

# ENERGY SYSTEM RESTORATION PLAN



# ENERGY SYSTEM RESTORATION PLAN

## Contents

1	OVERVIEW .....	1-1
1.1	Purpose.....	1-1
1.1	Plan Organization.....	1-1
1.2	Emergency Response Vision .....	1-2
1.3	The National Incident Management System and the Incident Command System .....	1-2
1.4	Scope of Plan.....	1-3
1.5	Service Area and Organization .....	1-3
2	HAZARDS AND EMERGENCIES .....	2-1
2.1	Hazards in the Puget Sound Region.....	2-1
3	CONCEPT OF OPERATIONS.....	3-1
3.1	Public Safety.....	3-1
3.2	Preparedness Planning.....	3-1
3.3	Emergency Response Assignments.....	3-1
3.4	Training and Orientation.....	3-2
3.5	Exercises.....	3-2
3.6	Post-Accident After Action Reviews (AAR) .....	3-3
3.7	Emergency Communications .....	3-3
3.8	Emergency Organizational Structure .....	3-4
3.9	Incident Reporting .....	3-11
3.10	Reporting Potential Fatalities.....	3-13
4	CONCEPT OF OPERATIONS—ELECTRIC .....	4-1
4.1	Outage Notification .....	4-1
4.2	Emergency Operations.....	4-1
4.3	Customer Communications.....	4-1
4.4	Electric Restoration Priorities .....	4-2
4.5	Electric Operating Base and LAC Emergency Organization .....	4-6
4.6	Plan Activation .....	4-14
4.7	Operating Base Initial Response .....	4-14
4.8	Mobilization and Assignment of Tasks.....	4-15
4.9	Demobilization and Closing of Operating Bases .....	4-15
5	CONCEPT OF OPERATIONS—GAS.....	5-1
5.1	How PSE is Notified.....	5-1
5.2	Service Orders .....	5-1
5.3	Incidents that Require Immediate Action.....	5-1
5.4	Gas Emergency Organizational Structure .....	5-1
5.5	Emergency Response Roles—Gas.....	5-2
5.6	Plan Activation .....	5-7
5.7	Assessment—Types of Incidents .....	5-9
5.8	Response Process.....	5-9
5.9	Functions by Department.....	5-11
5.10	Mobilization .....	5-11
5.11	Acquiring Resources (Material/Equipment) .....	5-12
5.12	System Restoration .....	5-13
6	COLD WEATHER ACTION PLAN .....	6-1
6.1	How PSE is Notified.....	6-1
6.2	Who PSE Must Notify .....	6-1
6.3	Communications.....	6-1
6.4	Assessing the Situation .....	6-1
6.5	Scheduling and Prioritizing Work.....	6-1
6.6	Mobilizing Personnel.....	6-2
6.7	Installing Facilities .....	6-2
6.8	Gas System Integrity.....	6-2
6.9	Gas Control.....	6-3
6.10	System Control and Protection .....	6-4
6.11	System Control and Protection Field Personnel.....	6-5
6.12	Gas First Response Operations .....	6-5
6.13	Gas Operations Field Personnel .....	6-5
7	EXTERNAL RESOURCES .....	7-1
7.1	Contractors and Foreign Crews.....	7-1
7.2	Mutual Assistance.....	7-1

# ENERGY SYSTEM RESTORATION PLAN

8	ENERGY CURTAILMENT.....	8-1
8.1	Curtailment—Electric System .....	8-1
8.2	Curtailment—Gas System .....	8-2
9	SUPPORT FUNCTION.....	9-1
9.1	Contractor Management and Contract Services .....	9-1
9.2	Communications.....	9-1
9.3	Corporate Security.....	9-2
9.4	Customer Care Center.....	9-2
9.5	Electric First Response Dispatch .....	9-3
9.6	Electric First Response Operations .....	9-3
9.7	Electric System Operations.....	9-4
9.8	Environmental Services .....	9-4
9.9	Fleet Services.....	9-5
9.10	Government and Community Relations & Community Engagement.....	9-6
9.11	Help Desk .....	9-6
9.12	Human Resources .....	9-7
9.13	Major Accounts/Business Accounts Services .....	9-7
9.14	Materials Distribution and Planning .....	9-8
9.15	Network Operating Systems (NOS).....	9-9
9.16	Purchasing .....	9-9
9.17	Corporate Safety .....	9-11
9.18	Standards .....	9-11
9.19	Substation Operations.....	9-12
10	KEY INFORMATION SYSTEMS .....	10-1
10.1	Outage Management System (OMS) Dashboard/PSE Outage Map.....	10-1
10.2	Energy Management System (EMS).....	10-2
10.3	Supervisory Control and Data Acquisition (SCADA).....	10-2
10.4	SynerGEE System (Gas Load and Electric System Modeling) .....	10-3
10.5	Mobile Workforce Management (P-CAD).....	10-3
11	GLOSSARY .....	11-1

# ENERGY SYSTEM RESTORATION PLAN

## 1 OVERVIEW

### 1.1 Purpose

The Energy System Restoration Plan is intended to assist both PSE and service provider employees by establishing a comprehensive framework for responding to incidents, regardless of their cause. It also provides our regional emergency response partners a summary of how PSE responds to energy system emergency incidents.

The information in this plan is used 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.

### 1.2 Plan Organization

The Energy System Restoration Plan is published in two volumes:

#### **Volume I: Energy System Restoration Plan 2012-2013**

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
- Section 4: Concept of Operations—Electric
- Section 5: Concept of Operations—Gas
- Section 6: Cold Weather Action Plan
- Section 7: External Resources
- Section 8: Energy Curtailment
- Section 9: Support Function
- Section 10: Key Information Systems
- Section 11: Glossary

#### Volume II: Energy System Restoration Plan, Additional Information

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

# ENERGY SYSTEM RESTORATION PLAN

## 1.3 Emergency Response Vision

### 1.3.1 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 size, cause or complexity.
- 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.

## 1.4 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, respond to, and recover from the effects of incidents, regardless of cause, size, or complexity.

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

### 1.4.1 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. Restoration estimates will be provided as each affected geographic area is assessed.
- 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 pipes) 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.

# ENERGY SYSTEM RESTORATION PLAN

## 1.4.2 PSE Commitments

PSE has made a commitment to be safe, dependable, and efficient. During emergency incidents, PSE incorporates specific emergency response and business continuity plans with the understanding that the Communities in which we serve are reliant upon the services we provide.

- Emergency response and business continuity plans incorporate best-practice models.
- Plans are practiced on a regular basis.
- After Action Reviews are conducted following exercises and incidents to identify areas for improvement.
- Plans are reviewed at least annually or following live incidents, with corrective actions incorporated as appropriate.
- All PSE and service provider personnel are trained in their emergency roles and are prepared to fulfill these assignments.
- Support systems and operation plans and procedures are in place to respond to all incidents of various levels.
- Outage response and restoration information meets or exceeds customer expectations.

## 1.4.3 Communications

PSE strives to provide timely, accurate and consistent communications during emergency incidents and for these reasons, as details becomes available a Public Information Officer oversees the dissemination of information. PSE communicates information through a variety of methods including:

- PSE website and Customer Outage Map
- News media
- Social messaging including the use of Twitter and Facebook
- Situational Reports to Local, County and State agencies
- Incorporation of Amateur Radio Operators when needed
- Staffing of a Public Information Officer (PIO) during emergency activations.

# ENERGY SYSTEM RESTORATION PLAN

## 1.4.4 Restoration Strategy

- During major incidents, every effort is made to effectively deploy resources in the most efficient and cost-effective manner.
- Restoration priorities related to community critical infrastructure will be incorporated into incident strategies and objectives.
- PSE's focus is to correct problems that can be fixed quickly and to restore the greatest number of customers first.
- Based on 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 wide-spread incidents, we assess and schedule needed repairs before discharging restoration crew resources.
- Mutual Assistance Agreements are maintained and activated when the scope of the incident will require additional resources beyond our capabilities.
- We include response agencies in our planning and preparedness activities to facilitate coordinated response efforts and share information as needed during an incident to assist in establishing a common operating picture.

# ENERGY SYSTEM RESTORATION PLAN

## 1.4.5 Plan Availability

Volume I of 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 using the Emergency Operations link on PSEWeb. It is also available on PSE.com. The Plan provides an overview of the emergency organizational structure and roles.

For more information, please contact the Business Continuity and Emergency Management Department.

Volume II is *not* available for external distribution except as authorized by PSE's Business Continuity and Emergency Management Department.

## 1.5 Scope of Plan

### 1.5.1 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.

### 1.5.2 Other Plans of Reference

Gas Operating Standards – 2012

Gas Field Procedures – 2012

Energy Emergency Plan

Gas Cold Weather Action Plan

Business Continuity Plan

### 1.5.3 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 with duty teams activated as deemed appropriate.

### 1.5.4 Electric Plan Activation

- Deteriorating or sustained poor weather conditions; or,
- Transmission and/or distribution outages trending beyond nominal levels; or,
- When increases in restoration workload are anticipated to overwhelm available resources.

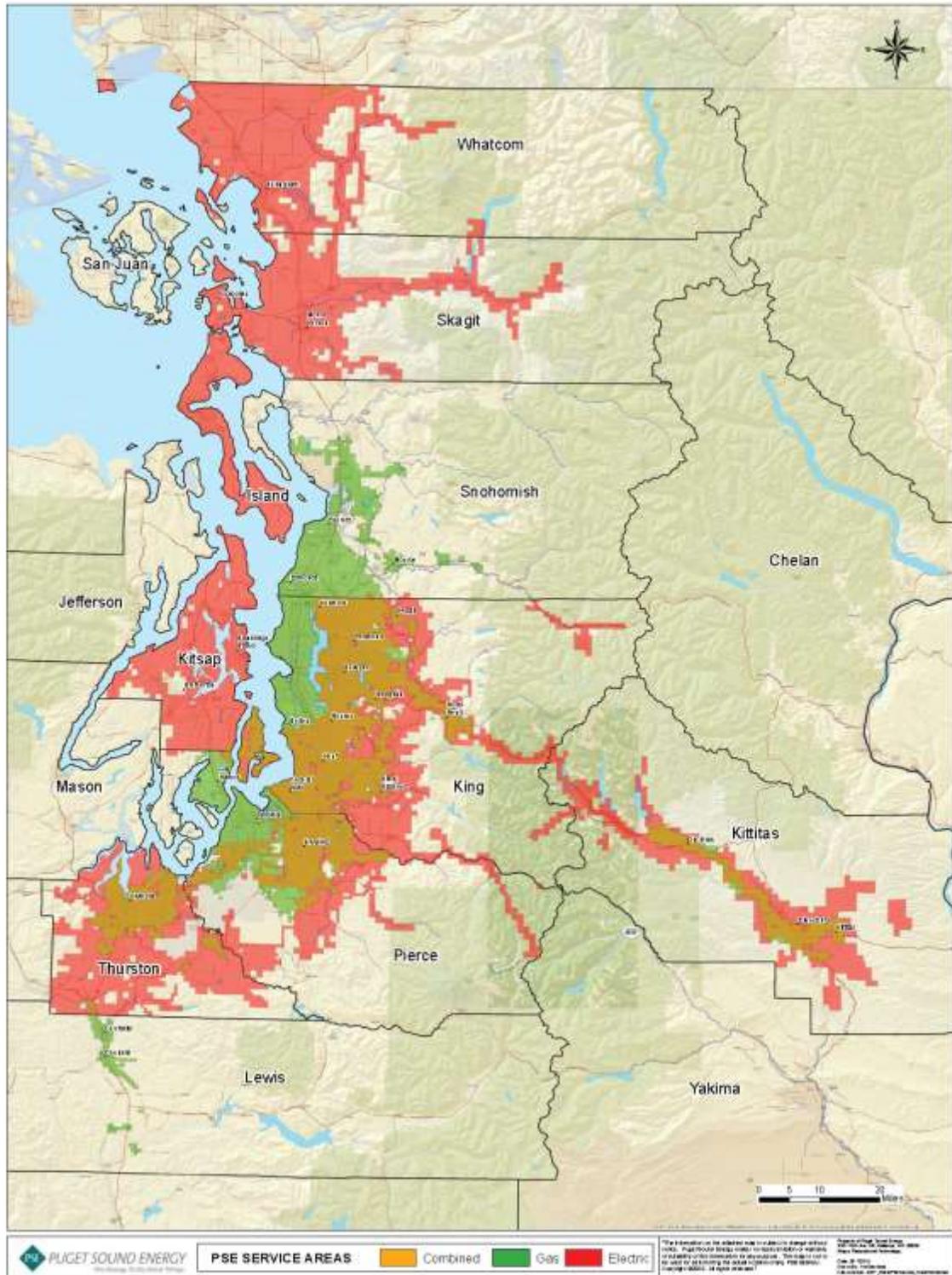
### 1.5.5 Gas Plan Activation

- 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 an off-site strategy team; or,
- Supplier disruption.

# ENERGY SYSTEM RESTORATION PLAN

## 1.6 Service Area and Organization

### 1.6.1 Service Area Map



# ENERGY SYSTEM RESTORATION PLAN

## 1.6.2 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 1.1 million electric and over 760,000 natural gas customers, primarily in the Puget Sound Region of Western Washington.

Yellow: Electric Service only

Green: Natural Gas Service only

Orange: Both Electric and Natural Gas services

## 1.6.3 Electric Service

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

1. Northern Region: *Whatcom, Skagit, and Island Counties*
2. North King Region: *North King County (north of Cedar River to Snohomish County line)*
3. South King Region: *South King County (south of the Cedar River to Pierce County line)*
4. Southern Region: *Pierce and Thurston Counties (includes Olympia and Puyallup Operating Bases)*
5. Western Region: *Kitsap County*
6. Eastern Region: *Kittitas County*

## 1.6.4 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*.

## 1.6.5 PSE First Response

In wide-spread incidents trained Damage Assessors are used to identify the specific nature of damages. Once damage has been assessed, Electric and Gas First Response personnel are dispatched according to established priorities.

- Electric First Response investigates electric outage reports on other non-outage emergencies such as low or downed wires and voltage problems.
- 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 and triaged for immediate dispatch of an appropriate resource.

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

When complete repair is not feasible given the extent of the damage, PSE will either isolate the affected area or provide temporary restoration until repair is possible.

## ENERGY SYSTEM RESTORATION PLAN

### 1.6.6 Make Safe Teams

*Electric Outages:* During wide-spread incidents, it may not be feasible to dispatch repair crews immediately as resources may be overwhelmed. In cases where the damage may pose a public safety risk, such as a wire across a major roadway or intersection, PSE will dispatch Make Safe Teams whenever possible. While Make Safe Teams are not qualified to perform repair services or de-energize lines, they are trained to establish a safety perimeter until Electric First Response personnel arrive.

*Gas Incidents:* Gas First Response will be dispatched immediately to incidents to immediately repair or contain the site.

### 1.6.7 Contracted Support Capabilities

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
- Service providers are incorporated into established emergency response plans and procedures and fill many emergency roles.
- Electric service providers repair or replace transmission or distribution components such as poles, transformers, crossarms, wire, and other system hardware.
- Gas service providers repair or replace gas main, services, or other system components.

## 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)
  - Landslide
- **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.

#### 2.1.1 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 condition.

# ENERGY SYSTEM RESTORATION PLAN

## 2.1.2 Definitions for Gas Emergencies

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.

## 2.1.3 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.

## 2.1.4 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 for potential electric impacts 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.

Once conditions in the field have stabilized and damage assessment can safely begin in earnest, PSE will, whenever possible evaluate and communicate information using the following timeframes\*:

1. 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. Within 48 hours                      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,");

## ENERGY SYSTEM RESTORATION PLAN

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:

**Table – Incident Levels**

Level	Electric Criteria	Gas Criteria	Activity - Electric	ECC Declaration Activity/Activation Electric
<b>Level 0 Normal</b>	Nominal conditions across system.	Nominal conditions across system.	Normal daily response activity.	N/A
<b>Level 1 Regional</b>	<ul style="list-style-type: none"> <li>• PSE &amp; Potelco Resources are sufficient – no or low outside crew support needed</li> <li>• 1-5 bases may be open</li> </ul>	Localized event managed with PSE local resources.	<ul style="list-style-type: none"> <li>• Operating Base/s - Responding in elevated manner, may have storm room fully staffed.</li> <li>• ECC – Mgr is monitoring to determine if additional ECC staff is needed. Ops Chief is working with bases as needed.</li> <li>• System Ops – Has handed off restoration to Open bases and is managing restoration for unopen base.</li> <li>• Communications – handling customer messaging internally.</li> </ul>	<ul style="list-style-type: none"> <li>• System Ops notifies ECC Mgr that we are at a Level 1.</li> <li>• ECC Mgr monitors and determines if additional ECC staff is needed and provides a status call to the ECC Director.</li> <li>• If additional ECC staff will be added, internal/external e-mails will be sent stating ECC is Open with limited staffing.</li> <li>• If incident starts to escalate ECC Mgr consults with ECC Director to determine if/when Level 2 will be declared and if/when full staffing is needed.</li> </ul>
<b>Level 2 Significant</b>	<ul style="list-style-type: none"> <li>• Multiple operating bases are open.</li> <li>• Full ECC staffing is required to assist with resource, communication and restoration support.</li> </ul>	Multiple PSE regions affected; requires resources to be allocated to other PSE regions.	<ul style="list-style-type: none"> <li>• System Ops has handed off restoration to impacted regions.</li> <li>• ECC fully staffed.</li> </ul>	<ul style="list-style-type: none"> <li>• ECC Director declares a Level 2</li> <li>• ECC Mgr changes Activation Level to 2 on subsequent SitReps</li> </ul>
<b>Level 3 Major</b>	<ul style="list-style-type: none"> <li>• Most or all regions are impacted.</li> <li>• Maximum level internal response <u>required</u></li> <li>• <u>Extensive</u> resources from outside area are needed including the use of Mutual Assistance Agreements.</li> </ul>	Most or all PSE regions affected; may request operator qualified resources from outside PSE.	<ul style="list-style-type: none"> <li>• Multiple or all operating bases open with extensive damage to system.</li> <li>• Some or all Regional locations may mobilize Local Area Coordination sites.</li> <li>• ECC in full activation.</li> <li>• All emergency response assignments activated.</li> <li>• <u>Requires</u> request of <u>significant</u> support through electric and/or gas Mutual Aid Agreements.</li> <li>• Staging area/s may be required.</li> </ul>	<ul style="list-style-type: none"> <li>• ECC Director declares Level 3</li> <li>• ECC Mgr changes Activation Level on subsequent SitReps</li> </ul>

## 3 CONCEPT OF OPERATIONS

### 3.1 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 major roadways.

### 3.2 Preparedness Planning

To maintain operational readiness to respond to any emergency, PSE ensures that planning, assignment of personnel, definition of emergency roles, training, exercises, and plan maintenance take place annually. The emergency response organization and staff assignments are reviewed annually or following major incidents and modified as needed.

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 and Emergency Management Department.

### 3.3 Emergency Response Assignments

In addition to field responders, personnel of PSE and its service providers who do not regularly perform field operations and/or customer service duties, are assigned to fulfill specific emergency roles required for response efforts.

Emergency roles incorporate the principles of the Incident Command System and are further defined to meet the unique needs of PSE response.

- Employees are placed in positions for which they have the skill set required to perform the emergency role.
- Personnel may have a primary assignment and secondary assignment.
- Personnel will be asked to only perform jobs for which they are qualified.
- Not all personnel will be assigned an emergency role and the number of personnel required for each role is coordinated through Business Continuity and Emergency Management. Ideally, we staff each position with enough individuals to cover shift change and multiple-day emergency operation needs.
- Individuals are assigned to a given location based on the emergency assignment and the needs of the Organization.
- Shift rotation schedules are pre-established whenever possible, however, pre-planned rotation schedules are not possible for all positions.
- All personnel of PSE and its service providers are expected to respond to emergency situations when called.

# ENERGY SYSTEM RESTORATION PLAN

## 3.4 Training and Orientation

Specific training requirements are listed by assignment and will be offered, as required, to ensure personnel are qualified for their emergency response role.

Generally, training is offered late spring through early fall. The amount and type of training is dependent on the requirements of the position. In general, training is offered in a “tiered” approach as follows:

- Tier 1 - Introduction to PSE Emergency response  
Required: All PSE and Service Provider employees involved in emergency response activities  
Overview: Provides a general introduction to PSE’s response principles and organization  
Method: Online course
- Tier 2 – Location-specific familiarization (Operating Base, System Operations, ECC)  
Required: Emergency personnel within the specific location  
Overview: Provides specific detail regarding the organizational structure, chain of command and emergency protocols associated with the assigned emergency response location  
Method: Instructor led
- Tier 3 – Position-specific training  
Required: Personnel in select emergency roles requiring specialized training, current training courses as of this publication date, include:
  - ECC Leadership
  - OMS PowerOn Full Client – select positions
  - OMS PowerOn Remote Dispatch (PORD) – select positions
  - Damage Assessor
  - Contract Crew Coordinator
  - Driver Safety
  - Make Safe Team
  - Resource Specialist
  - Lodging Coordinator
  - 911 Call Takers
  - State/County EOC Liaison
  - Public Information Officer (Public Communications)Method: most courses are instructor led, driver safety training is online

## 3.5 Exercises

PSE conducts 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 to allow 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.

## ENERGY SYSTEM RESTORATION PLAN

- 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.

### 3.6 Post-Accident After Action Reviews (AAR)

Following most emergency activations, after-action reviews are held to examine how well our plans and preparedness efforts performed during the incident and where improvements may be appropriate. AARs are typically held within functional areas such as System Operations, Operating Bases, etc., with an overall AAR held to include the ECC as well as functional area representation.

### 3.7 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 ECC, 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 Services Department will assist in their restoration.

#### 3.7.1 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.

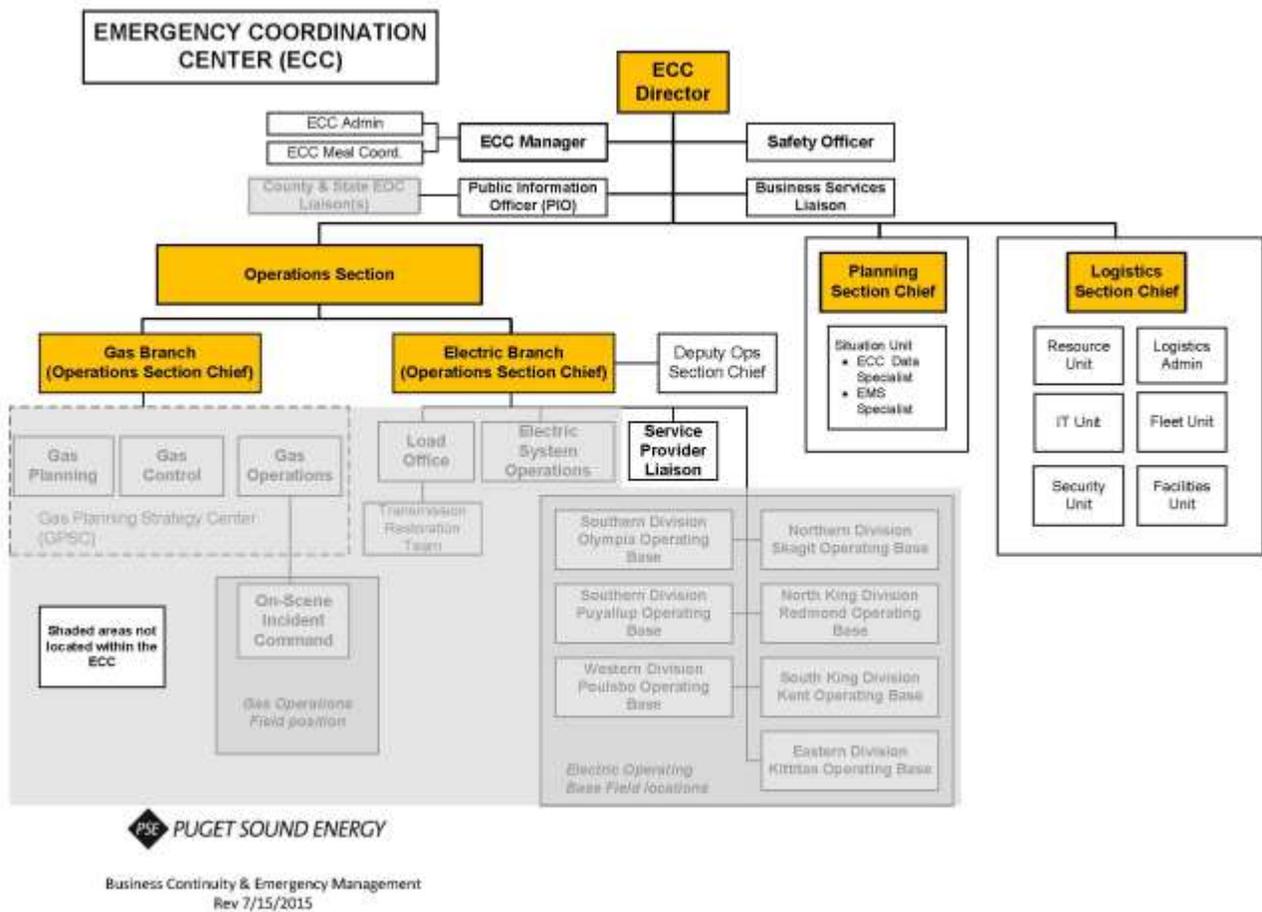
# ENERGY SYSTEM RESTORATION PLAN

## 3.8 Emergency Organizational Structure

PSE uses a scalable organization model using the principles of the Incident Command System for all emergency response locations, 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 may be activated for emergency restoration processes.
- In larger incidents, where restoration response is required in more than one geographic region or where restoration may be extensive requiring added coordination and logistics support, the Emergency Coordination Center (ECC) may be activated to establish overall priorities, consistent messaging and resource allocation.

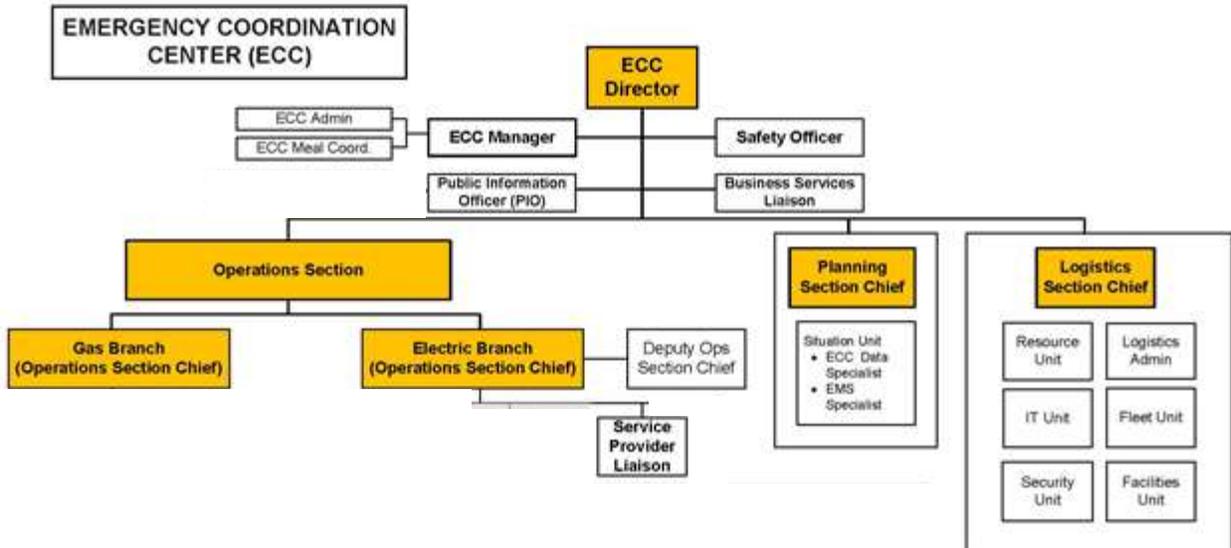
The following pages detail the overall organizational structures used in response efforts.



# ENERGY SYSTEM RESTORATION PLAN

## 3.8.1 Emergency Coordination Center (ECC) Organization

The following organization chart reflects functions located within the ECC.



These positions are located directly in the ECC and are activated as needed based on the size and complexity of the incident.

The Operations Section Chief works closely with System Operations and the Load office in coordinating overall operational strategy.

## 3.8.2 Activating the ECC

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

- Regional Unified Division Supervisors
- Director of Electric Operations
- Operations Managers—Electric
- Emergency Planning Manager
- Load Office
- Media Relations

# ENERGY SYSTEM RESTORATION PLAN

## 3.8.3 Functions of the Emergency Coordination Center

The Emergency Coordination Center provides overall oversight and direction for a coordinated response effort. The following are the primary functions of the ECC.

- Situational Awareness & Common Operating Picture:
  - Responsible for development and oversight of overall response priorities, strategies and objectives
  - Develops and communicates the Incident Action Plan
  - Maintains situational awareness with field progress and concerns via tactical planning calls
  - Monitors weather forecast, environmental hazards, system-wide damage status, and response progress; anticipates escalating needs
  - Maintains documentation of response efforts
  - Schedules and facilitates Tactics and Planning meetings
  - Schedules and facilitates Operations and Communications conference calls
  - Ensures a coordinated effort between all areas of response
  - Coordinates integrated response efforts with Public sector agencies as needed
  - Issues Situation Reports (SitReps) to internal and external audiences
- Logistical Support & Coordination
  - Ensures effective allocation of system resources
  - Approves, secures and tracks outside resources
  - Escalates the recommendation to activate Mutual Assistance agreements
  - Acquires additional materials and supplies as needed
  - Coordinates central staging areas
  - Monitors and recommends resource demobilization
  - Provides IT, facilities and security support
  - Supports food, hotel and transportation (incl. vehicle rental and trailer) requests
- Communication Coordination
  - Supports media requests
  - Facilitates consistent, timely and accurate messaging
  - Monitors customer & community sentiment
  - Keeps Executive Leadership Team informed

# ENERGY SYSTEM RESTORATION PLAN

## 3.8.4 Emergency Coordination Center Emergency Response Role Descriptions

Emergency Response Role	Duties & Responsibilities	Training Expectations
ECC Director	<ul style="list-style-type: none"> <li>• Provides strategic leadership for <u>ECC</u> operations and ensures completion of an Incident Action Plan (IAP).</li> <li>• Ensures a coordinated effort between response organizations (internal &amp; external).</li> <li>• Escalates the need for extraordinary support funding to appropriate Company leaders.</li> <li>• Ensures an efficient use of overall resources and approves the activation of Mutual Assistance Agreements.</li> <li>• Ensures all stakeholders have overall situational awareness.</li> <li>• Ensures the development of a demobilization strategy.</li> <li>• Approves Incident Action Plan (IAP), Situational Reports (SitReps) and Snapshot Reports.</li> <li>• Ensures adherence to service and safety compliance policies.</li> </ul>	<ul style="list-style-type: none"> <li>• ICS 700, 100, 200</li> <li>• Introduction to PSE Emergency Response</li> <li>• ECC Leadership</li> </ul>
ECC Manager	<ul style="list-style-type: none"> <li>• Manages the operation of the ECC.</li> <li>• Develops and communicates the ECC schedule (planning clock).</li> <li>• Ensures internal and external incident updates (Situation Reports; SitReps) are distributed.</li> <li>• Coordinates ECC staff shift rotation.</li> <li>• Collects information and prepares the Incident Action Plan, obtaining approval from the ECC Director before distribution.</li> <li>• Ensures response documentation is maintained including:                             <ul style="list-style-type: none"> <li>– Incident Action Plan</li> <li>– ECC Sign-in rosters</li> <li>– Resource requests and orders</li> <li>– Situation Reports</li> <li>– Significant media articles</li> </ul> </li> <li>• Ensures shift rotation briefings are held.</li> <li>• Determines and ensures coordination of ESO food services and staff overnight accommodations when needed.</li> </ul>	<ul style="list-style-type: none"> <li>• ICS 700, 100, 200</li> <li>• Introduction to PSE Emergency Response</li> <li>• ECC Leadership</li> </ul>
ECC Admin	<ul style="list-style-type: none"> <li>• Scheduling meetings and/or conference calls as directed.</li> <li>• Format and distribute additional internal reports as requested.</li> <li>• Collects and archives all ECC documentation.</li> <li>• Answers and directs incoming phone calls.</li> <li>• Acts as meeting scribe when requested.</li> <li>• Provide miscellaneous administrative support to ECC Director, Manager and Section Chiefs.</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• ECC Orientation</li> </ul>

(Emergency Coordination Center Roles & Responsibilities Continued)

## ENERGY SYSTEM RESTORATION PLAN

Public Information Officer (PIO)	<ul style="list-style-type: none"> <li>• Serve as ECC focal point for internal and external incident messaging.</li> <li>• Coordinates with Corporate Communications, Base Communication Coordinators and the Customer Access Center to ensure consistent communication.</li> <li>• Participates in the Planning Meeting, Operations and Communication conference calls.</li> <li>• Monitors customer and community sentiment.</li> <li>• Prepare messaging points for Situation Reports and obtains draft approval from ECC Director.</li> </ul>	<ul style="list-style-type: none"> <li>• ICS 700, 100, 200</li> <li>• Introduction to PSE Emergency Response</li> <li>• ECC Orientation</li> <li>• Corp Comm PIO training</li> </ul>
Safety Officer	<p>During Level 3 Incidents</p> <ul style="list-style-type: none"> <li>• Monitors safety conditions in restoration areas, providing safety messaging statements into the SitReps as appropriate related to both public and field worker safety.</li> <li>• Assign safety personnel to incident areas to facilitate safety training for foreign crews and to provide on-location safety guidance.</li> <li>• Recon areas of significant impact to better identify hazards and appropriate safety measures.</li> <li>• Ensures retention of foreign crew safety training records.</li> </ul> <p>During Level 2 incidents, this responsibility defaults to the Safety Department Duty Manager</p>	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• ECC Orientation</li> </ul>
Business Services Liaison	<ul style="list-style-type: none"> <li>• Is the primary contact for major accounts.</li> <li>• Relay client-specific concerns/issues to the ECC Director, Ops Section Chief and PIO as appropriate.</li> <li>• Requests and relays information to the Communications Coordinator at electric operating bases as needed.</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• ECC Orientation</li> </ul>
County & State EOC Liaison	<ul style="list-style-type: none"> <li>• When requested will be positioned in the assigned EOC location with the purpose of being a conduit of information between the assigned County or State EOC and PSE's ECC.</li> <li>• Escalates localized concerns and issues to the PSE ECC when needed.</li> <li>• The position falls within ESF12 (Emergency Support Function for Energy) and as such, may be asked to monitor the restoration status of other energy suppliers within the impacted areas as well.</li> <li>• While this is not an "Operational" position, the individual will relay information of an operational nature to the PSE ECC to aid in decision making as appropriate. During very large-scale incidents, an operational liaison may also be requested. .</li> </ul> <p>Note: PSE will provide a liaison when possible, but may have to deny the request based on internal incident response needs.</p>	<ul style="list-style-type: none"> <li>• ICS 700, 100, 200</li> <li>• Introduction to PSE Emergency Response</li> <li>• EOC Liaison</li> </ul>

(Emergency Coordination Center Roles & Responsibilities Continued)

Emergency Response Role	Duties & Responsibilities	Training Expectations
-------------------------	---------------------------	-----------------------

## ENERGY SYSTEM RESTORATION PLAN

Operations Section Chief	<ul style="list-style-type: none"> <li>• Determines operational strategies, priorities and decisions for inclusion in the IAP.</li> <li>• Conducts tactical meetings as needed.</li> <li>• Facilitates the Planning Meeting.</li> <li>• Facilitates the Operations Conference Call.</li> <li>• Escalates Division concerns and challenges.</li> <li>• Approves mobilization of foreign crew support.</li> <li>• Monitors restoration and/or containment progress, adjusting overall strategies and objectives as appropriate ensuring effective use of response resources including re-allocation of resources as needed.</li> <li>• Monitors the need for LAC mobilization, providing direction as needed.</li> <li>• Monitors the need for crew and equipment staging areas, providing direction as needed.</li> <li>• Works with the Logistics Section Chief to address competing resource needs.</li> <li>• Establishes a demobilization strategy for closing of bases and release of resources.</li> </ul>	<ul style="list-style-type: none"> <li>• ICS 700, 100, 200</li> <li>• Introduction to PSE Emergency Response</li> <li>• ECC Leadership</li> </ul>
Deputy Operations Section Chief	<ul style="list-style-type: none"> <li>• Assists the Operations Section Chief by collecting division damage impact information.</li> <li>• Assists the Operating Section Chief in providing direction to Division Leadership based on established priorities.</li> </ul>	<ul style="list-style-type: none"> <li>• ICS 700, 100, 200</li> <li>• Introduction to PSE Emergency Response</li> <li>• ECC Leadership</li> </ul>
Service Provider Liaison	<ul style="list-style-type: none"> <li>• Reports to the Operations Section Chief, providing input for restoration strategies and priorities.</li> <li>• Monitors and reports on the status of Service Provider resources providing updates during tactics and planning meetings.</li> <li>• Shifts regional location of Provider resources as requested by the Ops Section Chief.</li> <li>• Coordinates with Planning and Logistics Section Chiefs to determine the number and type of foreign crew resources needed.</li> <li>• Provides direction to Service Provider field leadership according to the established strategies and priorities.</li> <li>• Participates in ECC Tactics and Planning Meetings and the Operations Conference Call.</li> </ul>	<ul style="list-style-type: none"> <li>• ICS 700, 100, 200, 300</li> <li>• Introduction to PSE Emergency Response</li> <li>• ECC Orientation</li> </ul>

(Emergency Coordination Center Roles & Responsibilities Continued)

## ENERGY SYSTEM RESTORATION PLAN

Transmission Restoration Team	In instances where the transmission system has incurred significant damage, the Operations Section Chief may establish a Transmission Restoration Team to prioritize and coordinate restoration of the transmission system. The Transmission Restoration Team collaborates with the Load Office, Planning Section Chief and EMS Specialists to ensure balanced restoration of the transmission system priorities and effective utilization of transmission resources.	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• ECC Orientation</li> </ul>
Planning Section Chief	<ul style="list-style-type: none"> <li>• Provides oversight of Planning Section personnel.</li> <li>• Collects and analyzes outage data and develops a recommended plan for restoration priorities by region for each operational period.</li> <li>• Coordinates with the Base Storm Analyst to determine event and regional ETRs.</li> <li>• Monitors weather and provides updates for each upcoming operational period.</li> <li>• Coordinates with the Operations Section Chief to finalize operational period objectives.</li> </ul>	<ul style="list-style-type: none"> <li>• ICS 700, 100, 200</li> <li>• Introduction to PSE Emergency Response</li> <li>• ECC Leadership</li> </ul>
Data Specialist	<ul style="list-style-type: none"> <li>• Responsible for providing information to assist in planning ongoing operations. This includes collecting, evaluating, processing and disseminating information, assessing weather outlooks and monitoring the status of resources.</li> <li>• Validates the accuracy of outage numbers which may include a comparison of Dashboard numbers with information from System Operations and other data sources.</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• ECC Orientation</li> </ul>
EMS Specialist	<ul style="list-style-type: none"> <li>• Monitors transmission status, providing updates as appropriate.</li> <li>• Recommends possible restoration strategies to Planning Section Chief.</li> <li>• Confirms transmission information with the Load Office as needed.</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• ECC Orientation</li> </ul>

(Emergency Coordination Center Roles & Responsibilities Continued)

Emergency Response Role	Duties & Responsibilities	Training Expectations
Logistics Section Chief	<ul style="list-style-type: none"> <li>• Provides oversight of Logistics Section personnel.</li> <li>• Assists in completion of the ECC Action Plan.</li> <li>• Participates in the Planning Meeting and Operations Conference Call.</li> <li>• Ensures that field resource requests are addressed in a timely manner and that the field is given status updates as appropriate.</li> <li>• Ensures the tracking of progress for resource requests from initial order to arrival at planned destination.</li> <li>• Provides resource updates to ECC staff as requested.</li> <li>• Offers recommendations as to the fulfillment of resource needs.</li> <li>• Anticipates potential resource needs based on changing conditions.</li> <li>• Coordinates with the Operations and Planning Section Chiefs as</li> </ul>	<ul style="list-style-type: none"> <li>• ICS 700, 100, 200</li> <li>• Introduction to PSE Emergency Response</li> <li>• ECC Leadership</li> </ul>

## ENERGY SYSTEM RESTORATION PLAN

	needed.	
Logistics Unit Staff	<ul style="list-style-type: none"> <li>Includes Resource, Fleet, Facilities, Security, IT, Lodging, Food and Ground Support Units.</li> <li>Responds to field requests, tracking progress from initial request to delivery.</li> <li>Maintains records of resource request for the duration of the incident.</li> <li>Supports field locations to obtain additional resources when all local options have been exhausted, which may include requesting re-assignment of a resource from one base to another.</li> </ul>	<ul style="list-style-type: none"> <li>Introduction to PSE Emergency Response</li> <li>ECC Orientation</li> <li>Logistics Section Training</li> </ul>

### 3.9 Incident Reporting

#### 3.9.1 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.

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

#### 3.9.2 Required Notifications - Gas

Incident	Notify	Within
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) <ul style="list-style-type: none"> <li>• A fatality or personal injury requiring (in-patient)</li> </ul>	WUTC by telephone	2 hours

## ENERGY SYSTEM RESTORATION PLAN

<p>hospitalization.</p> <ul style="list-style-type: none"> <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> <li>• If an incident or condition is significant, in the judgment of the Company (even though it does not meet the requirements listed above).</li> </ul>		
<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>	WUTC by telephone	24 hours

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</li> </ul>	DOT/National Response Center by telephone	2 hours

## ENERGY SYSTEM RESTORATION PLAN

operator even though it did not meet the requirements listed above. <i>The DOT reporting requirements do apply to Jackson Prairie as well as the rest of PSE.</i>		
--	--	--

### 3.9.3 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

### 3.10 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

#### 3.10.1 Fatality Procedures

## ENERGY SYSTEM RESTORATION PLAN

Step	Action
1	<p>Notify these people immediately:</p> <p>Safety &amp; Performance</p> <ul style="list-style-type: none"> <li>- Director Safety and Performance</li> <li>- Safety Manager/Safety Department</li> </ul> <p>PSE's Officer Team, Including:</p> <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>
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.
4	<p>Safety Manager/Safety Department:</p> <p>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.

## 4 CONCEPT OF OPERATIONS—ELECTRIC

### 4.1 Outage Notification

Information regarding electric outages is received through several notification points including the Customer Care Center (CCC), PSE.com and System Operations dispatch. Outage information is then input into an electronic Outage Management System (OMS) for dispatch of the appropriate field personnel.

### 4.2 Emergency Operations

At the onset of an incident, System Operations personnel centrally manage incident response. When the number of outages and complexity of an incident increases, System Operations transitions oversight of tactical restoration and dispatch to the impacted local electric Operating Base/s. There are seven regional locations (Divisions):

- Skagit
- North King
- South King
- Pierce (Puyallup Base)
- Kitsap (Poulsbo Base)
- Thurston (Olympia Base)
- Kittitas (Ellensburg Base)

When multiple operating base regions are impacted the ECC is activated to direct overall response priorities and strategies and to provide resource and communications support, allowing regional Operating Bases to focus on tactical restoration response.

### 4.3 Customer Communications

PSE's Communications Department provides 24/7 communication monitoring. The department assigns a Public Information Officer to work within the ECC as well as mobilizes increased media and social networking staff during emergencies.

PSE provides liaisons at the state and county EOCs on request when possible. The PSE liaison works at the local level to enhance restoration communication with these agencies.

Information is provided to customers in several ways including, an automated voice system, our Customer Care Center and through information posted on PSE.com.

- 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.
- A Service Outage Map can be viewed by customers through PSE.com. The map draws information from our Outage Management System. An Estimated Time of Restoration (ETR) appears after damage has been assessed and Operating Base personnel have an idea of when field restoration personnel will be able to complete work.

## ENERGY SYSTEM RESTORATION PLAN

In a longer multi-day incidents, a regional “event” ETR will be posted within the first 24-36 hours. Upon arrival of restoration crews, ETRs are updated to reflect more accurate restoration times.

- At times, the CCC will initiate customer call backs to verify service restoration.

### 4.3.1 Escalated Call Process

Significant or major incidents in which the ECC 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 (CCC) Emergency Center, and the Community and Business Service 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 ECC Director or Manager, in consult with Call Center leadership, will formally activate the escalated call process.
- An Escalated Call Manager may be identified to manage calls.

## 4.4 Electric Restoration Priorities

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

Restoration work is assigned after a damage assessment has been performed on impacted equipment locations. Once the type of damage and work is known, the appropriate resource is dispatched to begin restoration work.

Generally, energy distribution facilities are restored in this order:

1. Transmission
2. Distribution
3. Individual services

Within the above context, PSE considers additional 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
- Facilities from which people cannot be easily relocated. Examples include nursing homes, assisted living facilities, etc.

### 4.4.1 Damage Assessment and Status

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

## ENERGY SYSTEM RESTORATION PLAN

Information Source	How Source is Used
Outage Management System	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.
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 device status (open or closed breakers, switches, etc.) and power flow in transmission and distribution stations.
Windshield Survey Teams	Provides an initial high-level scope of damage information.
Damage Assessment Teams	Provides specific damage assessment information that is used to determine and assign appropriate resources for restoration.
Fire and Police Departments and other City/County Emergency Management Personnel	Provides information about damage, location, and priority to 911 Call Takers 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 Outage Management System is organized and displayed in a "quick-glance" format to better recognize response efforts and progress

### 4.4.2 Repairing Facilities and Restoration Prioritization

To reduce outage duration, PSE may elect to make nonstandard temporary repairs to restore power and then at a later date come back and make final repairs, per standard.

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, crews will restore power according to priorities noted within the Incident Action Plan.

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. PSE's *Energy System Restoration Plan Volume II* contains details related to the operational structure of the Task Force.

### 4.4.3 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 ECC.

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.

# ENERGY SYSTEM RESTORATION PLAN

## 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>

### 4.4.4 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></p> <p>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”</li> </ul>	<p><b>4,500-6,000 customers affected by outage.</b></p> <p>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></p> <p>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</li> </ul>

## ENERGY SYSTEM RESTORATION PLAN

customers <ul style="list-style-type: none"> <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>		time to repair
---	--	----------------

### 4.4.5 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.

#### 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></p> <p>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></p> <p>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></p> <p>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>

# ENERGY SYSTEM RESTORATION PLAN

## 4.4.6 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.

## 4.4.7 Restoration Priority #5: Individual Service Lines

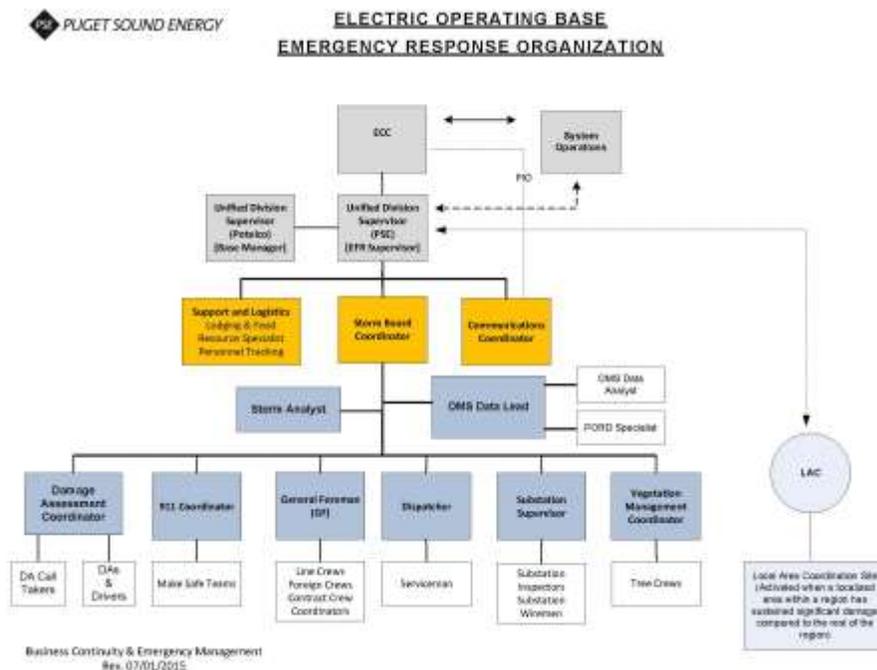
Service lines, particularly those in remote areas, will most often be last in priority order for restoration. This will depend on crew or Electric First Response Servicemen availability, location, and other ongoing restoration efforts.

## 4.4.8 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
- Electric First Response
- Dispatchers
- Meter Department and Substation personnel (if available)

## 4.5 Electric Operating Base and LAC Emergency Organization



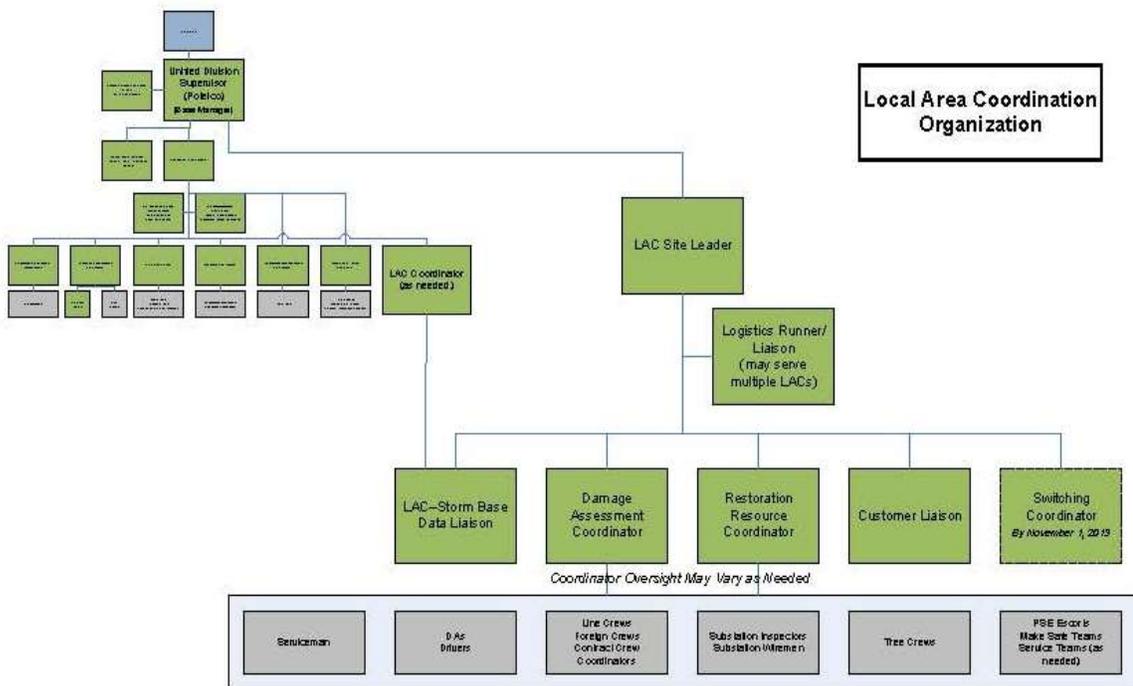
The following organization reflects emergency functions within the regional Operating Base.

# ENERGY SYSTEM RESTORATION PLAN

## Functions of the Operating Base (Division)

- Development of tactics to meet overall objectives.
- Ensuring priority response for public safety & life safety impact issues.
- Mobilization of Division response personnel.
- Management of all Division resources including:
  - Operating Base staff
  - Crews, Foreign Crews, Contract Crew Coordinators
  - Servicemen
  - Make Safe Teams
  - Damage Assessors
  - Tree Crews
- Plans for, mobilizes and monitors Local Area Coordination (LAC) sites
- Keeps track of all assigned personnel.
- Provides situational reporting on regional restoration status and restoration times.
- Monitors personnel and response area safety and ensures all responders have the appropriate PPE and other safety equipment.

### 4.5.1 Local Area Coordination (LAC) Site Organization



## Functions of the LAC

A Local Area Coordination (LAC) site will be utilized to expedite electrical system restoration when a given area within a region has sustained significant damage. The LAC works somewhat independently, yet still remains a sub-set of the Regional Operating Base. By doing so, the Operating Base leadership can better manage efforts for the entire region, while the LAC focuses on the specific work assignments within the LAC boundaries, providing status updates to the Base as needed.

- Communicate real time restoration activities to Load Office, System Operations, and Storm Base

## ENERGY SYSTEM RESTORATION PLAN

- Manage all assigned restoration resources for the LAC including servicemen, damage assessors, Service Provider crews, foreign crews, and crew coordinators
- Manage material distribution
- Analyze and create restoration strategies
- Coordinate system restoration strategies with Load Office, System Operations and Storm Base
- Communicate estimated restoration times to storm base
- Track temporary repairs, units of property and clean-up needs

### Triggers for Opening an LAC

The Unified Division Supervisors (UDS), in conjunction with the ECC, will determine if an LAC is needed during a storm event, and in what locations based on the following criteria:

- The number of crews being managed out of the storm base have or will be exceeding the management resources available at the storm base
- The extent of damage in the service territory is extensive and customers will be out of service longer than the other areas
- The location of the damage is localized and extensive
- The area has been, or will be affected by a second or third weather event during the pre-existing storm event

### 4.5.2 Electric Operating Base and LAC Emergency Response Role Descriptions

Both PSE and Potelco provide resources to fill Operating Base emergency positions.

ER Role	Duties & Responsibilities	Training Expectations
Unified Division Supervisor	<ul style="list-style-type: none"> <li>• The PSE Unified Division Supervisor has overall management responsibility for regional restoration efforts.</li> <li>• The PSE and Service Provider UDSs work closely to determine strategies and tactics for response efforts, including:                             <ul style="list-style-type: none"> <li>• Completion of a local action plan for response efforts.</li> <li>• Managing of regional storm operations, personnel, damage assessment, and restoration.                                     <ul style="list-style-type: none"> <li>– The PSE UDS has direct supervisory and call out responsibility for all local PSE response resources.</li> <li>– The Potelco UDS has direct supervisory and call out responsibility for all local Potelco response resources.</li> </ul> </li> <li>• Making key storm decisions including opening and closing the storm base, opening and closing LAC's, directing the requests for necessary assessment and crew resources as well as response materials and equipment and the releasing of foreign crews and other response resources.</li> <li>• Point of contact for the ECC, System Operations, Substations and Load Office regarding restoration</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• Operating Base Emergency Response Overview</li> </ul>

## ENERGY SYSTEM RESTORATION PLAN

	<p>strategy, prioritization and decision-making.</p> <ul style="list-style-type: none"> <li>• Participates in ECC Tactics and Operations conference calls.</li> <li>• Facilitates the overall safety of local restoration efforts and the tracking of response personnel and equipment.</li> <li>• Escalation of strategy, tactics and decision conflicts to the ECC Operations Section Chief.</li> </ul>	
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.</li> <li>• Receives information from servicemen, OMS, 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>• Introduction to PSE Emergency Response</li> <li>• Operating Base Emergency Response Overview</li> </ul>

ER Role	Duties & Responsibilities	Training Expectations
Storm Analyst	<ul style="list-style-type: none"> <li>• Assists the Storm Board Coordinator by assessing impacts to electric system and recommending restoration priorities.</li> <li>• Provides OMS, EMS and PI expertise as required.</li> <li>• Coordinates with the ECC Planning Section Chief to determine and monitor ETRs and to coordinate priorities.</li> <li>• Coordinates with the System Operations Outage Coordinator.</li> <li>• Works with OMS Data Lead in entering ETRs as needed</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• Operating Base Emergency Response Overview</li> <li>• PORD</li> </ul>
PORD Specialist	<ul style="list-style-type: none"> <li>• Updates PORD regularly throughout an event to ensure prompt, accurate information is available to customers, the CAC, the Operating Base, and ECC. May be asked to assist in the input of DA information and other PORD specific tasks.</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• Operating Base Emergency Response Overview</li> <li>• Role Based Training</li> </ul>
Communication Coordinator	<ul style="list-style-type: none"> <li>• Onsite source related to customer focused information needs.</li> <li>• Acts as the liaison between the ECC PIO, Corporate Communications and the Unified Division Supervisors.</li> <li>• Serve as the field communication contact for media.</li> <li>• Recommends the mobilization of CIO Teams when needed.</li> <li>• Communicates with the CIO Team Leader to ensure accurate and consistent communication.</li> <li>• Serves as the field contact for Business Services regarding major account inquiries.</li> <li>• Acts as the local conduit of information for Community Managers regarding restoration status, escalating issues of concern to the UDS if needed.</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• Operating Base Emergency Response Overview</li> <li>• Role Based Training</li> </ul>
Support & Logistics Team	<p>Includes Lodging Coordinator, Resource Specialist, Food and Tracking. Lodging Coord. - Makes lodging arrangements as requested for all response personnel. Coordinates dissemination of lodging arrangements. Maintains a log of lodging activity to include</p>	<p>All:</p> <ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• Operating Base</li> </ul>

## ENERGY SYSTEM RESTORATION PLAN

	<p>confirmations and receipts. Coordinates with the ECC Lodging Unit as needed for additional support.</p> <p>Resource Specialist – Under the direction of the PSE UDS, conducts call outs of PSE emergency support personnel assigned to the Base. Maintains tracking records of call outs</p> <p>Coordinates with the ECC Resource Unit as needed to secure additional outside resources, coordinates with the Fleet Department Duty Supervisor (Fleet Unit) to request damage assessment vehicles if needed, assigns drivers to the DA/CCC as needed.</p> <p>Food &amp; Tracking – As requested by the UDS, coordinates catering for base personnel and assists with the checking in/out of personnel.</p>	<p>Emergency Response Overview</p> <ul style="list-style-type: none"> <li>• Lodging Coordinator Role-based Training</li> <li>• Resource Specialist Role-based Training</li> </ul>
--	---	---

## ENERGY SYSTEM RESTORATION PLAN

ER Role	Duties & Responsibilities	Training Expectations
Dispatcher	Serves as primary point of communication with PSE Servicemen to dispatch them to 911 calls, switching, patrolling, and restoration activities; integrates fully with storm base staff during declared events. Supervised directly by PSE Unified Division Supervisor.	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• Operating Base Emergency Response Overview</li> <li>• OMS Power On</li> </ul>
OMS Data Lead	<ul style="list-style-type: none"> <li>• Supervises OMS Data Analyst and PORD Specialist.</li> <li>• Supports the DA coordinators, DA call takers, ETR and data managers within the storm base.</li> <li>• Reviews and analyzes outage information and tracks needed repairs and location of assigned resources.</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• Operating Base Emergency Response Overview</li> <li>• Position Specific</li> <li>• PORD</li> </ul>
Damage Assessment (DA) Coordinator	<ul style="list-style-type: none"> <li>• Supervises the DA Call-Takers and ensures shift rotation planning.</li> <li>• Oversees and coordinates damage assessment for the operating base.                             <ul style="list-style-type: none"> <li>• Works with the Storm Board Coordinator and others to develop the damage assessment strategy.</li> <li>• Packages damage information and assigns work packages.</li> <li>• Provides oversight of damage assessors.</li> <li>• Prioritizes orders and creates assessment strategies.</li> </ul> </li> <li>• Reassigns DA's to Contract Crew Coordinator positions as needed.</li> <li>• Works with ETR and Data Manager to update orders in PORD                             <ul style="list-style-type: none"> <li>• Assigns DA resources to orders in PORD.</li> <li>• Reviews trouble orders prior to movement to appropriate organizations</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• Operating Base Emergency Response Overview</li> <li>• Position Specific</li> <li>• PORD</li> </ul>
DA Call Taker	<ul style="list-style-type: none"> <li>• Receives calls or paperwork from DA's and performs the following tasks in PORD.                             <ul style="list-style-type: none"> <li>• Confirms outage</li> <li>• Enters damage assessment information</li> <li>• Enters the expected crew hours</li> <li>• Forwards order to Dispatch for a Serviceman as needed</li> <li>• Creates follow-up order for a Crew as needed</li> <li>• Works the ETR and Data Manger to maintain the outage data.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• Operating Base Emergency Response Overview</li> <li>• Position Specific</li> <li>• PORD</li> </ul>

## ENERGY SYSTEM RESTORATION PLAN

ER Role	Duties & Responsibilities	Training Expectations
Damage Assessment Teams	<ul style="list-style-type: none"> <li>• The DA Team consists of a <u>Damage Assessor</u> and a <u>Driver</u></li> <li>• Assessor – Assesses system damage in assigned areas, using the established form records system damage and material needs and relays findings to the operating base DA Call Taker.</li> <li>• Driver - Performs driving duties for Damage Assessors or Contract Crew Coordinators, safely operates vehicle while Damage Assessor visually assesses and records circuit damage.</li> </ul>	Assessor: <ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• DA Training</li> </ul> Driver: <ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• Driver Training</li> </ul>
911 Coordinator	Reviews 911 trouble orders for a geographic area and coordinates with the Storm Board, Dispatch, and Damage Assessment to assign the appropriate resources. Ensure sufficient "make safe" resources are on hand to assure timely response. In a larger event, the 911 Coordinator may have their own make safe resources to manage and dispatch.	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• Operating Base Emergency Response Overview</li> <li>• PORD</li> </ul>
General Foreman	Oversees assignment of line crew resources throughout the incident. Assigns line crews to prioritized repair jobs. Ensures field resources are deployed efficiently for safe and timely restoration. Assesses needs for additional resources and coordinates with Unified Division Supervisors to obtain additional resources as required.	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• Operating Base Emergency Response Overview</li> </ul>
Substation Operations Supervisor	<ul style="list-style-type: none"> <li>• Mobilizes and coordinates windshield surveys.</li> <li>• Coordinates activities of substation inspectors &amp; wiremen.</li> <li>• Supports efforts early in storm to energize station breaker(s) out to first switch point on feeder(s).</li> <li>• Determines availability of wire personnel to assist in damage assessment, crew coordination and switching.</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• Operating Base Emergency Response Overview</li> </ul>
Vegetation Mgmt Coordinator	Responsible for managing tree crew resources to respond to vegetation needs during an event.	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• Operating Base Emergency Response Overview</li> </ul>
LAC Coordinator	Activated when formation of an LAC is required and from the base oversees one or more LAC's. Coordinates with remote LAC Data Specialist to update PORD regularly.	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• Operating Base Emergency Response Overview</li> <li>• LAC Training</li> </ul>

## ENERGY SYSTEM RESTORATION PLAN

ER Role	Duties & Responsibilities	Training Expectations
Contract Crew Coordinator	Leads assigned contract crews and facilitates arrival on job site and ensures safety practices are followed. Works ahead of crew to ensure material needs are met.	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• Operating Base Emergency Response Overview</li> <li>• Contract Crew Coordinator</li> </ul>
Make Safe Team	Dispatched to locations where primary wire is reported to be down. Ensures scene safety and public safety until qualified electrical workers are on-scene.	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• Role Based Training</li> </ul>
LAC Site Leader	<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 UDS and the ECC.</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• Operating Base Emergency Response Overview</li> <li>• LAC Training</li> </ul>
LAC Assessment and Restoration Coordinator	<ul style="list-style-type: none"> <li>• This position is responsible for overseeing and coordinating damage assessment and crew resources for the LAC.</li> <li>• Maintain an accurate list of assessors and crews assigned to the LAC including contact information</li> <li>• Maintain assessor and crew work locations</li> <li>• Reviews and analyzes outage information and tracks needed repairs and location of assigned resources.</li> <li>• Packages damage information and assigns work packages.</li> <li>• Reviews/prioritizes response to emergencies reported via 911 agencies.</li> <li>• At the direction of the LAC site leader, assign assessors and crews to work locations</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• Operating Base Emergency Response Overview</li> <li>• LAC Training</li> </ul>
LAC Data Specialist	Located at an LAC. Ensures PORD is updated regularly throughout an event to ensure prompt, accurate information is available to customers, the CAC, the Operating Base, and ECC. Also the point of contact for receiving new outage or 911 data from the LAC Coordinator.	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• Operating Base Emergency Response Overview</li> <li>• LAC Training</li> </ul>
ER Role	Duties & Responsibilities	Training Expectations

## ENERGY SYSTEM RESTORATION PLAN

Switching Coordinator	Located at the LAC site. Issues and releases clearances (including self-protection clearances) within the boundary of their area of responsibility.	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• Operating Base Emergency Response Overview</li> <li>• LAC Training</li> </ul>
Customer Liaison	Located at or near an LAC site. Responsible for interfacing with customers who appear at the LAC looking for information. Acts as a liaison with operating personnel to answer customer's questions, including restoration information as available.	<ul style="list-style-type: none"> <li>• Introduction to PSE Emergency Response</li> <li>• Operating Base Emergency Response Overview</li> <li>• LAC Training</li> </ul>

### 4.6 Plan Activation

PSE’s System Operations Supervisor monitors for a trend of increasing activity as outages arise due to inclement weather conditions or other incidents. The System Operations Supervisor will confer with the Operating Base Unified Division Supervisor team in the affected region(s), and the on-duty ECC 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 (incident complexity)

The on-duty System Operations Supervisor will consult with Operating Base management, and the Load Office to determine an incident level (Level 1: Regional, Level 2: Significant, or Level 3: Major).

PSE’s System Operations Supervisor 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, the Unified Division Supervisor team will agree on the immediate emergency staffing strategy and priorities.

### 4.7 Operating Base Initial Response

Upon opening of the Operating Base, the Unified Division Supervisors will work together to ensure a coordinated response effort, including:

- Immediate mobilization of a Core Team of response personnel which includes Storm Room staff as well as an initial wave of Damage Assessors.

## ENERGY SYSTEM RESTORATION PLAN

- The initial focus during the first hours of the storm is to assess overall damage, collect critical information, analyze this information, and formulate an initial restoration action plan.
- When the damage appears to be extensive additional Damage Assessment Teams will 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.
- Make Safe Teams will be called early on to ensure availability for dispatch if needed.
- Determine additional initial emergency staffing needs and call-out priorities.

### 4.7.1 Damage Assessment Priorities

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

### 4.7.2 PSE Servicemen Priorities

- 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.

## 4.8 Mobilization and Assignment of Tasks

The first phase of emergency response is mobilization.

Once the agreed upon emergency staffing priorities are established, the PSE UDS and the Service Provider UDS are responsible to mobilize their respective staff based on established callout lists.

A Resource Specialists will be called by the PSE UDS as soon as possible to continue the call-out process to enable the UDS team to focus on restoration activities and management.

The UDS team will ensure that:

- The local call-out list is exhausted before contacting the ECC for additional resources.
- A sign-in/out roster is maintained for all response personnel
- All response personnel are briefed on their assignment and understand associated response priorities.

## 4.9 Demobilization and Closing of Operating Bases

The decision to close an Operating Base will be made by the UDS team at the Operating Base *in collaboration with* the System Operations Supervisor and Operations Section Chief.

When closing the base, the following items must be done:

- Ensure documentation of locations with temporary repairs and establish a plan for making permanent repairs.
- 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.
- Establish an Incident hard copy file which includes at a minimum, the following:

## ENERGY SYSTEM RESTORATION PLAN

- Sign-in/out rosters for each day of emergency operations.
- Base Call Out sheet for the incident has been saved to the Emergency Operations Share Point site and that a hard copy is placed in the incident file.
- Operating Base action plans.

### **4.9.1 Releasing of Contracted Crews**

Prior to the releasing of contracted crews, the PSE UDS shall contact the ECC Operations Section Chief to determine if the resource is needed elsewhere in the system.

If the crew/s may be released:

- Documentation of sign-out must be obtained and filed
- PSE assigned equipment must be checked-in

## 5 CONCEPT OF OPERATIONS—GAS

### 5.1 How PSE is Notified

The Customer Access Center (CCC) 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.

### 5.2 Service Orders

Trouble calls received via the CCC are entered into *CIS* 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.

### 5.3 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.

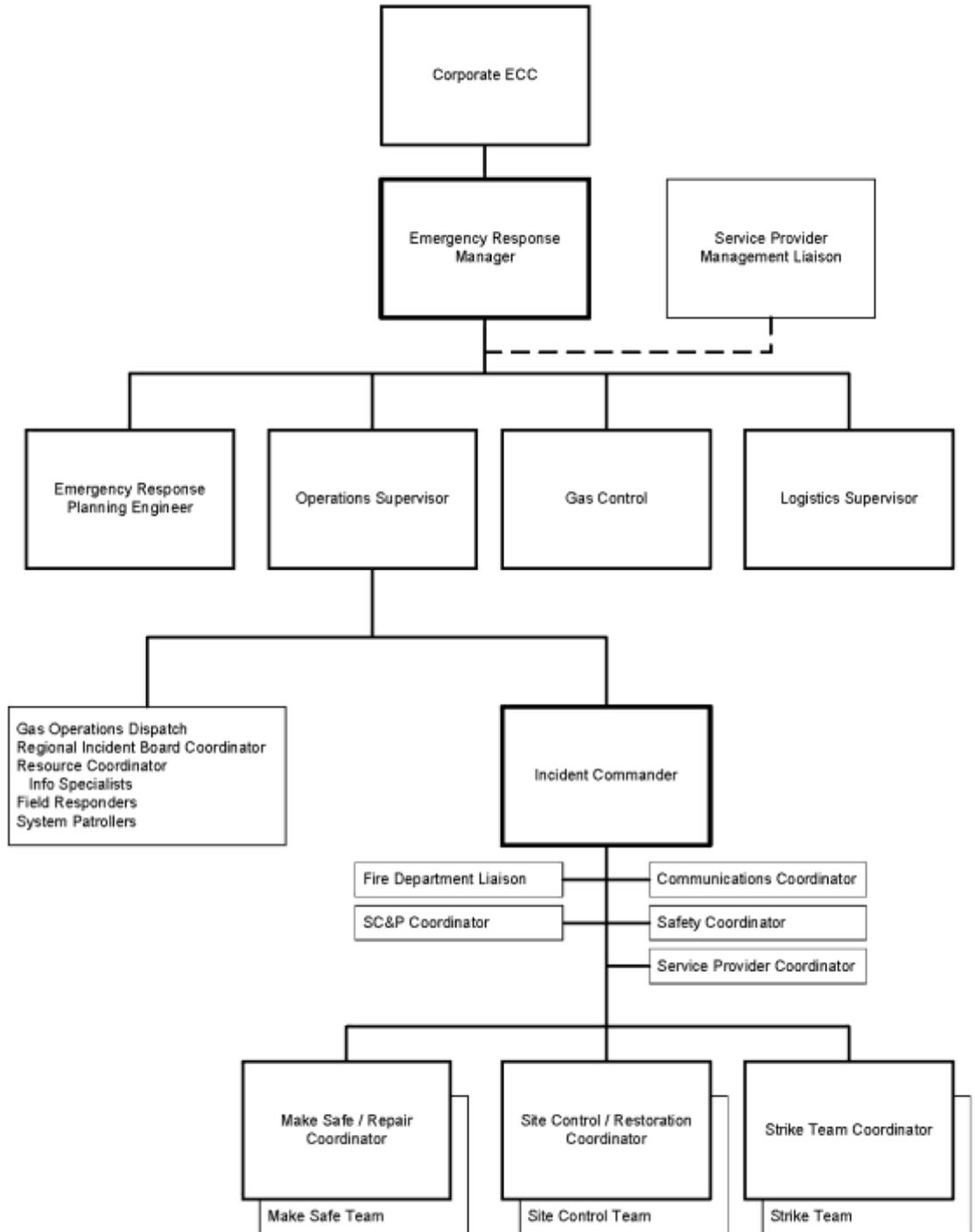
### 5.4 Gas Emergency Organizational Structure

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).

# ENERGY SYSTEM RESTORATION PLAN

## 5.5 Emergency Response Roles—Gas

### 5.5.1 Gas Emergency Organization Chart



*Continued on next page*

# ENERGY SYSTEM RESTORATION PLAN

## 5.5.2 Gas Emergency Response Roles

### 5.5.2.1 Corporate ECC

Temporary Job Title	Duties & Responsibilities	Training Expectations
Public Information Officer	<ul style="list-style-type: none"> <li>• Works with CAC Supervisor and ECC Communications</li> <li>• 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 ECC 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>	<ul style="list-style-type: none"> <li>• Emergency Response Overview</li> </ul>

### 5.5.2.2 Corporate ECC 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>	<ul style="list-style-type: none"> <li>• Emergency Response Overview</li> </ul>

### 5.5.2.3 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>	<ul style="list-style-type: none"> <li>• Emergency Response Overview</li> </ul>

### 5.5.2.4 Gas Planning and Strategy Center (GPSC)

Temporary Job Title	Duties & Responsibilities	Training Expectations
Emergency Operations Supervisor	<ul style="list-style-type: none"> <li>• Using the incident status boards as a tool to view what is going on in a given area:</li> <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> </ul>	<ul style="list-style-type: none"> <li>• Incident Command</li> </ul>

## ENERGY SYSTEM RESTORATION PLAN

	<ul style="list-style-type: none"> <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>	
Emergency Response Supervisor	<ul style="list-style-type: none"> <li>• Oversees Companywide operations, emergency response assessment, and restoration.</li> <li>• Primary contact person with ECC, System Control, and CAC. Assesses needs for additional resources, coordinating with ECC 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> <li>• Reporting to the Emergency Response Manager:             <ul style="list-style-type: none"> <li>• Emergency Operations Supervisor(s)</li> <li>• Logistics Supervisor</li> <li>• Response Planning Engineer</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Emergency Response Overview</li> </ul>

*Continued on next page*

Temporary Job Title	Duties & Responsibilities	Training Expectations
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>	<ul style="list-style-type: none"> <li>• Emergency Response Overview</li> </ul>
Logistics Supervisor	<ul style="list-style-type: none"> <li>• Staffs emergency support service functions, including:             <ul style="list-style-type: none"> <li>○ Material acquisition and delivery</li> <li>○ Temporary field staging area (tents and/or office space)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Emergency Response Overview</li> </ul>

## ENERGY SYSTEM RESTORATION PLAN

	<ul style="list-style-type: none"> <li>○ Meals and lodging coordination</li> <li>○ General office and administrative support</li> <li>● Determines appropriate use of personnel to perform the following functions:             <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> </li> </ul>	
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>	<ul style="list-style-type: none"> <li>● Emergency Response Overview</li> </ul>
Resource Coordinator	<ul style="list-style-type: none"> <li>● Provides staffing coordination for Company field personnel, service providers, and special equipment, including emergency truck, PLIDCOR, 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>	<ul style="list-style-type: none"> <li>● Emergency Response Overview</li> </ul>
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>	<ul style="list-style-type: none"> <li>● Emergency Response Overview</li> </ul>

*Continued on next page*

### 5.5.2.5 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>	<ul style="list-style-type: none"> <li>● Emergency Response Overview</li> </ul>
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>	<ul style="list-style-type: none"> <li>● Emergency Response Overview</li> </ul>

## ENERGY SYSTEM RESTORATION PLAN

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>	<ul style="list-style-type: none"> <li>• Emergency Response Overview</li> </ul>
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>	<ul style="list-style-type: none"> <li>• Emergency Response Overview</li> </ul>
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>

*Continued on next page*

Temporary Job Title	Duties & Responsibilities	Training Expectations
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>	<ul style="list-style-type: none"> <li>• Emergency Response Overview</li> </ul>
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>	<ul style="list-style-type: none"> <li>• Emergency Response Overview</li> </ul>
Site Control/Restoration	<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</li> </ul>	<ul style="list-style-type: none"> <li>• Emergency Response</li> </ul>

## ENERGY SYSTEM RESTORATION PLAN

Coordinator	<p>customers.</p> <ul style="list-style-type: none"> <li>• May monitor the spread of gas, control access to a safety zone, and light-ups.</li> </ul>	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>	<ul style="list-style-type: none"> <li>• Emergency Response Overview</li> </ul>
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>	<ul style="list-style-type: none"> <li>• Emergency Response Overview</li> </ul>
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>	<ul style="list-style-type: none"> <li>• Emergency Response Overview</li> </ul>

### 5.5.3 Gas Facility Failure Staffing

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

Temporary Job Title	Reports To
Community/External Relations Manager	ECC
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	ECC and/or Emergency Response Manager
Service Relight Personnel	Incident Commander
System Analyst	Response Planning Engineer
System Modeler	Response Planning Engineer

### 5.6 Plan Activation

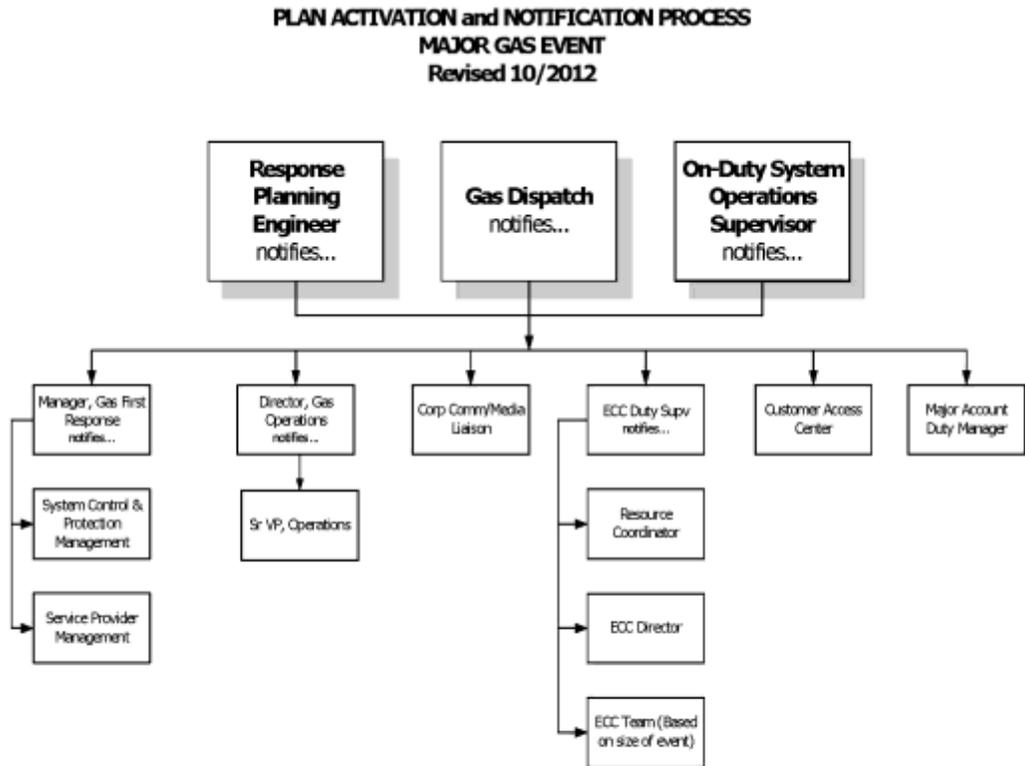
As cold weather conditions arise and/or other gas emergencies occur, the Gas Duty Manager and the Response Planning Engineer monitor PSE's gas distribution system and readiness to respond. Either one of those positions will decide when to take emergency action and/or open the Gas Planning and Strategy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

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

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

# ENERGY SYSTEM RESTORATION PLAN

## 5.6.1 Plan Activation and Notification Process for Major Gas Event



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

# ENERGY SYSTEM RESTORATION PLAN

## 5.7 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>

### 5.7.1 Initial Assessment Checklist

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

## 5.8 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	<ul style="list-style-type: none"> <li>• This role is located at the GPSC. Using the incident status boards as a tool to</li> </ul>

## ENERGY SYSTEM RESTORATION PLAN

Operations Supervisor	<p>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.</p> <ul style="list-style-type: none"> <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 ECC, System Control and Protection, and the CAC.</li> <li>• Assess needs for additional resources, coordinating with ECC 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>

*Continued on next page*

Who	Does What
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>

## ENERGY SYSTEM RESTORATION PLAN

### 5.9 Functions by Department

The following details the duties and responsibilities of various departments:

Who	Does What
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>
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>
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>
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>

### 5.10 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

#### 5.10.1 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

## ENERGY SYSTEM RESTORATION PLAN

- 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, ECC 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.

### 5.11 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>

#### 5.11.1 If the GPSC is Open

Use the following process:

Who	Does What
ECC	<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> </ul>

## ENERGY SYSTEM RESTORATION PLAN

	<ul style="list-style-type: none"> <li>• Makes requests for outside assistance through the ECC.</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>

### 5.12 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>

## 6 COLD WEATHER ACTION PLAN

### 6.1 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.

### 6.2 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

### 6.3 Communications

#### 6.3.1 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.

#### 6.3.2 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.”

### 6.4 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

### 6.5 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.

# ENERGY SYSTEM RESTORATION PLAN

## 6.6 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.

## 6.7 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.

## 6.8 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> <p>Date and send the list to:</p> <ul style="list-style-type: none"><li>• Director, Planning</li><li>• Manager, Safety</li><li>• Manager, Standards</li><li>• Director, Gas Operations</li><li>• Manager, Gas System Integrity</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>

## ENERGY SYSTEM RESTORATION PLAN

Step	Action
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>

### 6.9 Gas Control

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

Step	Action
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>

Step	Action
4	Send following to Senior Engineer, Gas System Integrity: <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>

## ENERGY SYSTEM RESTORATION PLAN

	<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	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).
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>• Managers, 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	Leave the predicted Gate Take Forecast and other pertinent information as a prerecorded message on a predetermined phone number by 1:00 p.m.
8	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.
9	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.

### 6.10 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.

## ENERGY SYSTEM RESTORATION PLAN

### 6.11 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.

### 6.12 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).

### 6.13 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:

## ENERGY SYSTEM RESTORATION PLAN

	<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>
--	---

## 7 EXTERNAL RESOURCES

### 7.1 Contractors and Foreign Crews

#### 7.1.1 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.

#### 7.1.2 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.

#### 7.1.3 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.

### 7.2 Mutual Assistance

#### 7.2.1 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.

#### 7.2.2 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:

## **ENERGY SYSTEM RESTORATION PLAN**

- 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.
- Regional Coordination Framework -

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

# ENERGY SYSTEM RESTORATION PLAN

## 8 ENERGY CURTAILMENT

### 8.1 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.

#### 8.1.1 Electric Rate Schedules with Curtailment Provisions

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

Rate Schedule	Minimum Interruptible Demand
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

#### 8.1.2 Curtailment Process

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

Who	Does What
Manager Power Supply Operations	Determines curtailment is required. Communicates to System Control (on-duty Supervisor System Operations): <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> </ul>

# ENERGY SYSTEM RESTORATION PLAN

	<ul style="list-style-type: none"> <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>
--	--

### 8.1.3 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.

## 8.2 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.

### 8.2.1 Definitions

<i>Term</i>	<i>Definition</i>
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	PSE solely determines supply curtailment if the Company’s: <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	PSE solely determines system curtailment if: <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</li> </ul>

## ENERGY SYSTEM RESTORATION PLAN

	<p style="text-align: center;">maintenance of the Company’s distribution system; or,</p> <ul style="list-style-type: none"> <li>• Needed to manage operating conditions and pressures on the Company’s distribution system or any portion thereof.</li> </ul>
--	---

### 8.2.2 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.

### 8.2.3 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>

### 8.2.4 If Customers Do Not Curtail

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

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

*Continued on next page*

## ENERGY SYSTEM RESTORATION PLAN

### 8.2.5 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. 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>

*Continued on next page*

Who	Does What
Energy Trading	<ul style="list-style-type: none"> <li>• Keep Gas Control informed about supply situation and available</li> </ul>

## ENERGY SYSTEM RESTORATION PLAN

	<p>reserves. Immediately notify Gas Control of known or expected supply problems.</p> <ul style="list-style-type: none"> <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>

## 9 SUPPORT FUNCTION

### 9.1 Contractor Management and Contract Services

#### 9.1.1 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.

#### 9.1.2 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 may be used by the Emergency Coordination Center (ECC) as Resource Coordinators and by the Gas Planning Strategy Center (GPSC) as service provider liaisons.

### 9.2 Communications

#### 9.2.1 Normal Business Function

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.

#### 9.2.2 Emergency Response Function

During significant and major incidents, Communications assumes a Public Information Officer (PIO) role (media relations) and staff a Public Information Officer within the ECC. The ECC PIO coordinates consistent messaging with Corporate Communications and the Communications Coordinator at the Operating Base..

The ECC'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 ECC representative provides updated messages to the larger public

# ENERGY SYSTEM RESTORATION PLAN

relations team, which then disseminates those messages to media covering the incident and to the UTC.

## 9.3 Corporate Security

### 9.3.1 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.

### 9.3.2 Emergency Response Function

During major incidents, Corporate Security provides protective services for response efforts.

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

## 9.4 Customer Care Center

### 9.4.1 Normal Business Function

The Customer Care Center (CCC) 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 CCC 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 CCC also maintains a Point Desk, a "one-call" 24/7 internal PSE contact point for communication with the Customer Care Center.

### 9.4.2 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 CCC 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-CCC staff is used to respond to customer outage and emergency calls through the night, when call volumes are much lower.
- CCC staff will remain on 12-hour shifts until outage calls have returned to more normal levels. (Shifts are already predetermined.)

## ENERGY SYSTEM RESTORATION PLAN

In addition to responding to customer outage calls, the CCC is instrumental in communicating the overall situation to our customers and relaying information regarding known restoration times and response efforts.

### 9.4.3 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 customer support and 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
- Communications Team
- Provisions Team

## 9.5 Electric First Response Dispatch

### 9.5.1 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.

### 9.5.2 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.
- 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.

## 9.6 Electric First Response Operations

### 9.6.1 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.

### 9.6.2 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

# ENERGY SYSTEM RESTORATION PLAN

Unified Division Supervisor and play a key role in the transition of restoration efforts to local teams by coordinating with Service Provider management.

## 9.7 Electric System Operations

### 9.7.1 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 the status of outages.

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

### 9.7.2 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 confer with the Manager System Operations for the transition of restoration oversight efforts from System Operations to the local Operating Base/s.
- System Operators will establish a consistent communication link between an open Operating Base and System Operations.
- System Operations coordinates closely with the Operations and Planning Sections within the ECC as well as the base UDS and other Operating Base emergency personnel.
- System Operations will also mobilize OMS Call Locators and OMS Data Analysts to review and manipulate data within the Outage Management System to enable efficient prioritization for response.
- The System Operations Supervisor will coordinate with Operating Bases to deploy OMS Data Leads and Analysts directly to the Operating Base/s.

## 9.8 Environmental Services

### 9.8.1 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.

# ENERGY SYSTEM RESTORATION PLAN

## 9.8.2 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.

## 9.8.3 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>

## 9.9 Fleet Services

### 9.9.1 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.

### 9.9.2 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.

# ENERGY SYSTEM RESTORATION PLAN

## 9.9.3 Emergency Response Roles

## 9.10 Government and Community Relations & Community Engagement

### 9.10.1 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.

### 9.10.2 Emergency Response Function

During significant incidents, Government and Community Relations Managers and Community Engagement Managers assist in responding to restoration inquiries from Elected Government Officials.

- In this role, they serve as a vital communications path to local government officials.
- They may collaborate with the ECC team and Public Information Officer (PIO) to ensure uniform messaging is provided to local government, media, and other customers.
- In heavily damaged areas in which restoration efforts may span over several days, Community Engagement may opt to place an information center team (Community Incident Outreach team, CIO) near location with a high volume of local customer inquiries. The decision to establish a CIO team is communicated to the ECC through the PIO.

## 9.11 Help Desk

### 9.11.1 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.

# ENERGY SYSTEM RESTORATION PLAN

## 9.11.2 Emergency Response Function

During a PSE electric/gas customer area outage, incidents when the PSE ECC 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.

## 9.12 Human Resources

### 9.12.1 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.

### 9.12.2 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.

## 9.13 Major Accounts/Business Accounts Services

### 9.13.1 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.

### 9.13.2 Emergency Response Function

During significant incidents, Business Services employees serve in the role of Business Services Liaison.

- BSLs provide an important information gateway to certain commercial and industrial customers such as refineries, schools, hospitals, grocery stores, or manufacturers.
- The Liaison tracks outages affecting commercial/industrial customers and provide frequent informational updates, helping business customers to make important operational decisions.
- The Liaison also communicates on the status of critical facility customers to the Operations and Planning Section Chiefs to ensure priority efforts if needed.
- The Major Accounts Representative is also the customer's point of contact during curtailment activities.

# ENERGY SYSTEM RESTORATION PLAN

## 9.14 Materials Distribution and Planning

### 9.14.1 Normal Business Function

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

### 9.14.2 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, communicating the status to the ECC Operations Section Chief.

### 9.14.3 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>

### 9.14.4 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>• ECC 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>

# ENERGY SYSTEM RESTORATION PLAN

## 9.15 Network Operating Systems (NOS)

### 9.15.1 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.

### 9.15.2 Emergency Response Function

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

## 9.16 Purchasing

### 9.16.1 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.

### 9.16.2 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.

### 9.16.3 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	• Purchasing staff on call and available 24/7 to procure storm/emergency materials and services.

## ENERGY SYSTEM RESTORATION PLAN

	<ul style="list-style-type: none"> <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>

### 9.16.4 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>

# ENERGY SYSTEM RESTORATION PLAN

## 9.17 Corporate Safety

### 9.17.1 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.

### 9.17.2 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.

### 9.17.3 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.
- Acts as the Safety Officer within the ECC or at regional Operating field locations, or other facility during an incident relating to environmental hazards or concerns.
- Provides required safety training to contracted crews and maintains documentation of such.

## 9.18 Standards

### 9.18.1 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.

## ENERGY SYSTEM RESTORATION PLAN

- 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.

### 9.18.2 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.

### 9.18.3 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.

## 9.19 Substation Operations

### 9.19.1 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.

### 9.19.2 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.
- The Substation Supervisor in each Operating region is responsible for initiating the initial windshield survey which provides a high level of overall damage to the system. This initial survey provides important information for development of the response strategies.

Depending on the operational impact to substations, a portion of Substation Operations personnel may perform the Windshield Survey or may assist in detailed damage assessment.

## 10 KEY INFORMATION SYSTEMS

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

- Outage Management System (OMS)
- Dashboard/PSE Outage Map
- SAP Customer Information System (CIS)
- Energy Management System (EMS)
- Gas and Electric SCADA (Supervisory Control and Data Acquisition)
- *SynerGEE* System (Gas Loading Modeling)
- Mobile Workforce (P-CAD)

### 10.1 Outage Management System (OMS) Dashboard/PSE Outage Map

#### 10.1.1 What is the OMS Dashboard/PSE Outage Map?

The OMS Dashboard and PSE Outage Map are online systems that track outage calls from electric customers. They link information provided by personnel who receive customer outage calls and personnel who are responsible to restore electric service. Access to the OMS Dashboard is required. The PSE Outage Map is available to all PSE employees and PSE customers through the PSE Website.

#### 10.1.2 Who Uses OMS Dashboard?

OMS is used by:

- Customer Access Center (CCC)
- System Operations
- ECC/Operating Bases
- Operations personnel

#### 10.1.3 Updating OMS

Because it is our most important source for electric outage information, timely updates to OMS 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.

#### 10.1.4 If OMS Fails

If the OMS system fails for any reason, CCC representatives (the primary receiver of customer calls in an outage situation) will manually complete individual outage reports, providing status reports on a regular basis to System Operations and the ECC.

# ENERGY SYSTEM RESTORATION PLAN

## 10.2 Energy Management System (EMS)

### 10.2.1 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 ECC.

### 10.2.2 Who Uses the EMS?

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

- Operating Bases
- Load Office
- ECC

### 10.2.3 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 ECC 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.

## 10.3 Supervisory Control and Data Acquisition (SCADA)

### 10.3.1 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.

### 10.3.2 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

# ENERGY SYSTEM RESTORATION PLAN

## 10.3.3 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.

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

### 10.4.1 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.

### 10.4.2 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.

### 10.4.3 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.

## 10.5 Mobile Workforce Management (P-CAD)

### 10.5.1 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.

### 10.5.2 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

## ENERGY SYSTEM RESTORATION PLAN

### 10.5.3 If the Mobile Workforce Management System Fails

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

# ENERGY SYSTEM RESTORATION PLAN

## 11 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
CCC	Customer Care Center
Callback	Outbound calls to customers to verify service has been restored.
CFH	Cubic feet per hour
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.
Curtailement	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.
EEl	Edison Electric Institute
EFR/GFR	Electric First Response/Gas First Response
ECC	Emergency Coordination Center
ESF	Essential Support Function
ESO	Eastside System Operations
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
ICS	Incident Command System

## ENERGY SYSTEM RESTORATION PLAN

Term or Acronym	Definition
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.
SynerGEE	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