not be consumed without being surveyed by Radiation Protection personnel.

DECONTAMINATION

Decontamination shall be directed by personnel trained in radiation protection practices. Decontamination shall be performed in accordance with approved Emergency Plan Procedures and Radiation Protection Instructions. Emergency Plan Procedures prescribe that personnel decontamination is deemed necessary if contamination levels are found to be in excess of 1000 DPM per probe area (using a Ludlum Model HP-210 probe or equivalent in a low background area [<100 cpm]). Approved Emergency Plan Procedures and Radiation Protection Instructions list decontamination methods and techniques as well as actions to be taken in the event of severe skin contamination or suspected internal contamination.

Decontamination facilities are available and are described in [Section 6.9](#).

Decontamination of personnel, equipment and areas depends on conditions at the time. Personnel decontamination is given first priority to minimize exposures and to release individuals as soon as possible back to the work force. Equipment and areas are decontaminated as conditions permit, with priority given to equipment or areas essential to recovery activities.

During an emergency, areas of the Station which are normally considered unrestricted access areas may become contaminated and as such shall be considered radiation controlled areas. Radiation Protection personnel should survey the Station and make changes as necessary during the course of the emergency. If the immediate area around the Station is contaminated, then a radiation controlled area access point may be established at the NOSF. The decontamination facility at the NOSF would then be used as required to decontaminate personnel leaving the Station.

RADIOACTIVE WASTE

Because of decontamination activities, limited amounts of radioactive waste may be generated or accumulated by the hospital, ambulance or other emergency response functions and may be brought to the NOSF Laboratory Facilities for temporary storage. As conditions permit, this radioactive waste shall be returned to the Station for processing.

10.0 MEDICAL AND PUBLIC HEALTH SUPPORT

10.1 HOSPITAL AND MEDICAL SUPPORT

Two area hospitals are equipped and their personnel have been trained to care for contaminated injured personnel or radiological overexposure requiring medical evaluation. A third area hospital is available to handle personnel with non-contaminated injuries. Medical services beyond the capabilities of the area hospitals (e.g., expertise, specialized support, or definitive care) may be provided by other institutions depending on the circumstances of the medical/radiological emergency.

The area hospitals are listed in [Section 15.0, Appendix H](#).

10.2 ONSITE FIRST AID

A first aid station is maintained onsite and is equipped with standard supplies such as bandages, splints and stretchers. Pre-staged equipment for responders is located at the primary RCA access and Fire Brigade assembly areas. First aid kits with basic supplies are located throughout CPNPP. Eyewash stations are located throughout the plant at strategic locations.

Selected CPNPP personnel are trained to provide basic first aid and patient preparation for onsite personnel who become injured or ill. A number of CPNPP employees have also received basic first aid training and are capable of rendering first aid to injured or ill personnel. In addition, selected CPNPP Emergency Response Organization personnel receive annual instruction in handling injured, contaminated individuals.

10.3 TRANSPORTATION OF INJURED TO OFFSITE FACILITIES

A vehicle is available to transport injured personnel to the appropriate medical facility. Agreements with local ambulance services (see [Section 15 Appendix H](#) for a list) provide assistance as needed. Any injured and contaminated individual transported from CPNPP is accompanied by a Radiation Protection Technician who is equipped with suitable radiological monitoring equipment. Via the ambulance radio, any ambulance should be able to communicate with the staff at the receiving hospital. Should care beyond the capabilities of the area hospitals be required, arrangements for transporting the individual are made contingent on the injuries and radiological conditions.

11.0 REENTRY AND RECOVERY

Once the emergency has subsided at CPNPP and the situation is no longer considered a threat to onsite personnel or the general public, efforts shall be initiated to restore the affected unit(s) to full operation or place the affected unit(s) in a long-term safe shutdown condition until full operation can be resumed. The scope of these efforts depends on severity of the emergency, ranging from a simple close-out to a full-scale mobilization of personnel and resources to support a long-term recovery effort. If a recovery effort is deemed necessary, the CPNPP Recovery Organization shall be established to ensure personnel and resources are properly applied to that effort.

Transition from the CPNPP Emergency Organization to the CPNPP Recovery Organization is dictated by severity of the emergency. Once the Emergency Coordinator has established that conditions have subsided, he and other appropriate Luminant Power personnel assess the need for initiating a recovery effort. Emergency Plan Procedures describe the process by which Luminant Power management decides when an event should be closed out and the CPNPP Recovery Organization established. State and county emergency response organizations and the NRC shall be notified prior to initiating recovery phase.

If established, overall technical direction and control of the CPNPP Recovery Organization is assumed by the Recovery Manager. The CPNPP Recovery Organization absorbs the existing CPNPP Emergency Organization. Management of all activities conducted from the EOF, as well as direction and control of the CPNPP Emergency Organization, is assumed by the Recovery Manager. During the recovery phase, CPNPP Emergency Organization personnel continue their functional assignments. As appropriate, the TSC or EOF Communications Coordinator ensures supporting emergency response organizations are informed of the change in Station status and of the CPNPP organizational transition. Emergency Plan Procedures delineate requirements and actions to be taken for recovery phase activities, including transition to the CPNPP Recovery Organization.

Recovery operations include evaluation of historical and real-time data and reports, verification of system/equipment status and alignment, selection of proper corrective action and restoration activities, and acquisition of equipment and personnel to accomplish those activities.

Reentry into environs of the Station by selected personnel is one of the most important sources of information available to the CPNPP Recovery Organization. These activities should aid in ascertaining the resources, manpower and recovery actions necessary to restore the Station to operational status.

The Emergency Coordinator (or Recovery Manager) has the responsibility for authorizing initial reentry into an area previously evacuated for radiological reasons. Reentries shall be made and exposure guidelines established in accordance with criteria established in Emergency Plan Procedures. These procedures provide specific instructions and criteria for exposure control and, if necessary, a planned overexposure. All efforts shall be made to keep exposures as low as reasonably achievable (ALARA).

11.1 CPNPP RECOVERY ORGANIZATION

The Recovery Organization is composed of CPNPP personnel; Luminant Power resources are available as necessary. Contract personnel are used as needed to expand the capabilities of Luminant Power personnel. Since the magnitude of any recovery effort is dependent on the scope of the event, CPNPP Recovery Organization staffing requirements are difficult to predict in

advance; therefore, this plan only predesignates certain management level positions in the CPNPP Recovery Organization. Managers form their respective groups as appropriate to deal with recovery.

The basic CPNPP Recovery Organization is illustrated in [Figure 11.1](#).

11.1.1 CPNPP RECOVERY ORGANIZATION -- FUNCTIONAL RESPONSIBILITIES

11.1.1.1 RECOVERY MANAGER

A member of senior CPNPP management is designated as the Recovery Manager and is responsible for directing actions of the CPNPP Recovery Organization.

Responsibilities and authorities assigned to the Emergency Coordinator in [Section 1.0](#) of this plan are transferred to the Recovery Manager when the CPNPP Recovery Organization is formed, thus assuring continuity of resources, communications and other activities initiated by the CPNPP Emergency Organization.

11.1.1.2 OPERATIONS SUPPORT

Operations Support personnel are responsible for analysis and development of plans and procedures in direct support of operations with the objective of restoring the Station to operational status. Their primary responsibilities include:

- a. Providing direct support to shift operations.
- b. Analyzing instrument and control problems and developing modification and repair plans.
- c. Analyzing conditions and developing guidance for shift operations personnel regarding core protection.
- d. Developing out-of-normal and emergency procedures for operations support.

11.1.1.3 TECHNICAL SUPPORT

Technical Support personnel are responsible for:

- a. Determining need for and providing engineering and technical specialists to support other managers as required.
- b. Assuring design activities are adequately staffed and equipped to provide timely support.
- c. Providing direct interface between CPNPP personnel and others on administrative matters.
- d. Directing, coordinating and approving all engineering and design activities conducted on site during recovery.
- e. Developing any required modifications for radwaste systems in support of recovery operations.

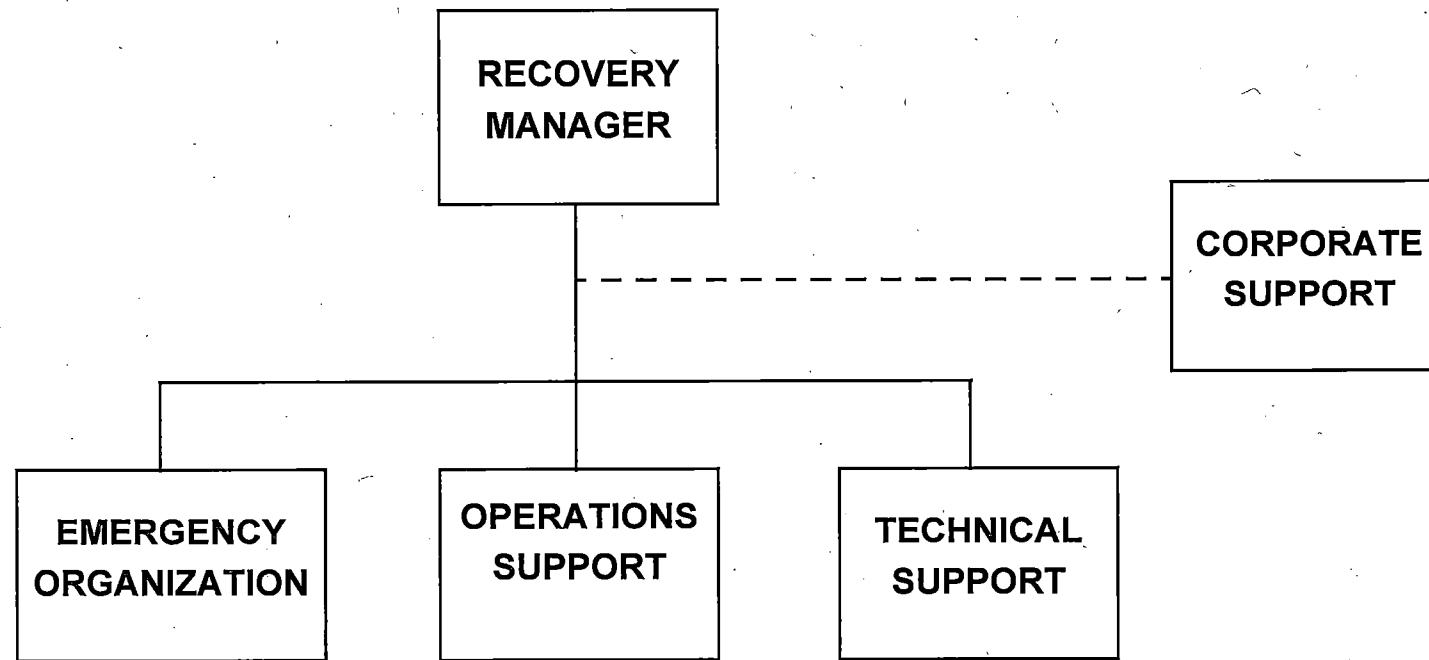
- f. Providing technical expertise for Station repair and modification activities in support of the resolution of mechanical and electrical problems.
- g. Providing qualified personnel to augment emergency repair and damage control teams.

11.1.1.4 CORPORATE SUPPORT

Luminant Power resources and personnel are available upon request by the Recovery Manager. These resources are discussed in [Section 1.2](#) of this plan.

11.2 ESTIMATING TOTAL POPULATION EXPOSURE

The State oversees this activity. It is conducted in accordance with procedure 22 of appendix 7 of the Texas Radiological Emergency Management Plan.



Revision 37

COMANCHE PEAK NUCLEAR POWER PLANT EMERGENCY PLAN
CPNPP RECOVERY ORGANIZATION
FIGURE 11.1

12.0 EXERCISES AND DRILLS

Emergency preparedness exercises are conducted to evaluate the integrated capability and a major portion of basic elements of the utility's overall emergency response. Drills are conducted to develop and maintain key skills, to evaluate segments of overall emergency response and to periodically confirm availability and operability of emergency equipment. Exercises and drills shall be conducted in accordance with NRC and FEMA rules (10 CFR, Part 50.47 and 44 CFR, Part 351) and approved Emergency Plan Procedures.

12.1 EXERCISES

Exercises are conducted to test adequacy of timing and content of implementing procedures and methods, emergency equipment and communication networks, and the public notification system, and ensure emergency organization personnel know their duties.

At least once every two (2) years, an exercise will be conducted involving full participation of local response organizations and at least partial participation of state organizations. The state fully participates with CPNPP at least once every four (4) years. Other exercises (or drills) should be conducted at least annually to test integrated portions of emergency response capabilities.

12.2 DRILLS

Drills for testing, developing and maintaining emergency response skills are conducted periodically at CPNPP. Drills are also used to evaluate emergency response personnel and allow for hands-on training. The drills should follow preplanned scenarios developed to thoroughly test response of personnel involved. During drills, if appropriate, on-the-spot correction of incorrect performance should be made and demonstration of proper performance offered by the drill controller. State personnel should periodically participate in radiological monitoring and health physics drills. The following drills are required:

12.2.1 COMMUNICATIONS DRILLS

Communications links between CPNPP, the DPS, and Hood County and Somervell County Emergency Operations Centers shall be tested monthly. Communications between CPNPP, state and federal agencies shall be tested quarterly. Communications between CPNPP, state and local Emergency Operations Centers and radiological monitoring teams shall be tested annually. Communications drills shall also address the aspect of understanding messages.

12.2.2 FIRE DRILLS

Fire drills shall be conducted in accordance with requirements of TRA-104, "Fire Protection Training." The Somervell County Volunteer Fire, Rescue, and EMS Service shall be invited to participate annually in one of the periodic drills.

12.2.3 EMERGENCY MEDICAL DRILLS

Offsite ambulance and medical support services participate in an annual drill, and may participate in conjunction with a CPNPP exercise.

12.2.4 RADIOLOGICAL MONITORING DRILLS

Station personnel assigned to radiological monitoring teams shall participate in annual drills to prepare them to perform air sampling and beta-gamma exposure rate determinations within the 10-Mile Emergency Planning Zone during the Plume Exposure Pathway phase. These drills shall include provisions for communications and record keeping.

Station personnel assigned to radiological monitoring teams should participate in drills to collect environmental samples such as soil, water, and vegetation. These drills maintain station personnel capable to assist, if necessary, state agencies during the Ingestion Pathway phase.

12.2.5 HEALTH PHYSICS DRILLS

Health physics drills shall be conducted semi-annually and involve response to and analysis of simulated elevated airborne and liquid samples and direct radiation measurements in the environment.

12.3 DRILL AND EXERCISE SCENARIOS

Drill and exercise scenarios are developed to provide a method to test and evaluate the CPNPP Emergency Preparedness Program. These scenarios are designed to allow free play in decision-making and shall include, as appropriate:

- a. Basic objective(s) of each drill and exercise, and appropriate evaluation criteria;
- b. Date(s), time period(s), location(s) and participating organizations;
- c. Simulated events;
- d. Time schedule of real and simulated initiating events;
- e. Narrative summary describing conduct of the exercise or drill which addresses simulated casualties, offsite fire department assistance, rescue of personnel, use of protective clothing, deployment of radiological monitoring teams, public-information activities; and
- f. Description of arrangements for and advance materials to be provided to official observers.

The Emergency Planning Group is responsible for developing drill objectives, exercise objectives, and developing exercise scenarios. Scenarios and objectives developed for those exercises or drills requiring NRC and/or FEMA evaluation shall be approved by the Plant Manager* and submitted to the NRC and/or FEMA for review and approval.

12.4 CRITIQUE OF DRILLS AND EXERCISES

Drills and exercises provide the principal means for assessing effectiveness of the CPNPP Emergency Plan, its implementing procedures, and the state of emergency preparedness of personnel and equipment. As soon as possible after an exercise or drill, a critique is conducted to evaluate performance and lessons learned as a result of that activity. Objectives of the critique session are to evaluate emergency response of participating personnel, to assess

* See FSAR Section 13.1.

adequacy of dedicated emergency equipment, and to identify deficiencies in the CPNPP Emergency Plan and Emergency Plan Procedures. The critique compares observed emergency response of participants with response anticipated in the drill/exercise scenario. The critique, as appropriate, includes discussion of acceptable and unacceptable emergency responses, observed deficiencies and recommended corrective actions.

The Emergency Planning Group is responsible for conducting exercise critiques and for preparing a written summary of each exercise critique. This summary should include objectives of the exercise, list of participants, controllers, evaluators, observers and a list of identified deficiencies. This summary shall be provided to the Emergency Planning Manager. He is responsible for ensuring appropriate changes are incorporated in the CPNPP Emergency Plan and Emergency Plan Procedures.

In addition, the NRC/FEMA critique of the exercise may result in recommendations or requirements to Luminant Power for improving emergency preparedness at CPNPP. The Plant Manager* shall be responsible for ensuring Luminant Power compliance to such requirements. The Emergency Planning Manager is responsible for incorporating appropriate changes to the CPNPP Emergency Plan and Emergency Plan Procedures.

For each drill, the drill evaluator is responsible for preparing a written summary of the critique. This summary should include a list of participants, controllers, evaluators, observers and observed deficiencies. This summary shall be provided to the Emergency Planning Manager. He is responsible for ensuring appropriate changes are incorporated in the CPNPP Emergency Plan and Emergency Plan Procedures.

* See FSAR Section 13.1.

RADIOLOGICAL EMERGENCY RESPONSE TRAINING

The Emergency Response Organization (ERO) training program is described in TRA-105, "Emergency Preparedness Training". Instructions for personnel who routinely visit or are assigned to the site are provided in site access training.

Personnel not assigned to the CPNPP Emergency Response Organization receive information on reporting emergencies and expected actions in case of an emergency.

Personnel assigned to the CPNPP Emergency Response Organization receive initial training to qualify them for their respective position. This training consists of an overview of the CPNPP Emergency Plan, followed by specific position training (as applicable). Specific position training consists of:

- Accident Classification
- Dose Assessment and Projections
- Emergency Communications - Notifications
- Onsite Protective Actions
- Onsite and offsite Radiological Monitoring
- Protective Action Recommendation
- Facility/Position Walkdowns
- Medical Support

Personnel attend annual retraining to maintain their qualification.

Training is provided to the CPNPP Fire Brigade. This training is coordinated by the Nuclear Training Manager, and addresses methods and equipment used for fighting various types of fires that could occur onsite. Appropriate emphasis is placed on radiological aspects of fire fighting.

Security training is conducted by the CPNPP Security Department and is coordinated by the Security Manager. Training is provided to all security personnel based on each person's specific tasks. Appropriate emphasis is placed on emergency response required within radiologically controlled environments.

Training is offered to offsite emergency response organizations who may be called upon to help in an onsite emergency. Retraining is offered to the offsite emergency response organizations annually.

Emergency response training provides for formal critiques in order to identify areas that need correction. Formal critiques may be, but not limited to, any of the following:

- trainee exams
- self assessments
- reports (drill, exercise, and audit)
- trainee feedback

Personnel assigned to the Emergency Planning group are required to maintain proficiency in various facets of emergency preparedness. As a means of maintaining that proficiency, members may participate in activities such as drills and exercises, assist visits to other nuclear facilities, workshops and seminars, and formal training courses.

The Plant Manager* has overall responsibility for the emergency preparedness program and shall approve changes to the Emergency Plan. The Station Operations Review Committee (SORC) shall review changes to the Emergency Plan and submit recommended changes to the Operations Review Committee (ORC). The Emergency Planning Manager shall approve the Emergency Plan Procedures and is responsible for maintenance and coordination of the emergency preparedness program and training of the Emergency Response Organization (ERO).

Review of the Emergency Plan is on an annual basis. The review includes consideration of items identified during drills and exercises that could affect the Emergency Plan. The emergency action level procedure is reviewed annually with the State and local county governmental agencies. Review of the Emergency Plan Procedures is at least biennially. Copies of the Emergency Plan and Emergency Plan Procedures are distributed to the appropriate individuals and organizations with emergency response/planning responsibilities. These documents are controlled and changed/revised in accordance with station administrative procedures. Telephone numbers maintained for emergency response shall be reviewed and updated quarterly as necessary.

Section 15 of this plan maintains a list of the Emergency Plan Procedures with the corresponding plan section(s) and a list of organizations who provide support during an emergency. The letters of agreement with these organizations are maintained in the Emergency Planning office, and are reviewed annually.

An independent review of the emergency preparedness program shall be conducted at least every 24 months. An independent review shall also be conducted as necessary based on assessment by Luminant Power against performance indicators or after identifying a program change occurring that potentially could adversely affect emergency preparedness. In the latter case, the review shall be conducted as soon as practical but no later than 12 months after the change occurs. Independent reviews are reported to the appropriate company management personnel and governmental organizations.

* See FSAR Section 13.1.

15.0 APPENDICES

- A. CPNPP Shift Crew Chart
- B. Time/Distance/Dose (Thyroid) Curve for LOCA Condition at CPNPP
- C. Time/Distance/Dose (Whole body, Gamma) Curve for a LOCA Condition at CPNPP
- D. Time/Distance/Dose (Whole body, Total) Curve for a LOCA Condition at CPNPP
- E. CPNPP Complex and Owner Controlled Area
- F. CPNPP 0-10 Miles
 - 1. Demographic Information Map
 - 2. Area Map
- G. CPNPP 10 - 50 Mile Map
- H. List of Letters of Agreement and Supporting Emergency Plans
- J. Emergency Equipment and Supplies
- K. List Of Emergency Plan Procedures
- M. CPNPP Evacuation Time Estimates and Staffing Estimates
- N. Emergency Planning Zone (EPZ) Evacuation Time Estimates
- P. Cross Index to NUREG-0654
- Q. Definitions
- R. (Removed From CPNPP Emergency Plan)
- S. Corporate Emergency Management Plan

Note: The letters "I," "L," and "O" are not used as appendix designators.

Appendix A

CPNPP Shift Crew Chart

See FSAR Section 13.1.2.3 and

FSAR Table 13.1-2.

Appendix B
Time/Distance/Dose (Thyroid)
Curve for LOCA Condition at CPNPP

THIS APPENDIX HAS BEEN DELETED

Appendix C
Time/Distance/Dose (Whole body, Gamma)
Curve for a LOCA Condition at CPNPP

THIS APPENDIX HAS BEEN DELETED

Appendix D

Time/Distance/Dose (Whole body, Total)

Curve for a LOCA Condition at CPNPP

THIS APPENDIX HAS BEEN DELETED

Appendix E
CPNPP Complex and
Owner Controlled Area

FIGURE E.1
OWNER CONTROLLED AREA & EXCLUSION AREA BOUNDARY

(Figure not in electronic file)

[Click here to see the figure](#)

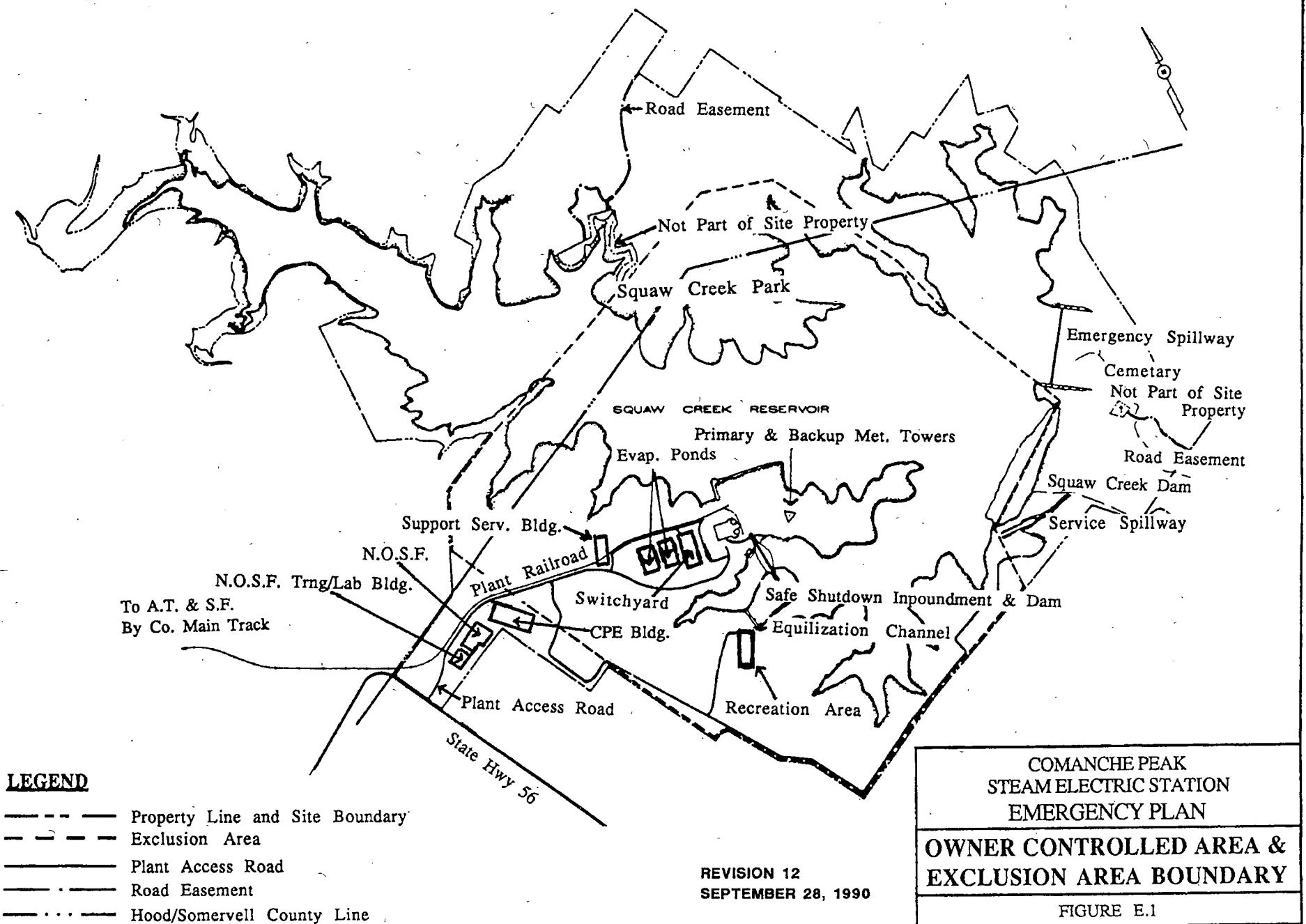
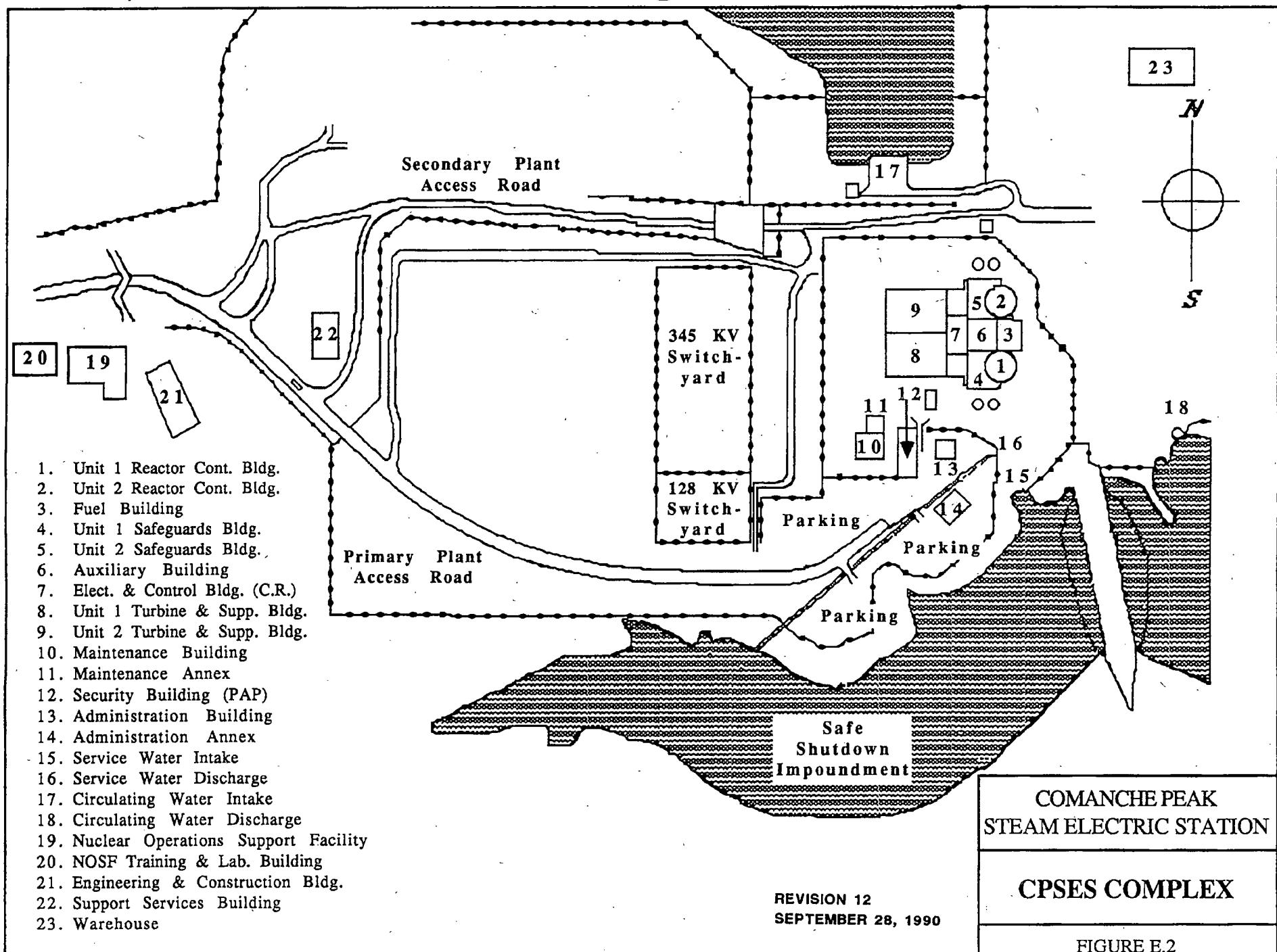


FIGURE E.2
CPNPP COMPLEX

(Figure not in electronic file)

[Click here to see the figure](#)



Appendix F

CPNPP 0-10 Miles

1. Demographic Information Map

2. Area Map

SECTOR DESIGNATORS

<u>Section Designators*</u>	<u>Centerline of Sections</u>
A	N
B	NNE
C	NE
D	ENE
E	E
F	ESE
G	SE
H	SSE
J	S
K	SSW
L	SW
M	WSW
N	W
P	WNW
Q	NW
R	NNW

- * The letters -I- and -O- have been omitted from these sector designators to eliminate confusion between letters and numbers.

POPULATION DISTRIBUTION BY SECTOR AND AREA (0 - 10 MILES)

SECTOR AND DIRECTION

DISTANCE FROM PLANT	ESTIMATED POPULATION DISTRIBUTION	SECTOR AND DIRECTION																	
		A N	B NNE	C NE	D ENE	E E	F ESE	G SE	H SSE	J S	K SSW	L SW	M WSW	N W	P WNW	Q NW	R NNW		
1 - 2 miles	I	0	0	0	0	0	3	0	0	0	3	45	12	9	3	0	0		
	II	0	0	0	0	0	3	0	0	0	3	35	10	7	3	0	0		
	III	0	0	0	0	0	4	0	0	0	4	53	14	14	3	0	0		
2 - 3 miles	I	6	9	42	9	0	9	6	3	14	0	12	3	12	6	0	6		
	II	7	10	47	6	0	7	4	3	10	0	9	3	15	7	0	6		
	III	13	20	91	10	0	11	7	4	16	0	14	4	28	13	0	10		
3 - 4 miles	I	23	40	20	29	26	62	26	12	3	9	9	6	20	23	0	0		
	II	27	46	23	30	21	50	21	10	3	7	7	6	25	25	0	0		
	III	50	87	44	51	31	74	31	14	4	11	11	10	44	47	0	0		
4 - 5 miles	I	37	17	104	20	26	84	76	2260	185	51	45	3	14	31	0	20		
	II	43	19	116	23	21	67	61	1801	147	41	36	3	16	35	0	23		
	III	81	37	221	44	31	100	91	2686	219	61	53	4	30	67	0	44		
5 - 10 miles	I	3639	1207	409	144	189	549	115	726	98	180	87	115	79	196	348	362		
	II	4359	1671	464	162	150	437	92	578	78	143	70	116	90	221	395	411		
	III	8263	2599	880	302	223	653	136	863	117	214	104	194	171	420	749	779		

KEY:

- I BASED ON THE YEAR 1976 (ESTIMATED) POPULATION
- II BASED ON THE YEAR 1980 (ESTIMATED) POPULATION
- III BASED ON THE YEAR 2000 (ESTIMATED) POPULATION

FIGURE F.1
POPULATION DISTRIBUTION BY SECTOR AREA
0 TO 10 MILES

(Figure not in electronic file)

[Click here to see the figure](#)

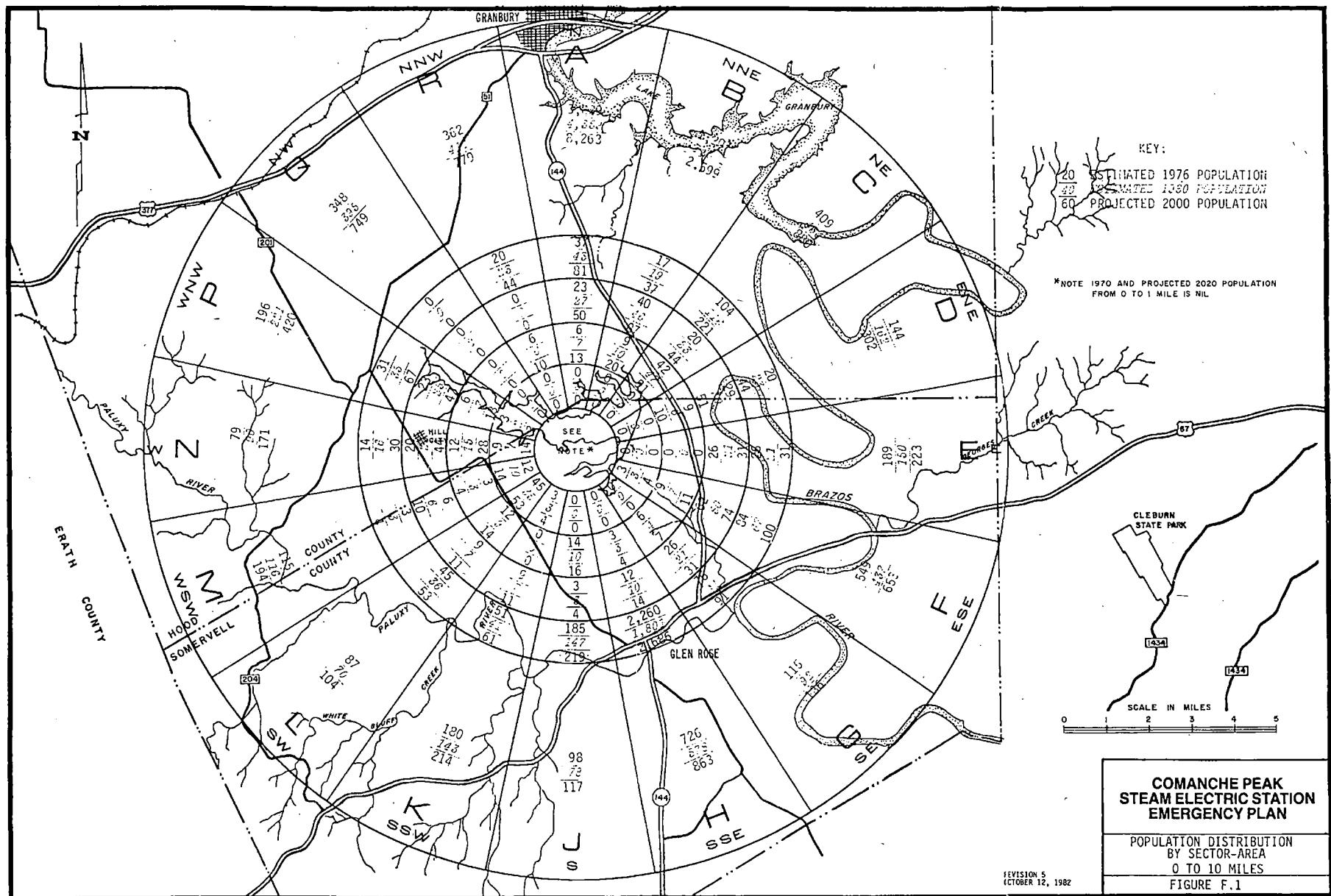
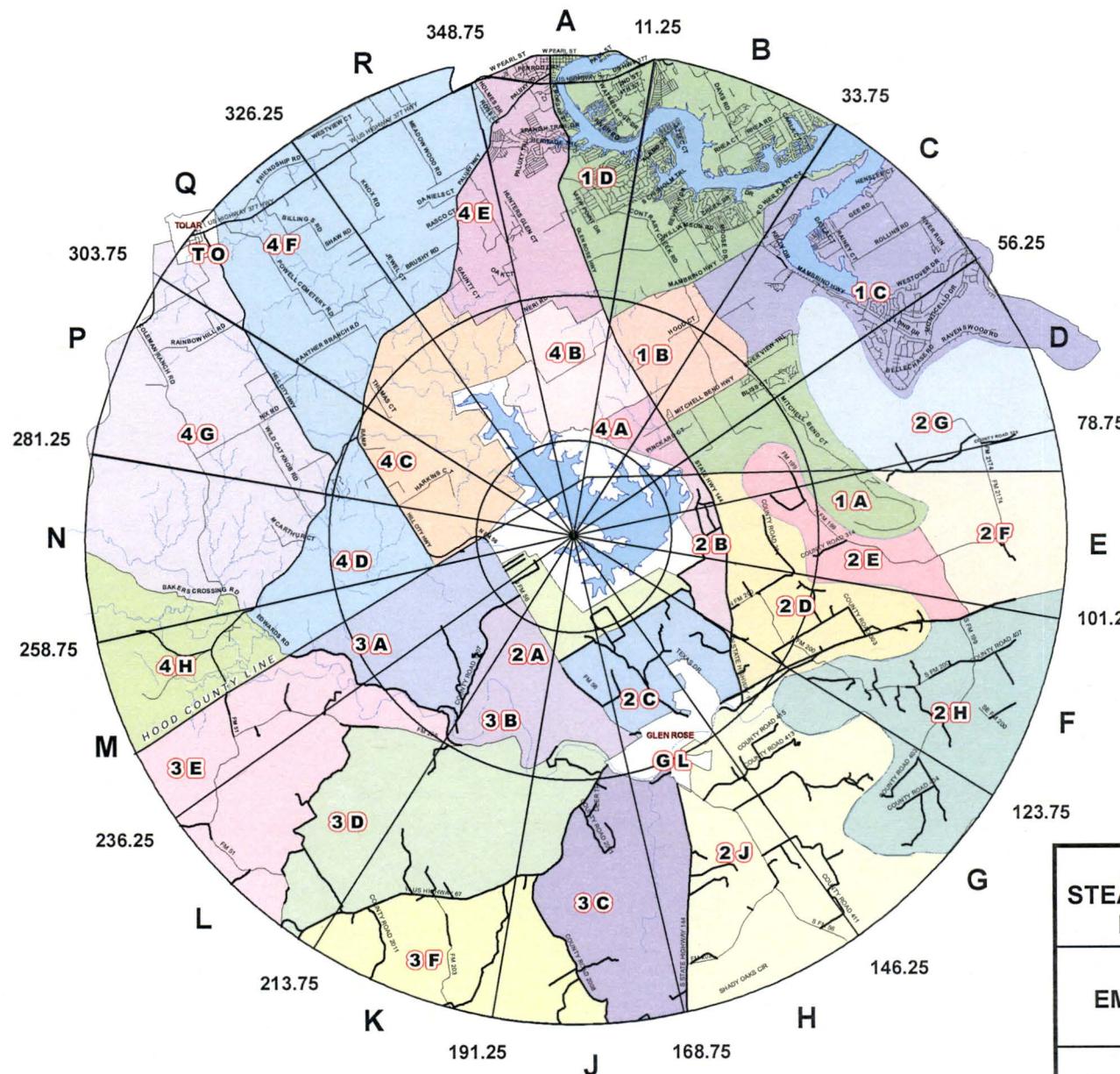


FIGURE F.2
10 MILE EMERGENCY PLANNING ZONE

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[Click here to see the figure](#)



**COMANCHE PEAK
STEAM ELECTRIC STATION
EMERGENCY PLAN**

**10 MILE
EMERGENCY PLANNING
ZONE**

FIGURE F.2

Appendix G

CPNPP 10 - 50 Mile Map

FIGURE G.1
POPULATION DISTRIBUTION BY SECTOR-AREA
10 TO 50 MILES

(Figure not in electronic file)

[Click here to see the figure](#)

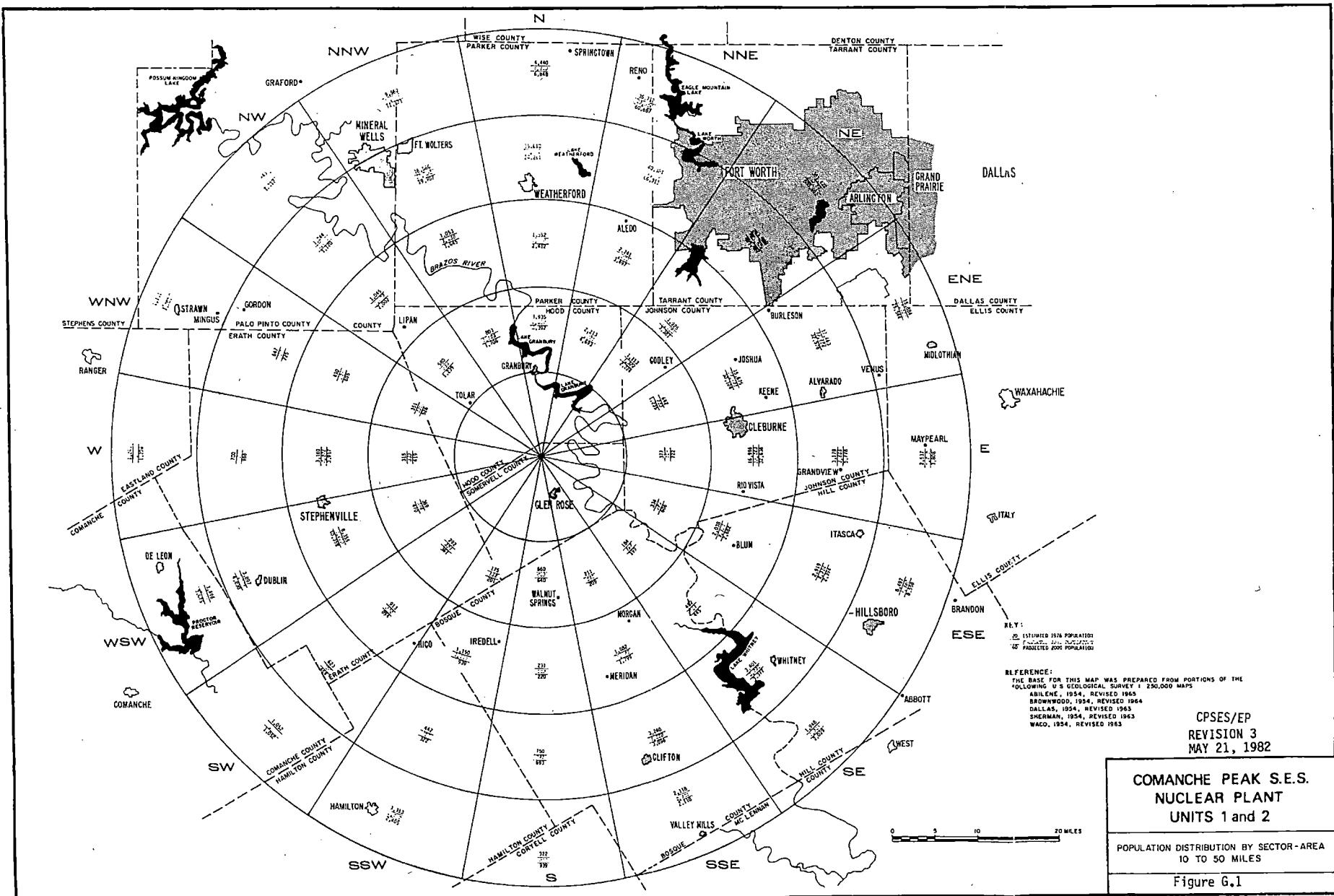


Figure G.1

Appendix H

List of Letters of Agreement

and

Supporting Emergency Plans

LIST OF
LETTERS OF AGREEMENT

Air Evac Emergency Medical Service - Emergency treatment and transportation of critically injured/burned and contaminated patients

American Red Cross - Support mass care needs at three reception centers, establish shelters for evacuees, registration of evacuees, and provide mental health and health services for evacuees and emergency workers, as needed

City of Benbrook - Reception Center

City of Cleburne, Texas - Reception Center

City of Stephenville - Reception Center

City of Granbury - Joint Information Center (JIC)

Hood County Sheriff - Law enforcement, assist evacuation efforts, traffic control, security

Hood County - CodeRED warning system partnership with CPNPP

Lake Granbury Medical Center - Treatment of contaminated injured

Granbury/Hood County Emergency Medical Service, Inc. dba Texas Emergency Medical Services - Emergency treatment and transportation of contaminated injured

South Texas Project Nuclear Operating Company - Backup post accident sample and analysis

Institute of Nuclear Power Operations (INPO) - Coordinate assistance from other utilities

National Weather Service - Weather forecasts

Somervell County Sheriff - Law enforcement, assist evacuation efforts, traffic control, security

Somervell County Fire Department and EMS Service - Local fire fighting support and emergency treatment/transportation of contaminated injured

Somervell County - CodeRED warning system partnership with CPNPP

Indian Harbor Volunteer Fire/EMS Department - Local fire fighting support

DCBE/Acton Volunteer Fire Department - Local fire fighting support

Granbury Volunteer Fire Department - Local fire fighting support

Texas Department of Health - Assistance to local government in the area of protective actions and environmental sampling

Texas Department of Public Safety - Law enforcement, assist evacuation efforts, traffic control, coordinates with and assists local law enforcement

Texas Health Hospital, Cleburne - Treatment of contaminated injured

NOTE: This is a list of agreements referring to the concept of operations developed between Federal, State, and local agencies, and other support organizations having an emergency response role within the Emergency Planning Zones. These documents are maintained in the files of Emergency Planning.

**LIST OF
SUPPORTING EMERGENCY RESPONSE PLANS**

- (1) Hood County Emergency Management Plan and Manual of Emergency Procedures
Source: County Government
- (2) Somervell County Emergency Management Plan and Manual of Emergency Procedures
Source: County Government
- (3) Texas Emergency Management Plan
Source: Texas Department of Public Safety
- (4) Westinghouse Emergency Response Plan
Source: Westinghouse Electric Corporation - Water Reactors Division
- (5) Squaw Creek Park Emergency Plan
Source: Squaw Creek Park
- (6) Region 4 Radiological Assistance Program Plan
Source: Department of Energy

NOTE: The supporting emergency response plans listed above are maintained at CPNPP, but are not contained within the body of the CPNPP Emergency Plan.

Appendix J
Emergency Equipment
and Supplies

EMERGENCY EQUIPMENT AND SUPPLIES

Luminant Power maintains emergency response equipment and supplies in onsite and offsite facilities, cabinets, and footlockers. Onsite this equipment is staged in such places as the Control Room, Technical Support Center, Operations Support Center, Emergency Operations Facility and Nuclear Operations Support Facility (NOSF). Offsite this equipment is staged in such places as county Emergency Operations Centers (EOCs), hospitals, and Relocation Centers.

Self-Contained Breathing Apparatus (SCBAs) and spare SCBA bottles are maintained for the Control Room; SCBAs are also maintained at the NOSF.

Two company vehicles equipped to support radiological monitoring activities are available for use by Offsite Field Monitoring Teams. Two offsite field monitoring kits are located in the NOSF. The kits contain supplies and equipment represented in the listing below.

The specific type and amount of equipment and supplies in each onsite or offsite facility, location, or kit is identified on a facility inventory worksheet. The inventory worksheet is prescribed by and maintained in accordance with an Emergency Plan Procedure.

The following listing, by category, represents typical emergency response equipment and supplies maintained:

Personal Protection and Dosimetry

Coveralls, shoe covers, gloves, hoods

Thyroid Blocking drugs (Potassium Iodide [KI])

Thermoluminescent Dosimeter (TLD)

Radiological Monitoring

Geiger-Mueller (GM) and Ionization Chamber instruments

Air Sampler, equipped with sampler head for particulates and silver zeolite collectors

Particulate filters and Silver Zeolite cartridges

Calculators

Contamination Control

Modesty clothing, plastic bags, signs/barricades, Step-Off Pads, tape, decontamination supplies

Communications

Vehicle-installed radios, base stations, handheld radios

Miscellaneous

Portable lights, Instrument check source, clerical supplies, maps, clipboards, tweezers, etc.

Appendix K
List Of Emergency Plan Procedures

LIST OF EMERGENCY PLAN PROCEDURES

Procedure No.	Procedure Title	References
EPP-100	Maintaining Emergency Preparedness	3.7, 3.8, 5.0, 6.6, 6.9, 6.11, 6.13, 12.0, 13.0, 14.0, Appendix H, J
EPP-109	Duties and Responsibilities of the Emergency Coordinator/Recovery Manager	1.1.2.2, 11.0
EPP-116	Emergency Repair and Damage Control and Immediate Entries	6.2
EPP-121	Reentry, Recovery and Closeout	11.0
EPP-201	Assessment of Emergency Action Levels, Emergency Classification and Plan Activation	2.0, 2.1, 2.2, Table 2.1
EPP-202	Emergency Communications Systems and Equipment	3.0, 4.0
EPP-203	Notifications	3.0, 4.0, Table 1.2
EPP-204	Activation and Operation of the Technical Support Center (TSC)	1.0, 1.1.2.2, Table 1.1 and 1.2, 6.0, 6.1
EPP-205	Activation and Operation of the Operations Support Center (OSC)	1.0, 1.1.2.2, Table 1.1 and 1.2, 6.0, 6.3
EPP-206	Activation and Operation of the Emergency Operations Facility (EOF)	1.0, 1.1.2.2, Table 1.1 and 1.2, 6.0, 6.4
EPP-207	Activation and Operation of the Joint Information Center	1.0, 1.1.2.2, Table 1.1 and 1.2, 6.0, 6.5
EPP-303	Operation of Computer Based, Emergency Dose Assessment System	6.13, 7.0
EPP-304	Protective Action Recommendations	8.0, 8.1, 8.2
EPP-305	Emergency Exposure Guidelines and Personnel Dosimetry	9.0, 9.1
EPP-306	Use of Thyroid Blocking Agents	1.1.2.2, 8.1.6
EPP-309	Onsite/In-Plant Radiological Surveys and Offsite Radiological Monitoring	6.7, 7.3, 9.2, Table 1.2
EPP-312	Core Damage Assessment	7.0
EPP-314	Evacuation and Accountability	4.1.8, 8.1.1, 8.1.2, 8.2.2
TRA-105	Emergency Preparedness Training	13.0

Appendix M

CPNPP Evacuation Time

Estimates and Staffing

Estimates

CPNPP Evacuation Time Estimates

The time estimate for evacuating CPNPP is projected to be 114 minutes. Justification for this time estimate is provided by the following:

$$T(ev) = Td + Tn + Tm + Tt$$

Where:

T(ev) = (114 minutes) Time for evacuation of 2,500 persons from the CPNPP station.

Td = (15 minutes) Time required for detection of accident, data analysis and decision to evacuate.

Tn = (16 minutes) Time required to notify personnel.

Tm = (15 minutes) Time required for personnel to mobilize and get under way.

Tt = (68 Minutes) Travel time to leave affected area (Distance: five miles) in the Manual of Protective Action Guides for Nuclear Incidents, page 1.34, a traffic lane capacity at 35 miles per hour and four persons per car is predicted to be 10,000 persons per hour. Using two traffic lanes and adjusting lane capacity stated above to a more conservative condition of 20 miles per hour and two persons per car, it is projected that travel time for 2,500 persons will be 68 minutes.

The time estimate for evacuating personnel from the Exclusion Area by boat is projected to be 85 minutes. Justification of this estimate is provided by the following:

$$T(ev) = Td + Tn + Tm + Tt$$

Where:

T(ev) = (85 minutes) Time estimate to evacuate individuals from Exclusion Area on SCR. A typical situation could be individuals on SCR performing environmental monitoring tasks.

Td = (15 minutes) Time required for detection of accident, data analysis and decision to evacuate.

Tn = (35 minutes) Time to notify individuals to evacuate affected area. 15 minutes estimated to have boat lake-ready. 20 minutes for actual travel time.

Tm = (15 minutes) Time required for individuals to make ready and get under way.

Tt = (20 minutes) Travel time required to leave affected area.

CPNPP Staffing Estimates

In addition to personnel on shift during an emergency, capability for increasing personnel in a timely manner is presented in **Table 1.1**. Response time estimates were arrived at using the following:

$$Ta = Tn + Tp + Tt + Tw$$

Where:

Ta = Time for personnel to arrive in facilities

Tn = (10 minutes) Time required to notify personnel

Tp = (10 minutes) Preparation time for personnel

Tt = Travel time to plant

Tw = (5 minutes) Walking time from parking areas to facilities

The following percentages indicates where the majority of the emergency response organization lives:

15 percent of employees live in the vicinity of Glen Rose-Walnut Springs.

40 percent of employees live in Acton-Granbury-Tolar area.

45 percent of employees live in Cleburne, Stephenville and Ft. Worth area.

The range of travel times from these general areas to CPNPP are:

Glen Rose-Walnut Springs - 10 to 30 minutes

Acton-Granbury-Tolar - 20 to 40 minutes

Cleburne-Stephenville-Ft. Worth - 30 to 80 minutes

From information provided by the emergency response organization, approximately 85 percent of the organization could travel to CPNPP within 45 minutes under normal driving conditions. Under adverse driving conditions (the worst would be ice storms) approximately 30 minutes would be added to travel times.

TSC and EOF Activation Times

The Technical Support Center (TSC) and Emergency Operations Facility (EOF) are staffed by additional personnel responding to the emergency notification. With the majority of the

emergency response organization arriving after 50 minutes travel time, activation time for both facilities would be 70 minutes. This time estimate is based on the following:

$$Ta = Tn + Tp + Tt + Tw$$

Where:

Ta = (80 minutes) Time for personnel to arrive in facilities

Tn = (10 minutes) Time required to notify personnel

Tp = (10 minutes) Preparation time for personnel

Tt = (50 minutes) Travel time for personnel

Tw = (10 minutes) Walking time from parking areas to facilities

If the emergency was during an ice storm, it could take up to one hour and forty minutes for approximately 85 percent of the emergency response organization to arrive in their respective facilities.

Appendix N

Emergency Planning

Zone (EPZ) Evacuation

Time Estimates

Comanche Peak Nuclear Power Plant (CPNPP) Evacuation Time Estimate Summary

In order to ensure the safety of the public living in the vicinity of nuclear power plants in the nation, the U.S. Nuclear Regulatory Commission (NRC) requires licensees to develop and update evacuation times estimates (ETEs) for areas within the emergency planning zone (EPZ). Updates are required following the availability of data from the decennial census (10 years) or when the sensitivity factor for changes in population within the EPZ has been exceeded. This appendix contains information from the ETE update performed in 2012. This update implements the requirements of the revised regulations relevant to ETE updates in accordance with the guidance provided in NUREG/CR-7002, Criteria for Development of Evacuation Time Estimate Studies.

Luminant Generation Company contracted KLD Engineering, P.C. to estimate evacuation times for the 2012 populations within the 10-mile plume exposure pathway emergency planning zone (EPZ) surrounding the Comanche Peak Nuclear Power Plant (CPNPP). This appendix provides a summary of the final report describing the methods used to obtain population data and to estimate evacuation times and estimated population figures, evacuation road network information, and ETEs.

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

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

The permanent resident population is made up of individuals residing in the 10-mile EPZ. The total year 2012 permanent resident populations within the 10-mile EPZ for CPNPP are estimated to be 35,199. The transient population consists of workers employed within the area, recreational sportsmen, and visitors. The total peak transient population within the 10-mile EPZ is estimated to be 17,787. Thirteen (13) schools, Mambrino Elementary School, Premier High School, Brawner Intermediate School, Emma Robertson Elementary School, Tolar High School, Tolar Elementary School, Tolar Junior High School, North Central Texas Academy, Brazos River Charter School, Glen Rose Elementary School, Glen Rose High School, Glen Rose Intermediate School and Glen Rose Junior High School, were identified in the CPNPP EPZ. KLD Engineering, P.C. contacted the schools to collect current enrollment, staff figures, and the evacuation plan. The total peak population for the schools in the EPZ is estimated to be 4,171. Transit dependent permanent residents in the EPZ are estimated to be 707. This study also considered the voluntary evacuees, who are also known as shadow evacuees that reside within 10 to 15 miles from CPNPP.

KLD Engineering, P.C. utilized a computer traffic simulation model, DYNEV, to perform the ETE analyses. For the analysis, the 10-mile plume exposure pathway EPZ was divided into 31 unique geographic areas based on two-mile, five-mile, and ten-mile radius rings, the 16, 22.5-degree PAZs, as well as keyhole and staged evacuation logic. In order to represent the most realistic emergency scenarios, evacuations for the 31 geographic evacuation areas were modeled individually for the midweek daytime, midweek - weekend evening, and weekend daytime scenarios. Each of these scenarios was then considered under both normal and adverse weather conditions using the 2012 population estimations. A total of 12 evacuation scenarios

were considered as part of this study to represent different wind, temporal, seasonal and weather conditions.

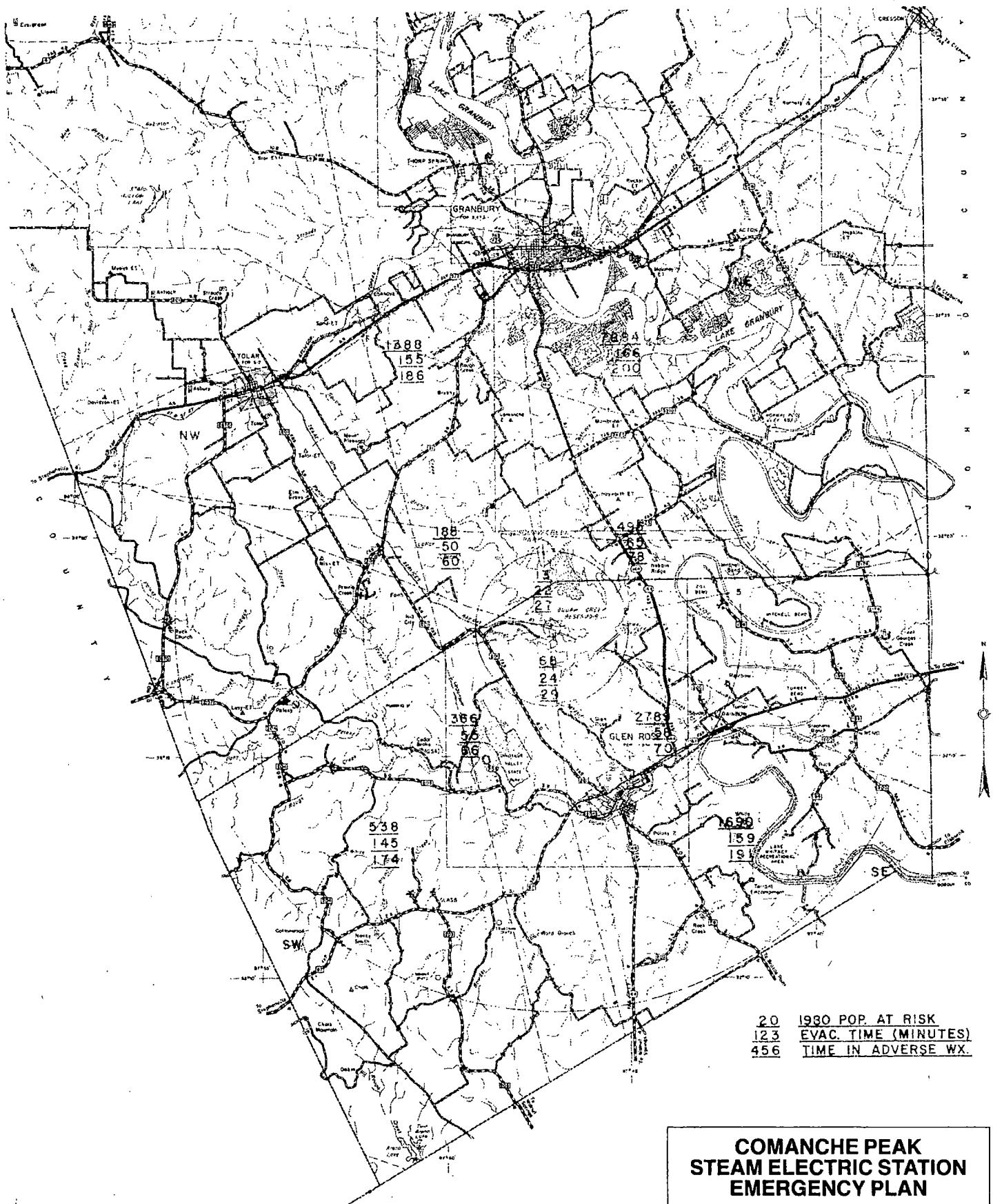
Both 100% and 90% ETEs for each scenario were collected. The 100% ETEs for the evacuation areas ranged from 4:00 - 4:10 for the normal scenarios, and from 4:00 - 4:10 for those occurring in adverse weather. The 90% ETEs for the evacuation areas ranged from 1:25 - 2:25 for the normal scenarios, and from 1:25 - 2:45 for those occurring in adverse weather.

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

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

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

The full Evacuation Time Estimate was submitted for NRC review in accordance with Section IV of Appendix E to 10 CFR Part 50. Following the NRC review, the results of the study and recommendations will be reviewed with applicable offsite agencies. The review will focus on the utilization of the results of the evacuation simulations provided in the ETE for comparison to existing protective action strategies. Modifications, if any, will be incorporated as part of the ongoing emergency planning process.

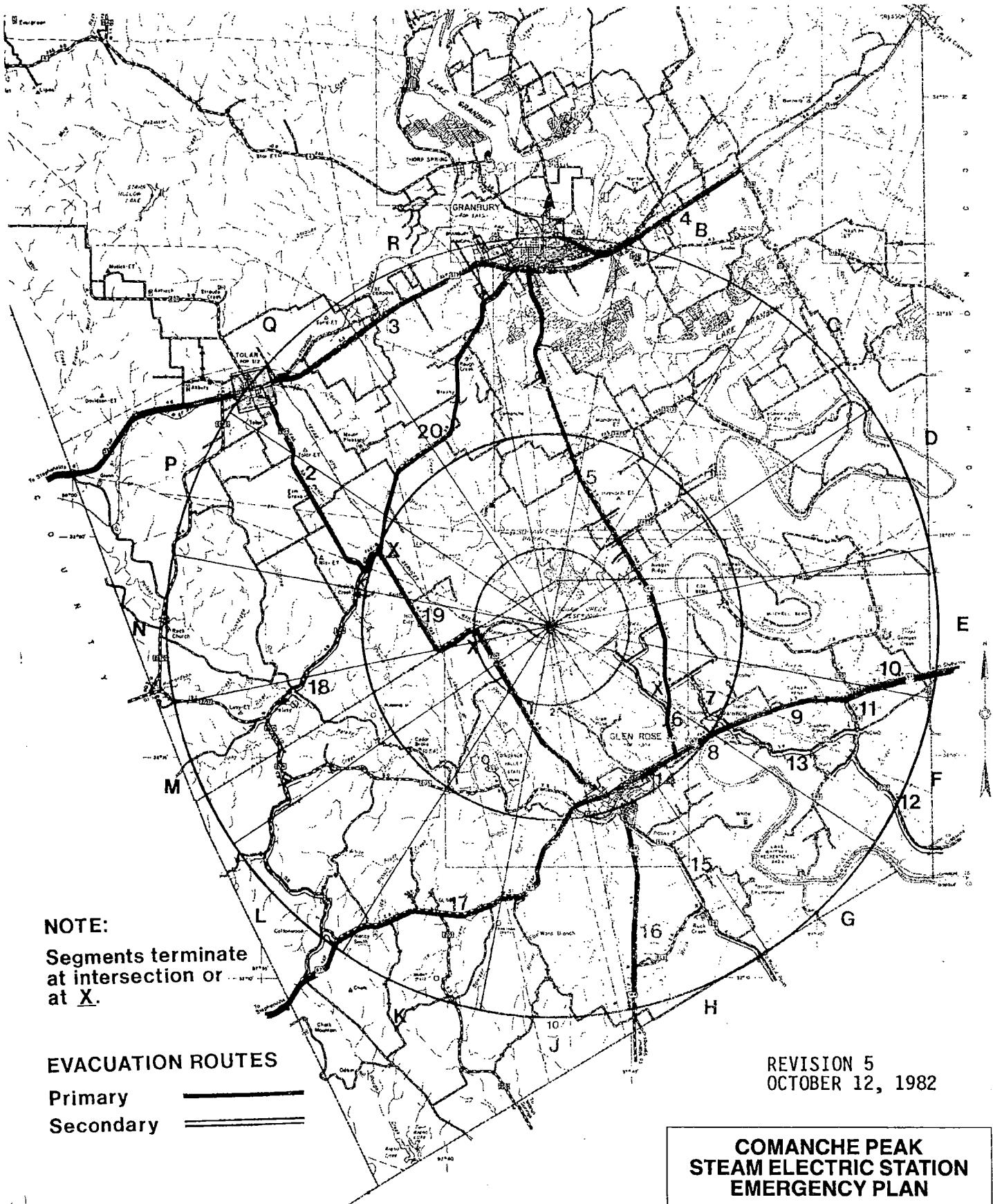


**COMANCHE PEAK
STEAM ELECTRIC STATION
EMERGENCY PLAN**

REVISION 5
OCTOBER 12, 1982

GENERAL POPULACE

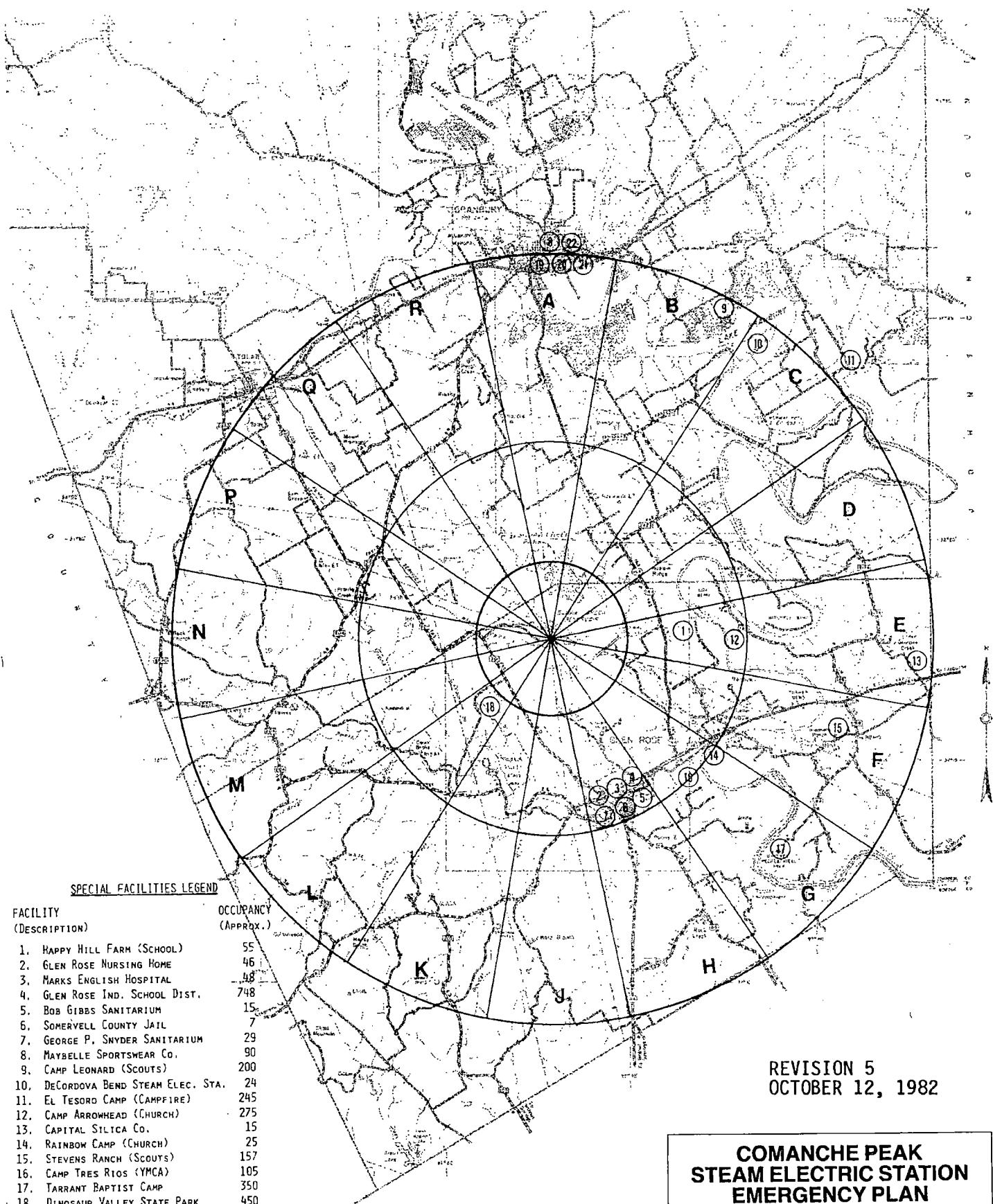
APPENDIX N, FIGURE N.3



**COMANCHE PEAK
STEAM ELECTRIC STATION
EMERGENCY PLAN**

EVACUATION ROUTES

FIGURE 4



REVISION 5
OCTOBER 12, 1982

**COMANCHE PEAK
STEAM ELECTRIC STATION
EMERGENCY PLAN**

SPECIAL FACILITIES

FIGURE 6

Appendix P

Cross Index to NUREG-0654

1.0 INTRODUCTION

The attached matrix cross references specific sections of the Comanche Peak Nuclear Power Plant (CPNPP) Emergency Plan to planning elements set forth in Revision 1 of NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants."

2.0 OVERVIEW

The CPNPP Emergency Response Organization is derived from and closely parallels the normal plant operating organization. Additional support in the event of a radiological emergency at CPNPP is provided by the Luminant Power corporate structure as well as local, state and federal governments. Luminant Power recognizes the need to provide adequate protection to plant employees and the population-at-risk during a radiological emergency at CPNPP. In order to respond to NRC/FEMA guidance (NUREG-0654), the following cross-reference guide is provided:

Emergency Plan/NUREG-0654 Cross Reference

NUREG-0654 Planning Standards and Evaluation Criteria	CPNPP Emergency Plan
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A. <u>ASSIGNMENT OF RESPONSIBILITY</u>	
1.a	Overall Emergency Response Organization
1.b	Concept of Operation
1.c	Diagram of Organizational Inter-Relationships
1.d	Identification of Command & Control
1.e	24-hour Operation
2.a	Functions and Responsibilities
2.b	Legal Basis for Authorities
3.	Letters of Agreement
4.	Continuity of Operations
B. <u>ONSITE EMERGENCY ORGANIZATION</u>	
1.	Onsite Emergency Response Organization
2.	Identification of Onsite Command & Control
3.	Line of Succession for Command & Control
4.	Command and Control Functions and Responsibilities
5.	Other Functions & Responsibilities
6.	Diagram of Organizational Interfaces
7.	Onsite Staff Augmentation by Corporate Personnel
7.a	Staff Augmentation by Logistical Support

* "N/A" indicates item not marked as applicable to licensee in NUREG-0654 Criteria Matrix.

Emergency Plan/NUREG-0654 Cross Reference
(continued)

NUREG-0654 Planning Standards and Evaluation Criteria		CPNPP Emergency Plan
7.b	Staff Augmentation by Technical Support	1.1.2.2, Figure 1.3
7.c	Staff Augmentation by Liaison Support	1.1.2.1, 1.2.1.2, Figure 1.1
7.d	Staff Augmentation by Public Information Support	1.1.2.2, Figure 1.6
8.	Identification of Contractors and Private Organization Support	1.2.3, Figure 1.1, Appendix H
9.	Letters of Agreement with Local Agencies	1.2.2, Appendix H
C. <u>EMERGENCY RESPONSE SUPPORT AND RESOURCES</u>		
1.a	Authorities to Request Federal Assistance	1.1.2.2, 1.2.5
1.b	Requirements for Federal Assistance	1.2.5
1.c	Resources Available to Support Federal Response	1.2.5
2.a	State and Local Representatives Stationed at the EOF	N/A
2.b	Licensee Representative Stationed at the EOC	1.1.2.2, 1.2.2
3.	Identification of Radiological Laboratories	1.2.3, 1.2.4, 1.2.5, 6.7, 6.8
4.	Identification of Outside Assistance	1.2.1, 1.2.2, 1.2.3, 1.2.4, 1.2.5, Appendix H
D. <u>EMERGENCY CLASSIFICATION SYSTEM</u>		
1.	Emergency Classification System	2.0, 2.1, Table 2.1
2.	Initiating Conditions for Emergency Action Levels	2.2, Table 2.1
3.	State and Local Emergency Classification System	N/A

Emergency Plan/NUREG-0654 Cross Reference
(continued)

NUREG-0654 Planning Standards and Evaluation Criteria	CPNPP Emergency Plan
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4. State and Local Emergency Response Implementing Procedures	N/A
E. <u>NOTIFICATION METHODS AND PROCEDURES</u>	
1. Notification of Emergency Response Organizations	3.0
2. Notification of Emergency Response Personnel	3.0, 4.1.1, 4.4, 4.5
3. Content of Initial Emergency Messages	3.1.1
4. Content of Follow-Up Messages	3.1.3
5. Release of Information to the Public	N/A
6. Notification of the Public	3.2
7. Content of Messages to the Public	5.1
F. <u>EMERGENCY COMMUNICATIONS</u>	
1.a 24 Hour Communications	1.1.2.1, 4.1
1.b Communications with State & Local Governments within EPZ	4.0, 4.1.9, 4.3, Table 4.1
1.c Communications with Federal Emergency Response Organizations	4.0, 4.2, 4.3, Table 4.1
1.d Communications with the EOF, EOC and Field Teams	4.0, 4.1.2, 4.1.4, 4.1.5, 4.1.7, 4.1.9, Table 4.1
1.e Alert and Activation of Emergency Response Personnel	3.0, 4.0, 4.1.1, 4.4, 4.5
1.f Communications between NRC, EOF & Field Teams Assembly Area	4.0, 4.1.5, 4.2, 4.3, Table 4.1
2. Communications with Medical Support Facilities	4.0, 4.1.5, 10.3
3. Periodic Testing of Emergency Communications System	12.2.1, 12.3

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(continued)

NUREG-0654 Planning Standards and Evaluation Criteria	CPNPP Emergency Plan
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G. PUBLIC EDUCATION AND INFORMATION	
1. Public Education Program	5.0
2. Education of the Transient Public within the EPZ	5.0
3.a Points of Contact and Accommodations for News Media	5.0, 5.1, 5.2, 6.5
3.b Designated Area for News Media in the EOF	5.1, 6.5
4.a Identification of Designated Spokesperson	1.1.2.2, Table 1.1, 5.1
4.b Exchange of Information Among Spokespersons	5.1
4.c Arrangements for Dealing with Rumors	1.1.2.2, 5.2
5. Information Programs for News Media	5.0
H. EMERGENCY FACILITIES AND EQUIPMENT	
1. Establishment of TSC and OSC	6.2, 6.3
2. Establishment of the EOF	6.4
3. Establishment of the EOC	N/A
4. Activation and Staffing of Emergency Response Facilities	6.2.3, 6.3.3, 6.4.3, 6.5.3
5.a Geophysical Phenomena Monitors	6.13.5, 6.13.6, 6.13.7
5.b Radiological Monitoring System	6.13.3
5.c Provisions for Onsite Fire & Combustion Products Detectors	6.13.9
6.a Provisions for Offsite Geophysical Phenomena Monitors	6.13.5, 6.13.7
6.b Provisions for Offsite Radiological Monitors	ODCM
6.c Laboratory Facilities	6.8

Emergency Plan/NUREG-0654 Cross Reference
(continued)

NUREG-0654 Planning Standards and Evaluation Criteria	CPNPP Emergency Plan
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7.	Offsite Radiological Monitoring Equipment	6.11, Appendix J
8.	Meteorological Instrumentation & Procedures	6.13.5
9.	Operations Support Center and Supplies	6.3, Appendix J
10.	Emergency Equipment Maintenance	6.11
11.	Identification of Emergency Equipment	Appendix J
12.	Point for Sample Receipt & Analysis of Field Data & Samples	6.7, 6.8

I. ACCIDENT ASSESSMENT

1.	Parameters for Off-Normal Conditions and Accidents	Table 2.1, 7.0
2.	Provisions for Initial and Continuing Accident Assessment	6.13.3, 7.0
3.a	Provisions for Determining Source Terms of Release	7.0, 7.1
3.b	Provisions for Determining Magnitude of Release	6.13.1, 6.13.2, 6.13.3, 6.13.10, 7.1
4.	Relationship of Release to Exposure and/or Contamination	7.2
5.	Access to Meteorological Information	6.13.5, 7.1
6.	Methodology for Determining Release Rates and Projected Doses	7.2
7.	Provisions for Field Monitoring within the Plume Exposure EPZ	Appendix J, 7.3.2
8.	Provisions for Rapid Assessment of Radiological Releases	4.0, 7.0
9.	Capabilities to Detect and Measure Radioiodines	6.6, 7.0, 7.3.2
10.	Provisions for Relating Measured Parameters to Dose Rates	7.2

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11.	Provisions for Locating & Tracking Radioactive Plume	N/A
<hr/>		
J. <u>PROTECTIVE RESPONSE</u>		
1.	Provisions for Notification of Onsite Personnel	8.1
2.	Provisions for Evacuation from Site	8.1.1
3.	Provisions for Radiological from Site of Evacuated Site Personnel	8.1.3
4.	Provisions for Evacuating Non-Essential Onsite Personnel	8.1.1
5.	Provisions for Accountability of Onsite Personnel	8.1.2
6.a	Provisions for Onsite Use of Respiratory Protection	8.1.4
6.b	Provisions for Onsite Use of Protective Clothing	8.1.5
6.c	Provisions for Onsite Use of Radioprotective Drugs	8.1.6
7.	Mechanism for Recommendation of Protective Actions	8.2
8.	Time Estimates for Evacuation Within Plume Exposure EPZ	8.2.2, Appendices F, G, M, N
9.	State & Local Capabilities for Implementing Protective Measures	N/A
10.a	Maps Showing Evacuation Route Areas, & Relocation Centers, etc.	Appendices F, G, M, N
10.b	Maps Showing Population Distribution	Appendices F, G, N
10.c	Means for Notifying Transient and Resident Population	3.2, 5.0
10.d	Means for Protecting Individuals With Impaired Mobility	N/A

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10.e	Provisions for Offsite Use of Radioprotective Drugs	8.1.6
10.f	Decision Making Process for Administering Radioprotective Drugs	N/A
10.g	Means of Relocation	N/A
10.h	Identification of Relocation Centers	N/A
10.i	Projected Traffic Capacities of Evacuation Routes	N/A
10.j	Control of Access to Evacuated Areas	N/A
10.k	Contingency Measures Regarding Use of Evacuation Routes	N/A
10.l	Evacuation Time Estimates for Sectors within the Plume Exposure EPZ	8.2.2
10.m	Basis of Choice for Recommended Protective Actions	8.2, Appendices B, C, D, M, N
11.	Protective Measures for Ingestion Pathway EPZ	N/A
12.	Means for Registering & Monitoring Evacuees at Relocation Centers	N/A

K. RADIOLOGICAL EXPOSURE CONTROL

1.a	Onsite Exposure Guidelines for Removal of Injured Personnel	9.1
1.b	Onsite Exposure Guidelines for Undertaking Corrective Actions	9.1
1.c	Onsite Exposure Guidelines for Performing Assessment	9.0
1.d	Onsite Exposure Guidelines for Providing First Aid	9.1
1.e	Onsite Exposure Guidelines for Performing Personnel Decontamination	9.3

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NUREG-0654 Planning Standards and Evaluation Criteria		CPNPP Emergency Plan
1.f	Onsite Exposure Guidelines for Providing Ambulance Service	9.1
1.g	Onsite Exposure Guidelines for Providing Medical Treatment Services	9.1
2.	Onsite Radiation Protection Program	9.0, 9.1
3.a	Capabilities to Determine Doses Received by Emergency Personnel	9.0
3.b	Maintenance of Emergency Personnel Dose Records	9.0
4.	Decision Making Process for Authorizing Excess Exposure	9.1
5.a	Action Levels for Determining Need for Decontamination	8.1.3, 9.2, 9.3
5.b	Decontamination of Emergency Personnel and Equipment	9.3, 9.4
6.a	Provisions for Access Control to Onsite Contaminated Areas	9.2, 9.3
6.b	Provisions for Onsite Control of Drinking Water and Foodstuffs	9.2
6.c	Criteria for Permitting Return of Areas & Items to Normal Use	9.2
7.	Provisions for Decontamination of Relocated Onsite Personnel	6.9, Figure 6.1, 8.1.3
L.	<u>MEDICAL AND PUBLIC HEALTH SUPPORT</u>	
1.	Arrangements for Local and Backup Hospital and Medical Services	10.1, Appendix H
2.	Provisions for Onsite First Aid Capability	10.2, 13.0
3.	Listing of Hospitals and Other Emergency Medical Services	10.1, Appendix H

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4.	Arrangements for Transporting Victims of Radiological Accidents	10.3, Appendix H
<hr/>		
M.	<u>RECOVERY AND REENTRY PLANNING AND POST ACCIDENT OPERATION</u>	
1.	Plans and Procedures for Reentry and Recovery	11.0
2.	Licensee Recovery Organization	11.1.1, Figure 11.1
3.	Initiating of Recovery Operations	3.0, 4.0, 11.0
4.	Methods for Periodically Estimating Total Population Exposure	11.2
N.	<u>EXERCISES AND DRILLS</u>	
1.a	General Content of Emergency Preparedness Exercises	12.0
1.b	General Conduct of Emergency Preparedness Exercises	12.1
2.a	Provisions for Conducting Communications Drills	12.2.1
2.b	Provisions for Conducting Fire Drills	12.2.2
2.c	Provisions for Conducting Medical Emergency Drills	12.2.3
2.d	Provisions for Conducting Radiological Monitoring Drills	12.2.4
2.e	Content and Conduct of (1) Health Physics Drills	12.2.5
2.e	Conduct of In-plant Liquid (2) Sample Analysis Drills	12.2.5
3.a	Objectives and Evaluation Criteria for Each Drill and Exercise	12.3
3.b	Date, Time, Location and List of Participants for Each Drill & Exercise	12.3

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3.c	Summary of Simulated Events in Scenarios for Drills & Exercises	12.3
3.d	Scenario Time Schedule for Drills & Exercises	12.3
3.e	Summary of Conduct of Drills & Exercises	12.3
3.f	Arrangements for Materials Provided to Drill/Exercise Observers	12.3
4.	Provisions for Observing, Evaluating and Critiquing Exercises	12.4
5.	Provisions for Implementing Corrective Actions	12.4
O.	<u>RADIOLOGICAL EMERGENCY RESPONSE TRAINING</u>	
1.	Provisions for Training Emergency Response Organization	13.0
1.a	Provisions for Training Offsite Emergency Response Organizations	13.0
1.b	Participation in Training by Offsite Emergency Response Organizations	13.0
2.	Content and Conduct of Training for Onsite Emergency Organization	13.0
3.	Content of Training for Onsite First Aid Teams	10.2
4.a	Training Program for Emergency Response Organization Management	13.0
4.b	Training Program for Accident Assessment	13.0
4.c	Training Program for Field Teams and Analysis Personnel	13.0
4.d	Training Program for Police, Security, and Fire Fighting Personnel	13.0
4.e	Training Program for Reentry and Recovery Teams	13.0

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4.f	Training Program for First Aid and Rescue Personnel	10.2
4.g	Training Program for Local Emergency Response Support Personnel	13.0
4.h	Training Program for Medical Support Personnel	13.0
4.i	Training Program for Licensee Headquarters Support Personnel	13.0
4.j	Training Program for Personnel Communicating Information and/or Instructions	13.0
5.	Provisions for Retraining Emergency Response Personnel	13.0
P.	<u>PLANNING EFFORT</u>	
1.	Provisions for Training Emergency Planners	14.0
2.	Overall Authority and Responsibility for Emergency Planning	14.0
3.	Identification of Emergency Planning Coordinator (Supervisor)	14.0
4.	Provisions for Plan Maintenance	14.0
5.	Provisions for Plan & Procedures Distribution	14.0
6.	Listing of Supporting Plans and Sources	14.0, Appendix H
7.	Appendix to Plan Listing Implementing Procedures	14.0, Appendix K
8.	Plan Table of Contents and Cross-Reference Matrix	i, Appendix P
9.	Conduct of Independent Reviews	14.0
10.	Provisions for Updating Telephone Lists	14.0

Appendix Q

Definitions

DEFINITIONS

ACCESS CONTROL POINT

A designated entry/exit point for personnel entering/exiting implant Radiation Controlled Areas. The Access Control Point is supervised by radiation protection personnel.

ACCOUNTABILITY

The process of identifying the names of individuals in the Protected Area who are unable to contact Security after announcement of a site evacuation.

ACTIVATION

Condition where an Emergency Response Facility is staffed with the minimum personnel and capable of performing the functions defined in **Table 1.1**.

ADMINISTRATIVE DOSE LEVELS

Allowable dose levels imposed by Luminant Power - levels less than Federal Occupation Dose Limits and less than Emergency Dose Limits.

AFFECTED POPULATION

Those individuals within the minimum affected area.

ALERT AND NOTIFICATION SYSTEM

A system of sirens and activation consoles used to alert the populace within 10 miles of CPNPP to an emergency. This system is also known as the Outdoor Warning System (OWS) as well as the Siren System.

AS BUILT DRAWINGS

Drawings which provide location, configuration or design of buildings, systems and components throughout CPNPP.

ASSEMBLY AREAS

Locations in and around CPNPP where personnel assemble in the event of an emergency when the Emergency Coordinator calls for a building/protected area evacuation.

DECLARED EMERGENCY

Any event assigned an emergency classification.

DEDICATED (or DESIGNATED) EMERGENCY EQUIPMENT

Any items which are staged primarily for use by the Emergency Response Organization.

EMERGENCY ACTION LEVEL

Plant or radiological parameters which provide a basis for determining the appropriate Emergency Classification during an emergency situation.

EMERGENCY OPERATIONS CENTERS (EOCs)

Facilities established by local governments for controlling resources in an emergency situation.
(NOTE: State and local county plans define EOC as "Emergency Operating Center".)

EMERGENCY RESPONSE EQUIPMENT

Any item which is identified or made available for emergency response.

EMERGENCY OPERATIONS FACILITY (EOF)

The onsite emergency response facility from which management of the overall CPNPP emergency response, including coordination with federal, state and local officials, will occur.

EMERGENCY RESPONSE ORGANIZATION (ERO)

Personnel assigned to perform selected emergency response tasks during a declared emergency.

EMERGENCY RESPONSE ORGANIZATION ROSTER

A listing of Emergency Response Organization personnel.

EMERGENCY REPAIR AND DAMAGE CONTROL ACTIVITIES

Activities required to mitigate emergency conditions.

ENGINEERING WORKBOOK

A notebook containing various calculation tables, formulas and figures.

FRISKER

A portable count rate instrument sensitive to low levels of radioactive contamination.

IN-PLANT

Buildings or structures, located inside the Protected Area, directly associated with plant primary, secondary, control, or fuel-handling system (e.g., the Auxiliary Building, Containment Buildings, Safeguards Buildings, Fuel Building, Control Building, and Turbine Building).

JOINT INFORMATION CENTER

The JIC is the single point on site from which information regarding an emergency condition at CPNPP will be disseminated to the public and news media.

NONESSENTIAL PERSONNEL

Personnel in one or more of the following categories:

Employees not having emergency response organization assignments, excluding on-shift Nuclear Operations personnel.

Visitors

Contractors (excluding Security organization), unless authorized by the Emergency Coordinator.

Individuals involved in non-operational activities permitted by the FSAR within the Exclusion Area.

Squaw Creek Park patrons.

Other persons who may be in a public access area or passing through the Owner Controlled Area.

OFFSITE

All areas not covered under the definition of "onsite."

ONSITE

The land area forming the peninsula on which CPNPP is sited. The western boundary of this area is the western-most evaporation pond.

OPERATIONS SUPPORT CENTER (OSC)

The onsite emergency response staging area where the Emergency Repair and Damage Control Group personnel assemble and are dispatched during an emergency.

PERIODIC DEFINITIONS

The following definitions are applicable to those plan events/tasks which occur on a regular basis:

"Monthly" means once during a calendar month;

"Quarterly" means once during a calendar quarter;

"Semi-annual" or "Semi-annually" means twice during a calendar year;

"Annual" or "Annually" means once during a calendar year.

PLANT EVACUATION ROUTES

Predetermined evacuation routes designated by signs located throughout the plant.

PLANT PERSONNEL

Personnel employed or contracted by Luminant Power who are involved in the operation, construction or maintenance at CPNPP.

RUMOR CONTROL

Personnel in the Joint Information Center (JIC) dedicated to answer questions and dispel rumors from residents or media during an emergency situation.

SHIFT MANAGER

A member of management, holding a Senior Reactor Operator's license, in charge of Control Room functions.

SITE EVACUATION

Withdrawal of non-essential personnel from the Exclusion Area.

SQUAW CREEK PARK

A park, owned and controlled by Luminant Power, that provides restricted access to Squaw Creek Reservoir.

TECHNICAL SUPPORT CENTER (TSC)

The TSC is the onsite emergency response facility located in close proximity to the Control Room, providing plant management and technical support to Control Room personnel during an emergency.

Appendix R

(Removed From CPNPP

Emergency Plan)

**Appendix S
Corporate Emergency
Management Plan**

THIS APPENDIX HAS BEEN DELETED

CPNPP/EP

**COMANCHE PEAK NUCLEAR POWER PLANT
EMERGENCY PLAN (EP)
EFFECTIVE LISTING FOR SECTIONS, TABLES, AND FIGURES**

BELOW IS A LEGEND FOR THE EFFECTIVE LISTING OF SECTIONS, TABLES, AND FIGURES:

Revision 0 (FSAR Amendment 12)	Submitted to the NRC October 8, 1980
Revision 1 (FSAR Amendment 16)	Submitted to the NRC March 31, 1981
Revision 2 (FSAR Amendment 28)	Submitted to the NRC October 26, 1981
Revision 3 (FSAR Amendment 32)	Submitted to the NRC May 21, 1982
Revision 4 (FSAR Amendment 34)	Submitted to the NRC August 20, 1982
Revision 5 (FSAR Amendment 35)	Submitted to the NRC October 12, 1982
Revision 6 (FSAR Amendment 39)	Submitted to the NRC March 8, 1983
Revision 7 (FSAR Amendment 43)	Submitted to the NRC August 29, 1983
Revision 8 (FSAR Amendment 48)	Submitted to the NRC April 30, 1984
Revision 9 (FSAR Amendment 58)	Submitted to the NRC June 30, 1986
Revision 10 (TXX-88625)	Submitted to the NRC August 22, 1988
Revision 11	August 31, 1989
Revision 12	September 28, 1990
Revision 13	January 31, 1992
Revision 14	June 12, 1992
Revision 15	June 1, 1993
Revision 16	September 10, 1993
Revision 17	January 1, 1994
Revision 18	January 31, 1994
Revision 19	November 1, 1994
Revision 20	January 6, 1995
Revision 21	March 10, 1995
Revision 22	June 16, 1995
Revision 23	August 23, 1995
Revision 24	April 19, 1996
Revision 24 (ERRATA)	April 25, 1996
Revision 25	October 1, 1996
Revision 26	October 15, 1997
Revision 27	July 24, 1998
Revision 28	December 17, 1999
Revision 29	March 3, 2000
Revision 30	March 13, 2003
Revision 31	June 20, 2003
Revision 32	May 17, 2005
Revision 33	January 19, 2006
Revision 34	January 30, 2007
Revision 35	May 28, 2008
Revision 36	January 8, 2009
Revision 37	April 2, 2009
Revision 38	November 4, 2010
Revision 39	February 21, 2013

CPNPP/EP

Revision 40
Revision 41
Revision 42

September 30, 2015
January 6, 2017
August 2, 2018

CPNPP/EP

EPLAN TOC	Revision 42
EPLAN LOT	Revision 41
EPLAN LOF	Revision 37
Section 1.0	Revision 42
Table 1.1	Revision 40
Table 1.2	Revision 38
Figure 1.1	Revision 37
Figure 1.2	Revision 37
Figure 1.3	Revision 37
Figure 1.4	Revision 37
Figure 1.5	Revision 37
Figure 1.6	Revision 37
Section 2.0	Revision 41
Table 2.1	Revision 41
Section 3.0	Revision 42
Section 4.0	Revision 42
Table 4.1	Revision 42
Table 4.2	Revision 39
Section 5.0	Revision 37
Section 6.0	Revision 41
Figure 6.1	Revision 37
Section 7.0	Revision 37
Section 8.0	Revision 37
Section 9.0	Revision 39
Section 10.0	Revision 37
Section 11.0	Revision 37
Figure 11.1	Revision 37
Section 12.0	Revision 37
Section 13.0	Revision 37
Section 14.0	Revision 37
Section 15.0	Revision 37
Appendix A	Revision 37
Appendix B	Deleted
CPNPP/EP	EL-3
	Revision 42

CPNPP/EP

Appendix C	Deleted
Appendix D	Deleted
Appendix E	Revision 37
Figure E.1	Revision 12
Figure E.2	Revision 12
Appendix F	Revision 37
Table F.1	Revision 37
Figure F.1	Revision 5
Figure F.2	Revision 36
Appendix G	Revision 37
Figure G.1	Revision 3
Appendix H	Revision 39
Appendix J	Revision 39
Appendix K	Revision 37
Appendix M	Revision 37
Appendix N	Revision 41
Table N.1	Deleted
Figure N.3	Deleted
Figure N.4	Deleted
Figure N.6	Deleted
Appendix P	Revision 39
Appendix Q	Revision 37
Appendix R	Revision 37
Appendix S	Deleted
EL-1	Revision 42
EL-2	Revision 42
EL-3	Revision 42
EL-4	Revision 42

Emergency Plan - Description of Changes

Emergency Plan - Revision 33

LDCR-EP-2005-2 (EVAL-2005-003329-01) (RJK):

The capability to respond to significant events at CPSES is enhanced by the addition of new letters of agreement (MOU's) with four area fire departments. The letters have been secured and the resources of these departments are available to enhance CPSES response to such an event.

Sections Revised: 15-H

Tables Revised: None

Figures Revised: None

LDCR-EP-2005-3 (EVAL-2005-002793-01) (RJK):

Update Eplan Section 2 classification definitions to match NRC Bulletin 2005-02. Also update the references in the back of Section 2

Sections Revised: 2

Tables Revised: None

Figures Revised: None

LDCR-EP-2006-1 (CPSES-200600062) (RJK):

These editorial changes are administrative and contain no technical changes. The electronic files have been converted from Microsoft Word to Adobe Framemaker and published in Adobe Portable Document Format (PDF). The type of changes include changes such as (1) correction of spelling errors, (2) correction of inadvertent word processing errors from previous changes, and (3) style guide changes (e.g., changing from a numbered bullet list to an alphabetized bullet list and vice versa, change numbering of footnote naming scheme). The entire EP will be reissued as Revision 33 (except as noted below). For the text and tables there will be no change bars in the page margins for the editorial changes. Some Figures and Tables will retain a revision number prior to Revision 33 since the source file is not in Adobe Framemaker (e.g. scanned page). The list of effective pages is being replaced with an effective list of sections, tables, and figures.

Sections Revised: All

Tables Revised: All (except as noted above)

Figures Revised: All (except as noted above)

Emergency Plan - Description of Changes

Emergency Plan - Revision 34

LDCR-EP-2006-2 (EVAL-2004-001966-04) (RJK):

The CPSES Seismic Instrumentation System is being upgraded to replace an aging and obsolete system. The new system will still provide information to the plant staff to enable evaluation of plant conditions and for plant staff to make the resulting emergency declarations. The EP-related functions provided by the existing system will still be provided by the replacement system, and therefore this change does not constitute a decrease in effectiveness of the CPSES Emergency Plan.

Emergency Plan - Revision 35

LDCR-EP-2008-1 (EVAL-2008-000685-02) (RJK):

Section 1, 3, 4 and 12 - Remove references to the Waco location of the Department of Public Safety (DPS). The licensee responsibilities remain the same without regard to the location of the receiving authority for notifications and communications.

LDCR-EP-2008-2 (EVAL-2008-000746-02) (RJK):

Section 6.4.6 - Change location of the Alternate EOF. New location is a dedicated response-ready facility versus the previous dual-use facility that required ad hoc setup to obtain continuity of function.

Emergency Plan - Revision 36

LDCR-EP-2008-10 (EVAL-2006-001694-02) (JEB):

This changes the current northern boundary of the Emergency Response Zones (ERZ) in the Granbury Area by adjusting the northern boundary of Zones 4E and 1D northward to Pearl Street and deleting the city of Granbury as an ERZ of its own. This change to the ERZ's will more clearly define the physical location of the Northern-most boundary of the 10 mile EPZ for the purpose of evacuation planning and execution, and will eliminate confusion with respect to use of the term "Granbury" in implementation of Protective Action Decisions by local officials.

Emergency Plan - Revision 37

LDCR-EP-2008-8 (EVAL-2008-001718-06) (JEB):

LDCR EP-2008-008 (tracked by EVAL-2008-001718-06) changes throughout the Plan; TXU Power to Luminant Power and Comanche Peak Steam Electric Station (CPSES) to Comanche Peak Nuclear Power Plant (CPNPP). The revision also changes any BRC reference to their new name; Department of State Health Services (DSHS). These changes do not affect the operating organizations or corporate structures with respect to the Emergency Plan.

Emergency Plan - Description of Changes

LDCR-EP-2008-8 (EVAL-2008-001718-06) (JEB) (continued):

Change from TXU Power to Luminant Power as the licensee was approved by the NRC in their Order of 9/17/07 and Amendment 139 to the Operating Licenses. In addition, Luminant Power as the new licensee changed the station name to Comanche Peak Nuclear Power Plant (CPNPP) concurrently. Both changes do not affect the operating organization or corporate support structure with respect to the Emergency Plan.

Also change all references to Texas Bureau of Radiation Control (BRC) to Texas Department of State Health Services (DSHS). This offsite bureau was renamed, but retains all functional capabilities and authorities under the State of Texas Emergency Response Plan.

This LDCR is an administrative change only, reflecting these name changes.

LDCR-EP-2008-3 (EVAL-2008-001718-01) (JEB):

LDCR EP-2008-003 (tracked by SMF EVAL-2008-001718-01) deletes the language in Section 4.1.6 describing a direct phone line between plant operators and the Systems Operations Center. As a result of deregulation, the direct phone line no longer exists.

LDCR-EP-2008-4 (EVAL-2008-001718-02) (JEB):

LDCR EP-2008-004 (tracked by SMF EVAL-2008-001718-02) changes Section 5.1 terminology from "news conferences" to "press briefings" and designates the Joint Information Center (JIC) as the location for public information releases during emergencies.

LDCR-EP-2008-5 (EVAL-2008-001718-03) (JEB):

LDCR EP-2008-005 (tracked by SMF EVAL-2008-001718-03) clarifies in Section 10.3 that the ambulance radio can be used to communicate with the local hospital during transport of contaminated and injured personnel.

LDCR-EP-2008-7 (EVAL-2008-001718-05) (JEB):

LDCR EP-2008-007 (tracked by EVAL-2008-001718-05) enhances the Section 6.4.6 description of the physical location and functional capabilities of the Alternate Emergency Operations Facility.

LDCR-EP-2008-9 (EVAL-2008-001718-07) (JEB):

LDCR EP-2008-009 (tracked by EVAL-2008-001718-07) corrects a listing in the Emergency Plan/NUREG-0654 Cross Reference in Appendix P, Sect J. 10.c. The referenced information was moved in an earlier revision but the cross reference was not changed.

Emergency Plan - Description of Changes

LDCR-EP-2009-1 (EVAL-2008-002039-04) (JEB):

LDCR EP-2009-001 (tracked by SMF EVAL-2008-002039-04) changes references in Section 9.0 from thermo luminescent dosimeters (TLDs) to Optically Stimulated Luminescence (OSL) Badges. This change acknowledges the recent switch from TLDs to OSLs.

Emergency Plan - Revision 38

LDCR-EP-2010-1 (EV-CR-2010-007894-1) (JEB):

TOC

Table of Contents revised to list 2.1.1.a as "Unusual Event" (instead of Notification of Unusual Event)

Section 1

Section 1 is revised to insert "Unusual Event" in the place of "Notification of Unusual Event" to reflect the updated designation of that emergency classification. Affected pages include 1-1, 1-3, 1-41-7

Table 1.2 is revised to update the lowest emergency classification designation to Unusual Event (instead of Notification of Unusual Event)

Section 2

Page 2-1 is changed to insert "Unusual Event" in the place of "Notification of Unusual Event."

Page 2-3 updated to include NEI-99-01 Revision 5, "Methodology for Development of Emergency Action Levels" in the IC/EAL basis document list.

Table 2.1

The initiating conditions for EAL classifications listed in Table 2.1 were revised to reflect the NRC approved NEI 99-01 Rev. 5 based EALs.

Section 3

The lowest event classification is changed from "Notification of Unusual Event" to "Unusual Event" to match NEI 99-01 Rev. 5 and current industry practices. The term "Emergency Action Level (EAL) Identifier" is used for consistency with the new EALs.

Emergency Plan - Description of Changes

Emergency Plan - Revision 39

LDCR-EP-2013-1 (EV-CR-2011-013606-10) (JEB):

Revise Emergency Plan Section 1 (1.1.2.1) to include results of the On-Shift Staffing Analysis required by 10 CFR 50, Appendix E.

Table 1.1 of the E-Plan reflects the results of the staffing study. Table 1.1 did not have to be revised, only new wording added to 1.2.1.1 to describe the required staffing study.

LDCR-EP-2013-2 (EV-CR-2012-002886-1) (JEB):

Update the Appendix P table which cross-references the CPNPP Emergency Plan contents with the requirements in NUREG-0654 "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants."

LDCR-EP-2013-3 (EV-CR-2012-002878-1) (JEB):

Appendix H revised to update the listing of Letters of Agreement and supporting emergency plans. This change has no impact on emergency plan functions as it only changes supplemental information. The deletion of the TolarFire Department removes a tertiary local VFD whose capabilities are still available under local mutual aid agreements with primary responding fire departments.

LDCR-EP-2012-1 (EV-CR-2012-001382-2) (JEB):

E-Plan Section 4 revised to reflect change from PBX (private branch exchange) phone system to Intraplant Phone System (ITS), currently consisting of the VoIP (voice over internet protocol) phone system. The microwave communications system is also removed (no longer designated as an alternate communications system) from Section 4. Table 4.2 revised to update an interface to "Offsite Monitoring Team Director/ Communicator."

LDCR-EP-2012-2 (EV-CR-2012-010400-2) (JEB):

Administrative revision to E-Plan Section 9 and Appendix J to reflect the January 1, 2013 dosimetry change from OSL (optically stimulated luminescence) to TLD (thermoluminescent dosimeter). Reference CR-2012-010400

Emergency Plan - Description of Changes

Emergency Plan - Revision 40

LDCR-EP-2015-3 (EV-CR-2015-004563-2) (JEB):

Table 1.1 changes to reflect Operations minimum staffing increases resulting from the NEI 12-01, "Guideline for Assessing Beyond Design Basis Accident Response Staffing and Communications Capabilities" based Phase II staffing study. The assessment was necessary to respond to information requests contained in NRC letter "Request for Information Pursuant to title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-Ichi Accident," dated March 12, 2012.

Emergency Plan - Revision 41

LDCR-EP-2015-4 (EV-CR-2014-012646-9) (JEB):

Incorporation of description and use of NEI 99-01, Rev. 6, Development of Emergency Action Levels for Non-Passive Reactors.

LDCR-EP-2015-2 (EV-TR-2016-001102-1) (JEB):

Remove outdated data/references and replace with revised CPNPP Evacuation Time Estimate (ETE) Summary which was developed from NEI EPFAQ 12-17, Example Evacuation Time Estimate Summary.

LDCR-EP-2016-1 (EV-CR-2015-005680-3) (JEB):

Add section 6.14 to the Emergency Plan to described the alternative facility (or facilities) as described in 10CFR50 Appendix E, IV.E.8.d.

Emergency Plan - Revision 42

LDCR-EP-2018-1 (EV-TR-2018-002999-1) (JEB):

Remove pagers and replace facsimile, fax and or telecopier with electronic communication.