

Marked-up Copy of Affected Pages of the RERP

Committed Dose Equivalent (CDE) - The dose equivalent to organs or tissues of reference that will be received from an intake of radioactive material by an individual during the 50-year period following the intake.

Committed Effective Dose Equivalent (CEDE) - The sum of the products of the weighting factors applicable to each of the body organs or tissues that are irradiated and the committed dose equivalent to these organs or tissues.

Confinement Boundary – The barrier(s) between areas containing radioactive substances and the environment.

Containment Closure - Is the action to secure Containment as a functional barrier to fission product release during cold shutdown conditions. Containment closure means that all potential escape paths are closed or capable of being closed (ref. 3.1.6). Containment Closure exists if, for each containment penetration (ref. 3.1.7)

1. The system associated with the penetration is in service providing pressure or providing a water seal to prevent escape of Containment atmosphere to outside of containment, or
2. The inside containment isolations of a penetration are in their required state or the outside Containment isolations of the penetrations are in the required state, or
3. Alternate means of isolating at least one side of a penetration have been established per OSP-GT-00003 Attachment 6, or
4. Administrative controls have been established to isolate a breached penetration when required as described in OSP-GT-00003 Attachment 7.

Contiguous - Being in actual contact; touching along a boundary or at a point.

Control Room (CR) - The area located on the 2047'-6" elevation of the Control Building from which the reactor and its auxiliary systems are controlled.

Corrective Actions - Emergency measures taken to mitigate or terminate an emergency situation at or near the source of the problem.

Deep Dose Equivalent (DDE) - The dose equivalent at a tissue depth of 1 cm.

Department of Health (DOH) - A department of the State responsible for evaluating the effects of a radiological emergency on the population at risk.

Desired Numbers – As this term appears in Table 5-2, it is the complete or full staffing of the organization (all positions filled with the optimum number of responders) so as not to be confused with minimum staffing or numbers.

Dose Equivalent (DE) - The product of the absorbed dose in tissue, quality factor, and all other necessary modifying factors at the location of interest. The unit of dose equivalent is the rem.

Drill - A supervised instruction period aimed at testing, developing, and improving skills.

Duty - Rotating on-call coverage, scheduled around the clock, to ensure response ~~during off normal working hours~~.

Duty Manager (DM) - A designated member of the Callaway Plant management staff who is assigned the responsibility of being the initial contact for problems when the Shift Manager needs guidance during normal plant operations.

Lower Flammability Limit (LFL) - The minimum concentration of a combustible substance that is capable of propagating a flame through a homogenous mixture of the combustible and a gaseous oxidizer.

Maintain - Continuously control a parameter to some required guideline. Example: MAINTAIN steam generator levels at 50% (45%-55%).

Minimum Staffing – Pre-designated Emergency Response Personnel assigned to activate the Technical Support Center and the Emergency Operations Facility sufficiently to relieve Control Room personnel of emergency functions not directly related to operation of the Plant. Minimum Staffing personnel are designated on a rotating basis to be available for mobilization via the Cellular Paging System. When designated on duty, personnel must remain fit for duty and within their designated response time of the Plant.

Mobilization - The process of staffing the Emergency Response Facilities. This includes announcements over the Plant Gai-tronics system and activation of the Cellular Paging System.

Multi-Purpose Canister (MPC) – MPCs are the sealed spent nuclear fuel canisters which consist of a honeycombed fuel basket contained in a cylindrical canister shell which is welded to a baseplate, lid with welded port cover plates, and closure ring. The MPC provides the confinement boundary for the contained radioactive materials.

Non-Essential Personnel - All personnel who are not actively filling an emergency response position or providing support to the Emergency Response Organization.

Normal Plant Operations - Activities at the plant site associated with routine testing, maintenance, or equipment operations, in accordance with normal operating or administrative procedures. Entry into abnormal or emergency operating procedures, or deviation from normal security or radiological controls posture, is a departure from Normal Plant Operations.

~~**Normal Working Hours**—Current standard core hours per Company and Plant policies and procedures. Off hours are the remaining hours in the week, including weekends and holidays.~~

Off-site - Any area outside of the Protected Area fencing.

On-site - Any area located within the Protected Area fencing.

Operable - Able to perform its intended function.

Owner Controlled Area - The fenced area contiguous to the Protected Area, designated by Callaway Plant to be controlled for security purposes.

Personnel Monitoring Devices - Any device designed to be worn or carried by an individual for the purpose of measuring the radiation exposure received, such as film badges, self-reading dosimeters, thermoluminescent dosimeters, optically stimulated luminescent dosimeters, etc.

Physically Operable - Plant systems, equipment, or devices shall be physically operable when they are capable of performing their specific function, regardless of Technical Specifications criteria, and could be available for use during emergency operations.

Plant Operating Procedures - A set of procedures to be used to provide the guidance and control of the Plant operation.

Table 5-2
Emergency Staffing Requirements / Emergency Response Organization (On-Site/TSC)
Sheet 1 of 6

Emergency Position	Desired Number	Function	Major Tasks	Response Level	Response Goal+ Normal Hours	Response Goal + Off Hours	Location
Emergency Coordinator #	1	Emergency Management	Direction and Control of On-Site Emergency Response, accident assessment and emergency declarations	ALERT	15 Minutes	75 Minutes	TSC
TSC Communicator (ENS) #	1	Notifications/ Communications	Maintain NRC ENS Communications link	ALERT	15 Minutes	75 Minutes	TSC
Administrative Coordinator	1	Coordination of Administrative Support	Direct Administrative/Clerical Support including logistics, Coordinates Activation of Facility	ALERT	15 Minutes	75 Minutes	TSC
Clerical Support Staff	*	Administrative Support	Records retrieval, document reproduction, messengers, filing, etc.	ALERT	15 Minutes	As Needed	TSC
Health Physics Coordinator #	1	Radiological Assessment	Directs Assessment of On-Site Radiological Conditions, Directs Radiological Support for Emergency Activities	ALERT	15 Minutes	75 Minutes	TSC
Operations Support Coordinator	1	Coordination of corrective actions by Emergency Teams	Directs and Coordinates corrective and emergency maintenance, and Forms, Briefs and Debriefs Emergency Teams	ALERT	15 Minutes	75 Minutes	TSC
Stores Personnel	1	Supply Support	Obtains parts, supplies, and materials from Warehouse	ALERT	15 Minutes	75 Minutes	TSC
Emergency Team Coordinators • Mechanical • Electrical	1 1	Coordination of Emergency Teams	Directs Emergency Team formation, briefing, dispatch, tracking and support	ALERT	15 Minutes	75 Minutes	TSC
CR/TSC Liaison	1	Coordination and transfer of information	Coordinate CR to TSC Communications	ALERT	15 Minutes	75 Minutes	Control Room

+ Facility activation will be done as soon as practical. Facility Activation Goals for the TSC and EOF are 90 minutes ~~for off hours and 30 minutes during normal working hours~~ (assumes 15 minutes from arrival at the facility). Response times may vary due to inclement weather and/or road conditions.

Minimum positions needed for facility activation. A facility is considered activated when designated minimum personnel are ready to assume their responsibilities.

* As needed

Table 5-2
Emergency Staffing Requirements / Emergency Response Organization (On-Site/TSC)

Sheet 2 of 6

Emergency Position	Desired Number	Function	Major Tasks	Response Level	Response Goal + Normal Hours	Response Goal + Off Hours	Location
Technical Assessment Coordinator #	1	Technical Support and Recommendations for Emergency Declarations	Directs technical analysis of plant conditions to formulate EAL and emergency mitigating recommendations to the EC	ALERT	15 Minutes	75 Minutes	TSC
TSC Lead Engineer	1	Supervise Engineering Staff	Assist TAC in command and control of Engineering Staff	ALERT	15 Minutes	75 Minutes	TSC
Engineering Statusboard/Logkeepers	3	Maintains logs and status boards	Maintains logs and statusboards for Technical Assessment group	ALERT	15 Minutes	75 Minutes	TSC
TSC Engineering Staff							
• Mechanical Engineer	1	Engineering evaluation of Plant Systems and Conditions	Analyze Plant Engineering Problems, Recommend courses of Action, Maintain Technical Status Boards, Evaluate EALs	ALERT	15 Minutes	75 Minutes	TSC
• Electrical Engineer	1						
• Reactor/Nuclear Engineer	1						
• I&C Engineer	1						
Chemistry Coordinator	1	Chemistry Support	Direct primary and secondary Chemistry activities, evaluate chemical conditions	ALERT	15 Minutes	75 Minutes	TSC
Security Coordinator	1	Security	Direct Security activities per Security Plan	ALERT	15 Minutes	75 Minutes	TSC
On-shift Emergency Response		See Table 5-1		UNUSUAL EVENT	Immediate	Immediate	See Table 5-1

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Minimum positions needed for facility activation. A facility is considered activated when designated minimum personnel are ready to assume their responsibilities.

Table 5-2
Emergency Staffing Requirements / Emergency Response Organization (On-Site/TSC)
Sheet 3 of 6

Emergency Position	Desired Number	Function	Major Tasks	Response Level	Response Goal + Normal Hours	Response Goal + Off Hours	Location
Support Area Personnel Including:		Emergency Team Support	Emergency repair, search and rescue, firefighting, team members, support emergency operations. Obtaining supplies and materials from the Warehouse	ALERT	15 Minutes		TSC Support Area
• Rad/Chem Support	14	Health Physics Coordinator, Chemistry Coordinator, and Emergency Team Support	Radiological Support for Emergency Teams, additional radiological support, Field Monitoring Teams, Dose Assessment Staff, Chemistry activities	ALERT	15 Minutes	75 Minutes	TSC Support Area
• Mechanics	2	Mechanical repairs	Evaluation and repair of mechanical problems impacting plant operations	ALERT	15 Minutes	75 Minutes	TSC Support Area
• Electricians	2	Electrical Repairs	Evaluation and repair of electrical problems impacting plant operations	ALERT	15 Minutes	75 Minutes	TSC Support Area
• I&C Technicians	1	I&C Repairs	Evaluation and repair of I&C problems impacting plant operations	ALERT	15 Minutes	75 Minutes	TSC Support Area

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Table 5-2
Emergency Staffing Requirements / Emergency Response Organization (EOF)

Sheet 4 of 6

Emergency Position	Desired Number	Function	Major Tasks	Response Level	Response Goal+ Normal Hours	Response Goal + Off Hours	Location
Recovery Manager #	1	Emergency Management	Manage Overall Callaway Plant Emergency Response, Protective Action Recommendations, Off- Site Notifications and Communication, Interface with Off-Site Authorities	ALERT	15 Minutes	75 Minutes	EOF
Protective Measures Coordinator	1	Recommend Protective Actions to RM	Review and Validate Recommendation for Protective Actions using Plant Conditions and Off-Site Dose Assessments	ALERT	15 Minutes	75 Minutes	EOF
Dose Assessment Coordinator #	1	Dose Assessment	Direct Field Monitoring Activities, Calculate Off-site Dose Projections, Perform Assessments, Confirm PARs based upon Dose Projections	ALERT	15 Minutes	75 Minutes	EOF
Assistant Dose Assessment Coordinator	1	Dose Assessment	Calculate Off-site Dose Projections, Perform Assessments, Confirm PARs based upon Dose Projections	ALERT	15 Minutes	75 Minutes	EOF
Dose Assessment Staff	2**	Field Team Communications, Maintain Status Boards	Communicate with and Record Field Monitoring Teams data, coordinate team efforts as directed by Dose Assessment Coordinator, maintain status boards, man the HPN Line when directed	ALERT	15 Minutes	75 Minutes	EOF
Field Monitoring Teams	2**	Plume tracking, collection of radiological data from the field	Collect radiological environmental data as directed	ALERT	15 Minutes	75 Minutes	Mobile

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Minimum positions needed for facility activation. A facility is considered activated when designated minimum personnel are ready to assume their responsibilities.

** Can be filled from paged personnel and/or dispatched from personnel in the TSC Support Area.

Table 5-2
Emergency Staffing Requirements / Emergency Response Organization (EOF)

Sheet 5 of 6

Emergency Position	Desired Number	Function	Major Tasks	Response Level	Response Goal+ Normal Hours	Response Goal + Off Hours	Location
Plant Assessment Coordinator	1	Review of Plant Conditions and Recommendation of PARs	Reviews and validates plant conditions and EALs to verify existing and formulate new protective action recommendations	ALERT	15 Minutes	75 Minutes	EOF
Plant Assessment Staff	2	Recommend PARs based on Plant Conditions	Analyze and interpret plant conditions to Evaluate PARs, Maintain Technical Status Boards	ALERT	15 Minutes	75 Minutes	EOF
Logistical Support Coordinator	1	Procurement of goods and services	Direct Support activities and assist in procurement of identified materials, initiate contracts for goods and services, Provide Administrative and Clerical direction and support	ALERT	15 Minutes	2 Hours	EOF
Logistical Support Staff • Material Eng. Buyer, etc. • Clerical Support	2 *	Procurement of goods and services General Clerical Tasks	Develop Purchase specifications, solicit bids for goods and services, Assist Logistical Support Coordinator, Provide Clerical Support	ALERT	15 Minutes	2 Hours	EOF
EOF Communicator #	1	Notifications/ Communications	Off-site Notifications/Communications	ALERT	15 Minutes	75 Minutes	EOF
Off-site Liaison Coordinator	1	Coordinate activities of Off-Site personnel working at the EOF	Coordinate: EOF Activities, Support for Local, State and Federal Responders. Man EOF communication links.	ALERT	15 Minutes	75 Minutes	EOF

- + Facility activation will be done as soon as practical. Facility Activation Goals for the TSC and EOF are 90 minutes ~~for off hours and 30 minutes during normal working hours~~ (assumes 15 minutes from arrival at the facility). Response times may vary due to inclement weather and/or road conditions.
- # Minimum positions needed for facility activation. A facility is considered activated when designated minimum personnel are ready to assume their responsibilities.
- * As needed

Table 5-2
Emergency Staffing Requirements / Emergency Response Organization (JIC)
Sheet 6 of 6

Emergency Position	Min. #	Function	Major Tasks	Response Level	Response Goal +	Location
Company Spokesperson	1	Media Interface	Official Company representative, Obtain and disseminate emergency information, Conduct Media briefings	ALERT	2 Hours	JIC
JIC Technical Representatives	2	Technical Support	Provide technical information to Company Spokesperson, Provide technical input for media briefings and news releases	ALERT	2 Hours	JIC / EOF
JIC Coordinator	1	Public/Media Relations	Support the Company Spokesperson, Coordinate information on Callaway Plant with SEMA	ALERT	2 Hours	JIC
JIC Administrator	1	Public/Media Relations	Administration and Logistics of JIC	ALERT	2 Hours	JIC
JIC Editor	1	Public/Media Relations	Composes written news releases	ALERT	2 Hours	JIC
JIC Media Host	1	Public/Media Relations	Accommodate Media Needs	ALERT	2 Hours	JIC

+ Facility activation will be done as soon as practical. Facility Activation Goals for the JIC is 2 hours ~~for off hours and normal working hours.~~ Response times may vary due to inclement weather and/or road conditions.

6.3. Notification

After the declaration of an emergency, the Emergency Coordinator ensures that notifications are made to:

- Emergency Coordinator (TSC);
- State and local notification points;
- Nuclear Regulatory Commission;
- Recovery Manager;
- Institute for Nuclear Power Operations (at ALERT or higher emergency classification);
- American Nuclear Insurers (at ALERT or higher emergency classification).

Initial notifications to the State and local authorities shall be initiated within 15 minutes after the declaration of an emergency. Periodic updates are made to the State and local authorities upon activation of the State and local Emergency Operations Centers. These follow up notifications should be made whenever significant changes in Plant status occur, or approximately every ~~half-hour~~ ~~when~~ **until** conditions are relatively stable. Follow-up notifications should be made with the same urgency as initial notifications when changes in Protective Action Recommendations are involved. When **event** conditions are relatively stable ~~and the Plant remains at an UNUSUAL EVENT~~, the follow-up notification frequency may be reduced **to an agreed upon frequency**, with the consensus of SEMA and the EPZ counties. Updates and notifications should be shared with State and local authorities present in the EOF.

Notifications inform the State and local authorities of the emergency classification, release information, plant status, Protective Action Recommendations, and radiological and meteorological data used to form protective action recommendations.

6.3.1. Emergency Coordinator (TSC)

The Emergency Coordinator (TSC) is notified by the Shift Manager (Emergency Coordinator) upon declaration of any emergency classification. At a minimum, the following topics should be discussed:

- Classification of the emergency (potential need to reclassify);
- Current Plant status and actions taken;
- Augmentation/Paging of Emergency Response Organization (necessary or required augmentation);
- Notification of authorities.

6.3.2. Nuclear Regulatory Commission (NRC)

Notification of the NRC will be initiated by a Communicator (upon direction from the Emergency Coordinator) utilizing the Emergency Notification System (ENS). Once communications with the NRC is established, it will be maintained until the NRC directs otherwise.

6.4. Mobilization

The number and types of personnel needed to mitigate the circumstances of an emergency will depend upon three factors:

- Classification of the emergency (providing a relative indication of the severity);
- Probability for the situation to escalate or de-escalate;
- Specific nature of the emergency (e.g., radiological, equipment failure, natural disaster).

The classification of an emergency is utilized for determining the minimum number and types of personnel anticipated to be needed. The Emergency Coordinator determines if additional personnel are necessary to mitigate or terminate the events leading to or resulting from the emergency. If necessary, the Emergency Coordinator may augment/page portions of the Emergency Response Organization prior to their mandated time. EIPs provide for both the timely callout of the Emergency Response Organization (Chapter 5.0) and the staffing of their associated Emergency Response Facilities (Chapter 7.0).

In addition to personnel needed to mitigate the consequences of the emergency, personnel are also needed to ensure an accurate and timely release of information to the media and general public. The Emergency Response Organization also provides for the timely dissemination of emergency information to the media and general public. For emergency classifications, where greater media interest is anticipated, provisions are made for establishing a Joint Public Information Center (JIC) for more extensive coordinated media briefings and conferences.

~~During normal working hours, plant alarms, the public address system, and the cellular paging system are the primary means of notifying plant personnel.~~

If an ALERT (or higher) classification is declared ~~during normal working hours~~, all qualified personnel (*Fit for Duty*) report to their Emergency Response Facility and then unnecessary personnel will be dismissed. Some departments have policies or procedures that designate specific personnel to respond ~~during normal working hours~~. Emergency response ~~during off hours~~ is by Emergency Response Duty Personnel and Emergency Response Augmentation Personnel.

~~During off normal working hours~~, The plant alarms, public address system, and the cellular paging system are used to notify **ERO** personnel. An automated calling system is an alternate or additional method of mobilizing selected ERO personnel.

When the Emergency Response Organization is notified ~~via the Cellular Paging System~~, Emergency Response Duty personnel (*Minimum Staffing*) report to the TSC and the EOF within approximately 75 minutes to relieve the Control Room of emergency response functions not directly related to Plant operation.

Emergency Response Augmentation Personnel respond to their designated facilities within approximately 75 minutes (2 hours for some positions). Together, the Emergency Response Organization is capable of fulfilling all intended functions for each Emergency Response Facility as detailed in Chapter 7.0.