

VOLUME 1

2011-2012

# ENERGY SYSTEM RESTORATION PLAN





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# Overview

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## 1. OVERVIEW

### 1.1 Emergency Response Vision

#### 1.1.1 A Consistent Response

This plan outlines Puget Sound Energy's (PSE's) philosophy and guidelines for responding to emergencies.

- PSE's emergency response plan emphasizes a standard philosophy for responding to any type of emergency, regardless of cause or impact.
- Our procedures for response, restoration, and recovery are consistent across PSE's service area and should appear seamless to our customers and the general public.
- We implement and enforce standard policies and consistent operating practices Companywide.

### 1.2 The National Incident Management System and the Incident Command System

PSE has adopted the National Incident Management System (NIMS), a consistent, nationwide framework and approach that enables government at all levels (federal, state, local, tribal), the private sector and non-governmental organizations to work together to prepare for, prevent, respond to, and recover from the effects of incidents, regardless of cause, size, or complexity.

PSE has started to incorporate the use of the Incident Command System (ICS), a consistent, all hazards incident management methodology that allows PSE to integrate seamlessly into a nationally standardized response and recovery structure.

#### 1.2.1 Guiding Principles

- We treat all customers, and PSE and contract personnel with consideration and respect.
- We assess damage and relay information promptly. A high-level Company impact assessment will be provided within 24 hours and assessment and restoration estimates will be provided as each affected geographic area is analyzed.
- We work to ensure employee and public safety during emergency restoration efforts. We follow all safety rules. We respond to sites that pose a risk to public safety (such as downed energized conductors or broken gas pipe) with the highest priority, and secure the site before allocating resources to other service restoration efforts.
- We maintain environmental stewardship during major restoration efforts by complying with all environmental work practices and regulations.

#### 1.2.2 PSE Commitments

PSE has made a commitment to its customers—to provide competitively priced products and superior services designed to meet their needs. Reliability is a key component of this commitment.

- Customers expect reliability to include continuity of service and view any energy interruption as an emergency requiring our immediate response.
- PSE stakeholders, including the general public, cities, counties, state government agencies and officials, and commercial/industrial customers, are dependent upon electric and natural gas utilities to provide essential services.

While the safety of our employees and the public remains our first priority, we must ensure that:

- All PSE and service provider personnel understand their roles in an emergency and are prepared to fulfill these assignments;
- Support systems and operation plans are in place to respond to all incidents of various levels; and,
- Outage response and restoration information meets or exceeds customer expectations.

### **1.2.3 Communications**

The Company's Emergency Operations Center (EOC), when activated, is responsible to ensure timely and accurate information is provided to all stakeholders. The EOC in coordination with Corporate Communications is responsible for incident messaging and media relations.

As information becomes available through a variety of sources, it is reviewed and evaluated by the EOC and communicated through a variety of channels to external and internal audiences on a regular schedule.

- This helps provide consistent, accurate, and timely messages to customers, media, governmental agencies, and personnel working on restoration.
- In major incidents, PSE may designate a senior official (the *Chief Executive Officer* or *Vice President Corporate Affairs* or their appointed delegate) as the spokesperson for the Company.

### **1.2.4 Restoration Strategy**

A critical element in any restoration of service involves planning for the incident(s) that cause temporary suspension or change in normal service. Restoration strategy involves having and exercising a well thought out and comprehensive business continuity plan.

- PSE's corporate plan for continued operations is in the recently drafted *Corporate Business Continuity Plan*.
- In addition to this plan, all departments within PSE are required to have their own specific business continuity plan.
- These plans address how each department has prepared for interruption of operations, and how they will restore service and normal operations.
- All personnel should be familiar with both the *Corporate Business Continuity Plan* and their department's business continuity plan, and encourage reviews, exercises of the plan, and changes to the plans as needed.

During major incidents, significant variances in average outage duration should not be apparent among geographic areas.

- Every effort is made to cost-effectively redeploy resources to meet this goal.
- We establish restoration priorities for restoring community critical infrastructure for each geographic area.
- We are sensitive to individual customer situations throughout extended outages.

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PSE’s focus is to correct problems that can be fixed quickly and to restore the greatest number of customers first.

- To reduce outage duration, we restore first, and then repair.
- Based on the conditions, damaged sections of the electrical system may be de-energized and isolated, allowing service to be restored up to the point of damage, leaving the site safe until permanent repairs can be completed.
- When repairs must be delayed to a more appropriate time, we ensure that they are scheduled and completed in a timely manner.
- In major incidents, we assess and schedule needed repairs before releasing restoration crew resources.

### **1.3 Purpose**

#### **1.3.1 How to Use This Plan**

The Energy System Restoration Plan is intended to assist both PSE and service provider employees by establishing a comprehensive framework for responding to large-scale incidents, regardless of their cause.

Use the information in this plan to prepare for an electric or natural gas system emergency. The plan helps ensure the safety of the public and employees and implements an effective restoration strategy that is consistent Companywide.

#### **1.3.2 Plan Organization**

The Energy System Restoration Plan is published in two volumes:

##### **Volume I: Energy System Restoration Plan 2011–2012**

The Energy System Response Plan Volume I does not provide process specific procedures—it is written as a guideline and an informative reference for personnel, public service providers, and our customers.

- Section 1: Overview
- Section 2: Hazards and Emergencies
- Section 3: Concept of Operations—Electric
- Section 4: Concept of Operations—Gas
- Section 5: Cold Weather Action Plan
- Section 6: External Resources
- Section 7: Energy Curtailment
- Section 8: Support Function
- Section 9: Key Information Systems
- Section 10: Glossary

##### **Volume II: Energy System Restoration Plan 2011–2012, Additional Information**

Included in Volume II are detailed contractor resource lists, mutual assistance agreements, fleet and equipment resources, critical loads for restoration prioritization, Emergency Operations Center procedures, duty rosters, phone lists, etc.

*NOTE:* Volume II is *not* available for external distribution except as authorized by PSE’s Business Continuity/Emergency Management Department.

### **1.3.3 Plan Availability**

The Energy System Restoration Plan is available to all PSE departments and offices. The Plan is also available to PSE's service provider operating bases and offices. It can be found on the Business Continuity/Emergency Management intranet web site.

The Plan provides position descriptions and responsibilities for response personnel to fulfill their roles in an incident.

So that we may continually improve upon this plan, your comments are welcome. For more information, please contact:

- Emergency Planning Program Manager, 425-456-2666 (or internally at 81-2666).

## **1.4 Scope of Plan**

### **1.4.1 Emergency Response Plan**

The Energy System Restoration Plan describes PSE's service territory, potential hazards, plan activation, organizational structure, role descriptions and response strategies.

This Plan does not provide process-specific procedures already detailed in other PSE documents. References to external materials, however, are provided.

### **1.4.2 Other Plan References**

- Gas Operating Standards – 2011
- Gas Field Procedures – 2011
- Energy Emergency Plan
- Gas Cold Weather Action Plan

### **1.4.3 Plan Activation**

This plan is activated through routine evaluation of criteria unique to either gas or electric incidents.

- PSE operations staff vigilantly monitors system integrity, current or forecasted weather conditions, and current system impacts.
- When conditions are forecasted to deteriorate or system outage incidents begin to escalate, duty managers are contacted and alerted to potential or actual plan activation.
- In turn, duty teams are alerted.

### **1.4.4 Electric Plan Activation**

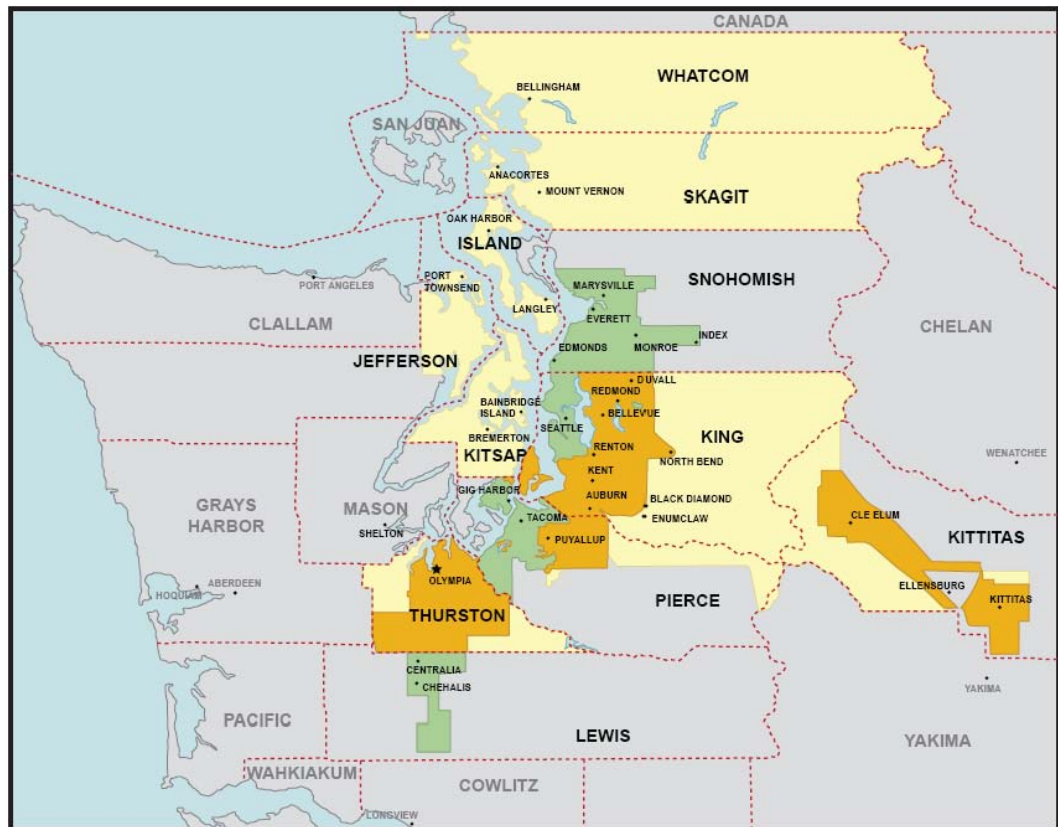
- Deteriorating or sustained poor weather conditions; or,
- Transmission and/or distribution outages trending beyond nominal levels; or,
- Increases in restoration workload may overwhelm available resources.
- For additional information, see Plan Activation (Section 4.10).

### **1.4.5 Gas Plan Activation**

- Multiple or major gas main breaks affecting increasing numbers of customers; or,
- Response capability stretched by multiple incidents, requiring prioritization; or,
- Complex field situation, requiring support from off-site strategy team; or,
- Supplier disruption.

## 1.5 Service Area and Organization

### 1.5.1 Service Area Map



### 1.5.2 Service Area Description

As Washington State's oldest and largest energy utility, with a 6,000 square-mile service territory stretching across 11 counties, PSE serves 1.08 million electric and over 750,000 natural gas customers, primarily in the Puget Sound Region of Western Washington.

PSE meets the energy needs of its growing customer base through:

- Incremental, cost-effective energy conservation,
- Low-cost procurement of sustainable energy resources, and,
- Farsighted investment in the energy delivery infrastructure.

For more information, visit [PSE.com](http://PSE.com). PSE is headquartered in Bellevue, Washington.

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### 1.5.3 Electric Service

PSE divides its electric service territory into five geographic regions. These five regions are Northern, North King, South King, Southern, and Western.

1. Northern region is comprised of *Whatcom, Skagit, and Island Counties*.
2. North King region is comprised of *North King County (north of Cedar River to Snohomish County line) and Kittitas County*.
3. South King region is comprised of *South King County (south of the Cedar River to Pierce County line)*.
4. Southern region is comprised of *Pierce and Thurston Counties*.
5. Western region is comprised of *Kitsap and Jefferson Counties*.

### 1.5.4 Gas Service

Gas service is divided into three geographic regions. These three regions are Northern, King County, and South.

1. Northern region is *North Seattle and Snohomish County*.
2. King County is divided into *East, Central, and South Central*.
3. South region is comprised of *Pierce, Thurston, and Lewis Counties*.

### 1.5.5 PSE First Response

PSE Electric and Gas First Response provide immediate investigation of electric or gas emergencies (24/7) by using an in-house staff of trained utility first responders.

- Electric First Response investigates electric outage reports and other non-outage emergencies such as low or downed wires and voltage problems.
- PSE Gas First Response investigates gas service and main breaks, gas odors, and reports of poor gas pressure.

Calls received from customers and Public Service Answering Points (911 agencies) across PSE's service territory are taken as outage orders, that are triaged with emergency situations being immediately dispatched to the appropriate first responder.

- Once on-site, the first responder provides an initial assessment including a public safety evaluation.
- Once public and site safety is confirmed, corrective action is initiated.

PSE's utility first responders are able to resolve or make safe most problems where damage to PSE's system is not severe, and in many cases restore service to the customer.

### 1.5.6 Second Response

In situations where damage to PSE's distribution system is extensive, repair work is assigned to contracted service providers.

- Service providers provide crews and equipment, maintain facilities within PSE's service area, and are prepared to respond 24/7.
- Many PSE facilities are jointly staffed with both PSE and service provider personnel.
- Electric service providers repair or replace transmission or distribution components such as poles, crossarms, wire, and other system hardware.
- Gas service providers repair or replace gas main, services, or other system components.

# Hazards and Emergencies

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## 2. HAZARDS AND EMERGENCIES

### 2.1 Hazards in the Puget Sound Region

Natural and man-made hazards within PSE's service area with the potential to have significant impact to electric and/or gas energy delivery systems, include:

- **Natural Hazards**
  - Severe weather (wind, snow/ice, extreme temperatures)
  - Earthquake
  - Flooding
  - Volcanic eruption/lahars
  - Fire (wildland)
- **Human or Technological Hazards**
  - Terrorism
  - Cyber attack
  - Pandemic influenza
  - Fire (structural)
  - Hazardous material spill
  - Sabotage
  - Labor strife

These hazards have the potential to cause widespread outages, severely challenge available energy supplies, and/or severely impact PSE's ability to respond to energy disruption incidents.

PSE's response to damage caused by any hazard is essentially the same, regardless of the cause.

### 2.2 What is an Emergency?

PSE defines an emergency as any unplanned incident, regardless of cause, that either threatens or adversely impacts the Company's:

- Critical Business Functions
- Energy Delivery System
- Facilities
- Personnel (PSE employees and contracted Service Provider Staff)
- Technology Infrastructure

Any incident that threatens to, or results in, impairment beyond nominal levels to PSE's energy delivery systems, technology infrastructure, critical business functions, personnel, or facilities is responded to using a structured process.

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### 2.2.1 Definitions for Electric and Gas Service Emergencies

PSE's definition of an electric emergency is directly related to the scope of restoration activity in any one geographic region, or activity Companywide when more than one region is affected. An electric emergency may be defined as:

- 12 or more distribution circuits impacted in any one region and escalating;
- 30 or more distribution circuits affected Companywide and escalating;
- Continued poor weather conditions such as high winds, snow, or ice; or,
- Earthquake or other hazardous conditions.

PSE's definition of a gas emergency is also related to the scope of activity. The activity, however, is generally focused on the safe control of escaping gas and preventing the loss of gas service to customers.

PSE defines a gas emergency as:

- Main or service breaks, outages, or other incidents that may stretch internal response capability;
- Complex field situation requiring support from an off-site strategy team;
- Response requiring large numbers of employees from multiple departments;
- Gas send-out at or above 125 MMCF with significant system constraints predicted;
- Supplier system/facility conditions with potential for adverse impact to PSE's gas system; or,
- Incident resulting in a high-pressure main being removed from service.

### 2.2.2 External Emergency Definitions

There are certain operating definitions of an emergency with which PSE must comply, or must be used to determine the level of response.

PSE's emergency response complies with the following codes and regulations:

- WAC 296-45-035 for the electrical system, "an unforeseen occurrence endangering life, limb, or property."
- WAC 480-93-180 for natural gas, ensures the Company is "in compliance with the provisions of the federal Natural Gas Pipeline Safety Act, 49 CFR part 192."
- WAC 194-22 for electric load curtailment.
- Federal and state statutes requiring PSE to develop and implement safety policies and procedures.

### 2.2.3 Incident Levels

PSE uses incident levels to characterize the overall impact of an incident. Incident severity escalates from level 0 to level 3, each having a corresponding response level.

- With an advance weather forecast, an incident level is predicted based upon forecast models. The predicted incident level suggests the level of advance mobilization required.
- As soon as field conditions permit, early visual damage assessment is used to help affirm or adjust the incident level and the corresponding level of response.
- With unpredicted incidents, early visual damage assessment is used to determine the incident level and corresponding level of response.

Departments having emergency response roles, such as Operations, Purchasing, Materials Management, Customer Services, and Corporate Communications use incident levels as triggers for internal processes.

Once conditions in the field have stabilized and damage assessment can safely begin in earnest, PSE will:

1. Evaluate and communicate within 24 hours\*, the overall “scope” of the incident (e.g., “Restoration efforts across PSE’s service area are anticipated to take 7 days,”);
2. PSE will further evaluate and communicate within 48 hours\*, the estimated restoration time line by county (e.g., “North King County is anticipated to be restored by Thursday, Pierce County is anticipated to be restored by Friday, and Skagit County is anticipated to be restored by Saturday,”);
3. Within 72 hours\*, PSE will seek to provide community-level information (e.g., “PSE anticipates West Bellevue to be restored by noon Thursday, Puyallup by 6 p.m. on Thursday, and the majority of the Mt. Vernon area by midnight, Saturday,”).

\* Delivery of information within this time line is dependent upon the size of the incident and presumes weather conditions are stable and field conditions safe for assessment.

The following table illustrates PSE’s Incident Levels:

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Table 2-1: Incident Levels

Levels	Electric Criteria	Gas Criteria	Level of Response	Operations Actions
<b>Level 0 Normal</b>	Nominal conditions across system.	Nominal conditions across system.	Normal daily response activity.	Normal operations.
<b>Level 1 Regional</b>	Incident localized to individual geographic areas; resources within region adequate for response.	Localized Incident managed with PSE regional resources.	Operations base(s) open; coordination with system operations or gas control. Gas Planning Strategy Center open for gas emergencies.	Emergency Operations Center (EOC) not opened. Internal resources utilized. Some use of employees with Emergency Response (ER) assignments.
<b>Level 2 Significant</b>	Multiple regions affected; requires resources from other PSE regions and/or outside PSE service territory.	Multiple PSE regions affected; requires resources to be allocated to other PSE regions.	EOC open; multiple operating bases open and local area coordination may be activated. Employees with emergency response assignments mobilized.	EOC opened. Additional contractor resources needed; some from bordering states. Moderate to extensive use of employees with ER assignments. Windshield assessment utilized. Complete assessment within 24-36 hrs. Local area coordination possible.
<b>Level 3 Major</b>	Most or all regions affected; maximum level response required; need extensive resources from outside service territory.	Most or all PSE regions affected; may request operator qualified resources from outside PSE.	EOC open; most or all operating bases open; external logistics support may be employed; full corporate response to support restoration efforts.	EOC opened. Resources obtained from outside of region. Full utilization of employees with ER assignments. Local area coordination implemented. Windshield assessment utilized; complete assessment within 48-72 hours.

#### **2.2.4 Public Safety**

PSE's first priority is to dispatch utility first responders to make damaged electric or natural gas infrastructure areas safe for the public, responding personnel, employees of PSE, and its service providers.

- This means responding quickly to reports of gas odors, damaged gas facilities, downed wire, and/or poles blocking access to main roadways.
- If wire is energized and down, it is de-energized and then physically removed from access roads.

#### **2.2.5 Restoration Priorities**

PSE will restore facilities so that the greatest numbers of customers are back in service in the least amount of time.

During the incident, temporary repairs may be used to help speed restoration of service. Permanent repairs will be made at a later time. These temporary repairs are recorded for follow-up.

Generally, energy distribution facilities are restored in this order:

1. Transmission
2. Distribution
3. Individual services

Within this context, PSE considers municipal requests for priority restoration of:

- Hospitals
- Regional airports
- Water, waste water treatment plants and/or sewage pumping stations
- Other community critical infrastructure, such as emergency response facilities (e.g., emergency operations centers, 911 centers)
- Emergency shelters or other high occupancy facilities
- Facilities from which people cannot be easily relocated. Examples include nursing homes, assisted living facilities, etc.

### **2.3 Preparedness Planning**

To maintain operational readiness to respond to any emergency, PSE ensures that planning, assignment of personnel, training, exercises, and plan maintenance take place annually. Operations staff ensures appropriate roles are defined for field operations, the EOC, and the Gas Planning Strategy Center (GPSC). The emergency response organization charts and staff assignments are updated annually.

In addition, activities designed to educate the public and public agency partners (e.g., state, county, and city emergency management staffs) and to acquaint them with PSE's preparedness measures are coordinated through the Business Continuity/Emergency Planning Department. Other departments (such as Government and Community Relations, Corporate Communications, etc.) assist in executing these activities.

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### **2.3.1 Emergency Response Assignments**

Personnel of PSE and its service providers, who do not regularly perform field operations and/or customer service duties, will assist in certain emergency response efforts.

To assign and qualify personnel for temporary job duties, job descriptions listing skills and requirements to perform the work have been created for various functions.

All personnel who do not normally perform emergency response duties and are assigned an emergency response role will be trained for emergency assignments.

- Personnel may have a primary assignment and backup assignment.
- Specific training requirements are listed by assignment and will be offered, as required, to ensure personnel are qualified for their emergency response role.
- As part of their job assignments, all personnel of PSE and its service providers are expected to respond to emergency situations when called.
- Personnel will be trained and fully qualified to perform their preassigned emergency response functions.
- Personnel will be asked to only perform jobs for which they are qualified.

### **2.3.2 Training and Orientation**

Specific training or safety orientations are provided each year for:

- 911 Call-Taker
- CLX Specialist
- Contract Crew Coordinator
- Damage Assessor
- Driver
- EOC Teams
- Lodging Coordinator
- County/State EOC Liaison

Some emergency response assignments do not require specific training beforehand, but personnel in those positions will receive “just-in-time” training before assignments are made.

### **2.3.3 Exercises**

PSE conducts plan exercises at least annually. Significant plan and procedural changes are incorporated into the exercises each year. Exercises may take the form of a functional exercise or tabletop discussions.

- In functional exercises, activity is simulated using test instances of PSE’s various information systems that allows participants to view, strategize, and report on the overall response efforts. Incident participants are provided an opportunity to exercise their respective emergency response roles and overall plan knowledge.
- Post exercise, an after-action review is held to determine the effectiveness of the plan and to identify adjustments that may need to be made. An after-action report is generated by the Business Continuity/Emergency Management Department and made available to exercise participants.
- In tabletop exercises, facilitated discussions are used to explore plausible scenarios at a high level. Problems and their potential solutions are reviewed for incorporation into future emergency response plans.

### **2.3.4 Post-Accident After-Action Reviews**

Following any emergency activation, an after-action review is held with the emergency response team (EOC, Field Operations, etc.) to discuss what worked well and what did not, while focusing on how response efforts can be improved.

- Regional incident – Regional Operations Managers or Supervisors will schedule after-action review meetings with local incident participants.
- Significant and major incidents (EOC opened) – The Business Continuity/Emergency Management Department will schedule the after-action review meeting.

Incident participants may include:

- Contractor Management
- Corporate Communications
- Customer Service Management
- Electric First Response and Operations Management
- Gas System Operations
- EOC and/or GPSC Personnel
- Materials Management
- Safety
- Service Provider Management
- Standards
- System Control and Protection
- System Control Staff (Load Office, Supervisor System Operations)

### **2.3.5 Emergency Communications**

Personnel in all PSE and service provider facilities, as well as authorized public and private agencies involved in an incident, must be able to communicate with the EOC, System Control, and other department personnel during emergencies.

- Information flow (voice, radio, or data) is critical to PSE's ability to advise customers of the status of emergency situations, and provide meaningful restoration estimates.
- If telecommunications fail at any time during an emergency, the Information Technology/Telecommunications Department will assist in their restoration.

### **2.3.6 PSE Radios, GETS/WPS, Amateur Radio, and Satellite Phones**

Management personnel responsible for emergency response may be provided with PSE radios to facilitate internal communications.

- Radios will be used for two-way communications to deploy resources, when landlines and cellular phones are not operational (e.g., due to earthquake).
- All phone and radio equipment that is assigned (temporarily or long term) must be signed out when received, and signed back in when returned.
- Select PSE employees are enrolled in Government Emergency Telecommunication Service (GETS) and Wireless Priority Service (WPS). In the event the public telephone network is intact, but overwhelmed by a high volume of calls, GETS/WPS users will be able to make urgent calls with priority routing through the public telephone network.

- Additionally, licensed amateur radio operators who are members of PSE’s Amateur Radio Emergency Services (ARES) team will be able to provide site-to-site radio traffic using amateur (HAM) radio. This includes amateur radio communications with other PSE facilities as well as external agencies, such as city, county, or state EOC(s), and may include other public and private agencies.
- PSE has a limited supply of satellite phones that may also be used during any telecommunications outage.

## **2.4 Emergency Operations Center (EOC)**

The role of the EOC is to coordinate information and resources, providing support to any number of gas/or electric incident command locations. The EOC may additionally fulfill the overall ICS Planning Section function, including development of the Incident Action Plan (IAP) and other written updates and situation reports.

### **2.4.1 Functions of the EOC – Information Coordination**

When activated, the Emergency Operations Center will establish a schedule of routine conference calls throughout the incident.

- At least twice daily, the EOC will facilitate an Operations Conference Call with participation from all open Operating Bases.
- The purpose of these calls is to establish the scope and status of the incident, review and prioritize response and recovery efforts, and continually evaluate resource needs.
- Additionally, the EOC will facilitate Communications Conference calls approximately four times daily, with participation from Customer Service, Government and Community Relations, Major Accounts, and Corporate Communications. The purpose of these calls is to communicate the operational status for the incident and review any incident specific messaging—with the express goal of ensuring relevant, timely, consistent, and accurate messages across all channels of communication.

The EOC will produce situational reports, generally every four hours while activated.

### **2.4.2 Functions of the EOC – Resource Coordination**

The EOC will acquire all resources needed above and beyond those normally available, and will ensure that resources are matched appropriately to the level of the declared incident.

- This includes, but is not limited to, additional crews, tree crews, damage assessment coordinators, damage assessors, crew coordinators, flaggers, mutual assistance resources, meals, personnel transportation, fuel, staging areas, helicopters, vehicles, and other logistical support.
- Additionally, the EOC will facilitate border crossings with contract crews and U.S. Customs and Border Protection, allocate acquired resources, and provide transportation guidance.
- If restoration estimates are very different between operating areas, the EOC will reallocate resources between operating areas to help balance restoration time frames.

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**2.4.3 Functions of the EOC – Incident Action Plan**

When activated, the EOC will create and disseminate to all incident command locations an Incident Action Plan (IAP) with the assistance of open Operating Bases and other critical resources such as System Operations. The IAP will detail overall incident objectives, strategies, and tactics for each operational period, typically 12 hours in length, but can increase to 24 hours or longer.

**2.4.4 Functions of the EOC – Transmission Restoration Team**

In instances where the transmission system has incurred significant damage, the EOC may establish a Transmission Restoration Team to prioritize and coordinate restoration of the transmission system. The Transmission Restoration Team will collaborate with the Load Office, Operating Base personnel, System Operations, and the EOC’s EMS Analyst to ensure balanced restoration of the transmission system and effective utilization of resources.

**2.5 Incident Reporting**

**2.5.1 Required Notifications**

Certain incidents require both internal notifications as well as external reporting to governing agencies at the local (cities), regional (counties), state, and federal levels.

- Notifications may be required for incident management purposes or for regulatory purposes.
- External notifications are often compliance-based and mandatory under state and federal law and must be performed within specified time limits.
- In addition to the notifications that follow, PSE is required to report to the Washington Utilities and Transportation Commission (WUTC) any accident that results in death or serious injury to any person occurring in its plant or through contact with its facilities.

**2.5.2 Notifying Departments**

These departments are responsible for performing these notifications:

Responsible Department(s)	Notification or Report
<ul style="list-style-type: none"> <li>▪ Gas Operations</li> <li>▪ Safety</li> <li>▪ Gas Compliance and Regulatory Audits and the Response Planning Engineer</li> </ul>	Gas incident notification and reporting
System Operations	Electrical incident notification and reporting
<ul style="list-style-type: none"> <li>▪ Safety</li> <li>▪ Gas Compliance and Regulatory Audits and the Response Planning Engineer</li> </ul>	Employee fatality or injury notification
Risk Management	Any fatality or injury (non-employee)
Environmental Services	Hazardous materials reporting

2.5.3 Required Notifications – Gas

Incident	Notify	Within
<p>Accidents, incidents and hazardous conditions that arise out of the Company’s operations and result in any or all of the following: (Ref. Gas Operating Standard 2425.1100)</p> <ul style="list-style-type: none"> <li>▪ A fatality or personal injury requiring (in-patient) hospitalization.</li> <li>▪ Damage to the property of the Company and others of a combined total exceeding \$50,000 (includes cost of gas lost). This does not include automobile collisions and other equipment accidents not involving gas or gas handling equipment.</li> <li>▪ The evacuation of a building or high occupancy structure or area, with the exception of self-evacuation of the structure or area.</li> <li>▪ The unintentional ignition of gas.</li> <li>▪ Unscheduled interruptions of service furnished by the Company to 25 or more distribution customers.</li> <li>▪ Pipeline or system pressure exceeds the MAOP, plus 10 percent.</li> <li>▪ Pipeline or system pressure exceeds the MAOP, where the MAOP is established through a pressure authorization from the WUTC.</li> </ul> <p>If an incident or condition is significant, in the judgment of the Company (even though it does not meet the requirements listed above).</p>	<p>WUTC by telephone</p>	<p>2 hours</p>
<p>Accidents, incidents, and hazardous conditions that arise out of the Company’s operations and result in any or all of the following: (Ref. Gas Operating Standard 2425.2300)</p> <ul style="list-style-type: none"> <li>▪ Uncontrolled release of gas for more than two hours.</li> <li>▪ Taking a high pressure supply, transmission pipeline, or major distribution supply pipeline out of service.</li> <li>▪ Pipeline or system operating at low pressure drops below the safe operating conditions of attached appliances and gas equipment.</li> <li>▪ Pipeline or system pressure exceeds the established Maximum Allowable Operating Pressure (MAOP).</li> </ul> <p><b><i>The WUTC reporting requirements <u>do not</u> apply to Jackson Prairie.</i></b></p>	<p>WUTC by telephone</p>	<p>24 hours</p>

Continued on next page

Incident	Notify	Within
<ul style="list-style-type: none"> <li>▪ A release of gas from a pipeline (or liquefied natural gas or gas from an LNG facility) and a death, or personal injury necessitating (in-patient) hospitalization.</li> <li>▪ A release of gas from a pipeline (or liquefied natural gas or gas from an LNG facility) and estimated property damage, including the cost of gas lost, to the operator or others, or both, of \$50,000 or more.</li> <li>▪ An incident that results in an emergency shutdown of an LNG facility.</li> <li>▪ An incident that is significant in the judgment of the operator even though it did not meet the requirements listed above.</li> </ul> <p><i>The DOT reporting requirements do apply to Jackson Prairie as well as the rest of PSE.</i></p>	DOT/National Response Center by telephone	2 hours

**2.5.4 Required Notifications – Electric**

Incident	Notify	Within
<ul style="list-style-type: none"> <li>▪ Load shedding over 100 MW of firm load for more than 15 minutes from a single incident.</li> <li>▪ Equipment failure resulting in loss of firm load over 300 MW.</li> </ul>	Dept of Energy Emergency Ops Center by telephone and via Form DOE-417	1 hour
50,000 electric customers without power for 7 hours or longer.	Dept of Energy Emergency Ops Center by telephone and via Form DOE-417	6 hours
Rolling blackout activation.	Reliability Coordinator via WECC net	Hourly updates required
Sabotage Reporting	Law Enforcement and various entities (refer to Sabotage Reporting procedures document)	Immediately

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**2.6 Reporting Potential Fatalities**

As referenced in the Core Rules, WAC 296-800-320, Accident Reporting and Investigation, the Safety Manager or Safety Department representative will contact the nearest office of the Department of Labor and Industries in person or by phone at 1-800-4BE SAFE (1-800-423-7233) to report within 8 hours of the work-related incident that causes:

- A fatality or possibly fatal injury; or,
- An injury that results in an in-patient hospitalization; or,
- Contact the Occupational Safety and Health Administration (OSHA) by calling the central number at 1-800-321-6742.

Provide the following information concerning any accident involving a fatality or the in-patient hospitalization of an employee:

- Name of the employer
- Location of the incident
- Time and date of the incident
- Number of fatalities or hospitalized employees or employees with pesticide exposure
- Contact person
- Phone number

In addition, all fatalities and potential fatalities shall be handled as follows:

Step	Action
1	Notify these people immediately: <ul style="list-style-type: none"> <li>▪ Safety &amp; Performance                             <ul style="list-style-type: none"> <li>– Director Safety and Performance</li> <li>– Safety Manager/Safety Department</li> </ul> </li> <li>▪ PSE’s Officer Team, Including:                             <ul style="list-style-type: none"> <li>– Senior Vice President, Delivery Operations</li> <li>– Senior Vice President, Chief Administrative Officer</li> <li>– Director, Gas Operations and Director, Electric Operations</li> <li>– Shop Steward, if applicable</li> <li>– Local Safety Committee Chairperson</li> <li>– Corporate Communications</li> <li>– Office of the General Counsel</li> </ul> </li> </ul>
2	The Safety Department should immediately send representatives to the scene to collect and preserve information, including photographs and witness statements.
3	Conduct an immediate investigation under the direction of the injured person’s supervisor, the Safety Department, top management officials, and the local Safety Committee chairperson.

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Step	Action
4	<p>Safety Manager/Safety Department: Report the accident to the nearest Washington State Department of Labor and Industries (Workplace Safety Inspections) office within 8 hours after the occurrence of the accident.</p> <p><i>NOTE:</i> Any equipment involved in an accident resulting in an immediate fatality is not to be moved until a WISHA representative investigates the accident and authorizes its removal. Equipment may be moved only if it is necessary to prevent further accidents or to remove the victim.</p>
5	Human Resources, in coordination with local supervision, should contact Employee Assistance counselors for trauma debriefing.
6	The Workers' Compensation administrator, in coordination with the Safety Department, should assist with arranging medical consultation, as necessary.
7	The Executive Safety Committee (ESC) shall review all lost time, fatal, or catastrophic incidents.

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## Concept of Operations—Electric

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### 3. CONCEPT OF OPERATIONS—ELECTRIC

#### 3.1 How PSE is Notified

The Customer Access Center (CAC) receives trouble calls from all types of customers.

- Electric and Gas Dispatch and System Operations receive trouble calls directly from area public safety 911 centers (police, fire, EMS call centers).
- Corporate Communications receives calls from the media in addition to monitoring social network information traffic.
- Information is most commonly received via normal phone lines, and in major incidents, area public safety 911 centers may combine several non-urgent reports and faxes to System Operations.

Information may also come directly to personnel as part of their normal work through their interactions with work contacts, or through relationships in the community. Personnel of PSE and/or its service providers who are likely to receive word of service problems include the following:

- Corporate Communications
- Electric/Gas First Response personnel
- Government and Community Relations Managers
- Major and Key Account Executives
- Operations Dispatch
- Project Managers

In addition, System Control personnel detect problems in the course of monitoring automated electric and gas transmission and distribution systems.

#### 3.2 Outage Reports and Service Orders

Trouble calls received via the CAC are entered into *ConsumerLinX* (CLX), and result in service orders/outage reports being queued and printed to the appropriate first response dispatcher.

Electric trouble orders are directed to Electric Dispatchers during normal working hours and System Operators after hours. Service orders are routed to a specific dispatcher or operator based upon the geographic region the address is located within.

When Operating Bases are activated for electric restoration, outage reports and emergency service orders are systematically redirected to local Operating Bases to facilitate analysis and oversight of storm restoration work.

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### 3.3 Customer Communications

PSE's Corporate Communications department works 24/7 with Customer Service and Operations Management, the EOC, and the on-duty Supervisor System Operations to develop customer messaging on PSE.com, produce media press releases, and assist the CAC with recorded messages for customers. In addition, they use social media and collaborate with the Company's Local Government and Community Relations Managers to develop regional messaging appropriate for the areas impacted by damage.

PSE staffs EOC liaisons at the state and county EOCs on request by those agencies. The PSE EOC liaison works at the local level to provide emergency incident response and recovery status reports through these government entities.

Information flows to individual customers through the CLX system, representatives staffing the CAC and PSE.com.

- To provide customers with current information, CLX is kept updated with estimated restoration times and outage status.
- The CAC may call customers back to ensure their service is restored.
- The Company may also initiate automated calls to large geographic areas with incident status information or to request conservative use of natural gas or electricity for a period of time.

#### 3.3.1 Escalated Call Process

A significant or major incident in which the EOC is open may trigger the need to implement the Escalated Call Process to better communicate our progress to our customers.

- Escalated calls will be managed initially through the Bothell (CAC) Emergency Center, Major Accounts, and the Community Relations Management teams.
- As repetitive customer inquiries rise to unmanageable levels, the need to activate the Escalated Call Process will be determined through routine Customer Communication conference calls.
- The EOC Director/Manager will formally activate the escalated call process.
- An Escalated Call Officer/Director will be identified to manage calls and communication leads will be dispatched to the appropriate Operating Bases to provide customer circuit or area specific restoration information.

### 3.4 Electric Emergency Organizational Structure

Electric Operations uses a scalable organization model (like ICS) for all emergency response, allowing response efforts to expand and contract based on the severity or resource needs of the incident.

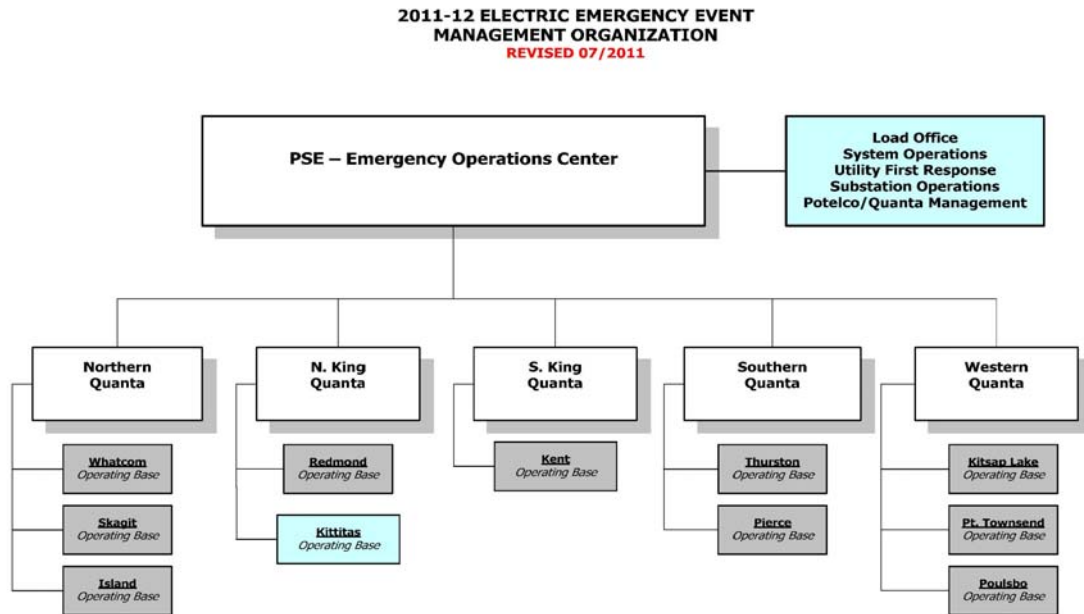
- In regional incidents, where restoration may be limited in scope and contained within a single geographic region, a single Operating Base storm board may be activated.
- In larger incidents, where restoration response is required in more than one geographic region or, where restoration may be extensive, multiple Operating Bases and the EOC may be activated.

The following pages detail the organizational structures used in responding to electric emergencies.

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### 3.4.1 Electric Emergency Incident Organization

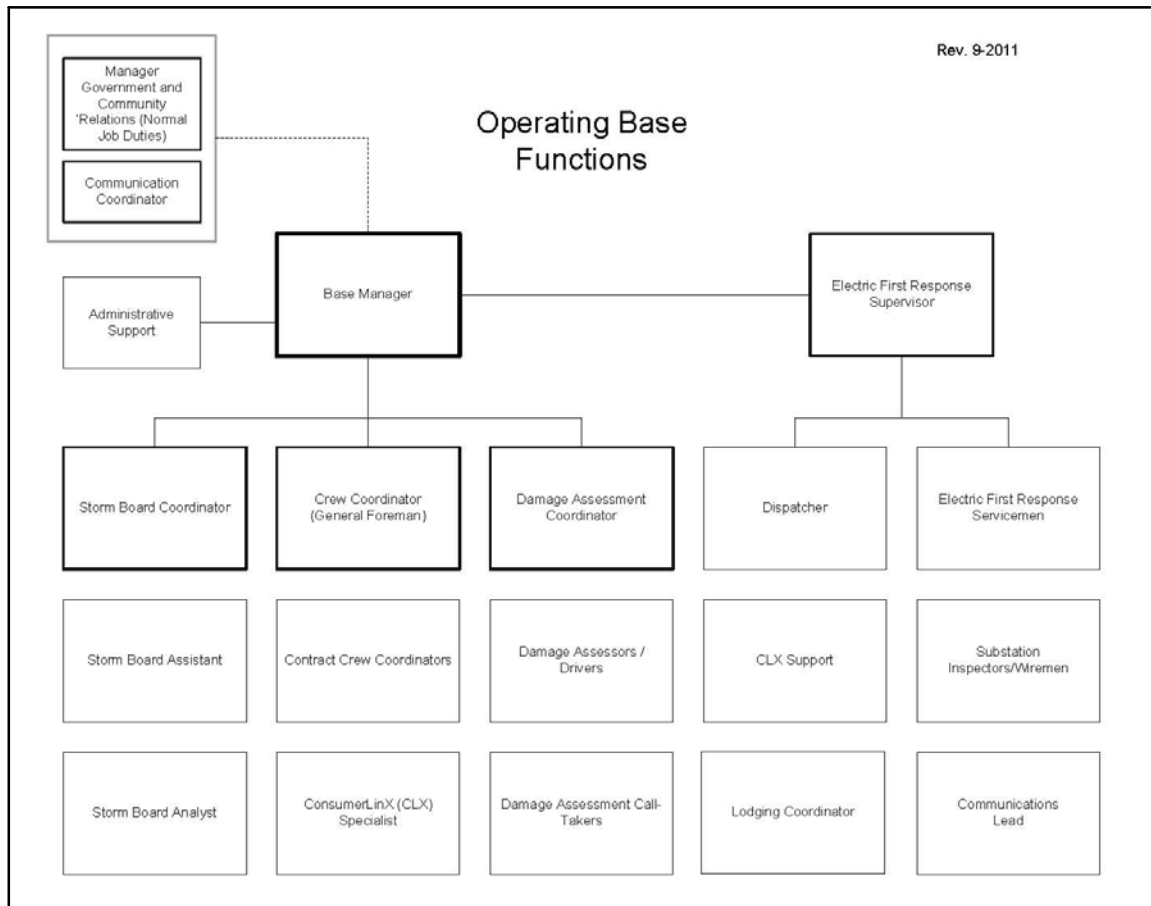
The following organization chart reflects reporting relationships for Electric Emergency Response efforts.



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**3.4.2 Storm Board Organizational Structure**

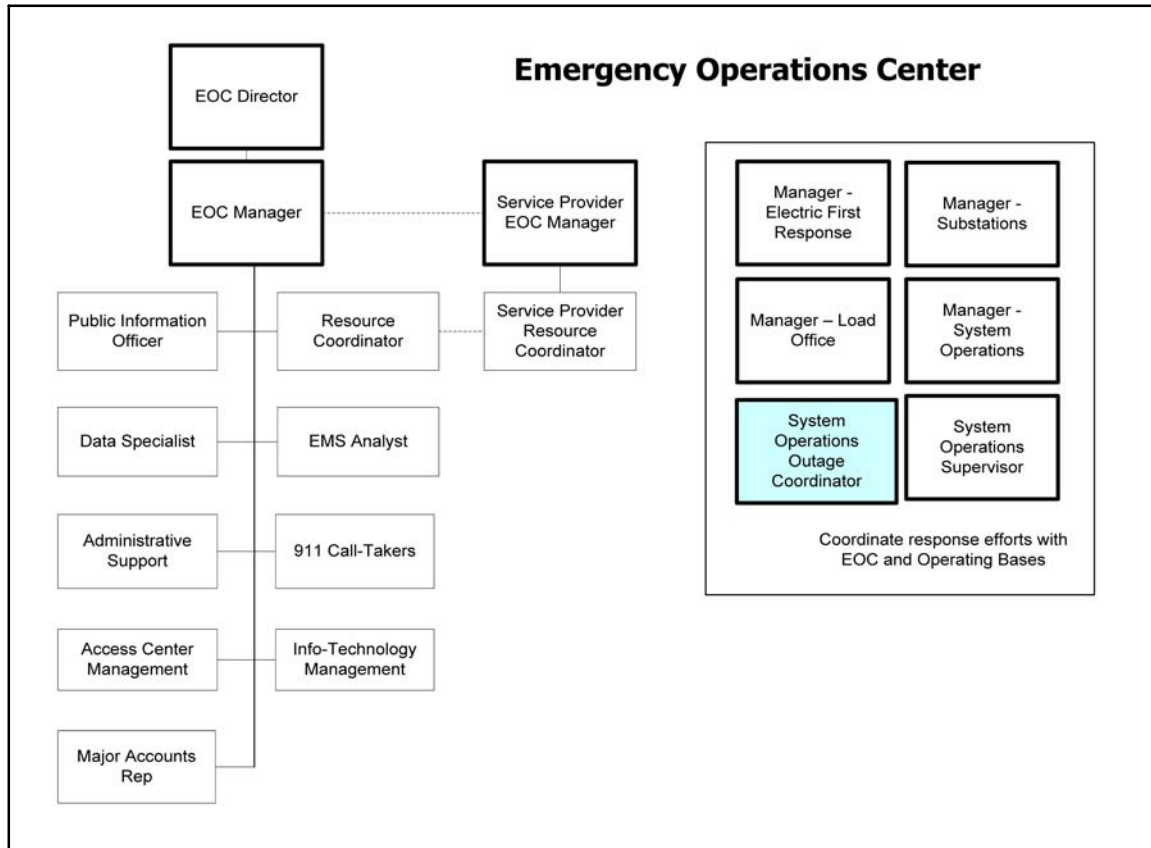
The following organization chart reflects reporting relationships for the Service Provider Operating Base/Storm Board efforts:



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**3.4.3 Emergency Operations Center (EOC) Organizational Structure**

The following organization chart reflects functions within the EOC:



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### 3.5 Emergency Response Roles—Electric

This section describes the positions and job duties at the EOC and positions at the Operating Bases for electric emergency response. PSE’s Corporate EOC is headquartered at Eastside Operations – Redmond. Operating Bases are located regionally and managed by the electric service provider.

#### 3.5.1 Emergency Operations Center (EOC) Roles

- County EOC

Temporary Job Title	Duties & Responsibilities	Training Expectations
County EOC Liaison	<ul style="list-style-type: none"> <li>▪ Serve as liaison for Emergency Support Function (ESF) 12 (Energy) and focal point for communication between county EOC staff and PSE.</li> <li>▪ Provide routine updates to county EOC staff on impacts to PSE’s energy distribution system(s) and current restoration timelines.</li> <li>▪ Identify key coordination issues between PSE and county and facilitate discussions to resolve.</li> <li>▪ Collaborate with county officials on community messaging. Coordinate with county staff to obtain additional resources as required.</li> </ul>	Emergency Response Overview

- PSE EOC

Temporary Job Title	Duties & Responsibilities	Training Expectations
911 Call Taker	<ul style="list-style-type: none"> <li>▪ Receives calls from 911 agencies, police/fire dispatch. Documents reports of downed wire, fires, and blocked rights-of-way.</li> <li>▪ Enters reported information into CLX and ensures priority outage reports are escalated to operating base personnel when necessary.</li> </ul>	911 Call Taker Training
Administrative Support	<ul style="list-style-type: none"> <li>▪ Provides general administrative assistance including answering phones and preparing forms and documents.</li> <li>▪ Maintains all event records and documents for entire event.</li> <li>▪ Obtains and organizes periodic detailed reports for each impacted area and collates into regular updates for internal audiences such as customer service, Corporate Communications, and external audiences such as state/county/city EOCs.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ EOC Orientation</li> </ul>

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Temporary Job Title	Duties & Responsibilities	Training Expectations
Data Specialist	<ul style="list-style-type: none"> <li>▪ Routinely Summarizes outage data for EOC team. Is familiar with CLX and AMR outage tools.</li> <li>▪ Tracks the progression/trends of outages and customer calls.</li> <li>▪ Archives history of outage calls and outage events incident at regular intervals.</li> <li>▪ May also perform AMR or DDD analysis.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ EOC Orientation</li> </ul>
Electric First Response Manager	<ul style="list-style-type: none"> <li>▪ Works with PSE EOC Manager, Service Provider EOC Manager, System Operations Supervisor, and PSE First Response Supervisors to provide support in damage assessment and outage restoration.</li> <li>▪ Coordinates allocation of first-response resources Companywide, including decisions to move first response servicemen out of area, etc.</li> </ul>	Emergency Response Overview
EMS Analyst	<ul style="list-style-type: none"> <li>▪ Assesses/reports system impacts or transmission system status through the use of SCADA and EMS.</li> <li>▪ Focuses primarily on providing outage information at the transmission line and substation level.</li> <li>▪ Ensures transmission, substation status information is communicated to EOC and to storm board personnel at the Operating Bases.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ EOC Orientation</li> <li>▪ Restoration Prioritization Tool</li> </ul>
EOC Director	<ul style="list-style-type: none"> <li>▪ Provides corporate strategic oversight and financial authority to response efforts.</li> <li>▪ Once the EOC is opened, acts as the information focal point for the executive management team.</li> <li>▪ May respond to media inquiries about emergency response activities as needed by Corporate Communications.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ EOC Orientation</li> </ul>

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Temporary Job Title	Duties & Responsibilities	Training Expectations
EOC Manager	<ul style="list-style-type: none"> <li>▪ Responsible for opening, staffing and operating the Emergency Operations Center. Establishes objectives for each operating period.</li> <li>▪ Coordinates with Service Provider EOC Manager and ensures sufficient resources are obtained to support timely completion of restoration work. Ensures incident characterization occurs within 24 hours of the declared incident start time and that high level restoration timelines are subsequently established, communicated, and adhered to.</li> <li>▪ Balances resources to match system damage, realigning resources when estimated restoration times are significantly different between regions.</li> <li>▪ Oversees overall incident reporting and ensures updates are issued at defined intervals.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ EOC Orientation</li> </ul>
IT Manager	<ul style="list-style-type: none"> <li>▪ Provides resolution oversight to reported hardware, application, network, and telecommunication or radio failures.</li> <li>▪ Coordinates with PSE’s help desk, network, application, and desktop personnel to ensure failures are quickly resolved or appropriately escalated, ensuring mission-critical technology tools are returned to service quickly.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ EOC Orientation</li> </ul>
Public Information Officer	<ul style="list-style-type: none"> <li>▪ Coordinates with the EOC Director and Manager to ensure timely and accurate communications with the media.</li> <li>▪ Coordinates messaging with Operations, Customer Access Center, and regional Communications Coordinators to ensure that restoration information is consistent across all communications channels.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ EOC Orientation</li> </ul>
Resource Coordinator	<ul style="list-style-type: none"> <li>▪ Acquires, allocates and retains resources as required by field operations including crews, tree crews, damage assessors, drivers, flaggers, etc.</li> <li>▪ Working with Service Provider EOC Manager, calls out and assigns contract, foreign, and/or mutual assistance utility crews to fulfill service provider resource requests</li> <li>▪ May call out specialty contractors (flagging, tree removal, helicopter, environmental, etc.) as required to support service restoration.</li> <li>▪ Makes arrangements for border crossings, ferry travel, and emergency road openings as necessary.</li> <li>▪ Tracks foreign crews as they change locations within PSE’s service territory.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ EOC Orientation</li> </ul>

Temporary Job Title	Duties & Responsibilities	Training Expectations
Service Provider EOC Manager	<ul style="list-style-type: none"> <li>▪ Coordinates mobilization of service provider regional resources and out-of-region crews that may be required for major incidents including equipment and fleet.</li> <li>▪ Works with PSE EOC Resource Coordinators to request additional resources as may be required to augment operating base personnel (e.g., damage assessors, crew coordinators, drivers, CLX data specialists, crew supervisors, etc.).</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ EOC Orientation</li> </ul>
Supervisor Systems Operations	<ul style="list-style-type: none"> <li>▪ Regularly staffed PSE position responsible for plan activation, initiation of emergency response, including opening operating bases and the EOC.</li> <li>▪ Monitors weather and regularly communicates with PSE staff and service provider staff.</li> <li>▪ Notifies service provider management and EOC duty management to activate emergency response plans.</li> <li>▪ Responsible for declaring the incident level.</li> <li>▪ Monitors incident escalation, restoration efforts, and overall recovery of the electric system.</li> </ul>	Emergency Response Overview
System Operations Outage Coordinator	<ul style="list-style-type: none"> <li>▪ Establishes a consistent communication link between an open Storm Base and System Operations.</li> <li>▪ By working together, the Storm Board Analyst and the System Operations Outage Coordinator will look for ways to quickly restore customers, as well as identify work that will help restore significant portions of the Electric System.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ EOC Orientation</li> </ul>

- **State EOC**

Temporary Job Title	Duties & Responsibilities	Training Expectations
State EOC Liaison	<ul style="list-style-type: none"> <li>▪ Serves as liaison for emergency support function (ESF) 12 (Energy) and focal point for communication between State of Washington (WA) Emergency Management Division (EMD) staff and PSE under the Memorandum of Understanding (MOU) between PSE and state agencies.</li> <li>▪ Provides updates to EMD staff on impacts to PSE’s energy distribution system(s) and current restoration timelines.</li> <li>▪ Identifies key coordination issues between PSE and State of WA and facilitate discussions to resolve.</li> <li>▪ Coordinates temporary rule exemptions where restrictive regulation may slow response efforts.</li> <li>▪ Coordinates with EMD staff to obtain additional resources, as required.</li> </ul>	Emergency Response Overview

### 3.5.2 Operating Base Roles

These functions are performed by service provider and/or PSE employees.

Temporary Job Title	Duties & Responsibilities	Training Expectations
911 Call Triage	<ul style="list-style-type: none"> <li>▪ Provides oversight for all urgent outage reports received from area 911 call centers (Public Service Answering Points [PSAPs]) at the operating base.</li> <li>▪ Continuously monitors printer output or CLX outage index for new reports. Ensures urgent reports are quickly reviewed, prioritized, and appropriately dispatched.</li> <li>▪ Coordinates with Damage Assessment Coordinator and dispatcher to appropriately assign 911 reports for field assessment.</li> <li>▪ Using CLX, associates individual 911 outage reports to the corresponding circuit outage in CLX.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ CLX Outage Management</li> </ul>
CLX Specialist	<ul style="list-style-type: none"> <li>▪ Updates CLX Outage Events regularly throughout the incident to ensure prompt, accurate information is available to customers, the Access Center, and EOC.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ CLX Outage Management</li> </ul>
Communications Coordinator	<ul style="list-style-type: none"> <li>▪ Responds to specific customer inquiries from major account or key business customers (e.g., schools, healthcare facilities, grocery store chains, area shelter locations, etc.).</li> <li>▪ Works with the Major Account Representative(s) in the EOC to coordinate major and key customer response.</li> </ul>	Emergency Response Overview
Communications Lead	<p><i>NOTE:</i> This position staffed only on the direction of the EOC Manager in significant or major incidents requiring additional process for escalated customer calls. (Reference Section 3.2.)</p> <ul style="list-style-type: none"> <li>▪ Takes escalated call inquiries from the EOC, CAC, or the Executive Office providing information for specific customers.</li> <li>▪ Researches status of outage and restoration efforts for specific customers as required.</li> <li>▪ Works closely with Storm Board Coordinator to gather information.</li> </ul>	--
Contract Crew Coordinator	<ul style="list-style-type: none"> <li>▪ Leads crews to damaged areas and works ahead of crews to see that effective restoration methods are being followed, and material and other needs are met.</li> <li>▪ Ensures foreign crew personnel are informed of required safety, construction, and switching practice information.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ Contract Crew Coordinator Training</li> </ul>

Temporary Job Title	Duties & Responsibilities	Training Expectations
Damage Assessment Call Taker	<ul style="list-style-type: none"> <li>▪ In large outage incidents (requiring 7 or more Damage Assessment (DA) teams), assists the DA Coordinator by receiving damage assessment information by phone from DA teams in the field.</li> <li>▪ Transcribes information reported by DA field teams to designated damage assessment forms. Ensures reported damage assessment information is complete and clarifies missing or ambiguous information.</li> <li>▪ Supports DA Coordinator by tracking assigned DA resources or assisting with developing crew work packages.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ Damage Assessor Training</li> </ul>
Damage Assessment Coordinator	<ul style="list-style-type: none"> <li>▪ Oversees and coordinates the damage assessment and restoration prioritization for the operating base.</li> <li>▪ Manages and assigns qualified personnel to damage assessment duties.</li> <li>▪ Coordinates with dispatcher to ensure most appropriate resource(s) are assigned to perform damage assessment work.</li> <li>▪ Communicates status and locations of assessment teams within the area.</li> <li>▪ Ensures the Storm Board is frequently updated to reflect status of assessment during the incident and that CLX updates are performed as damage assessment results are returned.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ CLX Outage Management</li> <li>▪ Damage Assessor Training</li> </ul>
Damage Assessor	<ul style="list-style-type: none"> <li>▪ Assesses system damage in assigned areas.</li> <li>▪ Records damage and material needs and relays the information to the DA Coordinator or DA Call Taker.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ Damage Assessor Training</li> </ul>
Dispatcher	<ul style="list-style-type: none"> <li>▪ Dispatches PSE Servicemen and service provider two-person emergency crews to 911 calls, switching, patrolling, and secondary service restoration.</li> <li>▪ May work with some autonomy early in incident and later transitions to works in close coordination with storm board coordinator as overall incident management shifts to the Storm Board Coordinator.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ CLX Outage Management</li> </ul>
Driver	<ul style="list-style-type: none"> <li>▪ Performs driving duties for Damage Assessors or Contract Crew Coordinators.</li> <li>▪ Safely operates vehicle while Damage Assessor visually assesses and records circuit damage.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Driver Training</li> </ul>

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<b>Temporary Job Title</b>	<b>Duties &amp; Responsibilities</b>	<b>Training Expectations</b>
First Response Supervisor	<ul style="list-style-type: none"> <li>▪ Supervises and monitors local first responders (servicemen) and dispatchers to ensure adequate response.</li> <li>▪ Fully interchangeable with and may provide relief support to Incident Commander.</li> <li>▪ Reassigns first responders for service restoration and damage assessment as appropriate. Provides EOC with information as requested.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ CLX Outage Management</li> </ul>
General Foreman	<ul style="list-style-type: none"> <li>▪ Oversees assignment of line crew resources throughout the incident. Assigns line crews to prioritized repair jobs.</li> <li>▪ Ensures field resources are deployed efficiently for safe and timely restoration.</li> <li>▪ Assesses needs for additional resources and coordinates with Incident Commander to obtain additional resources as required.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ Contract Crew Coordinator Training</li> </ul>
Local Area Coordination Site Manager	<ul style="list-style-type: none"> <li>▪ Assigned to a geographic subset of the operating base region. Manages resources at Local Area Coordination Site including site staffing, crews, damage assessors, materials, and equipment.</li> <li>▪ Manages all restoration activity (damage assessment, restoration prioritization, and related crew assignments) to restore extensively damaged areas.</li> <li>▪ Assigned areas may be defined electrically, such as all circuits from specific substations or geographically using landmark boundaries.</li> <li>▪ Coordinates with the Operating Base Incident Commander and the EOC.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ Contract Crew Coordinator Training</li> </ul>
Lodging Coordinator	<ul style="list-style-type: none"> <li>▪ Provides lodging coordination for regional operating bases. Manages local lodging arrangements (assigns/tracks personnel and their lodging assignments) to ensure adequate bed capacity for foreign crews and other operating/storm base personnel.</li> <li>▪ Coordinates with hotel staff to arrange, add/reduce hotel rooms over the course of the emergency incident.</li> <li>▪ Provides regular reports on current lodging arrangements and utilization.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ Lodging Coordinator Training</li> </ul>
Make Safe Team	<ul style="list-style-type: none"> <li>▪ Dispatched to locations where primary wire is reported to be down.</li> <li>▪ Ensures scene safety and public safety until qualified electrical workers are on-scene.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ Make Safe Training</li> </ul>

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<b>Temporary Job Title</b>	<b>Duties &amp; Responsibilities</b>	<b>Training Expectations</b>
<p>Manager Government and Community Relations</p>	<ul style="list-style-type: none"> <li>▪ Transition from normal job duties to storm communications, working closely with local operating base management throughout the emergency to provide information to elected officials.</li> <li>▪ In coordination with Corporate Communications, provides information to municipalities and county emergency response departments (when the EOC is not open) on damage assessment and restoration efforts.</li> <li>▪ Monitors outages impacting Major and Business Accounts as well as specific customer groups or areas.</li> <li>▪ Coordinates with the Media Representative in the EOC (or, Corporate Communications when the EOC is not open) to ensure that notifications and updates provided locally are consistent with messages issued through Corporate Communications and the CAC.</li> </ul>	<p>Emergency Response Overview</p>
<p>Operating Base Manager</p>	<ul style="list-style-type: none"> <li>▪ Directs or manages regional storm operations, emergency response assignments, assessment, and restoration.</li> <li>▪ Primary contact person with EOC, System Operations, Substations, Load Office, and the CAC.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ CLX Outage Management</li> </ul>
<p>Storm Board Analyst</p>	<ul style="list-style-type: none"> <li>▪ Assists the Storm Board Coordinator to by assessing impacts to electric system and recommending specific actions to facilitate the quick restoration of community critical infrastructure or enhance the speed and efficiency of restoration efforts.</li> <li>▪ Provides EMS and DDD expertise as required (e.g., identifies transmission/ substation outages, looks for isolation/switching opportunities, or may use DDD to sub-circuit outages for CLX).</li> <li>▪ Coordinates with System Operations.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ CLX Outage Management</li> <li>▪ DDD and/or EMS</li> </ul>
<p>Storm Board Assistant</p>	<ul style="list-style-type: none"> <li>▪ Provides support to Storm Board Coordinator. Reviews available outage information and records.</li> <li>▪ Assists in prioritizing work and communicates assignments to General Foreman, Damage Assessment Coordinator, and Dispatcher.</li> <li>▪ Updates Storm Board and ensures CLX reflects current status.</li> <li>▪ Assists with analysis and prioritizing of emergencies reported via 911 agencies.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ CLX Outage Management</li> </ul>

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Temporary Job Title	Duties & Responsibilities	Training Expectations
Storm Board Coordinator	<ul style="list-style-type: none"> <li>▪ Reviews and analyzes outage information and tracks needed repairs and location of assigned resources.</li> <li>▪ Prioritizes restoration activities. Receives information from servicemen, CLX, and damage assessors.</li> <li>▪ Packages damage information and assigns work packages.</li> <li>▪ Reviews/prioritizes response to emergencies reported via 911 agencies.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Overview</li> <li>▪ CLX Outage Management</li> </ul>

**3.6 Plan Activation**

PSE’s Supervisor System Operations monitors for a trend of increasing activity as outages arise due to inclement weather conditions or other incidents. The Supervisor System Operations will confer with the Operating Base Manager and the EFR Supervisor in the affected region(s), and possibly the EOC Manager, in order to determine the need for plan activation. Minimally the following criteria will be reviewed:

- Current and forecasted weather conditions
- Size of the incident (number of circuits impacted)
- Number of crew jobs pending
- Projected length of restoration time based upon currently available resources
- Activity level within System Operations

The on-duty Supervisor System Operations will consult with Electric First Response, PSE and Service Provider operations management, and the Load Office to determine an incident level (Level 1: Regional, Level 2: Significant, or Level 3: Major).

PSE’s Supervisor System Operations is responsible for declaring that an incident has occurred and issuing the incident level (Level 1, 2, or 3).

At the time of such declaration, PSE’s Service Provider will staff operating base roles, and in coordination with the EFR Supervisor, will establish incident response operations in the affected area(s).

The on-duty Supervisor System Operations may contact the Service Provider Duty Supervisors in affected areas directly if the incident only requires the opening of one to three Operating Bases. If it is a widespread emergency incident, the Service Provider EOC Center Manager shall make notifications to their operations management and request bases are opened.

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### **3.6.1 Guidelines and Expectations for Consistent Emergency Response**

When the on-duty Supervisor System Operations and/or Service Provider EOC Manager notifies the regional Operating Base Manager to open the Operating Base, these guidelines shall be followed to ensure efficient and effective emergency response:

- The Operating Base Manager and the EFR Supervisor shall collaborate and jointly notify all required personnel on the Operating Base staffing plan.
- Initial focus during the first hours of the storm is to assess overall damage, collect critical information, analyze this information, and formulate a restoration plan in conjunction with the Storm Board Coordinator at the Operating Base and the Load Office in Eastside System Operations.
- Damage assessed by utility first responders (PSE servicemen) shall be reported back to the Dispatcher assigned to the affected Operating Base, who will then relay the information to the Storm Board Coordinator.
- When the damage appears to be extensive, Damage Assessment Teams should be quickly assembled and dispatched in the field. Teams are made up of qualified electrically trained and experienced personnel from both PSE and its Service Provider.
- Damage Assessment Teams shall report back to the Operating Base Damage Assessment Coordinator who will then relay the information to the Storm Board Coordinator.

### **3.6.2 Damage Assessment Priorities Generally Mirror Restoration Priorities**

- Transmission lines and switching stations
- Distribution substations and distribution feeders
- Distribution laterals
- Individual service lines

### **3.6.3 The First Priority for PSE Servicemen**

- Respond to emergency calls from fire, police, and other 911 sources.
- Make hazardous areas safe for the public and PSE employees.
- Secure unsafe sites before moving to service restoration.

Within 24 hours of the incident, the Operating Bases and the EOC will provide a high level characterization of the impact and estimated hours/days to restore service (e.g., 3 to 5 days).

Within 48 to 72 hours (depending on the severity of the emergency incident), the EOC, working with the Operating Bases and Corporate Communications will message estimated restoration times for geographic areas. Specific customer restoration times will be communicated as soon as the operating base personnel has the necessary damage assessment and crew repair work duration times available.

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### **3.7 Mobilization**

The first phase of emergency response is mobilization. The on-duty Supervisor System Operations in System Control contacts the Service Provider’s regional Operating Base Managers (Incident Commanders) if the incident affects only one to three regions, and/or in a widespread incident, the Service Provider EOC Duty Manager.

Service Provider management initializes the mobilization process by opening the local Operating Base(s) and contacting the principal emergency response personnel, as follows:

- Operating Base Manager
- PSE EFR Supervisor
- PSE Electric Dispatcher
- CLX Information Specialist

#### **3.7.1 Mobilizing Staff**

Each Operating Base Manager and PSE EFR Supervisor is responsible to mobilize staff for their assignments based on callout lists and specific skills.

These lists include:

- Electric First Response Servicemen
- Storm Board Coordinator/Assistant
- Storm Board Analyst (EMS, DDD)/CLX Specialist
- Damage Assessment Coordinator
- Damage Assessors
- Drivers
- Make Safe teams
- Crew Coordinator (General Foreman)
- Line Crew Personnel
- Communications Coordinator
- Contract Crew Coordinators
- Any other emergency response personnel identified on the local area’s Electric Emergency Response organizational chart.

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3.7.2 Mobilization Activities

Who	Does What
Business Continuity/ Emergency Management Staff	<ul style="list-style-type: none"> <li>▪ Monitor weather forecasts and participate in the National Weather Service “Go To” meetings where area forecasts and warnings are discussed in detail.</li> <li>▪ Arrange for a pre-storm weather conference call/briefing for System Operations, EOC duty teams, senior operations management, Corporate Communications, etc.</li> <li>▪ Ensures Emergency Operations Center is operational.</li> </ul>
Electric First Response Servicemen	<ul style="list-style-type: none"> <li>▪ PSE’s utility first responders (servicemen) quickly respond to 911 and other emergency calls. They ensure damaged areas are made safe for the public and employees.</li> <li>▪ Servicemen patrol and assess transmission lines, and cut, clear, and switch to ensure that critical transmission lines are picked up in priority order, followed by distribution substations and circuits.</li> <li>▪ Servicemen provide regular status updates to the Dispatcher at the Operating Bases and to System Operations.</li> <li>▪ Lastly, servicemen repair individual service lines.</li> </ul>
Electric First Response Supervisors and Engineers	<ul style="list-style-type: none"> <li>▪ PSE Electric First Response Supervisors and PSE and Service Provider engineers are stationed at Operating Bases to assist with storm board management, circuit definition, customer outage estimates, etc. Their expertise in DDD, EMS, customer issues for a specific area, etc. assist Service Provider management in service restoration and emergency management.</li> <li>▪ PSE First Response Supervisors manage all first responder (servicemen) activities in the area assigned, and in collaboration with Service Provider management, allocate servicemen to patrol duties and/or service restoration as required.</li> </ul>

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Who	Does What
<p>Operating Base Manager/PSE EFR Supervisor</p>	<ul style="list-style-type: none"> <li>▪ Opens Operating Base on request, calling in required personnel to perform emergency functions (e.g., Damage Assessment Coordinator, Damage Assessors, Crew Coordinator, Storm Board Coordinator/Assistant, Communications Coordinator, CLX Information Specialists, etc.).</li> <li>▪ Reviews list of personnel currently working in emergency area and restoration priorities provided by on-duty Supervisor System Operations.</li> <li>▪ Assumes responsibility for all outage restoration and all field crew management in area assigned.</li> <li>▪ Works closely with PSE management on-site, as well as EOC staff, to ensure adequate resources and service is restored in accordance with PSE guidelines.</li> <li>▪ Monitors outages and directs crew personnel to priorities first.</li> <li>▪ Monitors CLX and remains in contact with on-duty Supervisor System Operations for updated restoration priorities.</li> <li>▪ Implement staffing plan ensuring Operating Base and crew coverage 24/7 (e.g., shift changes and rest periods).</li> <li>▪ Communicates regularly with the EOC and/or on-duty Supervisor System Operations for estimated restoration times in the region, resource requirements, etc.</li> <li>▪ Serves as the Incident Commander or Deputy Incident Commander.</li> </ul>
<p>System Operations</p>	<ul style="list-style-type: none"> <li>▪ Monitor weather and zone forecasts at least every six hours. During critical weather periods, monitor and proactively seek weather condition updates from the National Weather Service (NWS).</li> <li>▪ Distribute weather data to PSE First Response, EOC duty teams, and Service Provider operations management by telephone, e-mail, and/or fax.</li> <li>▪ Implement staffing plan for System Operators to ensure adequate coverage 24/7.</li> <li>▪ Alert Director of Electric Operations, Emergency Planning Program Manager, and EOC Duty Manager of pending incident.</li> <li>▪ As needed, call in personnel to assist with Dispatch, CLX, 911 calls, System Operations, etc.</li> <li>▪ Direct Operating Bases to open as needed. Open as early as possible to avoid response delays.</li> <li>▪ Provide detailed information to regional operations duty supervisors regarding personnel already dispatched and in the field working, status of area damage, EOC opening, etc.</li> <li>▪ Coordinate resource deployment with regional duty supervisors and EOC.</li> </ul>

**3.8 Activating the EOC**

The PSE on-duty Supervisor System Operations will activate the Emergency Operations Center (EOC) by contacting the on-duty EOC Manager, as well as notifying the following:

- Service Provider Operating Base Managers and EFR Supervisors for impacted regions
- Additional System Operations staff and supervisor(s), if required
- 911 Call-takers: 2 minimum, if required
- Director of Electric Operations
- Operations Managers—Electric
- Emergency Planning Program Manager
- Load Office
- Media Relations

**3.9 Damage Assessment**

Many sources of information can be used to assess the status of the electrical system during an emergency. Frequently used information sources are identified below:

<b>Information Source</b>	<b>How Source is Used</b>
AMR Outage Map	Available internally on PSEWEB, the AMR Outage Map is a graphical representation of PSE’s service territory, displaying AMR poletop units that have lost power. This view provides a quick visual image of outages across PSE’s distribution system.
CLX Outage Management	Logs outage calls received by the CAC. Provides reports on location, circuit, number of customers affected, estimated time of restoration, etc.
Customers	Provides information to the CAC, Major Accounts via dedicated phone line to Supervisor System Operations’ office, or through city/county 911 centers.
Distribution Data Display (DDD)	Displays geographical data about PSE’s electrical system, including the location of customers who have called to report outages.
Electric First Response Servicemen	Provides damage assessment directly from the site to System Operations/Trouble Dispatch/Operating Base.
Energy Management System (EMS)	When available, indicates circuit breaker status (open or closed) and power flow in transmission and distribution stations.
Field Personnel and Damage Assessment Teams	Provides damage assessment directly to the Damage Assessment Coordinator.

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Information Source	How Source is Used
Fire and Police Departments and other City/County Emergency Management Personnel	Provides information about damage, location, and priority to System Control by way of calls received from 911 call centers (Public Safety Answering Points).
Outage Dashboard	An outage summary page on PSE’s intranet, PSEWEB. Information from the Meter Data Warehouse and CLX are merged to graphically depict outages and their current status. Allows quick assessment of current response efforts and overall scope of an outage incident, including customer counts by city name.

**3.9.1 Using Information Systems to Assess Damage**

The Energy Management System (EMS) and CLX systems are generally the first sources of information used by the EOC EMS Analyst and Damage Assessment Coordinator to determine which transmission lines and substations are out. The Distribution Data Display (DDD) system is used throughout the incident to help determine exactly where the system is damaged. The DDD system can provide more localized information on where outages have occurred than the CLX system. Calls to 911 also help determine exact locations of system damage.

The information from the EMS, CLX, and DDD systems is supplemented by field reports from Electric First Response Servicemen. The Crew Coordinator and the Service Provider Operating Base Managers (Incident Commanders) use this information to dispatch crews to facilities that have the highest priority for repair. In some cases, Operating Base Managers may break four-person crews into two-person service teams to assess and restore high-priority, easy-to-repair damage.

As each component of the electrical system is repaired, the Damage Assessment Coordinator and Storm Board Coordinator are informed and the DDD or CLX system is updated accordingly.

The AMR outage map provides a quick, visual image of AMR poletop outages across PSE’s service territory.

**3.9.2 The Role of Damage Assessors**

Damage Assessors may be mobilized at the request of the Operating Base Manager. The Damage Assessors and assigned Drivers report to the Damage Assessment Coordinator who provides instructions on which circuits to assess.

- In areas with extensive damage, Damage Assessors may be sent out with tree crews and Flaggers to work as a team, reporting to a Local Area Coordination Manager.
- Damage Assessors, who also qualify as Contract Crew Coordinators, may assess damage first and then serve as Contract Crew Coordinators when foreign crews arrive.

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### 3.10 Updating *ConsumerLinX* (CLX) Outage

*ConsumerLinX* (CLX) communicates outage and restoration estimates online to the CAC, Corporate Communications, and other users. CLX immediately updates the IVRU, which provides updates to customers.

Information is needed about outage locations, outage materials, and approximate restoration time. This information is relayed from Damage Assessors, Local Area Coordination Site Managers and Electric First Response Servicemen in the field to the Storm Board Coordinator or Damage Assessment Coordinator who estimate how long it will take for the crew(s) to restore power.

The CLX Information Specialist uses this information to update CLX. The estimated restoration time for each outage area is input to the CLX system. Best-case to worst-case estimates for restoring a particular customer's service in an area can range from several hours to several days.

### 3.11 Repairing Facilities and Restoration Prioritization

To reduce outage duration, PSE will restore first and then repair.

Repairs delayed to a more appropriate time will be tracked locally to ensure later scheduling and completion. In a major incident, an assessment of repairs, resources, and schedule will be determined before releasing outside resources.

During restoration efforts, all crews will restore power by the priority of what makes sense electrically rather than by area boundaries.

Utility Road Clearing Task Forces may be activated to coordinate the safe clearing of priority rights-of-way (roads) that have been blocked by downed trees and damaged distribution structures/wire. Reference plan documents in PSE's *Energy System Restoration Plan Volume II* for complete operational structure of the Task Force.

#### 3.11.1 Restoration Priority #1: Transmission System

The transmission lines (T-lines) and transmission substations are the highest priority for restoration. Power Dispatchers in the Load Office, or their designees, will request crews and other assistance to restore the transmission system as soon as possible. As the emergency progresses, the Power Dispatchers provide restoration priorities for transmission lines and stations to the appropriate operations regions, Substation Department and the EOC.

All regional Operations personnel and related departments work with the Power Dispatchers and their designees to identify outages, and stabilize and repair the transmission system as their number one priority.

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- **Regional Transmission –**

Each region identifies its transmission restoration priorities. These restoration priorities follow the general corporate restoration guidelines of restoring the maximum number of customers in the least amount of time, but are more specific, listing circuits and substations by name. They are reviewed annually and updated in each region.

The following table offers high, medium, and low restoration priority guidelines for the transmission system:

Priority	Transmission Lines That Are . . .
High	<ul style="list-style-type: none"> <li>▪ Connected to critical generation.</li> <li>▪ Critical inter-utility connections.</li> <li>▪ Greater than 100 MVA of load affected by outage.</li> <li>▪ Serving more than 25,000 customers.</li> <li>▪ Radial feeds.</li> <li>▪ T-lines that are needed to avoid overloads in the remaining transmission system.</li> </ul>
Medium	<ul style="list-style-type: none"> <li>▪ Segments that are part of a loop, but where substation(s) are affected.</li> <li>▪ Greater than 50–100 MVA of load affected by outage.</li> <li>▪ Serving 10,000 to 25,000 customer.</li> <li>▪ T-lines that are needed to avoid under-voltages in the remaining transmission systems.</li> </ul>
Low	<ul style="list-style-type: none"> <li>▪ Segments that are part of a loop where no substations are affected.</li> <li>▪ Less than 50 MVA or less of load affected by outage.</li> <li>▪ Serving less than 10,000 customers.</li> <li>▪ Outages do not cause service interruptions.</li> </ul>

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**3.11.2 Restoration Priority #2: Distribution Substations**

PSE works to restore as many substations as possible by partitioning and isolating damaged portions of the high voltage system. Restoration of loops is secondary in the initial phase of restoration.

High	Medium	Low
<p><b>&gt;6,000 customers affected by outage.</b> Distribution substations serving critical loads:</p> <ul style="list-style-type: none"> <li>▪ Hospitals, airports, public transportation, police, fire facilities</li> <li>▪ High density urban/residential areas</li> <li>▪ Key accounts, Schedule 48, and other “at risk” customers</li> <li>▪ Other industrial and commercial load with large loss due to process disruption</li> <li>▪ Substations that can be returned to service quickly</li> </ul>	<p><b>4,500–6,000 customers affected by outage.</b> Distribution substations serving:</p> <ul style="list-style-type: none"> <li>▪ Emergency shelters, blood banks, nursing homes, schools</li> <li>▪ Medium density residential areas</li> <li>▪ Community wells, sewer lift pumping stations</li> </ul>	<p><b>&lt; 4,500 customers affected by outage.</b> Distribution substations serving:</p> <ul style="list-style-type: none"> <li>▪ Low density rural areas</li> <li>▪ Accounts with adequate backup generation</li> <li>▪ Substations that take a significant amount of time to repair</li> </ul>

**3.11.3 Restoration Priority #3: Distribution Feeders**

System Operations, Electric First Response, and Service Provider management direct Electric First Servicemen and crews working with all Operations regions, to restore and energize the feeder system.

- This work takes priority over restoring primary laterals.
- As Damage Assessment teams report back to their respective service center, all feeders, or portions of feeders found to be in the clear will be reenergized as ordered by System Operations.

Each Operating Base has a regional list of critical community infrastructure for restoration priority. These lists are updated by Business Continuity/Emergency Management in conjunction with county government emergency management staffs, and PSE’s major and business account services representatives.

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- **Transmission Effect on Distribution Feeders –**  
Energizing distribution feeders may be delayed in some cases until transmission lines are back in service and capable of withstanding the additional feeder load.

High	Medium	Low
<p><b>&gt;2,500 customers affected by outage.</b> Distribution feeders serving:</p> <ul style="list-style-type: none"> <li>▪ Hospitals, airports/ public transportation, police and fire facilities</li> <li>▪ High density urban/ residential areas</li> <li>▪ Key accounts, Schedule 48, and other “at risk” customers</li> <li>▪ Other industrial/ commercial load with large loss due to process disruption</li> <li>▪ Feeders that can be repaired quickly</li> </ul>	<p><b>1,500–2,500 customers affected by outage.</b> Distribution feeders serving:</p> <ul style="list-style-type: none"> <li>▪ Medium density residential areas</li> <li>▪ Emergency shelters, blood banks, nursing homes, schools</li> <li>▪ Community wells, sewer lift pumping stations</li> </ul>	<p><b>&lt;1,500 customers affected by outage.</b> Distribution feeders serving:</p> <ul style="list-style-type: none"> <li>▪ Low density rural areas</li> <li>▪ Accounts with adequate backup generation</li> <li>▪ Feeders that take a significant amount of time to repair</li> </ul>

**3.11.4 Restoration Priority #4: Distribution Laterals**

When the feeder system is restored, the fourth priority is restoration of distribution laterals.

- Laterals usually are prioritized on a case by case basis.
- The emphasis is to restore the largest number of customers in the shortest possible time.
- As soon as practicable, crews will transfer de-energized circuits to live circuits or substations.

**3.11.5 Restoration Priority #5: Individual Service Lines**

Service lines, particularly those in remote areas, will most often be last in priority order for restoration. This will depend on crew or Electric First Response Servicemen availability, location, and other ongoing restoration efforts.

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### 3.12 Repair Planning

As soon as possible after system restoration, the following personnel will document abnormal conditions existing after the storm:

- Operating Base Management
- System Operations
- Power Dispatchers
- Electric First Response
- Dispatchers
- Meter Department and Substation personnel (if available)

Listed below are some standard post-incident activities:

- Check temporary circuits, alternate feeds, and emergency repairs for capability of carrying peak loads until permanent repairs are made.
- Note abnormal feeds and return to normal.
- Patrol all sections of the distribution system where tree wire is installed, ensuring it is free of any limbs or in contact with leaning trees.
- Report temporary repairs and make permanent repairs.
- Prepare outage reports, note system weaknesses for correction, and critique restoration procedures.

### 3.13 Closing Operating Bases

The decision to close an Operating Base will be made by the Operating Base Manager and the Electric First Response Supervisor *in collaboration with* the on-duty Supervisor System Operations, on-duty Service Provider EOC Manager, and the EOC (if open).

To ensure continued availability of resources, the following considerations will be made:

- Continue base operation with minimal staff—one supervisor, one crew, and CLX support.
- Plan for reopening the Operating Base the next morning and/or have plan in place if the base should need to reopen later at night or during early morning hours.

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## Concept of Operations—Gas

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## **4. CONCEPT OF OPERATIONS—GAS**

### **4.1 How PSE is Notified**

The Customer Access Center (CAC) receives trouble calls from all types of customers. Gas Dispatch and Gas Control receive trouble calls directly from area public safety 911 centers (police, fire, EMS call centers). Information is most commonly received via normal phone lines.

Information may also come directly to personnel as part of their normal work through their interactions with work contacts or through relationships in the community. Employees of PSE and/or its service providers who are likely to receive word of service problems include the following:

- Gas/Electric personnel
- Government and Community Relations Managers
- Major Account Executives

Media reports and reporters' inquiries may also call PSE's attention to major service disruption problems. In addition, System Control personnel detect problems in the course of monitoring automated gas transmission/distribution information systems.

### **4.2 Service Orders**

Trouble calls received via the CAC are entered into *ConsumerLinX* (CLX) and result in service orders being queued and immediately printed to gas dispatch.

Orders are systematically routed to a specific dispatcher based upon the geographic region the address is located within. To ensure immediate response, emergencies such as gas odors or reports of broken gas pipe are expedited through priority handling by gas dispatch.

These emergency service orders are transmitted to field personnel through the Mobile Workforce Management system.

### **4.3 Incidents that Require Immediate Action**

- Involve the uncontrolled escape of gas into the atmosphere or into the ground that presents a risk to persons or property.
- Generate a request for assistance from a local emergency response agency.
- Generate a customer call that indicates a gas odor or a dangerous malfunction of an appliance, regardless of the cause.

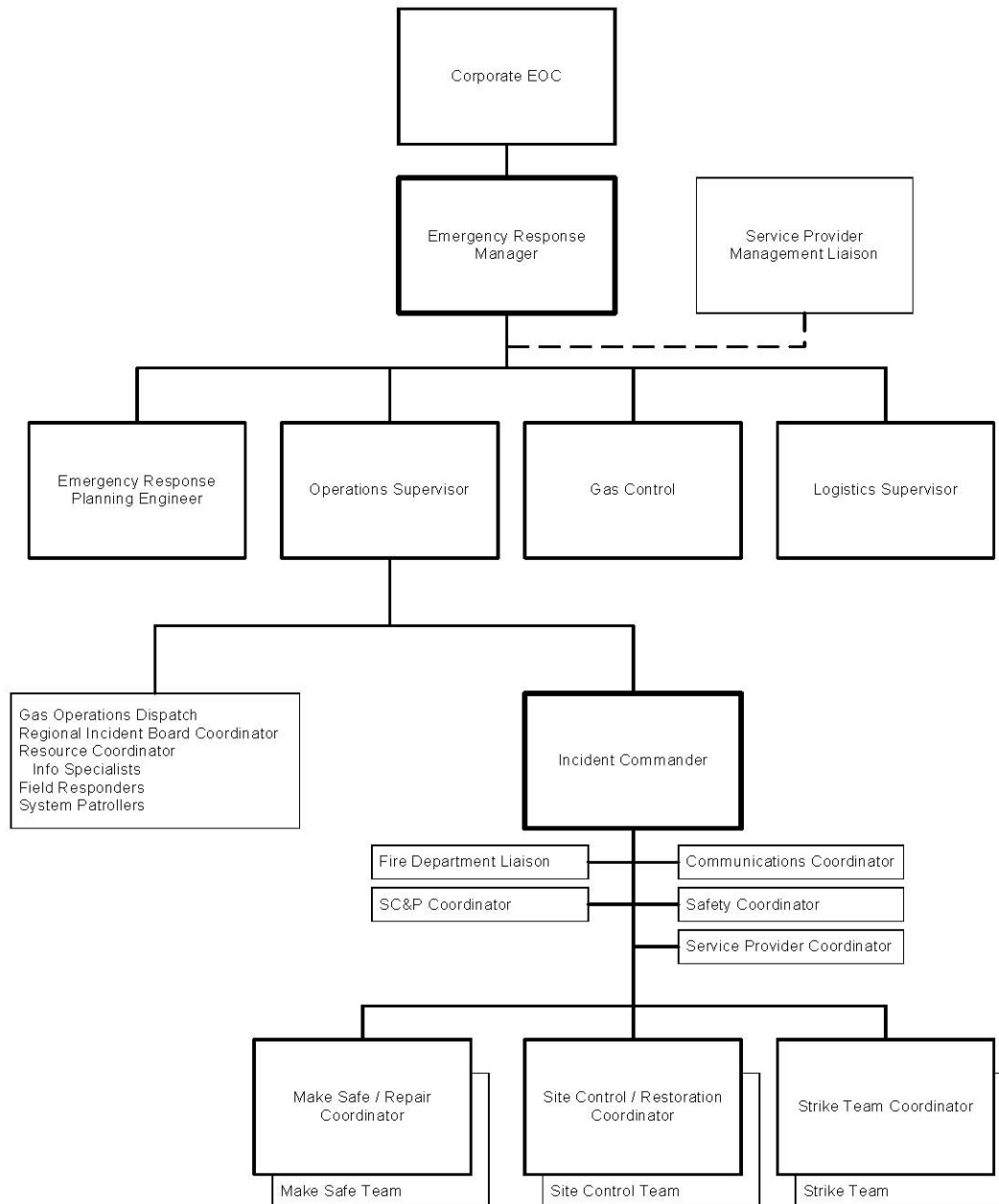
### **4.4 Gas Emergency Organizational Structure**

PSE's Gas Emergency Response Plan uses principles of the Incident Command System (ICS). ICS is modular (Command, Operations, Planning and Logistics), allowing incident response to be scaled, depending on the number of field incidents being responded to at any point in time. The response to major gas emergencies will be coordinated through the Gas Planning and Strategic Center (GPSC).

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4.5 Emergency Response Roles—Gas

4.5.1 Gas Emergency Organization Chart



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**4.5.2 Gas Emergency Response Roles**

- **Corporate EOC**

Temporary Job Title	Duties & Responsibilities	Training Expectations
Public Information Officer	<ul style="list-style-type: none"> <li>▪ Works with CAC Supervisor and EOC communications coordinator to ensure that updated assessment and restoration information corresponds with that given to CAC point desk for IVRU and media updates.</li> <li>▪ Provides information to local media, municipalities, and county emergency response departments (if there is no EOC liaison) on outage assessment and restoration efforts.</li> <li>▪ Works closely with the emergency response managers' corporate incident status board to stay current with the progress of the various incidents.</li> </ul>	Emergency Response Overview

- **Corporate EOC or GPSC (depending upon the incident)**

Temporary Job Title	Duties & Responsibilities	Training Expectations
Major Account Representative	<ul style="list-style-type: none"> <li>▪ Communicates with assigned major or other key accounts (industrial customers, school districts, etc.) throughout emergency.</li> <li>▪ Provides estimated restoration information.</li> <li>▪ Assists with customer needs.</li> <li>▪ Reports to Community and Government Relations Manager.</li> </ul>	Emergency Response Overview

- **Gas Operations Dispatch**

Temporary Job Title	Duties & Responsibilities	Training Expectations
Dispatch Supervisor	<ul style="list-style-type: none"> <li>▪ May be called on to fill multiple roles including that of Emergency Response Supervisor.</li> <li>▪ Responsible for dispatch operations ensuring adequate staffing and smooth operations.</li> </ul>	Emergency Response Overview

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• Gas Planning and Strategy Center (GPSC)

Temporary Job Title	Duties & Responsibilities	Training Expectations
Emergency Operations Supervisor	<p>Using the incident status boards as a tool to view what is going on in a given area:</p> <ul style="list-style-type: none"> <li>▪ Works with the GPSC team to help set response and repair priorities and ensure that the appropriate resources are dispatched to the sites.</li> <li>▪ Depending on the size of an incident and the involvement on our system, there may be multiple Emergency Operation Supervisors responsible for distinctly separate geographic regions of the gas system.</li> <li>▪ Oversees meter shutoff, system isolation, repair and restoration of customer service efforts.</li> <li>▪ Oversees the use of the emergency truck and the Incident Command Vehicle (mobile command center).</li> <li>▪ Cooperatively works with the Emergency Response Planning Engineer and the on-site Incident Commander to determine system operating characteristics and appropriate shutdown or diversion processes.</li> <li>▪ Works with Gas Operations Dispatch to determine appropriate method of generating service tickets (whether by the manual emergency meter shutoff process or system modeling).</li> </ul>	<ul style="list-style-type: none"> <li>▪ Incident Command</li> <li>▪ Emergency Response Overview</li> </ul>
Emergency Response Supervisor	<ul style="list-style-type: none"> <li>▪ Oversees Companywide operations, emergency response assessment, and restoration.</li> <li>▪ Primary contact person with EOC, System Control, and CAC. Assesses needs for additional resources, coordinating with EOC for external assistance as require including personnel from other districts or departments. Reports to Director–Gas Operations.</li> <li>▪ Maintains a system-wide view of the ongoing status of all identified incidents through a corporate incident status board maintained by the administrative support and board coordinator.</li> </ul> <p>Reporting to the Emergency Response Manager:</p> <ul style="list-style-type: none"> <li>▪ Emergency Operations Supervisor(s)</li> <li>▪ Logistics Supervisor</li> <li>▪ Response Planning Engineer</li> </ul>	Emergency Response Overview

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<b>Temporary Job Title</b>	<b>Duties &amp; Responsibilities</b>	<b>Training Expectations</b>
Information Specialist or Data Coordinator	<ul style="list-style-type: none"> <li>▪ Interacts closely with the Emergency Operations Supervisor, Dispatch, and the Incident Board Coordinators.</li> <li>▪ Updates outage information online, captures data from system patrollers, and posts it online for general viewing.</li> <li>▪ Interacts with the CAC to provide status updates.</li> </ul>	Emergency Response Overview
Logistics Supervisor	<p>Staffs emergency support service functions, including:</p> <ul style="list-style-type: none"> <li>▪ Material acquisition and delivery</li> <li>▪ Temporary field staging area (tents and/or office space)</li> <li>▪ Meals and lodging coordination</li> <li>▪ General office and administrative support</li> </ul> <p>Determines appropriate use of personnel to perform the following functions:</p> <ul style="list-style-type: none"> <li>▪ Material acquisition and delivery – includes coordinating with service providers to ensure that materials required for permanent repairs are available on-site.</li> <li>▪ Meal and lodging coordination.</li> <li>▪ Office support (faxing, word processing, phone assistance, petty cash, etc.).</li> </ul>	Emergency Response Overview
Regional Incident Board Coordinator	<ul style="list-style-type: none"> <li>▪ Manages and updates a gas “storm board” to ensure tracking of gas system damage, crew jobs, as well as location of resources and customers needing emergency care. The map boards also track logistical problems (impassable roads, etc.).</li> <li>▪ Works closely with dispatchers and the information specialist/data collector to keep the regional incident boards updated.</li> </ul>	Emergency Response Overview
Resource Coordinator	<ul style="list-style-type: none"> <li>▪ Provides staffing coordination for Company field personnel, service providers, and special equipment, including emergency truck, PLIDCO®, large steel squeezers, etc., as required by each area.</li> <li>▪ Tracks extended duration shifts and provides input on rotations.</li> <li>▪ Works closely with the Emergency Operations Supervisor and Gas Operations Dispatch.</li> </ul>	Emergency Response Overview
Service Provider Management Liaison	<ul style="list-style-type: none"> <li>▪ Provides the service provider with updated event information, allowing the service provider to route qualified resources to the areas requiring attention.</li> </ul>	Emergency Response Overview

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• Incident Command Post

Temporary Job Title	Duties & Responsibilities	Training Expectations
Damage Assessor	<ul style="list-style-type: none"> <li>▪ Trained fitter and customer service personnel who are commonly dispatched to reports of gas odors or broken and blowing situations.</li> <li>▪ Assess situations and take whatever actions are required to make the situation safe.</li> <li>▪ Upon investigating the reported problems, the Damage Assessor will contact dispatch for the required additional resources.</li> </ul>	Emergency Response Overview
Fire Department Liaison	<ul style="list-style-type: none"> <li>▪ Provides communications link between the Incident Command Post and emergency response organizations (fire/police).</li> </ul>	Emergency Response Overview
IC – Communications Coordinator	<ul style="list-style-type: none"> <li>▪ This role may be the responsibility of the Incident Commander. As an operation grows to the point that the IC is overburdened, however, this role will be filled.</li> <li>▪ Communicates with the incident site and Operations Dispatch.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Incident Command</li> <li>▪ Emergency Response Overview</li> </ul>
Incident Commander	<ul style="list-style-type: none"> <li>▪ On-site responsibility for all field operations, including safety.</li> <li>▪ Acts as the main contact for police and fire department personnel.</li> <li>▪ All communications are directed through the on-site Incident Commander.</li> <li>▪ Reports directly to the Emergency Operations Supervisor.</li> </ul>	Emergency Response Overview
Make Safe/Repair Coordinator	<ul style="list-style-type: none"> <li>▪ Works with the Incident Commander to develop the Incident Action Plan.</li> <li>▪ Oversees situation control and repair.</li> </ul>	Emergency Response Overview
Meter Shutoff Personnel	<ul style="list-style-type: none"> <li>▪ Reads service outage tickets, and shuts off and locks gas meters as requested.</li> <li>▪ Performs required record keeping. May be staffed by meter readers, electric helpers, etc.</li> </ul>	<ul style="list-style-type: none"> <li>▪ General Overview of Single Incident Response Efforts</li> <li>▪ Reading Service Outage Tickets</li> <li>▪ Gas Meter Shutoff and Locking Procedures</li> </ul>

<b>Temporary Job Title</b>	<b>Duties &amp; Responsibilities</b>	<b>Training Expectations</b>
Safety Coordinator	<ul style="list-style-type: none"> <li>▪ During a large-scale gas emergency, the PSE Incident Commander may request or appoint a qualified person to act as the Site Safety Coordinator. This is required when the size and scope of the operation is so large that effective oversight of employee and public safety requires additional assistance.</li> <li>▪ Assists the Incident Commander to minimize confusion and congestion during an emergency by overseeing safety aspects of the operation.</li> </ul>	Emergency Response Overview
Service Provider Coordinator	<ul style="list-style-type: none"> <li>▪ Reports to Incident Command Post.</li> <li>▪ Interacts between service provider crews and Incident Commander.</li> </ul>	Emergency Response Overview
Site Control/ Restoration Coordinator	<ul style="list-style-type: none"> <li>▪ Manages the work group who monitors the perimeter of an incident, shuts off meters, and restores service to customers.</li> <li>▪ May monitor the spread of gas, control access to a safety zone, and light-ups.</li> </ul>	Emergency Response Overview
Strike Team Coordinator	<ul style="list-style-type: none"> <li>▪ As warranted by the type/size of an emergency, this position will direct special teams with a single purpose.</li> </ul>	Emergency Response Overview
System Control and Protection (SC&P) Coordinator	<ul style="list-style-type: none"> <li>▪ Responsible for all SC&amp;P work at emergency site.</li> </ul>	Emergency Response Overview
System Patroller	<ul style="list-style-type: none"> <li>▪ At the direction of the Emergency Operations Supervisor, patrol predetermined areas of the system for damage – potential and actual damage.</li> <li>▪ Position is usually staffed by Public Improvement Inspectors.</li> </ul>	Emergency Response Overview

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**4.5.3 Gas Facility Failure Staffing**

The following table lists the temporary job and reporting structures that are commonly used for specific incidents:

<b>Temporary Job Title</b>	<b>Reports To</b>
Community/External Relations Manager	EOC
Emergency Operations Supervisor	Emergency Response Manager
Emergency Response Manager	Director of Gas Operations
Field Liaison	Emergency Operations Supervisor
Logistics Supervisor	Emergency Response Manager
Major Accounts Representative	Emergency Response Manager
Meter Shutoff Personnel	Incident Commander
Response Planning Engineer	EOC and/or Emergency Response Manager
Service Relight Personnel	Incident Commander
System Analyst	Response Planning Engineer
System Modeler	Response Planning Engineer

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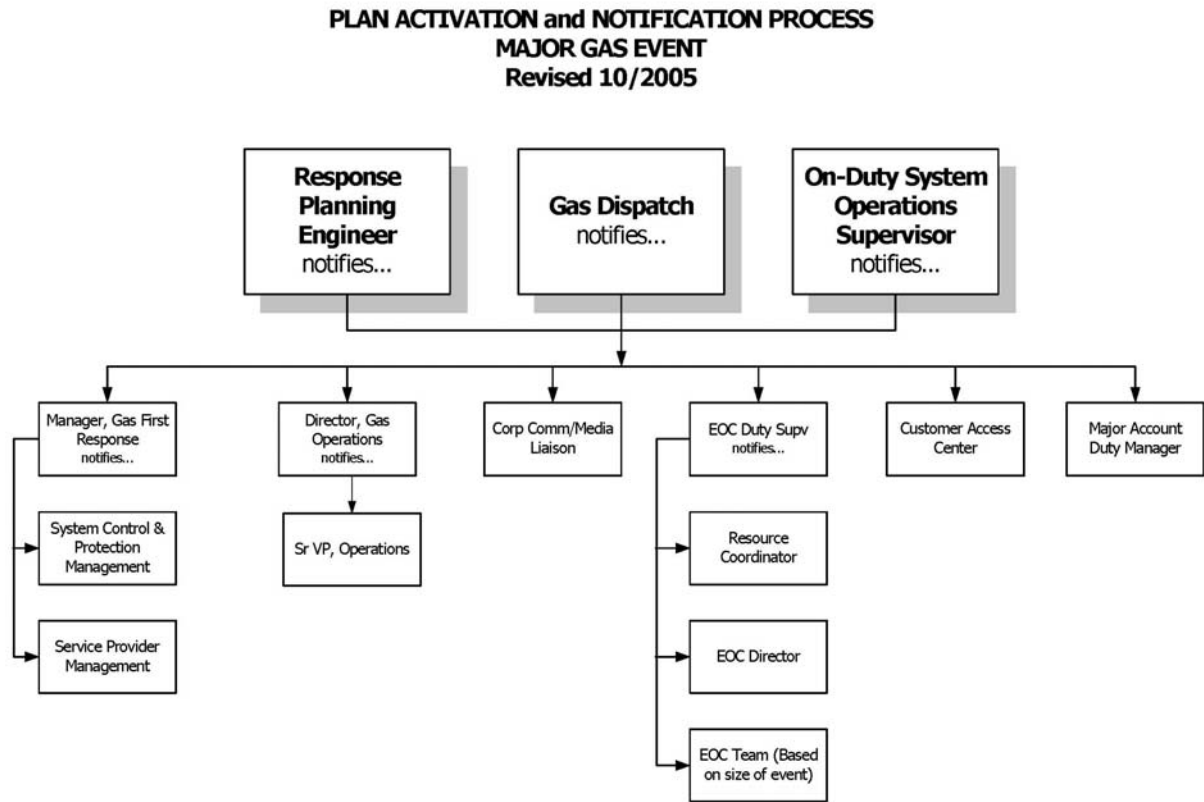
**4.6 Plan Activation**

As cold weather conditions arise and/or other gas emergencies occur, the Gas Duty Manager and the Response Planning Engineer monitor PSE’s gas distribution system and readiness to respond. Either one of those positions will decide when to take emergency action and/or open the Gas Planning and Strategy Center (GPSC).

Once the GPSC is open, the Emergency Response Manager is responsible to request the opening of the EOC.

In preparation for emergency response, the following notification process is implemented:

**4.6.1 Plan Activation and Notification Process for Major Gas Event**



NOTE: The ERPS, Gas Dispatch, and/or Gas First Response may activate an EOC response. During Cold Weather events, it is typically a joint decision initiated by the ERPS, Gas System Integrity (GSI), System Control & Protection, Gas Control, Gas Measurement, Manager Gas First Response and selected officers.

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#### 4.7 Assessment—Types of Incidents

The following types of incidents are covered in this section and their characteristics:

Incident Type	Characteristics
Direct gas involvement	<ul style="list-style-type: none"> <li>▪ Call may be received from the general public, building occupants, or emergency agencies. Gas First Responders may or may not be at the site upon arrival of the first responder.</li> <li>▪ Broken and blowing gas service or main.</li> <li>▪ Main or service obviously stressed due to ground movement and in danger of imminent failure.</li> <li>▪ Building explosion with gas as primary cause.</li> <li>▪ Structure fire with gas as primary cause.</li> <li>▪ Any report of burning gas.</li> <li>▪ Early indications of area gas outage – unknown cause.</li> <li>▪ Blowing relief valve.</li> <li>▪ Vehicular contact and damage to aboveground gas facility.</li> <li>▪ System over-pressure or low pressure.</li> <li>▪ Reports of personal injuries or property damage related to gas.</li> <li>▪ Utility calling to report odor in vault or chamber.</li> <li>▪ Hazardous gas levels in areas such that persons or structures are placed at risk, when source of gas is not identified.</li> </ul>
Indirect gas involvement	<ul style="list-style-type: none"> <li>▪ Call usually originated by emergency response agency that is already at the site and in control.</li> <li>▪ Fire in structure with gas service but there is no gas burning nor in area of fire.</li> <li>▪ Explosion or hazardous malfunction in building using gas for industrial process.</li> <li>▪ Explosion or fire in structure where gas is not directly involved.</li> </ul>
Unknown gas involvement	<ul style="list-style-type: none"> <li>▪ Unidentified odors.</li> <li>▪ Reports of unexplained illness.</li> <li>▪ Building explosion or fire in building not served with gas.</li> <li>▪ Any request for support from a local emergency agency.</li> </ul>

##### 4.7.1 Initial Assessment Checklist

PSE’s gas first response personnel refer to the PSE Gas Operations Field Guide for current updated checklists.

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#### 4.8 Response Process

During a gas facility failure, areas may ask for additional damage assessment assistance. The following process is used to request additional emergency personnel:

Who	Does What
Areas Affected	<ul style="list-style-type: none"> <li>▪ Notifies Gas Operations Dispatch.</li> </ul>
Emergency Operations Supervisor	<ul style="list-style-type: none"> <li>▪ This role is located at the GPSC. Using the incident status boards as a tool to view what is going on in a given area, works with the dispatchers to help set response and repair priorities, and ensures that the appropriate resources are dispatched to the site.</li> <li>▪ Depending upon the size of an incident and the involvement of gas system, there may be multiple Emergency Operations Supervisors responsible for distinctly separate geographic regions of the gas system.</li> <li>▪ Oversees meter shutoff, system isolation, and repair and restoration of natural gas service.</li> <li>▪ Oversees the use of the emergency truck (contains emergency response equipment) and the Incident Command Vehicle (mobile command center).</li> <li>▪ Cooperatively works with the Response Planning Engineer and the on-site Incident Commander to determine system operating characteristics and appropriate shutdown or diversion processes.</li> <li>▪ Works with Gas Operations Dispatch to determine appropriate method of generating service tickets (whether by the manual emergency shutoff process or system modeling).</li> </ul>
Emergency Response Manager	<ul style="list-style-type: none"> <li>▪ Oversees Companywide operations, emergency response assessment, and restoration. Primary contact person with EOC, System Control and Protection, and the CAC.</li> <li>▪ Assess needs for additional resources, coordinating with EOC for external assistance as required. This may include personnel from other districts or departments.</li> <li>▪ Reports to Director, Gas Operations.</li> <li>▪ Maintains a system-wide view of the ongoing status of all identified incidents through a corporate incident status board.</li> </ul>
Response Planning Engineer	<ul style="list-style-type: none"> <li>▪ Provides initial, single point of contact for necessary engineering resources.</li> <li>▪ Responsible for ensuring that the GPSC is staffed with adequate engineering resources to provide appropriate engineering support to the field Incident Commander, Emergency Operations Supervisor, and Emergency Response Manager.</li> <li>▪ On significant or non-routine incidents, responsible for assisting with the development of the incident action plan (IAP), including pipeline shutdown and repair and restoration procedures.</li> <li>▪ Notifies state and federal authorities, as required. Determines the need for further failure analysis on reportable incidents.</li> </ul>

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<b>Who</b>	<b>Does What</b>
Response Planning Engineer and/or Gas Duty Manager	<ul style="list-style-type: none"> <li>▪ Uses the Emergency Response Callout List to assemble response planning teams</li> </ul>
System Control and/or Gas Operations Dispatch	<ul style="list-style-type: none"> <li>▪ Calls Emergency Response Planning Engineer and Gas Duty Manager if callout assistance is requested.</li> </ul>

**4.9 Functions by Department**

The following details the duties and responsibilities of various departments:

<b>Who</b>	<b>Does What</b>
Gas System Operations	<ul style="list-style-type: none"> <li>▪ Initial curtailment.</li> <li>▪ Identifies large-volume interruptible or transportation customers deemed necessary that will be greatly affected by facility failure. This includes curtailing gas service. Performed in conjunction with Energy Measurement. (Gas Control has access to customers with RTUs. All others are tracked by Energy Measurement.)</li> <li>▪ Advises Major Accounts and Key Customer Services which customers' service is affected or curtailed.</li> </ul>
Utility First Response & Service Providers	<ul style="list-style-type: none"> <li>▪ Patrol key system components to identify problems.</li> <li>▪ Assess reported system failures.</li> <li>▪ Control natural gas emergency situations.</li> <li>▪ Make repairs and restore service.</li> </ul>
System Control and Protection	<ul style="list-style-type: none"> <li>▪ Operates and/or maintains district regulation and high pressure valves.</li> <li>▪ Restores service to commercial and industrial equipment with intermediate pressure (pounds) delivery out of the meter set.</li> </ul>
Gas System Integrity	<ul style="list-style-type: none"> <li>▪ Emergency Response Planning Function.</li> <li>▪ Notifies state and federal authorities, as required.</li> <li>▪ When service has been restored, the Standards Department promptly submits written reports, as required.</li> </ul>

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#### 4.10 Mobilization

The first phase of emergency response for a gas emergency incident is the mobilization of utility first responders. Gas Dispatch contacts the on-duty Emergency Response Planning Engineer and the Gas Operations Duty Supervisor, and the Gas Duty Manager.

Gas Dispatch will immediately send utility first responders to the area to ensure the safety of the public. Local area operations, in conjunction with the Gas Duty Supervisor and on-duty Emergency Response Planning Engineer determine requirements for field personnel response, system control, and service restoration.

Gas emergency control efforts will include the following:

- Community and Government Relations Manager
- Emergency Operations Supervisor
- Emergency Response Manager
- Emergency Response Planning Engineer
- Field Liaison
- Logistics Supervisor
- System Modeler

##### 4.10.1 Mobilization Staff

PSE and Service Provider supervisors are responsible for mobilizing staff assignments based on callout lists and specific skills.

These lists include:

- Customer Field Service Technicians from other areas
- Field crews
- Other emergency response personnel identified on the local area's Gas Emergency Response Organizational Chart

The GPSCs initial focus is to obtain damage assessment information and restoration estimates. GPSC will coordinate the overall emergency response effort, moving resources between affected areas. The GPSC will act as a central clearinghouse of information for media and customer purposes.

When requested by the GPSC, EOC personnel work with local area personnel or outside sources to obtain additional workers and materials to restore the system. These resources (crews, engineers, telephone answering personnel, or equipment) should be delegated to the areas designated by the GPSC.

#### 4.11 Acquiring Resources (Material/Equipment)

Acquiring resources is the process of procuring and dispensing material and equipment. Normal operations are maintained, with extended services during emergencies. (See Resource Acquisition in the Appendix for more information.)

Support Services provides assistance through the following departments:

- Materials Distribution
- Purchasing
- Fleet

In cold weather, materials are supplied from the local warehouse and supplemented by the central warehouse, or procured through purchasing. The materials duty supervisor will contact purchasing for materials not carried in stores.

Fleet services are provided through the local garage or from the central garage. Callouts are made through Gas Operations Dispatch from the seniority list. If contact cannot be made, or activity is too great, Duty Supervisor Fleet is called to assist.

During cold weather, areas may ask for assistance through Gas Operations Dispatch, or by contacting warehouses or fleet staff assigned to the local facility.

Use the following process:

Who	Does What
Gas Field Operations	<ul style="list-style-type: none"> <li>▪ Notifies Gas Operations Dispatch for materials or fleet.</li> </ul>
Gas Operations Dispatch	<ul style="list-style-type: none"> <li>▪ Calls out local staff or other necessary staff by seniority. If necessary, calls the material or fleet duty supervisor for material or fleet assistance.</li> </ul>

**4.11.1 If the GPSC is Open**

Use the following process:

Who	Does What
EOC	<ul style="list-style-type: none"> <li>▪ Assemble specifically requested labor pool and equipment and dispatch to operating area.</li> <li>▪ Notify local area operations when the crew was dispatched, what equipment and personnel were included, and the estimated time of arrival.</li> <li>▪ If restoration estimates are very different between areas, work to move resources between areas to balance restoration time frames.</li> <li>▪ Makes requests for outside assistance through the EOC.</li> </ul>
Field Operations	<ul style="list-style-type: none"> <li>▪ Make a request to GPSC for personnel and equipment.</li> <li>▪ Advise GPSC of crew’s availability and reassigns or releases crew as appropriate.</li> <li>▪ Prepare work assignment and required support prior to crew’s arrival.</li> <li>▪ Record time of arrival and crew composition.</li> <li>▪ Notify GPSC when crew is ready to be released.</li> </ul>

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**4.12 System Restoration**

The following table defines criteria for prioritizing gas service restoration:

High	Medium	Low
<ul style="list-style-type: none"> <li>▪ Public hazard: Broken and blowing</li> <li>▪ Gas odor or flame</li> <li>▪ Pipe/infrastructure exposed or at risk</li> <li>▪ High pressure supply (steel pipe 2–20 in.)</li> <li>▪ Facilities serving hospitals, airports, public transportation, police, and fire</li> <li>▪ High density urban/residential areas</li> <li>▪ Other industrial/commercial load with large loss due to process disruption</li> <li>▪ Firm or “at risk” customers</li> </ul>	<ul style="list-style-type: none"> <li>▪ Intermediate pressure (IP) distribution feeders (plastic or steel 4–8 in.)</li> <li>▪ Local IP distribution lines (1-1/4–2 in.)</li> <li>▪ Facilities serving:                             <ul style="list-style-type: none"> <li>– Medium density residential areas</li> <li>– Emergency shelters, blood banks, nursing homes, schools</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Low pressure (LP) distribution</li> <li>▪ Individual (isolated) services</li> <li>▪ Low density rural areas</li> <li>▪ Interruptible customers</li> </ul>

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ENERGY SYSTEM RESTORATION PLAN  
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## Cold Weather Action Plan

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## **5. COLD WEATHER ACTION PLAN**

### **5.1 How PSE is Notified**

Problems due to cold weather are often identified and reported by customers to the PSE Customer Access Center, and then routed to System Control or Gas First Response through Gas Operations Dispatch.

### **5.2 Who PSE Must Notify**

Because cold weather is expected, there may be times when gas consumption exceeds system capabilities. In anticipation of this event, PSE takes actions to minimize or prevent problems.

If a system failure occurs, System Control notifies all appropriate local emergency agencies as well as:

- Gas Operations Duty Personnel (including Emergency Response Planning Engineer)
- Manager Gas First Response
- Major Accounts
- Corporate Communications
- Manager System Control and Protection
- Manager Gas System Operations

### **5.3 Communications**

#### **5.3.1 Internal Communications**

PSE and Service Provider field crews shall communicate using Company radios or cell phones. System Control Gas Operations Dispatch may set up an emergency channel on the radio system when deemed necessary. The PSE radio system is the preferred method for group actions.

#### **5.3.2 External Communications**

External communication will be done through Corporate Communications. System Control, with support from Gas System Integrity, will advise Corporate Communications, Major Accounts, and the Customer Access Center (CAC) within 30 minutes of becoming aware of a cold weather situation requiring action outside of the normal “Cold Weather Action Plan.”

### **5.4 Assessing the Situation**

The teams assessing problems associated with cold weather are:

- Gas System Integrity
- First Response Operations
- System Control and Protection
- Gas System Operations

### **5.5 Scheduling and Prioritizing Work**

Work is scheduled and prioritized by System Control and Protection, GPSC, with the assistance of Gas System Integrity and Gas Control, working with contracted service providers.

**5.6 Mobilizing Personnel**

GPSC, Gas Operations Dispatch, and/or Gas Control will mobilize any personnel deemed necessary for facility failures.

Gas Operations will use the Cold Weather Action Plan as developed by Gas System Integrity to support:

- Cold weather bypassing
- Liquefied Natural Gas (LNG) usage
- Compressed Natural Gas (CNG) usage

The Cold Weather Action Plan includes field assignments, phone numbers, and detailed system information.

**5.7 Installing Facilities**

New gas facilities may have to be installed on an emergency basis during cold weather.

Gas System Integrity is responsible to determine the facility type and the timing of such installations.

**5.8 Gas System Integrity**

Before November of each year, Gas System Integrity (GSI) is responsible for the following:

Step	Action
1	Determine the impact of pressure loss due to cold weather. Determine a safe method of restoration.
2	Identify actions necessary to maintain customer service before cold weather occurs, such as: <ul style="list-style-type: none"> <li>▪ Completion of work requested via SAP.</li> <li>▪ Adjustment list for LP regulator stations.</li> </ul>
3	Prepare a Cold Weather Action List for System Control and Protection on specific cold weather actions to be followed during peak hours and high loads. <ul style="list-style-type: none"> <li>▪ Base the list on predicted and actual system send-out.</li> <li>▪ System pressures as reported by pen gauges, RTU printouts, and bypass reports.</li> <li>▪ Update information from design and system changes.</li> <li>▪ Index the list from predicted total system send-out (cumulative from 4:00 a.m. to 8:00 a.m. as predicted by Gas Control).</li> </ul> Date and send the list to: <ul style="list-style-type: none"> <li>▪ Director, System Planning and Performance</li> <li>▪ Manager, Safety</li> <li>▪ Manager, Standards</li> <li>▪ Director, Operations</li> <li>▪ Director, Gas Operations</li> <li>▪ Director, Asset Management</li> <li>▪ On-duty Supervisor System Operations</li> <li>▪ Manager, Gas System Operations</li> <li>▪ Manager, System Control and Protection</li> <li>▪ Managers, Gas First Response</li> </ul>

<b>Step</b>	<b>Action</b>
4	Assist Energy Measurement and Gas Supply in determining the most effective method of customer curtailment in problem pressure areas.
5	Provide information on potential outages on maps to: <ul style="list-style-type: none"> <li>▪ Major Accounts</li> <li>▪ System Control and Protection</li> <li>▪ Gas First Response</li> <li>▪ Maps, Records, and Technology so they can develop isolation area plans</li> </ul>
6	Maintain a book of information on: <ul style="list-style-type: none"> <li>▪ Weather forecasts</li> <li>▪ SeaTac Airport temperatures</li> <li>▪ Predicted and actual system flows</li> <li>▪ System pressures</li> <li>▪ Customer curtailments and outages</li> <li>▪ Cold weather actions (bypassing, IP valve opening, CNG injections) for times of peak flows</li> </ul>

**5.9 Gas Control**

On a daily basis, Gas Control is responsible for the following:

<b>Step</b>	<b>Action</b>
1	Work with Energy Measurement as required, to notify any customers deemed necessary that would be greatly affected by cold weather, including curtailment of gas service. <ul style="list-style-type: none"> <li>▪ If large numbers of interruptible customers are affected, enlist help from other departments with curtailment calls.</li> </ul>
2	Work with Energy Measurement as required, to advise Major Accounts which customers are affected/curtailed.
3	Send a copy of forecast to: <ul style="list-style-type: none"> <li>▪ Senior Engineer, Gas System Integrity</li> <li>▪ Managers, First Response</li> <li>▪ Manager, System Control and Protection</li> </ul>

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Step	Action
4	<p>Send following to Senior Engineer, Gas System Integrity:</p> <ul style="list-style-type: none"> <li>▪ Daily Gas Send-out Summary Report</li> <li>▪ Daily Gas Statistics Report</li> <li>▪ Min/Max Report (for time between 10:00 p.m. of previous day and 10:00 a.m. of current day)</li> <li>▪ Daily Bypass Summary Report containing locations that were bypassed, IP valves opened, and LNG and CNG injection locations.</li> </ul> <p>List should contain:</p> <ul style="list-style-type: none"> <li>▪ Location name</li> <li>▪ Time on, time off</li> <li>▪ Curtailment Report listing all customers (or classes of customers) who were requested to curtail use during peak hours of present day.</li> </ul>
5	<p>On request, compile and send to the Senior Engineer, Gas System Integrity, a list of customers that did and did not actually curtail gas usage as requested—including usage flows (scfh) and times (when possible).</p>
6	<p>By 1:00 p.m., fax the Gate Take Forecast Report to:</p> <ul style="list-style-type: none"> <li>▪ Senior Engineer, Gas System Integrity</li> <li>▪ Manager, Gas First Response</li> <li>▪ Manager, System Control and Protection</li> </ul> <p>Include actual versus predicted system flow rates (totaled for the period between 4:00 a.m. and 8:00 a.m.) of the present day, and predicted system flows (totaled for the period between 4:00 a.m. and 8:00 a.m.) of the following day.</p> <p>On Friday or any day preceding a holiday, make predictions for each following day, up to and including the next working day (example: Saturday, Sunday, and Monday).</p>
7	<p>Leave the predicted Gate Take Forecast and other pertinent information as a prerecorded message on a predetermined phone number by 1:00 p.m.</p>
8	<p>On mornings when “action” is predicted, direct personnel at field sites and monitor system activity. If any relocation of field personnel is necessary during the course of the morning, notify the pressure control supervisor and Gas System Integrity Engineer.</p>
9	<p>By 1:00 p.m. of the same day that outages due to low system pressures occur, fax or e-mail a copy of a Thomas Guide map with all grouped outages circled, including the total number of outages, to the Senior Engineer, Gas System Integrity.</p>

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### 5.10 System Control and Protection

System Control and Protection is responsible for the following:

Step	Action
1	Operate and/or maintain district regulation and high pressure valves.
2	If an outage occurs, restore service to commercial and industrial equipment with intermediate pressure (pounds) metering and/or inches water column (w.c.) delivery customers with meters larger than 1000 CFH.
3	Daily, monitor weather, gas control load predictions, and the Cold Weather Action List to predict necessary bypassing resources for the next high load period.
4	Based on the listing from Gas System Integrity and the load forecasts from gas control, make the necessary arrangements for field resources to be on-site as specified. If LNG is to be used, arrange for a qualified operator to be on-site. If required, contact Manager First Response for additional personnel to carry out the plan.

### 5.11 System Control and Protection Field Personnel

Once located on-site, and before taking any action, field personnel are responsible for the following:

Step	Action
1	Contact Gas Control and provide the following information: <ul style="list-style-type: none"> <li>▪ Who are they?</li> <li>▪ Where they are located?</li> <li>▪ How Gas Control can contact them (truck number, radio, and/or cellular phone number)?</li> </ul>
2	Take the necessary action at the appropriate time, as determined by Pressure Control, GSI, and Gas Control (bypass regulators, close and/or open valves, monitor pressures, etc.).
3	Complete a Cold Weather Action Report when any action is taken to maintain system pressures (bypassing or opening valves).
4	Notify Gas Control when field activity is complete and system integrity is restored. <i>NOTE:</i> Gas Control shall release field personnel from any location after the necessary action is complete, and shall notify the Pressure Control supervisor when field resources are released.
5	When requested, send a copy of the completed Cold Weather Action Report to the Senior Engineer, GSI.
6	Inform Gas Control and GSI of any observations and/or recommendations regarding the Cold Weather Action List and load forecasts that may assist in future predictions of resource requirements.

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**5.12 Gas First Response Operations**

First Response personnel responding to Cold Weather Action work under the direction of System Control and Protection. First response personnel may restore service to commercial and residential equipment with low pressure inches water column (w.c.) delivery out of the meter set (1000 CFH and smaller meters).

**5.13 Gas Operations Field Personnel**

Field personnel are responsible for the following:

Step	Action
1	Initiate CNG injection or regulator station bypass if the pressure drops below that specified on the Cold Weather Action List. Notify Gas Control when initiating and when complete with these activities.
2	Initiate Liquefied Natural Gas injection if the pressure drops below that specified on the Cold Weather Action List. Notify Gas Control when initiating and when complete with LNG injection.
3	Complete a Cold Weather Action Report when any action is taken to maintain system pressures (injecting CNG).
4	Notify the Manager System Control and Protection. When requested, send a copy of the completed Cold Weather Action Report to the Senior Engineer, GSI including reports on: <ul style="list-style-type: none"> <li>▪ Time on, time off</li> <li>▪ Manifold pressure before and after injection</li> <li>▪ System IP pressure before initiating injection</li> </ul>

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# External Resources

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## **6. EXTERNAL RESOURCES**

### **6.1 Contractors and Foreign Crews**

#### **6.1.1 Working Rules**

All crews and contractors, including out-of-area mutual assistance crews, will comply with Washington State regulations. They will work under their own work rules and collective bargaining agreements, but will comply with PSE's construction standards and work practices, including switching practices.

#### **6.1.2 Contractor Crossings at the United States/Canadian Border**

PSE has entered into an agreement with the United States Customs and Border Protection Agency (CBP) of the Department of Homeland Security to facilitate expedited border crossings for Canadian utility crews into the United States during emergencies caused by windstorm and other weather related issues. The agreement requires advanced notification to the CBP to staff additional screeners on duty allowing quick, thorough screening of Canadian contractors and their equipment for duty in the United States while contracting with PSE.

#### **6.1.3 Rest Periods**

All personnel working on extended restoration efforts will take adequate rest periods. PSE recognizes the need, depending on when outages occur, to work extended initial shifts. Employees should be given adequate time to eat and sleep. This applies to all employees, contractors, and workers from mutual assistance utilities.

### **6.2 Mutual Assistance**

#### **6.2.1 Overview**

Utilities are often willing to assist one another with personnel or equipment to restore service in an emergency. The disruption may be caused by equipment malfunctions, accidents, sabotage, the elements, or other occurrences that prevent existing resources from restoring service in a timely manner.

Mutual assistance provides a cooperative mechanism to augment work force and resources to respond to unusual events that adversely affect customer services.

- Participation in mutual assistance is voluntary.
- The ability to provide assistance may be limited by situations such as the other utility's own conditions or prior commitments.
- Utilities may belong to a number of mutual assistance rosters, and as a result, prioritize the order in which they will respond to multiple requests for assistance.
- Mutual assistance involves two distinct procedures: Receiving assistance and providing assistance.

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### **6.2.2 PSE’s Mutual Assistance Agreements**

PSE has voluntary mutual assistance agreements with a few neighboring gas, electric, and combination utilities, as well as being a signatory to the following Mutual Assistance Agreements:

- Western Region Mutual Assistance Agreement (WRMAA). The Western Energy Institute (WEI) is the custodian of this agreement.
- Edison Electric Institute (EEI)—Restore Power.
- American Gas Association (AGA)—Natural Gas Operations Assistance Program.

Additional information for each agreement may be found in Volume II of PSE’s Energy System Restoration Plan.

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# Energy Curtailment

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**7. ENERGY CURTAILMENT**

**7.1 Curtailment—Electric System**

Electric curtailment is infrequent, and occurs during extreme periods of cold weather. Electric curtailment may be initiated when a Stage 2 or 3 Energy Emergency is declared by PSE.

The PSE electric curtailment program is primarily a communications plan between PSE and its larger customers served under rate schedules with curtailment provisions. Curtailment contracts are complex and have variable factors relating to amounts of interruptible demand, hours of interruption, and advance-notice requirements.

The decision to curtail electric load is made by Energy Trading. Energy Trading can elect to curtail specific customers under two conditions:

- For economic reasons when high market prices do not justify the purchase of sufficient power to meet estimated demand.
- For energy shortage reasons when energy trading cannot secure sufficient power to meet demand at any price.

**7.1.1 Electric Rate Schedules with Curtailment Provisions**

The following table explains the process by shedding load by curtailment:

<b>Rate Schedule</b>	<b>Minimum Interruptible Demand</b>
Schedule 38	300 KW per customer
Schedule 43	0.6 watts per sq ft of structure
Schedule 46	Entire facility
Schedule 48	Varies with customer
Schedule 93	Limited and varies with customer
Special Contract	Varies with customer

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### 7.1.2 Curtailment Process

The following table explains the process of shedding load by curtailment:

Who	Does What
Director of Energy Supply and Trading	Determines curtailment is required. Communicates to System Control (on-duty Supervisor System Operations and/or Emergency Planning Manager): <ul style="list-style-type: none"> <li>▪ Customer class affected</li> <li>▪ Curtailment starting time</li> <li>▪ Curtailment duration</li> </ul>
Major Account Executives	Notify affected customers. May use emergency response personnel assigned as “curtailment callers” depending upon the size of the curtailment effort.
System Supervisor	Initiates notifications to the following listed departments for plan activation: <ul style="list-style-type: none"> <li>▪ Major Accounts</li> <li>▪ Key Customer Services</li> <li>▪ Customer Access Center</li> <li>▪ Federal and State Regulations</li> <li>▪ Corporate Communications</li> <li>▪ First Response</li> <li>▪ Government and Community Relations Managers</li> </ul>

### 7.1.3 If Customers Do Not Curtail

In the event customers who have been requested to curtail do not comply, then penalty provisions may be imposed by the Federal and State Regulation Department, as stipulated in the various rate schedules. In addition, the customer may be disconnected, at the discretion of PSE.

## 7.2 Curtailment—Gas System

PSE’s gas distribution system and gas supply resource portfolio is designed to meet the needs of firm customers.

- Interruptible service is made available at a lower rate as long as the distribution capacity and/or the contracted gas supply resources for our firm rate customers are not put at risk.
- A stipulation of the interruptible rate contract is the curtailment of interruptible gas use, if in PSE’s sole discretion, their continued use of interruptible volumes will jeopardize continuous service to firm customers.
- Interruptible volume is defined as, “Gas used in excess of the firm contracted amount as identified in such customers’ service agreement.”

This section of the document is intended as a guideline for curtailment only and is not to be interpreted as rules. There may be other conditions where curtailment is required that are not covered in this document. This is a supplement to PSE’s annual Cold Weather Action Plan. A curtailment in and of itself is not an emergency. An emergency, however, may require curtailment for control of the situation.

**7.2.1 Definitions**

Term	Definition
Gas Service Curtailment	Gas supply curtailment typically takes place during cold weather or extreme conditions, but it may occur at any time. The procedures described in “Cold Weather” in this plan detail notification requirements, internal and external communications, and operational duties and responsibilities.
Supply Curtailment	<p>PSE solely determines supply curtailment if the Company’s:</p> <ul style="list-style-type: none"> <li>▪ Contracted gas supply and/or upstream transportation capacity is insufficient to meet the expected total demands of firm and interruptible sales customers; or,</li> <li>▪ Storage inventory levels are judged to be so low as to sufficiently compromise delivery and to not reliably serve the expected demands of firm sales customers in future periods.</li> </ul>
System Curtailment	<p>PSE solely determines system curtailment if:</p> <ul style="list-style-type: none"> <li>▪ The Company’s distribution system, or any portion thereof, is insufficient to meet estimated requirements for all firm and interruptible sales and transportation service customers;</li> <li>▪ Partial or full curtailment is judged to be required to facilitate the repair or maintenance of the Company’s distribution system; or,</li> <li>▪ Needed to manage operating conditions and pressures on the Company’s distribution system or any portion thereof.</li> </ul>

**7.2.2 Guidelines**

The decision to curtail is complicated and involves several of the key personnel groups. Any time Cold Weather Action is activated, all key PSE personnel (listed below) must be prepared for curtailment.

Gas Control must maintain daily contact (at least) with the Gas Traders to keep informed of the anticipated supply situation.

If curtailment is deemed necessary, the Emergency Response Planning Engineer, Gas System Integrity, and the on-duty Manager Gas System Operations will be brought into the discussion. If the condition is supply related, the Gas Traders will be brought into the discussion. This is to be done at least daily as long as these conditions exist.

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**7.2.3 Scope of Curtailment**

The following describes responsibilities for various key personnel:

Who	Does What
Gas System Integrity, Gas Control, Manager Gas System Operations	<ul style="list-style-type: none"> <li>▪ Determines curtailment is required.</li> <li>▪ Communicates to Energy Measurement the extent of the curtailment.</li> </ul>
If 0–3 Customers – Gas Control	<ul style="list-style-type: none"> <li>▪ Notifies affected customers.</li> <li>▪ Maintains documentation.</li> <li>▪ Forwards all records to Energy Measurement.</li> </ul>
If 0–100 Customers – Energy Measurement	<ul style="list-style-type: none"> <li>▪ Notifies affected customers and maintains documentation.</li> <li>▪ May use Major Account Representatives and/or Key Customer Services personnel to assist.</li> </ul>
Over 100 Customers – Energy Measurement	<ul style="list-style-type: none"> <li>▪ Notifies affected customers utilizing emergency response personnel assigned as “curtailment callers.”</li> <li>▪ Works with Emergency Response Manager to dispatch additional personnel for assistance.</li> </ul>

**7.2.4 If Customers Do Not Curtail**

In the event customers who have been requested to curtail do not comply, then penalty provisions may be imposed.

- Failure to comply with curtailment action may result in disconnection of service by PSE during the curtailment period.
- Energy Measurement will collect all data to assess penalties for unauthorized usage.
- Major Accounts and Key Customer Services personnel will work with customer with unauthorized usage to resolve penalties.

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7.2.5 Key Personnel Responsibilities

Who	Does What
Customer Access Center	<ul style="list-style-type: none"> <li>▪ Forward all calls regarding curtailment to Energy Measurement, Major Accounts, or Gas Control.</li> </ul>
Director, Gas Operations	<ul style="list-style-type: none"> <li>▪ Notify the Director of Operations of the need for and extent of curtailment. Verify officer approval of a curtailment event, except in an emergency.</li> <li>▪ Ensure First Response and Service Providers are notified of curtailment activity for potential emergency repairs/temporary reinforcement. Maintain contact with the Response Planning Engineer regarding status of the curtailment event.</li> </ul>
Emergency Response Planning Engineer	<ul style="list-style-type: none"> <li>▪ During a curtailment event of more than three customers, work with the Manager, Gas System Operations, Gas Control, Emergency Response Manager, and Gas System Integrity. Establish parameters for reviewing the duration of the curtailment period.</li> </ul>
Energy Measurement	<ul style="list-style-type: none"> <li>▪ Initiate calling to inform customers of curtailment and resumption of service.</li> <li>▪ Maintain a database where curtailment data is available by:               <ul style="list-style-type: none"> <li>– Name</li> <li>– Address</li> <li>– Emergency section</li> <li>– ID#</li> </ul> </li> <li>▪ Continue to coordinate customer calling and provide assistance calling customers, ensure all interruptible customers are notified of curtailment and resumption of service, and maintain all records of customer contacts for penalty validation. Notify meter reading of the need for, and timing of, curtailment meter reading, or obtain meter readings via Cell-Net for AMR customers.</li> <li>▪ Contact the CAC to let them know a curtailment is in effect, and when it has ended.</li> <li>▪ Notify GSI of customer requests for limited or partial curtailment.</li> <li>▪ Provide Chart Changers as required for emergency pressure checking and/or chart changing during a cold weather event.</li> <li>▪ Forward copies of Large Volume Metering billing charts, Electronic Volume Recorder data, and all System Pressure Recorder charts to Gas Control, System Control and Protection, and GSI for review where appropriate.</li> <li>▪ Calculate consumption during curtailment period and notify Major Account and Key Customer Services of violations/penalties.</li> <li>▪ Contact all customers annually for the purpose of obtaining up-to-date phone numbers and contact information. Send letters to interruptible customers notifying them that they are obligated to curtail and must maintain a backup system.</li> <li>▪ Train PSE personnel for curtailment calling.</li> </ul>

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<b>Who</b>	<b>Does What</b>
Energy Trading	<ul style="list-style-type: none"> <li>▪ Keep Gas Control informed about supply situation and available reserves. Immediately notify Gas Control of known or expected supply problems.</li> <li>▪ Supply necessary gas pricing information on a daily basis to Energy Measurement for penalty calculation.</li> </ul>
Gas Control	<ul style="list-style-type: none"> <li>▪ Notify affected customers as required.</li> <li>▪ Monitor SCADA data and weather forecasts. Provide Cold Weather Action Forecasts. Estimate the 4–8 a.m. send-out and provide that information to all key personnel.</li> <li>▪ Update voice mail message on the Cold Weather Action line for all key personnel.</li> <li>▪ Assist with curtailment calling when workloads and staffing permit.</li> <li>▪ Communicate with Gas System Integrity regarding the projected need for curtailment.</li> </ul>
Gas Operations Dispatch	<ul style="list-style-type: none"> <li>▪ Monitor customer service order data for possible low-pressure conditions. Forward all indications of low pressure to the GPSC, GSI, and Gas Control.</li> <li>▪ Maintain documentation of all possible low-pressure conditions and the related service calls.</li> </ul>
Gas System Integrity	<ul style="list-style-type: none"> <li>▪ Analyze forwarded copies of possible low-pressure conditions to determine if they are system problems. Prepare load studies that reflect forecast conditions, and store them for reference.</li> <li>▪ Analyze cold weather action, SCADA and Pressure Recorder data, and customer service order data to determine effectiveness of curtailment, and recommend any additional action items.</li> <li>▪ Estimate locations and flow levels/temperatures where curtailment may be required to ensure service to firm customers.</li> <li>▪ Review effectiveness of Cold Weather Actions and revise annual Plan as necessary.</li> </ul>
Major Accounts & Key Customer Services	<ul style="list-style-type: none"> <li>▪ Contact customers as directed for interruption and resumption of interruptible service.</li> <li>▪ Immediately notify Gas Control of known or expected supply problems. Periodically contact interruptible customers regarding curtailment preparedness.</li> <li>▪ Immediately notify Gas Control and GSI if an interruptible customer is unprepared for curtailment or unable to curtail.</li> <li>▪ Immediately notify Gas Control if an Interruptible or Transporting customer is planning a significant increase in consumption.</li> </ul>

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## **Support Function**

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## 8. SUPPORT FUNCTION

### 8.1 Contractor Management and Contract Services

#### 8.1.1 Normal Business Function

Contractor Management is responsible for facilitation of PSE’s master service provider agreements.

- Additionally, Contract Services maintains contracts for local services such as distribution crews, tree removal crews, flaggers, helicopters (for aerial patrols), etc.
- Contract Services routinely updates services agreements, and from October through April of each year, validates the availability of local contractor resources on a monthly basis.
- Following each incident, Contract Services reviews storm-related billings submitted by contractors.

#### 8.1.2 Emergency Response Function

When Operating Bases are engaged in significant electric outage restoration activities, contract managers are deployed to affected regions to ensure service provider resources are used in a manner that is consistent with the applicable contract. Contract managers may also be used to back up Utility First Response Supervisors.

Major restoration efforts require PSE to respond to significant numbers of incidents.

- PSE uses local service providers to augment available First Response resources in order to speed restoration.
- Contract administrators are used by the Emergency Operations Center (EOC) as Resource Coordinators and by the Gas Planning Strategy Center (GPSC) as service provider liaisons.

#### 8.1.3 Emergency Response Roles

Job Title	Work Location	Activated By	Training Expectations
EOC Resource Coordinator	EOC	EOC Manager	<ul style="list-style-type: none"> <li>▪ Emergency Response Orientation</li> <li>▪ EOC Orientation</li> </ul>
Contract Manager	Operating Base	Supervisor Systems Operations	<ul style="list-style-type: none"> <li>▪ Emergency Response Orientation</li> <li>▪ Gas Incident Command System (GICS)</li> </ul>
Service Provider Management Liaison	GPSC	Emergency Response Manager	<ul style="list-style-type: none"> <li>▪ Emergency Response Orientation</li> <li>▪ Gas Planning Strategy Center (GPSC) Operations</li> </ul>

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## 8.2 Corporate Communications

### 8.2.1 Normal Business Function

Corporate Communications is responsible for leading and overseeing all external and internal communications and activities supporting the reputation and identity of Puget Energy and its primary subsidiary, Puget Sound Energy. This includes the Company’s brand management; media relations; customer, employee and financial communications; public involvement; corporate events and philanthropy; educational programs; web sites; and corporate printing services.

### 8.2.2 Emergency Response Function

During significant and major incidents, Corporate Communications assumes a Public Information Officer (PIO) role (media relations) within the Emergency Operations Center (EOC) and serves as a “central clearing house” for all incident messages. The EOC PIO coordinates with the EOC Manager to gather high-level information about the incident from each of the impacted areas.

The EOC’s PIO also coordinates with the Customer Access Center to ensure messages provided to calling customers are consistent with information provided to the media. The media relations EOC representative provides updated messages to the larger public relations team, which then disseminates those messages to media covering the incident and to the UTC.

### 8.2.3 Emergency Response Roles

Role	Work Location	Activated By	Training Expectations
EOC Media Relations with some Regulatory Notification (i.e., UTC)	<ul style="list-style-type: none"> <li>▪ EOC</li> <li>▪ PSE East Building, 11th floor</li> <li>▪ Field Locations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Supervisor System Operations</li> <li>▪ PSE Incident Management Team</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Orientation</li> <li>▪ EOC Orientation</li> <li>▪ Gas Planning Strategy Center (GPSC) Orientation</li> <li>▪ Incident Command System Training (including specific training on PIO role in ICS)</li> </ul>

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### 8.3 Corporate Security

#### 8.3.1 Normal Business Function

Corporate Security is responsible for the physical protection of PSE’s physical assets and personnel.

- Provides controls for access or restrictions to PSE asset locations.
- Provides monitoring of assets as required by law or for best practices.
- Provides investigative services for criminal and internal investigations and support operational needs for access controls or monitoring.

#### 8.3.2 Emergency Response Function

During major incidents, Corporate Security provides protective services for Business Continuity support and/or emergency business needs.

- Provides ongoing access controls, emergency protective services on an as-needed basis.
- Provides restricted, limited, and full physical accessibility based on situational requirements.

#### 8.3.3 Emergency Response Roles

Corporate Security is available as indicated in their Business Continuity Plan and have reporting locations specified for loss of communications. All security personnel are available for security needs, and/or reassignment as directed by senior management.

Role	Work Location	Activated By	Training Expectations
Corporate Security	<ul style="list-style-type: none"> <li>▪ Bellevue Headquarters</li> <li>▪ EOC</li> <li>▪ Remote Locations</li> </ul>	<ul style="list-style-type: none"> <li>▪ EOC Manager</li> <li>▪ Senior Management Direction</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Orientation</li> <li>▪ Security Systems Training</li> </ul>

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## 8.4 Customer Access Center

### 8.4.1 Normal Business Function

The Customer Access Center (CAC) provides full customer service Monday through Friday from 7:30 a.m. to 6:30 p.m., and responds to calls for emergency services 24/7 (including holidays).

The CAC uses approximately 190 representatives in shifts staggered to meet forecasted daily call volumes, which includes 27 representatives that work off-site from home. Additionally, customers may interact with PSE via e-mail during normal business hours or automated self-service 24/7 via the Integrated Voice Response Unit (IVRU).

The CAC also maintains a Point Desk, a “one-call” 24/7 internal PSE contact point for communication with the Customer Access Center.

### 8.4.2 Emergency Response Function

Though outage calls may represent a high percentage of total calls, outages may not equally impact all parts of PSE’s service area. Customers in less impacted service areas will continue to conduct regular routine business with PSE.

During major incidents, in order to provide additional staffing to meet higher call volumes resulting from outages and to continue to meet routine business needs, the CAC moves its Customer Service Representatives (CSRs) and management team to 12-hour rotating shifts.

- CSR shifts are arranged to provide full-service coverage between approximately 5:00 a.m. and 9:00 p.m., with maximum staffing coverage for peak call periods.
- After hours, non-CAC staff is used to respond to customer outage and emergency calls through the night, when call volumes are much lower.
- CAC staff will remain on 12-hour shifts until outage calls have returned to more normal levels. (Shifts are already predetermined.)

In addition to responding to customer outage calls, the CAC is instrumental in communicating the overall scope and character of each incident, as well as where our current efforts are relative to the typical phases of outage restoration. High-level incident messaging is provided to help customers make decisions during the early phases of large outages when specific circuit restoration information is not yet available in CLX.

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### 8.4.3 Emergency Response Roles

To provide additional phone answering support, approximately 70 non-customer services employees have been identified and assigned to be a Call Taker in an emergency response role. Individuals assigned to this role are generally collocated at the Bothell campus. (In years past, for very large outages, we have used even more employees than those identified.)

Role	Work Location	Activated By	Training Expectations
Emergency Call Takers	<ul style="list-style-type: none"> <li>▪ Customer Access Center (CAC), Bothell</li> <li>▪ Bothell Emergency Center (BEC)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Customer Services Management Team</li> <li>▪ On-duty Supervisor System Operations</li> <li>▪ EOC</li> </ul>	<ul style="list-style-type: none"> <li>▪ Customer Services staff provides training to call takers as they arrive.</li> <li>▪ Hands-on or “just-in-time” instruction is provided in the use of CLX, Cisco phones, and responding to customer outage calls.</li> </ul>

### 8.4.4 Bothell Emergency Center (BEC)

During Level 2 or 3 Emergency Incidents, as determined by declared Service Level, or the number of outages or customers impacted by the incident, the Bothell Customer Service Management Team initiates the opening of the BEC.

- The BEC is comprised of seven support teams for the purpose of managing the incident to ensure consistent messaging and that customer and operational needs are met.
- A rotating Team Lead is assigned to each group and has the responsibility of providing specific support or functions.

The rotating roles of the BEC Teams are:

- Director
- Manager
- Duty Supervisor
- Staffing Team
- Communications Team
- Training Team
- Provisions Team
- IT Team

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## 8.5 Electric First Response Dispatch

### 8.5.1 Normal Business Function

Electric dispatchers receive routine/emergency service requests and subsequently assign a PSE first responder (serviceman) to investigate or resolve. During normal business hours and during normal conditions, electric dispatchers are collocated at Eastside System Operations (ESO), where all service work Companywide is reviewed, assigned, and dispatched.

### 8.5.2 Emergency Response Function

When outage conditions begin to escalate, electric dispatcher(s) are physically relocated to Operating Base(s) that are responsible for restoring service to the impacted area.

- Once the dispatcher is on-site locally, they will report to the EFR Supervisor. CLX outage reports and related service orders for the affected area are electronically rerouted to the Operating Base, allowing local review, prioritization, and assignment.
- At times, a backup dispatcher may be used to dispatch while the dispatcher is in transit to the location, during off-peak hours, or at bases where the volume of dispatch work is lower.

Until the storm board staff is fully mobilized, the dispatcher may review and directly assign work to PSE’s servicemen. As the Operating Base staff begins to assume responsibility for coordination of all resources, however, responsibility for reviewing and assigning work to the servicemen will roll to the Response Group or Restoration Group Supervisors.

### 8.5.3 Emergency Response Roles

Role	Work Location	Activated By	Training Expectations
PSE Dispatcher or Backup Dispatcher	<ul style="list-style-type: none"> <li>▪ Operating Base(s)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Supervisor System Operations</li> <li>▪ EFR Supervisor</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Training</li> <li>▪ Emergency Response Orientation</li> <li>▪ CLX Outage Overview</li> <li>▪ Operating Base Orientation</li> <li>▪ Introduction to the Incident Command System</li> </ul>

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## 8.6 Electric First Response Operations

### 8.6.1 Normal Business Function

Electric First Response (EFR) is responsible for all routine service requests where a qualified electrical worker is required to respond. EFR also provides round-the-clock investigation of outages or other electrical emergencies. Utility first responders (servicemen) assess and resolve most problems that do not require a crew to repair.

### 8.6.2 Emergency Response Function

As outages begin to escalate, EFR focuses on public safety issues, isolation of system damage, and switching to restore service. The EFR supervisor will assume the position of Deputy Incident Commander and play a key role in the transition of restoration efforts to local teams by coordinating staffing at Operating Bases with Service Provider management.

### 8.6.3 Emergency Response Roles

Role	Work Location	Activated By	Training Expectations
EFR Supervisors team with Service Provider Management to mobilize resources and orchestrate overall response efforts.	Regional Operating Base(s)	Supervisor System Operations	<ul style="list-style-type: none"> <li>▪ Introduction to Incident Command</li> <li>▪ Emergency Response Orientation</li> </ul>
EFR Servicemen investigate, assess, isolate, and restore service with a focus on ensuring public safety.	Regional Operating Base(s)	EFR Supervisor	<ul style="list-style-type: none"> <li>▪ Introduction to Incident Command</li> <li>▪ Emergency Response Orientation</li> </ul>
EFR Engineers may be used for storm board coordination, system analysis, damage assessment, or other functions.	Regional Operating Base(s)	EFR Supervisor	<ul style="list-style-type: none"> <li>▪ Introduction to Incident Command</li> <li>▪ Emergency Response Orientation</li> </ul>
EFR Operating Clerks may be used as CLX Specialists.	Regional Operating Base(s)	EFR Supervisor	<ul style="list-style-type: none"> <li>▪ Emergency Response Orientation</li> <li>▪ CLX Specialist training</li> </ul>

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## 8.7 Electric System Operations

### 8.7.1 Normal Business Function

Electric System Operations is responsible for the safe operation of the electric distribution system.

- This includes monitoring the electrical performance of the distribution system as well as coordinating electrical switching and (safety) clearances for all system maintenance, construction, and outage repair.
- After normal business hours, System Operations assumes the additional responsibilities of Electric First Response Dispatch and directly dispatches Servicemen as problems arise.
- After normal business hours, system operators also provide routine updates on customer and distribution outages.

The Supervisor System Operations is responsible for continually monitoring system-wide weather conditions and regional outage activity. The Supervisor System Operations is responsible for initiating the emergency response plan.

### 8.7.2 Emergency Response Function

As distribution outages begin to increase, System Operations can become quickly overwhelmed by the rapidly increasing need for resources (Electric First Response Servicemen, crews) in addition to the increasing need for distribution system analysis, switching instructions, and electrical clearances.

- In anticipation of escalating outages, the Supervisor System Operations will collaborate with Quanta management to open area Operating Base(s), which transitions the oversight of restoration efforts from System Operations to local team(s).
- These local teams will establish an Incident Command System to respond and recover from an electric outage.
- The System Operations Outage Coordinator establishes a consistent communication link between an open Storm Base and System Operations. The Storm Board Analyst and the System Operations Outage Coordinator will look for ways to quickly restore customers, as well as identify work that will help restore significant portions of the Electric System.

### 8.7.3 Emergency Response Roles

Role	Work Location	Activated By	Training Expectations
<ul style="list-style-type: none"> <li>▪ Continual monitoring of current conditions and system performance</li> <li>▪ Activation of Emergency Response Plan</li> <li>▪ System Operations Outage Coordinator</li> </ul>	ESO	Supervisor System Operations	<ul style="list-style-type: none"> <li>▪ Introduction to Incident Command System</li> <li>▪ Emergency Response Orientation</li> <li>▪ Emergency Response Location</li> <li>▪ System Operations</li> </ul>

## 8.8 Environmental Services

### 8.8.1 Normal Business Function

The Environmental Services Department is responsible for overseeing that all Company business practices are conducted in the highest regard for the protection of human health and the environment. The department is also focused on management of remediation projects and corporate environmental functions that are not tied to a specific business unit, including hazardous materials storage, hazardous and dangerous waste management, used oil management, spill response, and environmental auditing.

### 8.8.2 Emergency Response Function

During an emergency, the primary role of the Environmental Service Department is managing spills from equipment and tanks.

- The department provides a 24-hour Spill Response Hotline (206-994-3186) that can be used by any PSE employee.
- Additionally, the department manages the cleanup of spills once the immediate emergency response phase has concluded.
- The Environmental Services Department has developed a Spill Response Program that details the role of department employees during an emergency.
- Additionally, Spill Response Procedures are in place and available to employees.

### 8.8.3 Emergency Response Roles

Role	Work Location	Activated By	Training Expectations
Environmental Manager will allocate resources and personnel for the response.	<ul style="list-style-type: none"> <li>▪ South King Waste Management Facility</li> <li>▪ PSE Bellevue Office</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency response to a potential hazardous spill is initiated by the caller to the hotline noted.</li> <li>▪ The Director of Legal and Environmental Services or the Manager of Environmental Services responds to the call and directs the response.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Hazardous Waste Operations and Emergency Response (HAZWOPER) Training</li> <li>▪ Provides training for facilities in the Company that are required to have spill response training.</li> </ul>

*Continued on next page*

## 8.9 Fleet Services

### 8.9.1 Normal Business Function

Fleet Services facilitates the repair and maintenance of all internal Company fleet assets, providing a single point of contact, by way of a toll-free number.

- In addition, Fleet Services processes vehicle-related invoices, determines proper fleet mixes, and coordinates the acquisition and retirement of all fleet assets.
- Fleet Services is also responsible for ensuring compliance with guidelines for DOT, ANSI, and other government entities.

### 8.9.2 Emergency Response Function

During emergency incidents, the Fleet Services Department will facilitate the repair and maintenance of all responding vehicles.

- Response expectations have been established for Fleet’s vendors, and will place the vendors on-call when an incident is anticipated or underway.
- Vendors will be present in the field, where they are needed during prolonged incidents.

### 8.9.3 Emergency Response Roles

Role	Work Location	Activated By	Training Expectations
Fleet Maintenance Coordination	Kent Fleet	<ul style="list-style-type: none"> <li>▪ EFR Supervisor</li> <li>▪ Supervisor System Operations</li> </ul>	Emergency Response Orientation

*Continued on next page*

## 8.10 Government and Community Relations—Business and Community Services

### 8.10.1 Normal Business Function

Government and Community Relations develops and maintains business relationships with local community leadership.

- Partnering with local leaders is fundamental to garnering community support for implementation of PSE’s business initiatives.
- Among other benefits, strong local relationships allow PSE to reduce the overall timeline and cost of system projects, ultimately enhancing the quality of service provided to PSE’s customers.
- Government and Community Relations provides technical assistance on public policy and government affairs to business units as needed.

Government and Community Relations Managers participate in setting the strategic direction for PSE’s public policy strategy and also oversee the implementation of specific public policy programs, supporting the Company’s mission, goals, and objectives.

### 8.10.2 Emergency Response Function

During significant incidents, Government and Community Relations Managers, Municipal Liaison Managers, and Municipal Construction Planners assume a role to coordinate communications in each region and/or at the Operating Bases involved in outage restoration.

- In this role, they serve as a vital communications path to local government officials and help to identify critical infrastructure that may be offline locally.
- They may collaborate with the EOC team and Public Information Officer (PIO) to ensure uniform messaging is provided to local government, media, and other customers.

### 8.10.3 Emergency Response Roles

Role	Work Location	Activated By	Training Expectations
Normal Job Duties and/or Communications Coordinator	<ul style="list-style-type: none"> <li>▪ Operating Base(s)</li> <li>▪ Gas Planning and Strategy Center (GPSC)</li> </ul>	<ul style="list-style-type: none"> <li>▪ EOC Director</li> <li>▪ EOC Manager</li> <li>▪ EFR Supervisor</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Orientation</li> <li>▪ Introduction to the Incident Command System</li> </ul>

*Continued on next page*

## 8.11 Help Desk

### 8.11.1 Normal Business Function

The Help Desk is PSE’s first point of contact for all calls/e-mails related to the Corporate LAN (software, computers, printers, various peripheral devices, VPN connectivity), and Telecom services (Microware, Fiber Optic, Radio, SCADA, Telephony). The Help Desk assists employees with the following:

- Tier 1 troubleshooting of software issues and basic installation.
- Tier 1 troubleshooting of internet/intranet, e-mail, and network accessibility.
- Tier 1 troubleshooting of print device issues (LAN and ported), including installing device drivers and limited queue management (LAN/Mainframe).
- Tier 1 troubleshooting of site and/or system outage incidents.
- If unable to resolve issues at Tier 1, the Help Desk gathers all available information, logs in to tracking system, then assigns to Tier 2 or above support as required via tracking system. For urgent issues, contacts assigned support directly as an additional alert method to expedite response.

### 8.11.2 Emergency Response Function

During a PSE electric/gas customer area outage, incidents when the PSE EOC opens or as required, the PSE Help Desk will remain open or reopen to ensure that the Help Desk continues its primary role as PSE’s first point of contact for all IT department support services.

### 8.11.3 Emergency Response Roles

Role	Work Location	Activated By	Training Expectations
First point of contact for Information Technology (IT) Department support services for EOC/PSE WAN/LAN	<ul style="list-style-type: none"> <li>▪ EOC</li> <li>▪ Other PSE facility as required</li> </ul>	<ul style="list-style-type: none"> <li>▪ Network/Desktop Manager</li> </ul>	Emergency Response Orientation

*Continued on next page*

**8.12 Human Resources**

**8.12.1 Normal Business Function**

The Human Resources Department coordinates the hiring and retention of PSE employees through the provision of recruiting, compensation, benefits, training, organizational development, compliance with Company policies and employment laws, and labor and employee relations services.

**8.12.2 Emergency Response Function**

During major incidents, the Human Resources Department continues to facilitate employee access to third party program resources such as benefits, the Employee Assistance Program, and Workers’ Compensation. During loss of workforce incidents, HR will lead the Incident Management Team.

**8.12.3 Emergency Response Roles**

Role	Work Location	Activated By	Training Expectations
Assists Management, Safety, and Operations with contacting and helping the family members of injured employees (from Safety and Operations chapter 8.17).	Bellevue Corporate Campus	Human Resources Senior Management	Introduction to Incident Command System

*Continued on next page*

## 8.13 Major Accounts/Business Accounts Services

### 8.13.1 Normal Business Function

Major Accounts and Business Account Services provide account management and segment support to PSE’s largest commercial and industrial customers.

- Major Accounts focuses on PSE’s largest customers, providing a single point of contact for their utility needs.
- Business Account Services targets the mid-to-large commercial and industrial customers with an eye toward segment management.
- Business Account Services Account Managers handle escalated and complex issue resolution, outbound communications, and education for assigned business segments.

### 8.13.2 Emergency Response Function

During significant incidents, Major and Business Accounts Services employees serve in the role of EOC Major Accounts Representative.

- The EOC Major Accounts Representative provides an important information gateway to certain commercial and industrial customers such as refineries, schools, hospitals, grocery stores, or manufacturers.
- The EOC Major Accounts Representative tracks outages affecting commercial/industrial customers and provide frequent informational updates, helping business customers to make important operational decisions.
- The Major Accounts Representative is also the customer’s point of contact during curtailment activities.

### 8.13.3 Emergency Response Roles

Role	Work Location	Activated By	Training Expectations
EOC Major Accounts Representative	<ul style="list-style-type: none"> <li>▪ EOC</li> <li>▪ Gas Planning and Strategy Center (GPSC)</li> </ul>	Supervisor System Operations, if the EOC is not open.	<ul style="list-style-type: none"> <li>▪ Emergency Response Orientation</li> <li>▪ Introduction to Incident Command System</li> <li>▪ EOC Orientation</li> </ul>

*Continued on next page*

## 8.14 Materials Distribution and Planning

### 8.14.1 Normal Business Function

To provide materials, goods and service to support NCC, Generation, Communication, Substation, and T&D electric/gas construction and maintenance.

### 8.14.2 Emergency Response Function

During an emergency incident, or in preparation for an anticipated emergency, the following functions are served:

- To supply and transport materials to support emergency restoration during an emergency incident.
- To plan and forecast emergency material replenishment.

### 8.14.3 Scheduling and Prioritizing Work

The Material Distribution and Planning (MDP) Duty Supervisor assesses level of emergency incident and coordinates notification of MDP management staff, warehouse, operating clerks, and drayage drivers depending on the following levels of support needed:

Level	Support Description
0—Normal	<ul style="list-style-type: none"> <li>▪ Operating Base storeroom supplies materials for emergency incident.</li> <li>▪ MDP duty supervisor/Central Stores is on standby for any material shortage.</li> </ul>
1—Regional	<ul style="list-style-type: none"> <li>▪ Operating Bases are responding to an emergency incident at local level.</li> <li>▪ MDP duty supervisor coordinates emergency callout to deliver needed material.</li> </ul>
2—Significant	<ul style="list-style-type: none"> <li>▪ Two or more Operating Bases are responding to an emergency incident.</li> <li>▪ Central Stores open operation with limited staff.</li> </ul>
3—Major	<ul style="list-style-type: none"> <li>▪ Most or all Operating Bases/Regions are open to respond to a storm/emergency incident.</li> <li>▪ Central Stores is geared up for 24-hour operation and implements emergency personnel job rotation.</li> </ul>

### 8.14.4 Emergency Response Roles

Role	Work Location	Activated By	Training Expectations
MDP Duty Supervisor assesses level of emergency incident and coordinates notification of MDP staff.	<ul style="list-style-type: none"> <li>▪ Normal or alternate work locations (any PSE operated storerooms)</li> <li>▪ Central Stores South King facility, Kent</li> </ul>	<ul style="list-style-type: none"> <li>▪ Supervisor System Operations</li> <li>▪ EOC Manager</li> <li>▪ MDP Duty Supervisor</li> <li>▪ Manager of Material Distribution and Planning</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emergency Response Orientation</li> <li>▪ Review with staff the Material Distribution and Emergency Response Plan in September each year.</li> </ul>

## 8.15 Network Operating Systems (NOS)

### 8.15.1 Normal Business Function

NOS is responsible for PSE’s Windows server environment which includes Corporate, Energy Control System, and Security systems. NOS manages all server hardware, operating systems, and domain infrastructure for these systems. The Corporate systems consist of e-mail, DNS, Active Directory, SQL, anti-spam, and all file systems.

### 8.15.2 Emergency Response Function

During major incidents NOS will ensure that the servers systems within the EOC and PSE are active. The NOS group coordinates all server outages and status report updates with the EOC manager.

### 8.15.3 Emergency Response Roles

Role	Work Location	Activated By	Training Expectations
EOC/PSE Server Management	<ul style="list-style-type: none"> <li>▪ EOC</li> <li>▪ Other PSE facilities as required</li> </ul>	Network/Desktop Manager	Emergency Response Orientation

## 8.16 Purchasing

### 8.16.1 Normal Business Function

The Purchasing Department’s normal business function is to procure services, materials, and equipment for PSE’s internal operations.

- Purchasing establishes long-term contracts to ensure adequate services or supplies and uses strategic sourcing processes.
- Purchasing also evaluates supplier performance to ensure quality products are acquired.

### 8.16.2 Emergency Response Function

During significant incidents, the Purchasing staff is available 24/7 to respond to any need for material, equipment, or services in support of timely response and recovery of PSE’s energy systems.

Purchasing representatives maintain a business continuity plan to ensure that procurement functions can continue should their normal work environment become non-operational.

- Each buyer maintains copies of the Purchasing Department’s emergency manual at their desk and an off-site location.
- The manual contains important contact and contract information for all major electric and gas suppliers as well as any applicable joint response plans.
- The document also details backup plans to be used in the event that normal communications or information systems are unavailable.
- During significant incidents, the Purchasing staff receives updates from Materials Management who tracks the inventory outflow from warehouses and identifies additional materials which need to be acquired.

### 8.16.3 Scheduling and Prioritizing Work

With input from key PSE personnel monitoring possible or current storm/emergency incidents, the Manager Purchasing coordinates notification to Purchasing staff and storm/emergency materials suppliers. Manager Purchasing and/or staff coordinates procurement of storm materials as needed with Materials Management personnel.

Level	Support Description
0—Normal	<ul style="list-style-type: none"> <li>▪ Purchasing staff on call and available 24/7 to procure storm/emergency materials and services.</li> <li>▪ Key storm materials suppliers informed of emergency incident and possible ordering.</li> </ul>
1—Regional	<ul style="list-style-type: none"> <li>▪ One Operating Base is responding to a regional (localized) emergency incident.</li> <li>▪ Manager Purchasing informs staff and storm/emergency materials suppliers and distributors of emergency incident.</li> <li>▪ Staff assigned for non-business hour coverage as appropriate.</li> </ul>
2—Significant	<ul style="list-style-type: none"> <li>▪ Two or more Operating Bases are responding to an emergency incident.</li> <li>▪ Similar to Level 1 response above, but the scope of the incident is larger, with a need for elevated response communicated to storm/emergency materials suppliers and distributors.</li> </ul>
3—Major	<ul style="list-style-type: none"> <li>▪ All areas are open to respond to a storm/emergency incident.</li> <li>▪ Purchasing staff scheduled for 24/7 coverage. Storm/emergency materials suppliers are instructed to provide 24/7 coverage.</li> <li>▪ Suppliers may be asked to have other customers release non-critical production time if needed or arrange special production runs for PSE.</li> <li>▪ Distributors may need to obtain materials from additional sources.</li> <li>▪ Purchasing also prepares for subsequent storm/emergency incidents.</li> </ul>

### 8.16.4 Emergency Response Roles

Role	Work Location	Activated By	Training Expectations
<ul style="list-style-type: none"> <li>▪ Manager Purchasing and/or staff coordinates notification to staff and materials suppliers.</li> <li>▪ Coordinates procurement of storm materials as needed.</li> </ul>	<ul style="list-style-type: none"> <li>▪ PSE East Building</li> <li>▪ Alternate locations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Supervisor System Operations</li> <li>▪ Manager Purchasing</li> <li>▪ Material Management personnel request for storm restoration materials.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Purchasing Department Emergency Response Training Manual Review</li> <li>▪ Lodging Coordinator Training in coordination with PSE’s travel agent.</li> </ul>

## 8.17 Corporate Safety

### 8.17.1 Normal Business Function

The Corporate Safety Department is responsible for integrating safety into every aspect of our business to protect the employee, PSE, and the community in a manner consistent with our core values. This includes facilitating Companywide safety, awareness, and consistency; supporting all business units, management, and safety committees; inspecting PSE work sites; auditing select written programs for continuous improvement, to ensure compliance; investigating all serious and other selected accidents, with the help of the business units, and reviewing all accident investigations and near-miss investigations; conducting safety educational programs; and records management.

### 8.17.2 Emergency Response Function

During major incidents, Corporate Safety is required to understand emergency response procedures for their locations, and for participating in emergency drills. The department provides guidance to all PSE departments regarding emergency preparedness and response, and is required to follow emergency procedures and the instructions of emergency responders.

### 8.17.3 Emergency Response Responsibilities

- Conducts investigations and provides updates to the managers, directors, and officers of affected departments as appropriate or requested.
- Updates ESC members, as appropriate or requested.
- Acts as PSE’s liaison to the Washington State Department of Safety and Health and other applicable agencies as appropriate.
- Assists with notifying other departments.
- Coordinates with other PSE departments as appropriate.
- Assists management and HR with contacting and helping the family members of injured employees.
- May act as a Safety Officer for a regional Storm Base or Operating Base, or other facility during an incident relating to environmental hazards or concerns.

### 8.17.4 Emergency Response Roles

Role	Work Location	Activated By	Training Expectations
Safety support	<ul style="list-style-type: none"> <li>▪ EOC</li> <li>▪ Regional Headquarter(s)</li> <li>▪ Operating Base(s)</li> <li>▪ Other PSE Facilities</li> </ul>	Supervisor System Operations when EOC is not open.	<ul style="list-style-type: none"> <li>▪ EOC Orientation</li> <li>▪ Emergency Response Orientation</li> <li>▪ Introduction to Incident Command System</li> <li>▪ First Aid, CPR, &amp; AED Training</li> </ul>

*Continued on next page*

## 8.18 Standards

### 8.18.1 Normal Business Function

The Standards Department is responsible for:

- All aspects of the standards for the gas and electric delivery system. This includes reviewing, developing, revising, and interpreting operations and procedures. It also includes approving variances to, and waivers to, these standards and procedures.
- Delivery system commodity and tool evaluation, implementation, inspection, and troubleshooting. The department performs failure analysis of in-service commodity failures.
- Members of the department maintain an expert level of understanding of regulatory codes that govern gas and electric system design, construction, operations, and maintenance, and therefore play a key role in responding to notices of proposed rulemaking at the state and federal level.
- Gas incident reporting to state and federal authorities (in accordance with Gas Operating Standard 2425.1100 and 2425.1200) and ensuring that standards manuals are available to people who will be rebuilding our energy delivery system.

### 8.18.2 Emergency Response Function

During major incidents, the primary responsibility will be to support system restoration and reconstruction activities by assessing damage, managing reconstruction crews, providing engineering support (particularly defining and approving non-standard construction methods, apparatus, or commodities) to system reconstruction crews, and supporting Purchasing in their efforts to obtain large volumes of potentially non-standard system commodities. Some of these duties are the direct responsibility of the Standards Department, and some of these are supported simply because the Standards Department has the technical knowledge to provide the necessary level of support.

### 8.18.3 Emergency Response Responsibilities

- Gas incident reporting to state and federal authorities.
- Approve alternate commodities to facilitate repairs.
- Respond to technical questions.
- Respond to requests for variances and waivers.
- Damage assessment.
- Provide engineering solutions to restore gas and electric system (particularly defining and approving non-standard construction methods, apparatus, or commodities).
- Provide purchasing support for acquisition of system commodities.

### 8.18.4 Emergency Response Roles

Role	Work Location	Activated By	Training Expectations
Standards support	<ul style="list-style-type: none"> <li>▪ EOC</li> <li>▪ In the field</li> </ul>	Supervisor System Operations when EOC is not open.	<ul style="list-style-type: none"> <li>▪ Damage Assessment Training, as required</li> <li>▪ Contract Crew Coordinator Training, as required</li> </ul>

## 8.19 Substation Operations

### 8.19.1 Normal Business Function

Substation Operations is responsible for the construction of new substations and the inspection, maintenance, and operation of nearly 350 existing transmission and distribution substations.

### 8.19.2 Emergency Response Function

During a significant incident, Substation Operations personnel are used initially to restore PSE’s substations to normal operation.

- Substation inspectors and wiremen are used primarily to perform substation switching.
- Additional substation personnel are mobilized when there is physical damage to substations.

Depending on the operational impact to substations, a portion of Substation Operations personnel may be freed up to perform other restoration functions such as damage assessment or crew coordination.

### 8.19.3 Emergency Response Roles

Role	Work Location	Activated By	Training Expectations
<ul style="list-style-type: none"> <li>▪ Normal duties—extended hours</li> <li>▪ Contract Crew Coordinator/Damage Assessor, Driver</li> </ul>	<ul style="list-style-type: none"> <li>▪ Substation(s)</li> <li>▪ Operating Base(s) field locations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Supervisor System Operations</li> <li>▪ Substation Duty Supervisor</li> <li>▪ Manager Substation Operations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Introduction to Incident Command System</li> <li>▪ Contract Crew Coordinator/Damage Assessor Training—Safety Overview</li> </ul>

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ENERGY SYSTEM RESTORATION PLAN  
VOLUME 1

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# Key Information Systems

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## 9. KEY INFORMATION SYSTEMS

This section covers the key information systems that will support an Emergency Response situation. The key information systems at PSE are:

- *ConsumerLinX* Outage Management System (CLX)
- Distribution Data Display (DDD)
- Distribution Management System (DMS)
- Energy Management System (EMS)
- Gas and Electric SCADA (Supervisory Control and Data Acquisition)
- *SynerGEE* System (Gas Loading Modeling)
- Mobile Workforce

### 9.1 *ConsumerLinX* Outage Response

#### 9.1.1 What is CLX Outage Management?

*ConsumerLinX* (CLX) is an online system that tracks outage calls from electric customers. It provides a link between personnel who receive customer outage calls and personnel who are responsible to restore electric service. Access to CLX is required to access CLX Outage Management.

CLX Outage Management supplies outage call locations to Distribution Data Display (DDD), where the information is displayed geographically to visually determine the size of a particular outage.

CLX is also used to input gas emergency calls received by the Customer Access Center (CAC).

#### 9.1.2 Who Uses CLX Outage Management?

CLX is used by:

- Customer Access Center (CAC)
- System Control
- EOC/Operating Bases
- Operations personnel

#### 9.1.3 Updating CLX Outage Management

Because it is our most important source for electric outage information, timely updates to CLX are critical to PSE's success at restoring electrical service. PSE requires an update as soon as information is available from the field and should include:

- Cause description and estimated number of customers out;
- Date and time Investigators were dispatched;
- Date and time Crews were dispatched;
- Date and time Damage Assessment teams were dispatched; and,
- Date and time of estimated energy restoration.

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### 9.1.4 If CLX Outage Management Fails

If the CLX Outage Management system fails for any reason, CAC representatives (the primary receiver of customer calls in an outage situation) will take the following actions:

Step	Action
1	For gas emergencies, CAC notifies Gas Dispatch.
2	Manually complete individual “emergency” and/or outage reports on the appropriate forms via fax or e-mail.
3	Contact Gas Dispatch and/or System Operations to alert them of the initial emergency report.
4	Fax or e-mail the emergency information to Gas Dispatch and/or System Control.
5	If applicable, activate an IVRU broadcast message and Qwest (CenturyLink) Intercept Message to alert customers of the outage areas and to direct gas emergency calls to the backup emergency telephone number.  <i>NOTE:</i> CAC Point Desk staff will load updates manually to Gas Dispatch and System Operations as information is received from Operations.

## 9.2 Distribution Data Display (DDD)

### 9.2.1 What is the DDD?

The DDD is a PC application that displays geographical data about PSE’s electric system. This display includes:

- Sites
- Poles
- Transformers
- Switches
- Streetlights
- Substations

During major storms the DDD system is a useful tool for the Operating Bases to pinpoint smaller outages on circuits, as well as for subdividing outages into smaller sub-circuit outages. It estimates the number of customers out, and provides better information to the customers within the sub-circuit area.

During major storms, transmission lines are often down, with entire substations offline and many full-circuit outages occur.

- When an entire circuit is out, DDD is not helpful for evaluating where the outage is.
- However, when damage assessors come back with reports of damage, DDD is useful in creating sub-circuit outages.
- Without DDD, individual outages cannot be subdivided in CLX.

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DDD will also display the location of customers who have called to report outages. It is used for outage management and by the engineering departments for various studies.

- DDD pulls information from SAP by station and circuit, and it pulls active outage calls from CLX for the same station and circuit.
- It then displays outage calls on top of the circuit information. This provides a pin map with red dots where the outage calls are coming in. This can be very helpful in finding where an outage is on a circuit.
- A polygon can also be created around the area of the outage and sent back to CLX creating a sub-circuit outage for the area affected by the outage.

### **9.2.2 Who Uses DDD?**

DDD interacts with SAP that supplies the data about PSE's electric system and CLX that supplies data about customer outage calls. DDD is used by the following staff:

- EOC
- System Control
- Electric First Response
- Field Operations

### **9.2.3 If the DDD System Fails**

Not all Operating Bases have DDD, and if it is down during a storm, CLX can still be used alone. Some accuracy in customer information will be lost. Availability of DDD is not critical during a storm.

## **9.3 Distribution Management System (DMS)**

### **9.3.1 What is the DMS?**

The DMS displays key electric distribution system information, such as:

- Substation and feeder configuration
- Switch numbers and information
- Distribution system status
- Distribution system activity log of switching, clearances, and operations

The electric system information on DMS is displayed in diagram and table format.

The DMS automatically transmits key outage information to CLX. When an area Operating Base is open, this automatic link is disabled to prevent inadvertent overwriting of comments in CLX.

### **9.3.2 Who Uses DMS?**

The DMS is used by System Operations.

### **9.3.3 If the DMS System Fails**

If the DMS fails, System Operations contacts the EMS duty supervisor immediately. System information and activity must be logged manually until DMS is restored.

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## 9.4 Energy Management System (EMS)

### 9.4.1 What is EMS?

The EMS system displays key electric system information, such as:

- Line power flows
- Switch and breaker status
- Transformer load
- Bus voltage
- Generator output status

Also, the EMS performs the Automatic Generator Control (AGC) function.

Personnel in the Load Office have remote control over transmission breakers, some transmission switches, some distribution breakers, remotely operated generation, and some substation voltage control functions through EMS.

The power system information on EMS is displayed in diagram and table format, and is available in a read-only status in many Operating Bases and the EOC.

### 9.4.2 Who Uses the EMS?

In an electric system emergency, the EMS is used by:

- Operating Bases
- Load Office
- EOC

### 9.4.3 If the EMS System Fails

If the EMS fails, power dispatchers in the Load Office contact the EMS duty supervisor immediately. Manual operations are required due to remote switching and computerized system status not available when the EMS is down.

The EOC should also call the EMS duty supervisor. Repairs to “read only” EMS systems, however, will be done only after the real-time, interactive portions have been restored.

## 9.5 Supervisory Control and Data Acquisition (SCADA)

### 9.5.1 What is SCADA?

SCADA is a system of computers, communications devices and paths, transducers and remote computers used for monitoring flows, pressures, temperatures, odorizers, alarms, and operation of pressure controlling devices.

### 9.5.2 Who Uses SCADA?

The SCADA system is used by:

- Gas Controllers
- System Operations and Substation Protection and Controls
- System Planning
- Gas System Integrity
- Gas Operations

### 9.5.3 If the SCADA System Fails

Contact the IT Department’s SCADA technician on duty immediately for problem analysis, as most components in the system have a backup. If the SCADA system will be out of service for an extended period of time, the Gas Controller must dispatch Pressure Control Technicians, Instrumentation Technicians, Gas First Responders, and others to key points in the system to monitor and report via radio or mobile phone. System information and activity must be logged and calculated manually until Gas SCADA is restored.

Gas Controllers can initiate or complete minor repairs, restoration, and system restarts.

## 9.6 SynerGEE System (Gas Load and Electric System Modeling)

### 9.6.1 What is SynerGEE?

The *SynerGEE* workstation is a computer-modeling tool that simulates a natural gas piping network. By using load data gathered from meter reads and piping information from construction crews, the model can be used to solve pressure and flow problems. *SynerGEE* can also identify possible problems resulting from third party damage to the gas distribution system.

### 9.6.2 Who Uses SynerGEE?

Gas System Integrity (GSI) maintains the *SynerGEE* system for the entire gas distribution system. Piping data is entered daily, and load information is downloaded monthly. This information helps GSI know where to expect inadequate pressure during times of increased usage.

### 9.6.3 If the SynerGEE System Fails

If the *SynerGEE* system is not operable, GSI uses a series of field chart recorders to get an approximate idea of system pressures, and can therefore develop an approximation of system flows. Gas First Response and System Operations personnel also help gather system data.

## 9.7 Mobile Workforce Management (P-CAD)

### 9.7.1 What is Mobile Workforce Management?

Mobile Workforce Management (MWF) is an automated service order and dispatching tool that notifies field personnel of service work in real time, through a wireless device. Field personnel are able to receive orders and related instructions, and subsequently provide wireless status updates on work completed.

MWF allows dispatchers to assign work to, and “track” the location of, field personnel having mobile data terminals.

*NOTE:* MWF will not be used for large outage incidents.

### 9.7.2 Who Uses Mobile Workforce Management?

The Mobile Workforce Management system is used by:

- Gas service technicians and electric servicemen
- Gas and electric dispatchers
- Field service supervisors
- Customer Service Representatives

**9.7.3 If the Mobile Workforce Management System Fails**

If the Mobile Workforce Management system is down and CLX still remains available, service order status will be handled manually through CLX. If both CLX and MWF are unavailable, assignment of service orders and tracking of field resources will be done manually.

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# Glossary



## 10. GLOSSARY

Term or Acronym	Definition
AED	Automated external defibrillator (AED) is a portable electronic device that automatically diagnoses the potentially life threatening cardiac arrhythmias of ventricular fibrillation and ventricular tachycardia in a patient, and is able to treat them through defibrillation.
AGA	American Gas Association
AMR	Automated Meter Reading
CAC	Customer Access Center
Callback	Outbound calls to customers to verify service has been restored.
CFH	Cubic feet per hour
CLX	<i>ConsumerLinX</i>
CNG	Compressed Natural Gas
Cold Weather Actions	When cold weather conditions (around 32 degrees Fahrenheit) are forecasted, and multiple customers in the same area (such as a residential block) report outages or equipment inconsistency. The condition may affect only one area. System modeling may be required. Adjacent operating areas may be called upon to assist to respond to the emergency.
CPR	Cardiopulmonary resuscitation (CPR) is an emergency procedure which is performed in an effort to manually preserve intact brain function until further measures are taken to restore spontaneous blood circulation and breathing in a person in cardiac arrest.
Curtailment	Supply and/or system conditions exist that require customers to limit their consumption of our energy products. Interruption may take place after advance notice, following the provisions of a particular rate schedule; without communication, following state regulation; or without notice, following internal operating procedures.
DDD	Distribution Data Display
DMS	Distribution Management System
EEI	Edison Electric Institute
EFR/GFR	Electric First Response/Gas First Response
EOC	Emergency Operations Center
ESF	Essential Support Function
ESO	Eastside System Operations

*Continued on next page*

Term or Acronym	Definition
Foreign Crew	A crew from out of the area that does not normally work on PSE’s system. This may be a mutual assistance crew from another utility, a contract crew from another state, etc. Also referred to as “off system” crews.
Gas Facility Failure	Twenty-five or more customers experience and report outages or equipment inconsistencies due to a system failure; or a failure occurs that requires system modeling and impacts less than 25 customers. The condition may affect only one area. Adjacent operating areas, service providers, and/or local contractors may be called upon to assist in restoration efforts.
GICS	Gas Incident Command System
GPSC	Gas Planning Strategy Center
GSI	Gas System Integrity
IAP	Incident Action Plan
IC	Incident Commander
ICS	Incident Command System
IMT	Incident Management Team
IVRU	Integrated Voice Response Unit
LNG	Liquefied Natural Gas
NERC	North American Electric Reliability Corporation
NIMS	National Incident Management System
NWPP	Northwest Power Pool
OSHA	Occupational Safety and Health Administration
PSAP	Public Safety Answering Point
RTU	Remote Telemetry Unit
SC&P	System Control & Protection
SCADA	Supervisory Control and Data Acquisition
Substation	A transmission or distribution station for where electricity voltage is stepped down to a lower voltage.
<i>SynerGEE</i>	A computer-modeling tool that simulates a natural gas piping network.
WECC	Western Electric Coordinating Council
WEI	Western Energy Institute
WRMAA	Western Region Mutual Assistance Agreement
WSEMD	Washington State Emergency Management Division
WUTC	Washington Utilities and Transportation Commission



