

COMANCHE PEAK STEAM ELECTRIC STATION

EMERGENCY PLAN MANUAL

**ONSITE/IN-PLANT RADIOLOGICAL SURVEYS
AND OFFSITE RADIOLOGICAL MONITORING**

PROCEDURE NO. EPP-309

REVISION NO. 13

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EMERGENCY PLANNING MANAGER

<p style="text-align: center;">CPSES EMERGENCY PLAN MANUAL</p>		<p style="text-align: center;">PROCEDURE NO. EPP-309</p>
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<p>1.0 <u>PURPOSE</u></p> <p>This procedure provides guidance for establishing onsite, in-plant and offsite radiological monitoring activities.</p> <p>These activities assist with decision-making regarding onsite protective measures and offsite protective action recommendations.</p> <p>2.0 <u>APPLICABILITY</u></p> <p>2.1 This procedure is effective for Comanche Peak Steam Electric Station (CPSES) Emergency Response Organization personnel upon declaration of an Alert or higher emergency classification or at the direction of the Emergency Coordinator.</p> <p>3.0 <u>DEFINITIONS/ACRONYMS</u></p> <p>3.1 For the purposes of this procedure, In-Plant/Onsite is defined as the area inside the Protected Area and Offsite is defined as any area outside the Protective Area.</p> <p>4.0 <u>INSTRUCTIONS</u></p> <p>Instructions, if necessary, for performing emergency response activities identified in this procedure are in applicable Position Assistance Documents (PADs).</p> <p>4.1 <u>Precautions</u></p> <p>4.1.1 Radiological monitoring activities should be performed such as to not exceed the exposure limits specified in Title 10, Code of Federal Regulations, Part 20. Any exposure greater than these limits shall be controlled IAW EPP-305, "Emergency Exposure Guidelines and Personnel Dosimetry."</p> <p>4.1.2 Dosimetry worn by radiological monitoring team member should be as specified by EPP-305 and the PADs.</p>		

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<p>4.1.3 There is potential for encounter with high levels of contamination. Precautions should be taken to prevent the ingestion of and to minimize the spread of contamination. Protective equipment should be worn as required to minimize the potential for skin contamination and internal exposure.</p> <p>4.1.4 Potassium Iodide (KI), with the approval of the Emergency Coordinator, should be offered to team members to limit the uptake of radioiodines. Instructions for the use and distribution of KI are given in EPP-306, "Use of Thyroid Blocking Agents."</p> <p>4.1.5 When using FM transceivers to transmit data, avoid transmitting units (e.g., mrem, μCi, etc.).</p> <p>4.1.6 When any Monitoring Team is not actively collecting data, they should retreat to an area of low exposure and notify their respective communicator.</p> <p>4.1.7 Offsite Radiological Monitoring Teams should not enter privately owned property without the owner's permission.</p> <p>4.2 <u>Team Assignment and Composition</u></p> <p>4.2.1 Team assignments, following declaration of an Alert or high emergency classification, are made in the Operations Support Center (OSC). However, the Emergency Coordinator may initiate team assignments prior to activation of the OSC. Team assignments can be made by the Radiation Protection Technician supervising activities at Access Control, the TSC Onsite Radiological Assessment Coordinator/or the OSC Radiation Protection Coordinator. Radiation Protection Technicians who are dispatched from the OSC to the Emergency Operations Facility (EOF) for assignment to an Offsite Field Monitoring Team report to the EOF Offsite Field Monitoring Team Director.</p>		

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4.2.2 Initial Radiological Monitoring Teams shall be comprised of at least two (2) individuals, of which one individual shall be a qualified Radiation Protection Technician. As conditions stabilize and more information becomes available regarding the emergency condition, the OSC RP Coordinator or the EOF Offsite Monitoring Team Director may reduce the size of the team to one qualified Radiation Protection Technician. The primary consideration for team size reduction shall be the safety of the individual being dispatched. [C-05725, 08922]

4.3 Team Deployment

NOTE: Deployment times may vary due to duration of briefing, time required to obtain protective clothing and to check equipment.

4.3.1 Onsite and In-Plant Radiological Monitoring Teams should be dispatched, as necessary, approximately fifteen (15) to thirty (30) minutes after arrival onsite.

4.3.2 The first Offsite Radiological Monitoring Teams should be dispatched approximately 55-70 minutes of an Alert or higher emergency classification.

4.4 Emergency Response Vehicles

4.4.1 At least three Company vehicles shall be available for offsite monitoring teams. [05723]

Keys for all of the dedicated Emergency Response Vehicles are maintained in the following locations:

- Emergency Operations Facility (EOF) Emergency Key Box
- Emergency Planning

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<p>4.4.2 Onsite Radiological Monitoring Teams have access to any Company owned or leased vehicle currently available onsite. [C-05726]</p> <p>4.4.3 When these vehicles are selected for use, the user should verify that the fuel tank gauge reads equal to or greater than one-half full. Otherwise, the vehicle should be refueled prior to commencing monitoring activities if time permits.</p> <p>4.5 <u>Emergency Response Equipment</u></p> <p>4.5.1 Offsite monitoring teams are equipped with two-way radios and survey equipment such as dose rate meters and air samplers, protective clothing, a map depicting the 10-Mile Emergency Planning Zone (EPZ), personal dosimetry and other equipment necessary to perform assigned tasks. This equipment allows collection and field analysis of radioiodine activity as low as 1.0E-07 microcuries per milliliter. This equipment is pre-staged for the Offsite Radiological Monitoring Teams in the Nuclear Operations Support Facility (NOSF). [C-05644, 01204]</p> <p>4.5.2 Three field monitoring kits are maintained at the NOSF. A similiar kit is maintained for the Onsite Monitoring Team in the Operations Support Center (OSC). Each Emergency Response Kit is to be sealed upon completion of the last scheduled inventory or maintenance. If the seal has been broken, or tampering is indicated, a complete inventory of the emergency kit should be conducted prior to departure. An inventory sheet is maintained with each kit. [C-08694]</p> <p>4.5.3 Instruments to be used by monitoring team personnel should be response checked prior to their use. A radiation check source is kept in each Emergency Response kit for this purpose.</p> <p>4.5.4 In-Plant Radiological Monitoring Teams should equip themselves with instruments and supplies from normal day-to-day Radiaiton Protection supplies.</p>		

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<p>4.5.5 Prior to being dispatched, each team should ensure that they have a portable FM transceiver. Two-Way radios are staged in their chargers at the Operations Support Center (OSC) and the Nuclear Operations Support Facility (NOSF).</p>	<p>4.6 <u>Sample Collection</u></p>	<p>4.6.1 Samples collected by all Radiological Monitoring Teams should be labeled in accordance with the teams' Position Assistance Document (PAD) or approved Chemistry or Radiation Protection procedures.</p> <p>4.6.2 Portable grab sampling equipment will be used to obtain iodine and particulate air samples. Instructions contained within Position Assistance Documents (PADs) or approved Radiation Protection procedures are used for field evaluation of sample activities. [C-00562]</p> <p>4.6.3 If further analysis of these grab samples is required, samples can be delivered to the following locations.</p> <p style="margin-left: 40px;">4.6.3.1 Samples collected by In-Plant or Onsite Monitoring Teams should be taken to an appropriate sample receiving point. The preferred receiving location for In-Plant or Onsite samples is the Chemistry Hot Lab.</p> <p style="margin-left: 80px;">4.6.3.1.1 Laboratory analysis of these samples should be in accordance with approved Chemistry and/or Radiation Protection procedures.</p> <p style="margin-left: 40px;">4.6.3.2 Samples collected by Offsite Monitoring Teams should be delivered to the NOSF Decontamination Area unless otherwise directed to deliver them to the Bureau of Radiation Control (BRC).</p> <p style="margin-left: 80px;">4.6.3.2.1 Laboratory analysis of these samples should be done in accordance with Texas Health Department and/or Bureau of Radiation Control (BRC) procedures.</p>

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4.7 Documentation

CAUTION: Survey forms and/or log sheets recorded by team members in the field have a high potential for contamination. These documents should be surveyed and, if contamination is detected, should be recopied prior to submitting for retention.

4.7.1 Offsite monitoring activities should be documented in accordance with Position Assistance Document (PAD) instructions. All forms and records generated as the result of an actual emergency should be submitted to the Emergency Planning Manager.

4.7.2 In-plant and onsite monitoring activities may utilize current Radiation Protection survey forms designed for those areas.

4.8 Communications

4.8.1 The primary method of communications for all Radiological Monitoring Teams is the two-way radio communications system as described in EPP-202, "Emergency Communications". Backup methods include the plant or public telephone systems, Gaitronics or the sound-powered phone system (where applicable).

4.8.2 All teams should verify radio communications prior to departing the dispatching facility.

4.9 General Monitoring Instructions

4.9.1 To alert team members to rapid increases in ambient radiation levels teams should do as follows.

4.9.1.1 Offsite Teams should have their count rate instrument on at all times with the "audible" speaker on until a high exposure rate field is detected.

4.9.1.2 In-Plant and Onsite Teams should have at least one (1) dose rate instrument on at all times with the scale selector on the lowest scale.

4.9.2 Onsite and offsite radiological monitoring shall continue, as required, throughout

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the duration of the emergency so that the need for protective measures can be quickly addressed. [C-06302], [C-05724]

4.10 In-Plant and Onsite Radiological Monitoring Teams

4.10.1 Entries into radiologically controlled areas and assignments to monitoring teams will be controlled in accordance with EPP-116, "Emergency Repair and Damage Control and Immediate Entries."

4.10.2 Each monitoring team should continuously monitor areas entered, and update radiological postings in accordance with RPI-602, "Radiological Surveillance and Posting." [C-05756]

4.10.3 Monitoring teams should proceed quickly to the assigned location, or until a turnback dose rate of 1000 mrem/hr has been encountered. If the turnback dose rate is encountered, the team should withdraw to a low dose rate area and communicate their results and observations.

4.10.4 Entry into an area greater than the 1000 mrem/hr turnback dose rate should not be attempted until approved by the OSC RP Coordinator, EOF RP Coordinator, or the TSC Onsite Radiological Assessment Coordinator.

4.10.5 All monitoring should be completed using normal Radiation Protection practices and the guidelines given in applicable Position Assistance Documents (PADs).

4.10.6 Fixed radiation monitor readings should be used (if available) to assist in identifying unusual radiological conditions which may be encountered enroute to or at the desired monitoring location(s).

4.10.7 If requested, monitoring teams should monitor for contamination enroute to their desired location(s).

4.11 Offsite Radiological Monitoring Teams

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<p>4.11.1 The Offsite Radiological Monitoring Team's Position Assistance Document (PAD) contains instructions for the following types of radiological monitoring activities: [C-08920]</p> <ul style="list-style-type: none"> ● Beta-Gamma dose rates; ● Ground Survey (Direct Scan) ● Ground Survey (Smear) ● Airborne particulate ● Airborne radioiodines ● Environmental Sampling (soil, water, vegetation) <p>4.11.2 Plume traverse methodology is described in the Position Assistance Document (PAD) of the EOF Offsite Monitoring Team Director.</p> <p>4.11.3 While a field team is enroute to their assigned monitoring location(s), a count rate instrument should be constantly monitored to detect increases in the ambient area radiation levels.</p> <p style="padding-left: 40px;">4.11.3.1 A count rate instrument reading of three (3) or more times the average background radiation level defines the "plume boundary".</p> <p>4.11.4 Upon defining the initial plume boundary, the Offsite Radiological Monitoring Team should IMMEDIATELY report finding the initial leading edge of the plume and give its location. Subsequent monitoring activities should be done at the discretion of the EOF Offsite Monitoring Team Director.</p>		
<p>CAUTION: High radiation exposure rates (>1000 mR/hr) may be encountered inside the plume.</p>		
<p>4.11.5 If dose rates ≥ 1000 mR/hr are encountered, the team should withdraw to a low dose rate area and communicate this finding.</p> <p>4.11.6 Normally, only dose rate measurements should be performed during plume traverse activities.</p> <p>4.11.7 When possible, radiological data should be collected in areas where location can easily be described (e.g., intersections, siren locations, permanent landmarks,</p>		

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<p style="text-align: center;">etc.).</p>		
<p>4.11.8 Offsite Radiological Monitoring Team personnel should limit the time they spend inside the plume in order to minimize their exposure. Dosimeters should be checked periodically to monitor exposure.</p>		
<p>4.11.9 Offsite radiological data may be used as a basis for identifying and posting radiologically controlled areas. Radiological posting of areas offsite should only be accomplished when it would be in the best interest of TXU Electric to do so. Prior to posting any offsite area, the decision to post should be evaluated by the EOF Radiation Protection Coordinator.</p>		
<p>4.11.10 Offsite environmental monitoring locations are identified in RPI-713, "Collection, Preparation, and shipment of Radiological Environmental Samples." [C-08921]</p>		
<p>5.0 <u>REFERENCES</u></p>		
<p>5.1 CPSES Emergency Plan</p>		
<p>5.2 NUREG-0654, Rev. 1, FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"</p>		
<p>5.3 Title 10, Code of Federal Regulations, Part 20.</p>		
<p>5.4 EPP-116, "Emergency Repair and Damage Control and Immediate Entries"</p>		
<p>5.5 EPP-202, "Emergency Communications"</p>		
<p>5.6 EPP-305, "Emergency Exposure Guidelines and Personnel Dosimetry"</p>		
<p>5.7 EPP-306, "Use of Thyroid Blocking Agents"</p>		
<p>5.8 RPI-602, "Radiological Surveillance and Posting"</p>		
<p>5.9 RPI-713, "Collection, Preparation, and Shipment of Radiological Environmental Samples"</p>		

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6.0 ATTACHMENTS

None