



Resiliency key to Oregon's clean energy future

Tualatin City Council
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Maria Pope
President and CEO

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Director
Wildfire Mitigation and Resiliency



Increasing threats to resiliency



40-YEAR ICE EVENT



RIVERSIDE AND OTHER WILDFIRES



GLOBAL PANDEMIC





Strong partnership are key

- Working together collaboratively, especially during major system events:
 - February wind, snow and ice storms
- Many PGE employees live and work in Tualatin
 - Call center, service center, line crews and new Integrated Operations Center
- We are your partner in meeting the energy needs of nearly 30,000 community members and businesses
- Annual Franchise fees contribution and a large taxpayer in Washington County

We share your commitment to safety, reliability, resiliency, security, affordability and clean energy



40-year ice event

Throughout the region

- Multiple storms coming in close together
- Massive damage to transmission system
- Ice as thick as 1½ inches on lines
- Clackamas, Marion and Yamhill counties hit hard

All-hands-on-deck restoration effort

- More crews than at any time in our 130-year history
- Mutual assistance from 17 regional utilities



Strengthening resiliency

- **Building a smarter, more integrated grid**
 - Greater use of automation
 - Remote monitoring and early alert systems
- **Continuing to expand our FITNES program**
 - Tree trimming and vegetation management
 - Inspection program



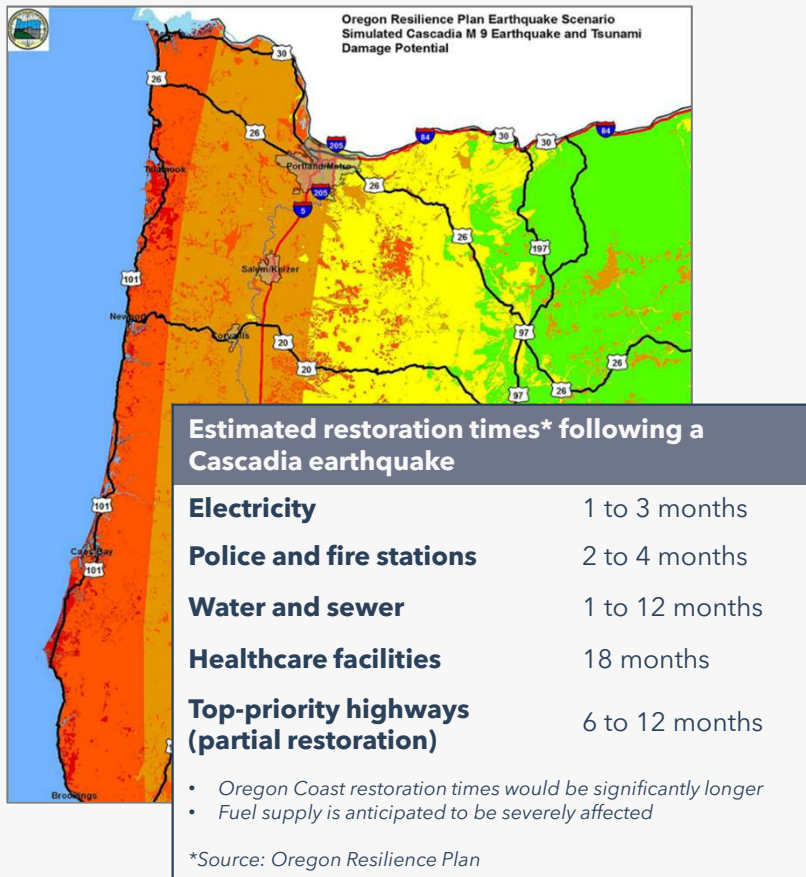
Emerging threats add to complexity



HOW WE PREPARE

1. Emergency planning and exercises
2. System improvements
3. Redundant systems
4. Strategic partnerships

Earthquake preparedness and response



- Expanded training and planning
- Strong partnership with Tualatin and other cities
- Exercising readiness in complex, national exercises (ClearPath, GridEx, etc.)
- Strengthening generation, transmission and distribution infrastructure
- PGE Readiness Center
- Integrated Operations Center (2021) in Tualatin



Wildfire prevention and response

- Fire risk modeling and assessment
- Design and construction modifications
- Inspection and maintenance enhancements in high-risk areas
- Vegetation Wildfire Risk Reduction Program
- Operational practices
- Situational and conditional awareness
- Preparedness, response and recovery
- Communication and outreach



Collaborative partnerships are key



Your PGE team includes:

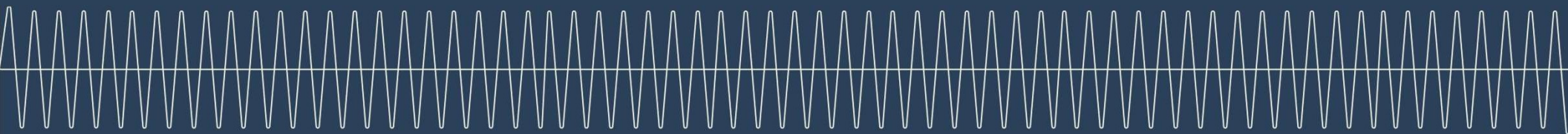


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Appendix

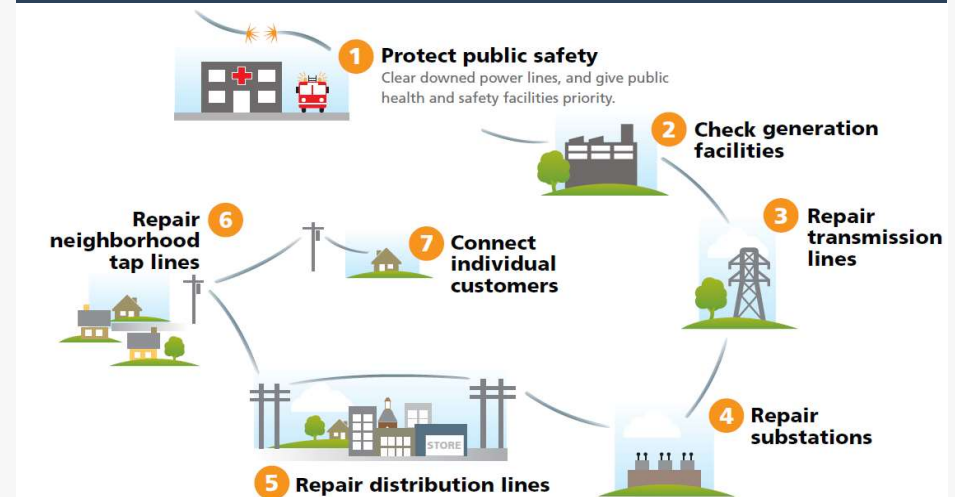


Storm preparedness and response

PGE prepares for outages all year, not just before a storm

- Robust tree trimming program
- Year-round inspection schedule of poles and wires
- Ongoing focus on system hardening
- Preparedness and safety messaging to customers
- Crews ready to respond 24/7, 365 days a year
- Mutual aid agreements in place and available during major emergency or outage events

SEVEN STEPS TO RESTORATION



Cybersecurity and physical security preparedness and response

Cyberattacks on PGE systems have increased in volume and sophistication, and physical security threats are on the rise. PGE has made significant investments in an integrated cyber and physical security program to preserve electrical reliability for our customers

STEPS WE'VE TAKEN:

- Benchmarked program in 2016 and 2019, with improvements finalized in 2020
- Expanded PGE cybersecurity team (9 → 54 employees)
- Enhanced technology and practices to protect customer information
- Better technology and practices to block physical access
- Yearlong employee training and awareness
- Formal integrated response plan
- Exercises to test capabilities, such as the recent GridEx training

Powering Oregon's river habitat



- Record numbers of juvenile and adult fish passing through Faraday
- Wild Chinook run total recently surpassed 4,000 — The first time these numbers have been achieved since 1958
- Coho returns are following the same trajectory

