

# **ENERGY SYSTEM RESTORATION PLAN**



**PUBLIC**

# Energy System Restoration Plan

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# Energy System Restoration Plan

## EMERGENCY RESPONSE VISION

### **I. 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.

### **II. 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.

### **III. Guiding Principles**

- We work to ensure employee and public safety during emergency restoration efforts. We follow all safety rules.
- We respond to sites that serve critical lifeline services or pose a risk to public safety with the highest priority, and secure the site before allocating resources to other service restoration efforts.
- We actively partner with external emergency partners and coordinate as needed with partners during active incidents.
- We assess damage and relay information promptly.
- We maintain environmental stewardship during major restoration efforts by complying with all environmental work practices and regulations.

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## IV. 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.

## V. 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

## **VI. 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.



# Energy System Restoration Plan

## VII. Plan Scope

The Energy System Restoration Plan serves as PSE's emergency response plan for electric and gas incidents and 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.

Other plans of reference include, but are not limited to:

- Gas Operating Standards – 2012
- Gas Field Procedures – 2012
- Energy Emergency Plan
- Gas Cold Weather Action Plan
- Business Continuity Plan
- Baker and Snoqualmie Dam Emergency Action Plans

## VIII. Emergency Activation

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

- PSE operations staff vigilantly monitor 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. 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.

### **2. 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

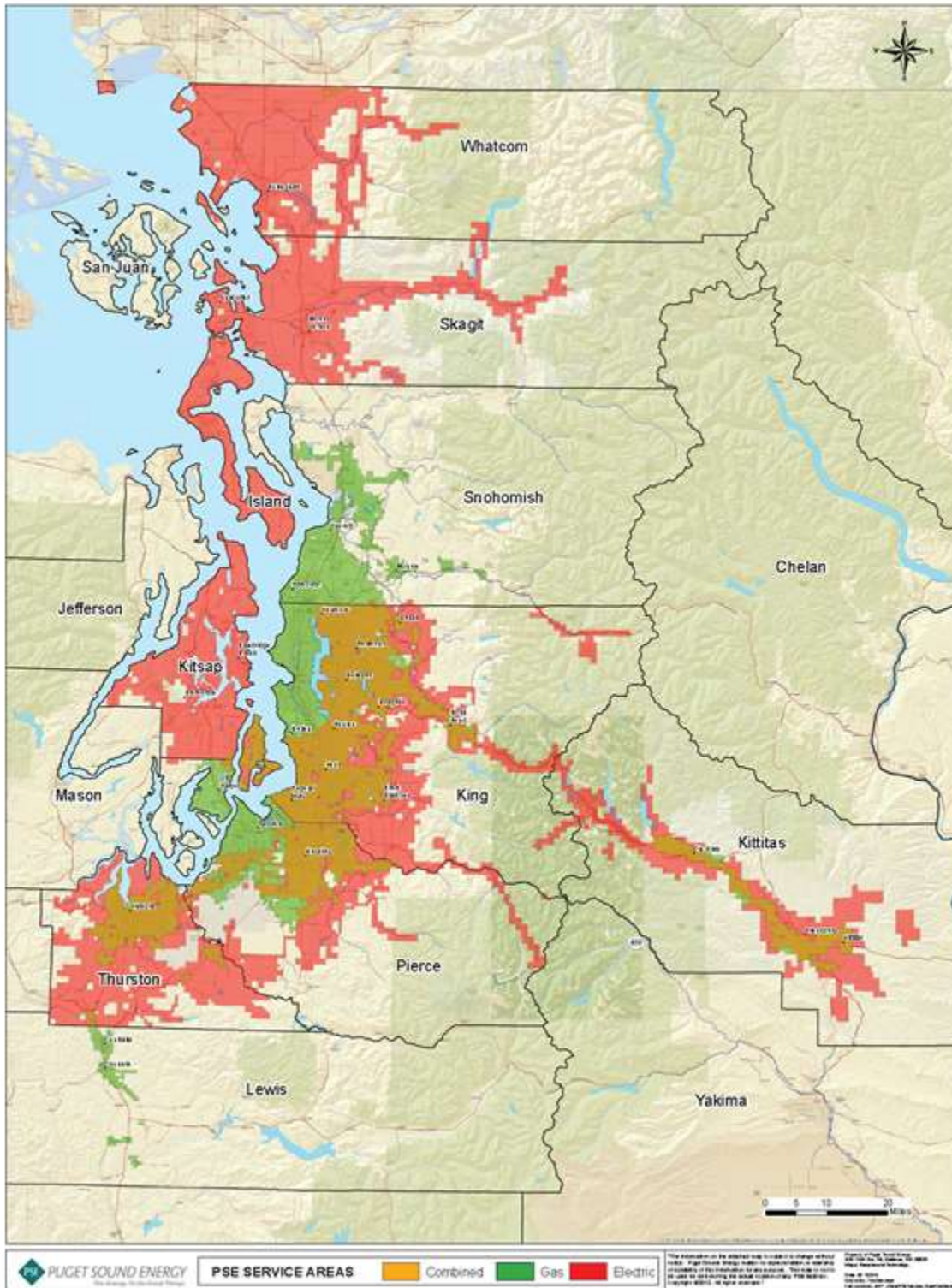
## IX. Restoration Strategy

- During major incidents, every effort is made to strategically and effectively deploy resources.
- 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. 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.
- In wide-spread incidents, we assess and schedule needed repairs to ensure effective utilization of available 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.

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## X. Service Area

### 1. Service Area Map



# Energy System Restoration Plan

## **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 800,000 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

### Electric Service Areas

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 Regions: Pierce and Thurston Counties (includes Olympia and Puyallup Operating Bases)
5. Western Region: Kitsap County
6. Eastern Region: Kittitas County

### Gas Service Areas

1. Gas service is divided into three geographic regions. These three regions are Northern, King County, and South.
2. Northern region is North Seattle and Snohomish County.
3. King County is divided into East, Central, and South Central.
4. South region is comprised of Pierce, Thurston, and Lewis Counties.

# Energy System Restoration Plan

## HAZARDS AND EMERGENCIES

### I. 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.

### II. 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

# Energy System Restoration Plan

## III. 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 Company-wide 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;
- Earthquake or other hazardous condition, or
- A condition that overwhelms our capabilities for response using normal operating procedures.

## IV. 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.

## V. 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.



# Energy System Restoration Plan

## VI. 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”);
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 safe accessibility to damage locations within timeframes needed to conduct assessment and response activities.

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Table – Incident Levels

Level	Electric Criteria	Gas Criteria	ECC Declaration & Activation – Electric Incident	ECC Declaration & Activation – Gas Incident
<b>Level 0 Normal</b>	Normal conditions across system.	<ul style="list-style-type: none"> <li>• Report of odor</li> <li>• &lt;/= 4" break</li> <li>• &lt;200 customers impacted &lt; 12 hour Operational Response</li> </ul>	N/A	N/A
<b>Level 1 Elevated</b>	<ul style="list-style-type: none"> <li>• Local PSE &amp; Potelco Resources are sufficient – no or low outside crew support needed</li> <li>• 1-5 bases may be open</li> <li>• Anticipated short-duration (&lt;24 hours)</li> </ul>	<ul style="list-style-type: none"> <li>• Confirmed NG caused fires</li> <li>• Explosion reported – Possible NG - Investigation Needed</li> <li>• &gt;200 customer outage count</li> <li>• &gt; 12 hour Operational response (excludes investigation duration)</li> <li>• Multiple, possibly related leak indications – additional support needed</li> <li>• Abnormal Weather forecast requiring increased operational activity</li> <li>• Reported supply disruption</li> <li>• Reported hospitalization or fatality</li> </ul>	<ul style="list-style-type: none"> <li>• System Ops notifies Electric Operation Leadership and ECC Director and Manager.</li> <li>• Operations Section is assisting with resource allocation.</li> <li>• ECC Director &amp; Manager monitor.</li> <li>• If incident starts to escalate Sys Ops consults with ECC Director to determine if/when Level 2 will be declared and if/when full ECC staffing is needed.</li> </ul>	<ul style="list-style-type: none"> <li>• Area/Duty/Dept Supervisor (depends on nature of event) informs Duty Manager (after hours) or Dept Manager (work hours)</li> <li>• If incident will require coordinated support, the Duty Manager or Dept Manager brings in additional Gas Ops Leadership, and others from the ICS IMT as required, such as Ops Section Chief, Plans Chief and PIO.</li> <li>• If event requires ECC support, the ECC Director is contacted.</li> <li>• If decision is made that ECC will open, move to level 2</li> </ul>
<b>Level 2 Significant</b>	<ul style="list-style-type: none"> <li>• Multiple operating bases are open.</li> <li>• Low to medium outside resources may be required.</li> <li>• Full ECC staffing is required to assist with resource, communication and restoration support.</li> </ul>	<ul style="list-style-type: none"> <li>• &gt;24 hour response</li> <li>• &gt;1000 customers</li> <li>• Severe localized damage</li> <li>• Explosion – confirmed PSE involved</li> <li>• Incident with large response footprint.</li> <li>• ECC Activation required</li> <li>• Cold Weather Action</li> <li>• Verified supply disruption.</li> </ul>	<ul style="list-style-type: none"> <li>• ECC Director declares a Level 2</li> <li>• ECC Manager changes Activation Level to 2 on subsequent SitReps</li> </ul>	<ul style="list-style-type: none"> <li>• ECC Director activates ECC</li> <li>• ECC Manager mobilizes ECC staff</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>	<ul style="list-style-type: none"> <li>• &gt; 5 day response effort</li> <li>• Most or all regions are impacted</li> <li>• May require a resource allocation plan to move resources from one area to another</li> <li>• Potential to require Mutual Assistance for repair and re-light</li> </ul>	<ul style="list-style-type: none"> <li>• ECC Director declares Level 3</li> <li>• ECC Manager changes Activation Level on subsequent SitReps</li> </ul>	<ul style="list-style-type: none"> <li>• ECC Director declares Level 3</li> <li>• ECC Manager changes Activation Level on subsequent SitReps</li> </ul>



# Energy System Restoration Plan

## Concept of Operations

### I. 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.

### II. 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 where required 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.

### III. 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 multi-day activations.
- 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.

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## IV. 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 assignment 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  
Public Information Officer (Public Communications)  
Method: most courses are instructor led, driver safety training is online

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## V. 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 or tabletop exercises.

- 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.
- 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.

## VI. 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.

## VII. 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.

### **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

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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.

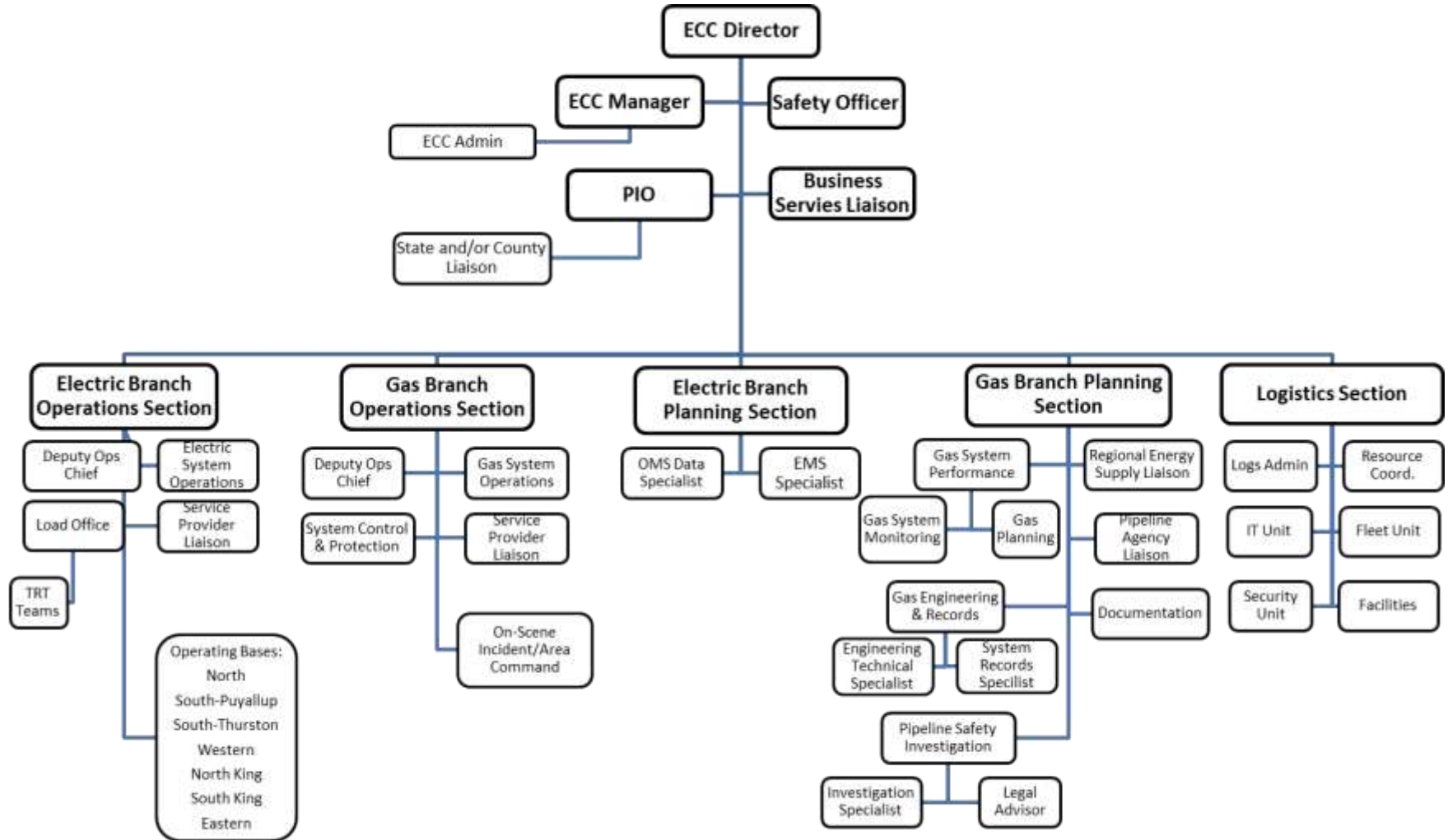
PSE has a limited supply of satellite phones that may also be used during any telecommunications outage.

### **VIII. 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.

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## 1. Emergency Coordination Center (ECC) Organization



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## **IX. ECC Activation**

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

- Operations Leadership
- Emergency Planning Manager
- Load Office
- Media Relations
- Others as deemed appropriate

## **X. 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

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- 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 Support
  - Supports media requests
  - Facilitates consistent, timely and accurate messaging
  - Monitors customer & community sentiment
  - Provides key messaging points for situation reports
  - Supports Joint Information Center activations (or may request the establishment of a JIC in complex situations where localized PSE service is the primary emergency)

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## XI. Emergency Coordination Center Position Descriptions

### 1. *Command Staff*

- ECC Director
- ECC Manager
- Safety Officer
- Business Services Liaison
- Public Information Officer
- Government Liaison

### 2. *General Staff*

- Section Chiefs (these positions report to the ECC Director)
- Section staff members (these positions report to the respective Section Chief)



# Energy System Restoration Plan

## 3. Command and General Staff Responsibilities

Emergency Response Role	Duties & Responsibilities
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>
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 ECC food services and staff overnight accommodations when needed.</li> </ul>

# Energy System Restoration Plan

Emergency Response Role	Duties & Responsibilities
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 field PIOs 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 customer messaging points for Situation Reports and obtains draft approval from ECC Director.</li> </ul>
Safety Officer	<p>Activated in the ECC for Level 3 Incidents</p> <p>During Level 2 incidents, this responsibility defaults to the Safety Department Duty Manager</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>
Business Services Liaison	<ul style="list-style-type: none"> <li>• Is the primary contact for major accounts.</li> <li>• Escalates client-specific issues to the ECC Director, Ops Section Chief and PIO as appropriate.</li> <li>• Requests and relays information to the field PIO and/or Communications Coordinator as needed.</li> </ul>

# Energy System Restoration Plan

Emergency Response Role	Duties & Responsibilities
<p>County &amp; State EOC Liaison</p>	<ul style="list-style-type: none"> <li>• When requested and when staffing permits, 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> </ul> <p>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. 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.</p> <p>Note: PSE will provide a liaison when possible, but may have to deny the request based on internal incident response needs.</p>
<p>Operations Section</p>	<ul style="list-style-type: none"> <li>• Determines operational strategies, priorities.</li> <li>• Supports on-scene efforts.</li> <li>• Participates in the Planning Meeting and Operational Briefing conference call</li> <li>• Escalates 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>• Determines need for crew and equipment staging areas,</li> <li>• Provides direction regarding competing resource needs.</li> <li>• Establishes a demobilization strategy for closing of bases and release of resources.</li> </ul>

# Energy System Restoration Plan

<p>Planning Section</p>	<ul style="list-style-type: none"> <li>• Collects and analyzes situational data, sharing with the Director, Section Chiefs and others as appropriate. Data may include outage information, system diagrams, maps, etc.</li> <li>• Recommends restoration times based on data.</li> <li>• Monitors weather to determine potential impacts on response efforts.</li> <li>• Participates in Planning Meeting and Operational Briefings.</li> <li>• Monitors and tracks response progress and manpower needs, sharing information and recommendations as appropriate.</li> </ul>
<p>Logistics Section</p>	<ul style="list-style-type: none"> <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>• 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 needed.</li> <li>• Participates in the Planning Meeting and Operations Conference Call.</li> </ul>

## XII. Incident Reporting

### 1. Required Notifications

PSE complies with all State and Federal reporting requirements.

# Energy System Restoration Plan

## Concept of Operations – Electric

### I. 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.

### II. Emergency Operations Activation

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.

### III. 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

# Energy System Restoration Plan

an idea of when field restoration personnel will be able to complete work. In a longer multi-day incidents, Regional ETRs will be posted within the first 24-48 hours. Upon arrival of restoration crews, ETRs are updated to reflect more accurate restoration times.

- At times, the Customer Access Center (CCC) will initiate customer call backs to verify service restoration.

## IV. 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.

## V. 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.

# Energy System Restoration Plan

## VI. 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:

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

## VII. 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.

# Energy System Restoration Plan

## VIII. 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.

### *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>



# Energy System Restoration Plan

## IX. Restoration Priority #2: Distribution Substations

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

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

## X. 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.

# Energy System Restoration Plan

## Transmission Effect on Distribution Feeders

Energizing distribution feeders may be delayed in some cases until transmission lines are back in service and capable of withstanding the additional feeder load.

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

# Energy System Restoration Plan

## **XI. 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.

## **XII. 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.

## **XIII. 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)

# Energy System Restoration Plan

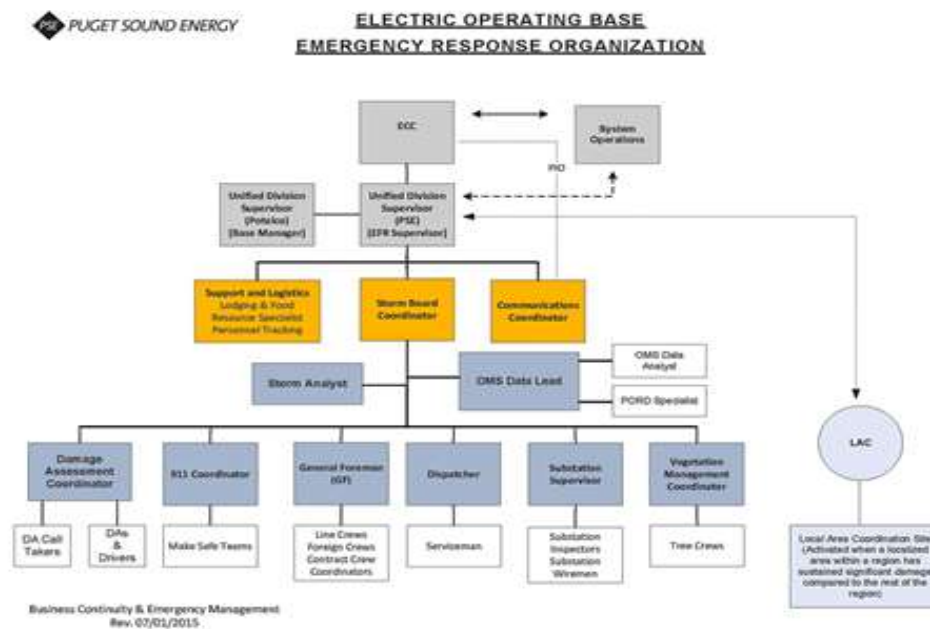
## XIV. Electric Operating Base and LAC Emergency Organization

### 1. Regional Operating Base Organization

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

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.



# Energy System Restoration Plan

## 2. Local Area Coordination (LAC) Site Organization

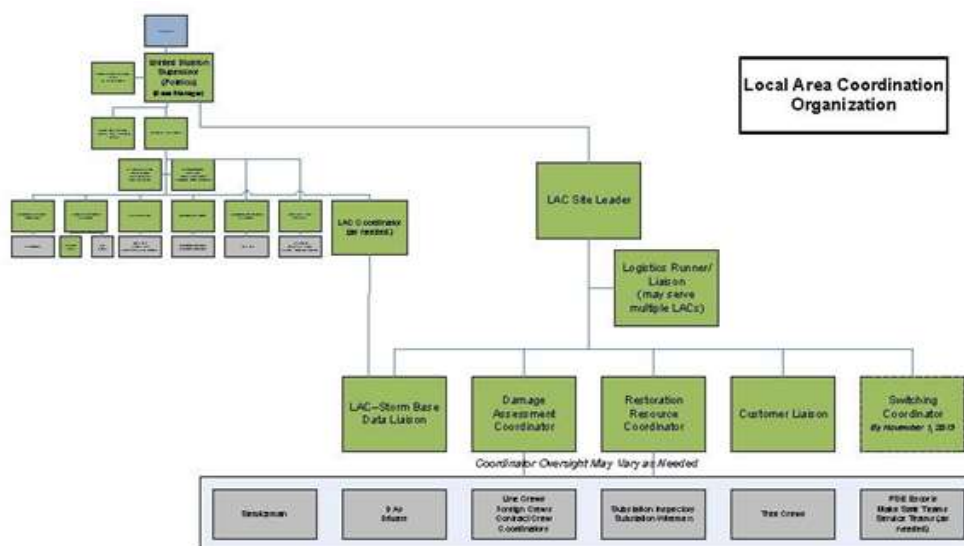
A Local Area Coordination (LAC) site will be utilized to expedite electrical system restoration when a given area within a region has sustained significant damage. The LAC works somewhat independently, yet still remains a sub-set of the Regional Operating Base. The LAC is responsible for the following:

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



# Energy System Restoration Plan

## XV. Operating Base Emergency 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 initial incident level (Level 1, 2, or 3). If the incident level changes after the initial level has been established, the ECC Director (or System Ops if the ECC is not activated), will update the activation level as appropriate.

At the time of such declaration, the Unified Division Supervisor team will agree on the immediate emergency staffing strategy and priorities.

### **1. 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.
- 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.

# Energy System Restoration Plan

## **2. Mobilization of Emergency Personnel**

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.
- Work schedule expectations are communicated including identification of rest periods.

## **3. Damage Assessment Priorities**

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

## **4. 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.

# Energy System Restoration Plan

## **5. 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:
  - 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.

## **6. 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



# Energy System Restoration Plan

## Concept of Operations – Gas

### I. 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.

### II. Service Orders

Trouble calls received via the CCC 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.

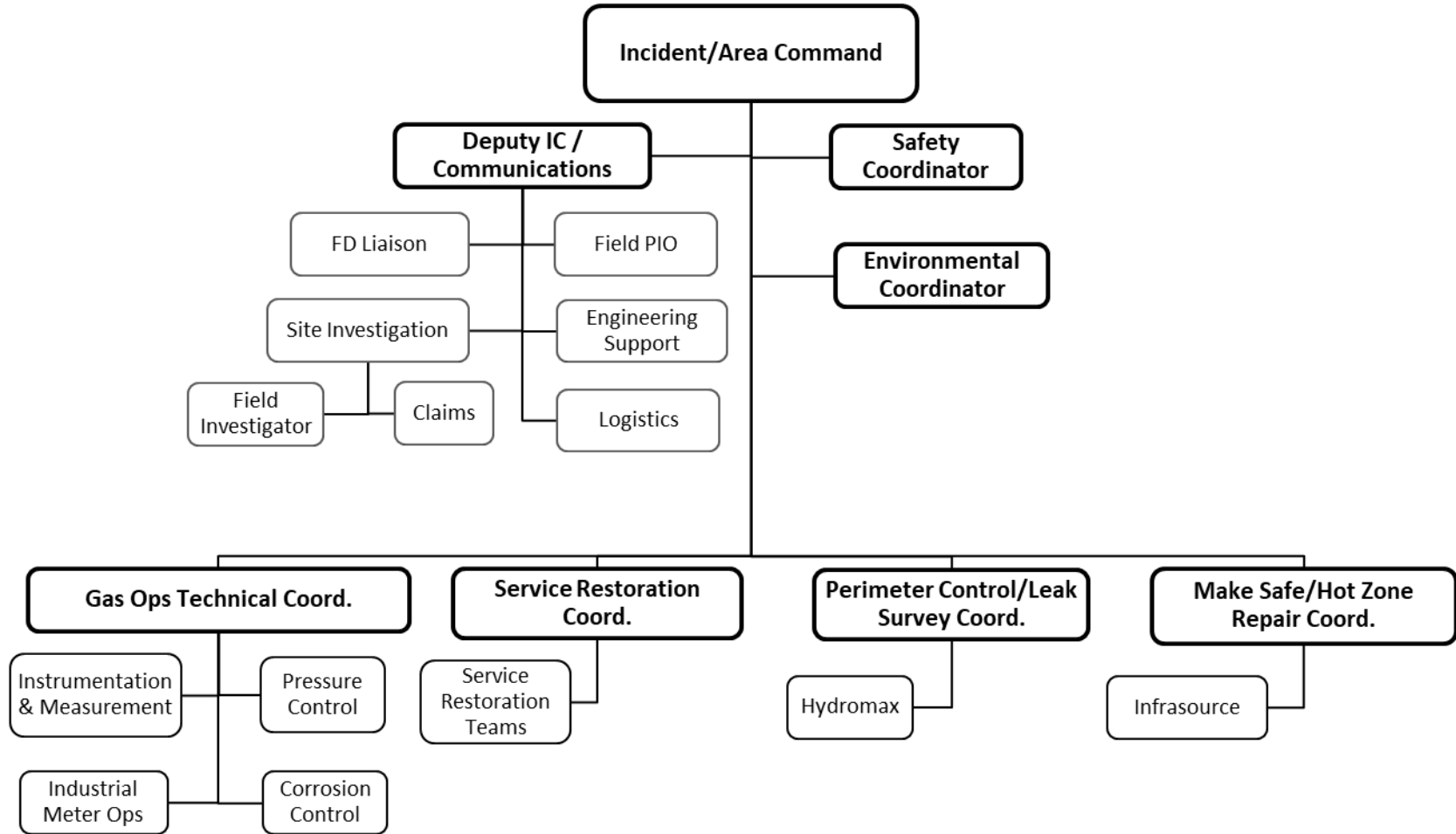
These emergency service orders are transmitted to field personnel through the Mobile Workforce Management system.

### III. Incidents that Require Immediate Action

- Uncontrolled escape of gas into the atmosphere or into the ground that presents a risk to persons or property.
- Assistance request from a local emergency response agency.
- Gas odor or a dangerous malfunction of an appliance, regardless of the cause.
- Report of explosion due to natural gas facility.

# Energy System Restoration Plan

## IV. On-Scene Gas Emergency Organization Chart



# Energy System Restoration Plan

## V. On-Scene Activation

Upon notification of a potential gas-involved incident Gas Dispatch will dispatch an appropriate field resource. Gas Dispatch will also inform the Gas First Response Area Supervisor. The field resource will act as the Incident Commander until the Area Supervisor arrives, at which time the Supervisor will assume Incident Command.

Prior to arrival of the Supervisor, the field employee will be in contact with Gas Dispatch to begin call-out requests for required emergency personnel to report to the emergency site.

He/She may also contact Gas Operations Dispatch to request initial materials and or fleet resources. These resources are obtained by contacting:

- Materials Distribution,
- Purchasing, and/or
- Fleet.

# Energy System Restoration Plan

The first GFR employee on-scene will also determine the best location for the Incident Command Post and will notify Dispatch of the location where additional responders should report. The ICP may be informal (out of a field truck) or more formal (within an emergency trailer or tent). The size of the ICP is dictated by the scope, complexity and anticipated duration of the incident.

## **1. Site Safety and Accountability**

The Incident Commander will ensure overall site safety and accountability and will ensure all responders check-in and out at the ICP location.

## **2. ECC Activation and Coordination**

The Area, Duty or Department Supervisor (depending on the nature of the incident), will inform Gas Operations (or Duty Manager after hours) or the Department Head of the situation status. The Gas Operations (or Duty Manager) or Department Manager will confer with other Gas leadership to determine if ECC activation is required in order to support response activities in accordance with established Activation Level requirements.

If the ECC has been activated, on-scene incident command will coordinate as dictated by on-scene events which may include strategy and priority coordination and request for resource and communications support. The IC shares situational awareness with the ECC to ensure a common operating picture.

The ECC Gas Branch will assist in further need for resources including moving resources from other regions to the impacted site, mobilization of additional Service Provider resources and request for outside resources through mutual assistance agreements.

## **3. Communications**

Communication methods used include, cell phone (talk and text), radio, walkie-talkies and/or e-mail.

## **4. Coordination with Other Local Responders**

The Incident Commander shall ensure coordination with other local responders such as law enforcement, fire, medical and/or roads personnel.

# Energy System Restoration Plan

## VI. Assessment of Gas Incident Type

PSE’s Gas First Response personnel will refer to the PSE Gas Operations Field Guide for current updated checklists. The following types of incidents are covered in this section and their characteristics:

Gas Involvement Type	Characteristics
Direct	<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	<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	<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>

# Energy System Restoration Plan

## VII. Containment and Restoration

The first priority is to contain the emergency by shutting down services as deemed necessary.

Once containment is achieved, additional assessment will be conducted and restoration of service will begin as soon as is safe to do so, ensuring responder and public safety.

## Cold Weather Action Plan

### I. 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.

### II. 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

# Energy System Restoration Plan

## III. Communications

### **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.

### **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.”

## IV. 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

## V. 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.

## VI. Mobilizing Personnel

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

The Cold Weather Action Plan includes field assignments, phone numbers, and detailed system information. Gas Operations will use the Cold Weather Action Plan to support:

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

## VII. 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.

# Energy System Restoration Plan

## VIII. Gas System Integrity

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

Gas System Integrity Cold Weather Action Plan Steps
<ol style="list-style-type: none"><li>1. Determine the impact of pressure loss due to cold weather. Determine a safe method of restoration.</li><li>2. Identify actions necessary to maintain customer service before cold weather occurs, such as:</li><li>3. Completion of work requested via SAP.</li><li>4. Adjustment list for LP regulator stations.</li><li>5. 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.</li><li>6. Base the list on predicted and actual system send-out.</li><li>7. System pressures as reported by pen gauges, RTU printouts, and bypass reports.</li><li>8. Update information from design and system changes.</li><li>9. 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). Date and send the list to:<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></li><li>10. Assist Energy Measurement and Gas Supply in determining the most effective method of customer curtailment in problem pressure areas.</li></ol>
<p><i>Continued on next page</i></p>



# Energy System Restoration Plan

## Gas System Integrity Cold Weather Action Plan Steps

11. Provide information on potential outages on maps to:

- Major Accounts
- System Control and Protection
- Gas First Response
- Maps, Records, and Technology so they can develop isolation area plans
- Maintain a book of information on:
  - Weather forecasts
  - SeaTac Airport temperatures
  - Predicted and actual system flows
  - System pressures
  - Customer curtailments and outages
  - Cold weather actions (bypassing, IP valve opening, CNG injections) for times of peak flows

# Energy System Restoration Plan

## IX. Gas Control

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

Gas Control Cold Weather Action Plan Steps
<ol style="list-style-type: none"><li>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.  If large numbers of interruptible customers are affected, enlist help from other departments with curtailment calls.</li><li>2. Work with Energy Measurement as required, to advise Major Accounts which customers are affected/curtailed</li><li>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></li><li>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. List should contain:<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></li></ul></li><li>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).</li></ol>
<p><i>Continued on next page</i></p>

# Energy System Restoration Plan

Gas Control Cold Weather Action Plan Steps	
6.	<p>By 1:00 p.m., fax the Gate Take Forecast Report to:</p> <p style="text-align: center;">Senior Engineer, Gas System Integrity Managers, Gas First Response Manager, System Control and Protection</p> <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>
7.	<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). Leave the predicted Gate Take Forecast and other pertinent information as a prerecorded message on a predetermined phone number by 1:00 p.m.</p>
8.	<p>On mornings when “action” is predicted, direct personnel at field sites and monitor system activity. If any relocation of field personnel is necessary during the course of the morning, notify the pressure control supervisor and Gas System Integrity Engineer.</p>
9.	<p>By 1:00 p.m. of the same day that outages due to low system pressures occur, fax or e-mail a copy of a Thomas Guide map with all grouped outages circled, including the total number of outages, to the Senior Engineer, Gas System Integrity.</p>

## X. System Control and Protection

System Control and Protection is responsible for the following:

System Control & Protection Cold Weather Action Plan Steps	
1.	<p>Operate and/or maintain district regulation and high pressure valves.</p>
2.	<p>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.</p>
3.	<p>Daily, monitor weather, gas control load predictions, and the Cold Weather Action List to predict necessary bypassing resources for the next high load period.</p>
4.	<p>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.</p>
5.	<p>If required, contact Manager First Response for additional personnel to carry out the plan.</p>

# Energy System Restoration Plan

## XI. System Control and Protection Field Personnel

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

System Control & Protection Field Personnel Cold Weather Action Plan Steps
<ol style="list-style-type: none"><li>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></li><li>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.).</li><li>3. Complete a Cold Weather Action Report when any action is taken to maintain system pressures (bypassing or opening valves).</li><li>4. Notify Gas Control when field activity is complete and system integrity is restored.  NOTE: 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.</li><li>5. When requested, send a copy of the completed Cold Weather Action Report to the Senior Engineer, GSI.</li><li>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.</li></ol>

# Energy System Restoration Plan

## XII. Gas First Response Operations and Field Personnel

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).

### 1. Gas Operations Field Personnel

Field personnel are responsible for the following:

Gas Operations Field Personnel Cold Weather Action Plan Steps
<ol style="list-style-type: none"><li>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.</li><li>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.</li><li>3. Complete a Cold Weather Action Report when any action is taken to maintain system pressures (injecting CNG)</li><li>4. Notify the Manager System Control and Protection.</li><li>5. When requested, send a copy of the completed Cold Weather Action Report to the Senior Engineer, GSI including reports on:<ul style="list-style-type: none"><li>• Time on, time off</li><li>• Manifold pressure before and after injection</li><li>• System IP pressure before initiating injection</li></ul></li></ol>

# Energy System Restoration Plan

## External Resources

### I. Contractors and Foreign Crews

#### 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.

#### 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.

#### 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.

# Energy System Restoration Plan

## **4. Mutual Assistance**

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.

### PSE's Mutual Assistance Agreements

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

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

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