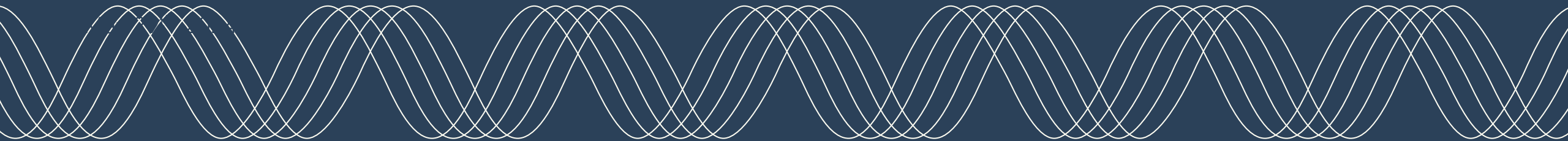




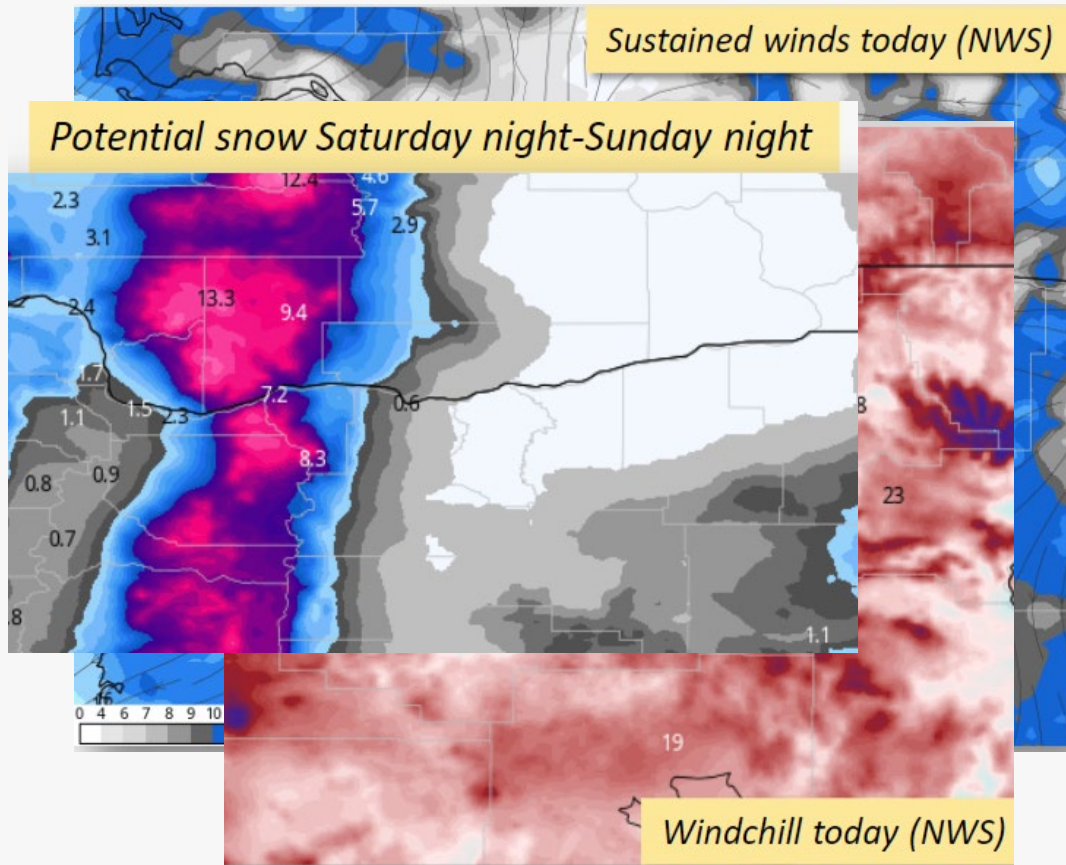
January 2024 Winter Storm

Larry Bekkedahl, Senior Vice President, Strategy & Advanced Energy Delivery
Portland General Electric

May 29th, 2024



PGE actively monitors weather and potential impacts



Daily Operations Call (ongoing)

Day of week, time, estimated duration

Recent, current, and forecasted meteorological conditions

Geographical areas threatened by region/line center

Types of system impacts anticipated (transmission, distribution, substation)

Expected or actual conditions that could impede assessment and restoration

Resource availability constraints (staff/contractor/vendor/mutual assistance)

Restoring power safely

7 STEPS OF RESTORATION

1



Protect public safety and clear downed power lines

2



Assess generation facilities for damage

3



Visually inspect and repair transmission lines

4



Repair substations

5



Visually inspect and repair distribution lines

6



Visually inspect and repair tap lines

7



Connect individual customers

← Assess and prioritize essential community services and critical infrastructure →

Essential community services



Life Saving:

Facilities that provide life-saving activities are the most critical to the community. Interruptions to the facility's power supply could result in loss of life.

1. Hospitals
2. 911 Centers
3. Critical Electrical Infrastructure
4. Water Supply
5. Wastewater
6. Emergency Operations Center (EOCs)
7. Critical Transportation
8. Flood Control Facilities

Life & Community Sustainment:

Facilities and customers that play a critical role in recovery, provide life sustaining activities that support the well-being of the community, and mitigate hardship or loss of life if there is a power supply interruption over an extended period of time.

Coordination with local, state, and tribal partners



Advance planning through workshops, training events, and exercises

Coordination during events through existing structures like Emergency Support Functions (ESFs), Emergency Coordination Centers, and Departmental Operation Centers

Coordination on wire down and public safety, transportation route clearance, critical facilities, and more

Participation in After Action events

January 2024 Storm Timeline



Wave 1: January 13-15

Bitter Cold with Extreme, Persistent Wind

- Wind gusts exceeding 50 mph and sustained east winds greater than 30 mph
- Exceptional cold and minor snow accumulations

Wave 2: January 16-17

Freezing Rain, Snow, and Sustained Winds

- Freezing rain, with most accumulation near the Columbia River Gorge
- Sustained winds

Wave 3: January 19-20

Freezing Rain and High Wind Gusts

- Wind with minor additional ice accumulations
- Accumulated ice was unable to melt due to sub-freezing conditions persisting from the prior events, resulting in vegetation failure

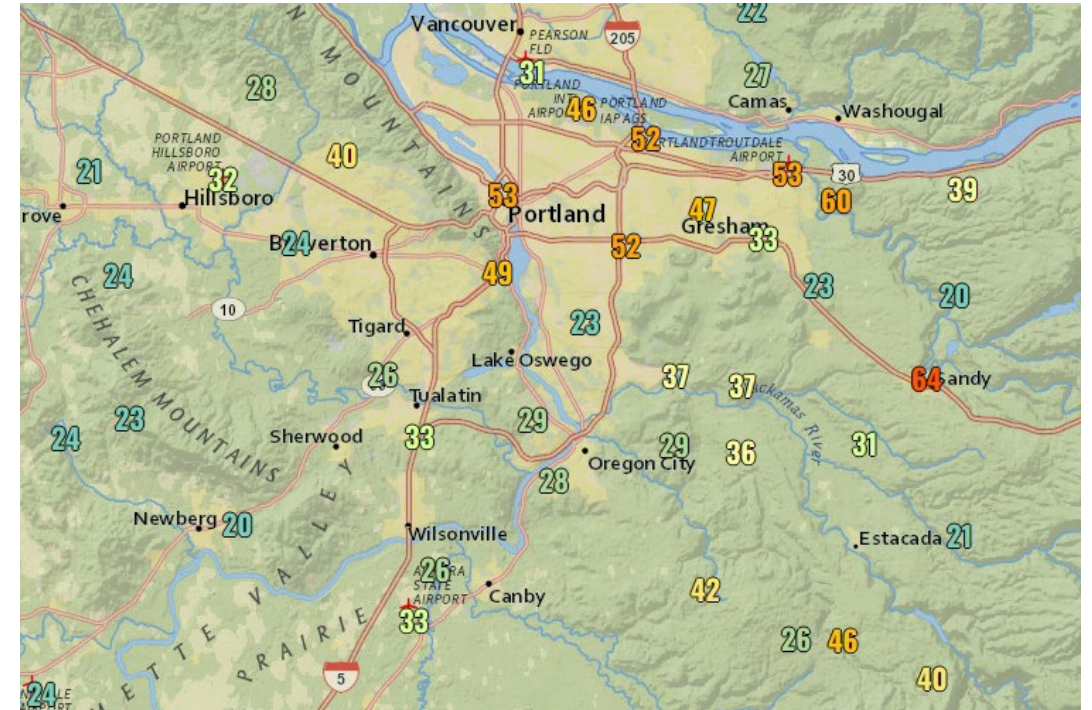


Figure: Maximum Gust Speeds (mph) Across the Area for January 13, 2024

January 2024 Storm Outages & Impacts



Total Customer Meters Out: 397,780
Peak Customer Meters Out: 167,089



Figure 1: Photos of Extensive Damage and Hazardous Road Conditions

Figure 2: Photo of Uprooted Large Tree Fallen Across Electric Lines



Figure 3: Photo of Uprooted Trees Near Electric Lines

January 2024 Storm Restoration

Restoration Resources	Total Personnel
PGE Crews	133
Contract Crews	646
Mutual Assistance Crews	39
Flaggers	20
Vegetation Crews	326
Damage Assessment	49
Wire Watchers	97
Approximate Support Staff	~490
Approximate Total	~1,800

Peak Number of Personnel Supporting Restoration Efforts



Figure: Crews working in Icy Road Conditions

Customer Experience



Customer Phone Calls to Contact Center Interrupted

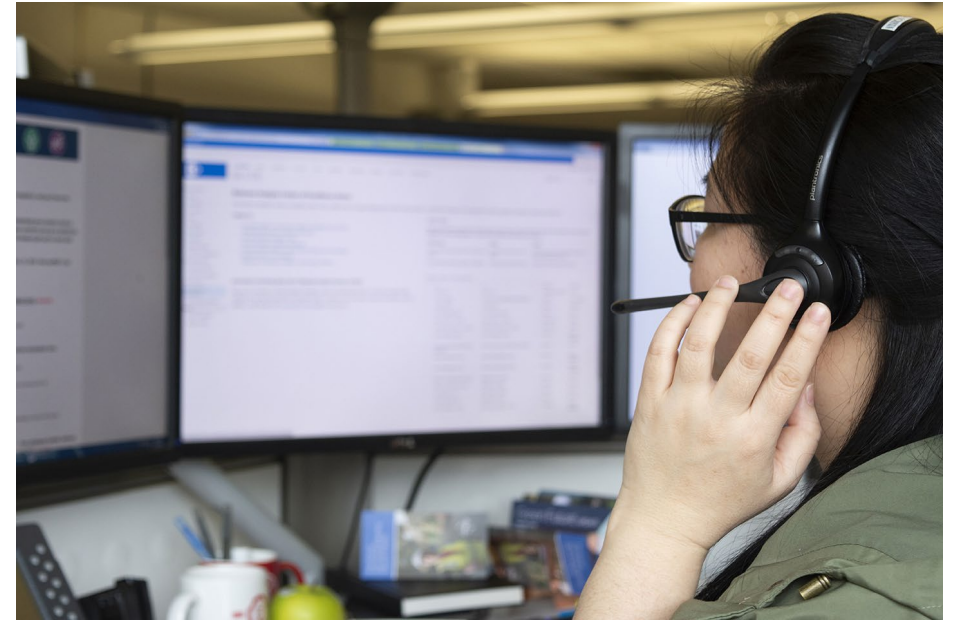
On Saturday January 13th PGE's call system was interrupted due to the large volume of calls and the firewall cyber security system thinking it was being attacked shut down automatically. Calls were interrupted for ~90 minutes.

Customer Sites on Web based Outage Maps

Customer security and safety is a priority. Web based maps currently show the location of the device which has interrupted service (fuse, breaker, etc). It doesn't represent the individual home, leaving customers wondering if their home is out when the "red dot" on the screen is a not near their address. PGE is working to address the issue while maintaining customer security.

Text Messaging

Normal "blue sky" customer text are sent when an outage occurs. During major storm events, the customer texts are turned off and manual texts are sent when job site assessments are completed and crews are assigned.



Safety is our top priority, which is why **PGE prepares** year-round.

We all have a responsibility to be prepared for extreme weather and emergency situations.

Whether it's snow and sleet or wind and heat, weather can impact the grid during each season, which is why PGE plans and prepares year-round.



Thank you.

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