

# Northwest Energy Resiliency Summit

Tuesday June 12th, 2018, 8:00am-4:15pm  
Panoramic Room at the Pacific Tower, Seattle, WA



**Smart Grid Northwest™**  
CREATING A SMARTER ENERGY FUTURE



# Summit Agenda: Day-at-Glance

8:00am	Registration and coffee
8:30am	<b>Opening Keynote: Building Resiliency into Our Regional Energy System: The Big Picture with Brigadier General Jeremy Horn, Commander of the Washington Air National Guard</b>
9-10am	<b>Identifying and Mapping System Priorities (panel discussion)</b>
10-10:15am	Break
10:15-10:35am	<b>Presentation: Valuing Utility Resiliency Efforts with Fiona Taylor, BC Hydro</b>
10:35-11am	<b>Presentation: Metrics for Tracking Energy Resiliency Efforts with Dr Michael Kintner-Meyer, PNNL</b>
11-11:30am	<b>Fireside chat: From the Regulator's Point of View: Valuing Energy Resiliency Efforts for the System and the Customer</b>
11:30am-12:15pm	Lunch
12:15-1pm	<b>Lunch Keynote Presentation: Resiliency as a Core Function of the Energy System with Clay Koplin, Chief Executive Officer, Cordova Electric Cooperative, Inc.</b>
1-2pm	<b>Microgrids in Action at Critical Facilities (panel discussion)</b>
2-3pm	<b>The Time is Now: Strategies for Boosting Cyber Resiliency (panel discussion)</b>
3-4pm	<b>Technology solutions to Enable Resiliency: Distribution Automation and Advanced Monitoring for Real-Time Awareness and System Optimization (panel discussion)</b>
4pm - close	Working Sessions

## Resiliency Assets Tour | June 11 | 1:00-4:00pm

Seattle City Light has invested in a number of solutions to build resiliency into the energy system in the Seattle area. Join a special discussion starting from the Seattle Municipal Tower followed by a site tour of recent investments for a major substation. Tour limited to 40 participants. Walking for those able (about 1 mile) with driving option for those interested. Details confirmed after registration.

## Annual Meeting and Networking Social

All participants of the Summit are welcome to attend the Smart Grid Northwest Member Meeting and the hosted Networking Reception the day before, June 11th, from 4:30pm to 8pm. The Annual Meeting topic this year is "Can Less Be More? Capital Efficient Grid Modernization and a More Resilient Energy System." Starting at 6:30pm, the social will have full hosted bar and heavy appetizers. Join us for the perfect way to meet people joining the discussion before the Summit kicks off.

World Trade Center Seattle – Holland America Line Room  
2200 Alaskan Way, Suite 410  
Seattle WA 98121



# About Pacific Tower

1200 12th Ave S, Seattle, WA 98144

*Panaromic Room on the 8th floor*

Pacific Tower is a dynamic hub for some of the state's most vital and innovative public and nonprofit organizations. Located on Beacon Hill in one of Seattle's most iconic buildings, Pacific Tower brings together the health care training programs of Seattle Central College with leading organizations whose work spans issues of health care, education, job creation, energy conservation and the health of the nonprofit sector. The driving vision for Pacific Tower is to create an environment that fosters intentional linkages and synergies among the partner organizations to magnify their impact.



Photo credit: Pacific Tower

## WiFi Login



Network: Pacific Tower Guest  
No Password Required

## Share on Social Media



If you share comments about the Summit on social media, please make it easy for others to follow by using the hashtag #NWEERS

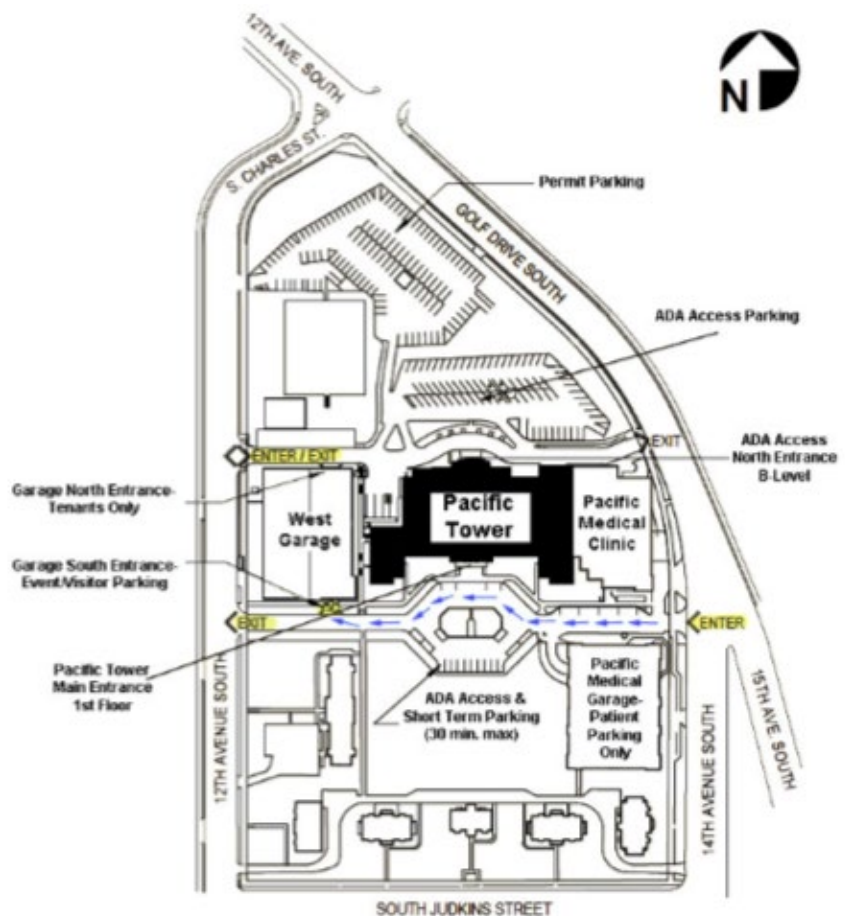
## Parking

Visitor parking is available on levels P2 and P6 in the West Garage.

Visitors can enter at either the North or South entrances of the garage, pull up to the gate arm, and pull a ticket. When leaving, visitors enter their ticket and pay by credit or debit card. No cash is accepted. Please press the button on the ticket dispenser if you encounter issues entering or leaving the garage.

Additional parking for \$5 for all day is available in the north parking lot, which is accessible from 12th Avenue. There is one pay station at the entrance to that lot. ADA parking is located in the North Lot (enter building through North entrance), and as you enter on 14th Ave, around the flag circle in front of the South main entrance. Street parking is also available.

Please do not park in the area marked for PacMed. Taking Lyft, Uber, or public transportation is a great idea.



Pacific Tower Site Plan

# Summit Agenda: Tuesday, June 12

8:00am Registration and coffee

8:30 am **Opening Keynote: *Building Resiliency into Our Regional Energy System: The Big Picture***

- Brigadier General Jeremy Horn, Commander of the Washington Air National Guard

9:00 am

**Opening Panel: *Step One: Identifying and Mapping System Priorities***

Many infrastructure improvements may fall under the term “resiliency”. How do we choose which are most crucial for each of our organizations and for our larger system? From hardening our transmission and distribution infrastructure to identifying and prioritizing critical operations and planning for rapid asset recovery, this panel will lay out the foundational components for how to successfully begin resiliency planning based on the vulnerabilities that are most pertinent to our region.

- Moderator: Daniel Kirschen, Professor of Electrical Engineering, University of Washington
- Leon Kempner, Principal Structural Engineer, Bonneville Power Administration
- Shamus Gamache, PE, Senior Systems Engineer, Central Lincoln PUD
- Eileen Newton, MSN, Emergency Preparedness Manager, CHI Franciscan
- Lt Colonel Chris Panush, Commander of the 194th Logistics Readiness Squadron WA National Guard

10:00am Break

10:15 am

**Presentation: *Valuing Utility Resiliency Efforts***

BC Hydro will present how they’ve developed a process and metrics for investing in and valuing resiliency efforts as a utility. In addition to sharing the framework they’ve developed, they will host a candid discussion of the lessons they learned along the way so far and potential pitfalls to consider when embarking on this process.

- Fiona Taylor, Director, Smart Technology Operations & Restoration, BC Hydro

10:35 am

**Presentation: *Metrics for Tracking Energy Resiliency Efforts***

PNNL joins the conversation with a discussion of the metrics they’ve developed for tracking resiliency efforts, sharing their progress status and preliminary results from comprehensive work they are taking on with DOE and industry partners.

- Michael Kintner-Meyer, Staff Scientist, Pacific Northwest National Laboratory

11:00 am

**Fireside Chat: *From the Regulator’s Point of View: Valuing Energy Resiliency Efforts for the System and the Customer***

Representatives from the region offer an open and straightforward discussion from the regulators vantage point on how to value resiliency efforts and how they see utilities able to justify expenditures that help strengthen regional energy systems.

- Ray Gifford, Wilkinson Barker & Knauer LLP (Formerly with CO PUC)
- Adam Schultz, Senior Policy Analyst, Grid Integration & Resiliency, Oregon Department of Energy
- Mark Vasconi, WA Utilities And Transportation Commission

11:30am Lunch



**Brigadier General  
Jeremy Horn**  
Commander  
WA Air National Guard



**Dr. Michael  
Kintner-Meyer**  
Pacific Northwest  
National Laboratory



**Clay Koplin**  
Chief Executive Officer  
Cordova Electric  
Cooperative, Inc.  
Mayor of Cordova, AK



**Fiona Taylor**  
Director, Smart  
Technology Operations  
and Restoration, BC  
HYDRO

12:15  
pm**Lunch Keynote Presentation: *Resiliency as a Core Functionality of the Energy System***

Cordova AK is taking major steps to ensure reliability of its islanded grid against harsh weather, cyber threats and dynamic grid conditions north of the 60th parallel. Hear Cordova Electric Co-Op CEO and town mayor Clay Koplín discuss all the elements involved in the DOE-funded RADIANCE project as they take microgrids and modernization to a new level. Following Clay's presentation, we welcome updates from Jesse Young, Representative from the 26th Legislative District in the WA State House of Representatives, and from Bob Kirchmeier, Senior Energy Policy Specialist with the Clean Energy Fund Grid Modernization Program, WA State Dept of Commerce.

- Moderator: Carl Imhoff, Manager, Electric Infrastructure Sector, Pacific Northwest National Laboratory
- Clay Koplín, Chief Executive Officer, Cordova Electric Cooperative, Inc.

1:00  
pm**Panel: *Microgrids in Action at Critical Facilities***

Hear from both regional utilities and their community partners about the motivations and operations driving their specific deployments of microgrids. These case studies will span from solar microgrids at emergency shelters and community centers, to photovoltaics + battery storage for fast-charging EV stations, and more. Join the discussion as we dive into how microgrids can be a valued resource in the NW.

- Moderator: Sudipta Lahiri, DNV GL
- Tyler Nice, Eugene Water & Electric Board
- Kim Dotto, BCIT
- Uzma Siddiqi, Seattle City Light
- Danny Grady, City of Portland Bureau of Planning & Sustainability

2:00  
pm**Panel: *The Time is Now: Strategies for Boosting Cyber Resiliency***

Cyber threats against the electric grid seem to be regular headline news. Get the latest insights into the critical issues surrounding cyber resiliency for the grid. A diverse panel of industry experts will explore real-world, regional examples on how to make energy systems more resilient to fast-evolving cyber threats.

- Moderator: Steve Parker, President, EnergySec
- Colonel Ken Borchers, Commander of our 252 Cyber Operations Group WA National Guard
- Robert Landavazo, Systems Engineer, Tripwire
- Paul Skare, Chief Cyber Security Program Manager, PNNL

3:00  
pm**Panel: *Technology solutions to Enable Resiliency: Distribution Automation and Advanced Monitoring for Real-Time Awareness and System Optimization***

Join a technical discussion about the effective distribution automation and real-time monitoring technologies that utilities are implementing for both rapid recovery and to avoid disturbances altogether. From smart meters that perform onsite diagnostics to automated feeder switches, smart relays and fault indicators to advanced drone and robotic monitoring solutions, hear from utility representatives and industry leaders on how effective solutions have been and can be implemented here in the region.

- Moderator: John Lutz, Territory Manager, S&C Electric Co.
- Soorya Kuloor, Ph.D., Practice Director, Distribution Operations, Landis+Gyr
- Anand Iyer, Sr. Vice-President for Products & Technology, Quantum Spatial Inc
- Greg Stanway, Senior Manager, Strategic Programs, BC Hydro
- Curt Kirkeby, Technology Strategist and Engineer, Avista
- Tuan Tran, Director of Engineering, Seattle City Light

4:00pm

**Working Session**

Join with colleagues during our Working Session to discuss current resiliency efforts, garner expertise from speakers and other attendees, and collaborate together to push progress in the arenas of resiliency and emergency preparedness forward.



# Many Thanks to our Sponsors



Driven by its purpose of safeguarding life, property and the environment, DNV GL enables organizations to advance the safety and sustainability of their business. DNV GL provides classification and technical assurance along with software and independent expert advisory services to the maritime, oil & gas energy industries. It also provides certification services to customers across a wide range of industries. DNV GL, whose origins go back to 1864, operates globally in more than 100 countries with its 16,000 professionals dedicated to helping their customer make the world safer, smarter and greener.



Landis+Gyr is the leading global provider of integrated energy management solutions for the utility sector. Offering one of the broadest portfolios of products and services, the company delivers comprehensive solutions for building a smarter grid, including smart metering, distribution sensing and automation, load control and analytics. Landis+Gyr employs about 6,000 people with the mission of helping the world manage energy better.



Oregon Department of Energy, is dedicated to leading Oregon to a safe, clean, and sustainable energy future – one where our state stays on the leading edge of energy efficiency and renewable energy. This means reliable, accessible energy for every Oregonian. It means safe, secure energy systems with diverse resources that can withstand change, including emergencies. And it means a commitment to new energy generation that meets our state's needs – both now and well into the future.



Portland General Electric is a fully-integrated energy company serving 872,000 customers in 51 cities. For more than 125 years, PGE has been delivering safe, reliable, responsibly generated energy to Oregonians. With 2,700 employees across the state, PGE is committed to building a cleaner, more efficient energy future. Together with its customers, PGE has the number one voluntary renewable energy program in the U.S.



Seattle City Light is one of the nation's largest municipally owned utilities. Over the years we have worked very hard to keep Seattle's electricity affordable, reliable, and environmentally sound. Today, City Light is a recognized national leader in energy efficient and environmental stewardship.



Tripwire is a leading provider of security, compliance and IT operations solutions for enterprises, industrial organizations, service providers and government agencies. Tripwire solutions are based on high-fidelity asset visibility and deep endpoint intelligence combined with business context; together these solutions integrate and automate security and IT operations. Tripwire's portfolio of enterprise-class solutions includes configuration and policy management, file integrity monitoring, vulnerability management, log management, and reporting and analytics.



The Department of Commerce is the one agency in Washington state government dedicated to strengthening communities. We take a holistic approach, weaving essential connections between every aspect of community and economic development. We partner with local governments, non-profit organizations and leaders from industry to education and housing to human services, to help achieve positive growth in cities and towns all over the state. Commerce is entrusted with a broad portfolio of programs, services and funding because we believe in the power of relationships to build vibrant communities and ensure economic prosperity for all.



# Thank You



Thanks to the NW Energy Resiliency Summit sponsors, organizing committee, volunteers, staff, speakers and other supporters. Without your assistance this meeting would not have been possible.

Let's go make our energy system here in the Pacific Northwest more resilient!

## Sponsors

- DNV GL
- Landis+Gyr
- Oregon Department of Energy
- Portland General Electric
- Tripwire
- The Washington Department of Commerce

## Staff and Volunteers

- Mareldi Ahumada (UW)
- Lauren Bhaskar (Smart Grid NW)
- Lorraine Churchill (Cowlitz Co.)
- Chanaka Keerthisinghe (UW)
- Terry Oliver (Smart Grid NW)
- David Smith (Smart Grid NW)
- Sam Teal (Smart Grid NW)
- Thuy Tu (University of Portland)
- Rick Williams (PSU)
- Bryce Yonker (Smart Grid NW)

## Supporting Organizations and Organizing Committee

- BC Hydro
- Bonneville Power Administration
- Clean Energy BC
- EnergySec
- New Buildings Institute
- Northwest Healthcare Response Network
- NW Energy Coalition
- Northwest Energy Efficiency Council
- NW Environment Business Council
- NW Public Power Association
- Pacific Northwest National Laboratory
- Publitek North America
- Smart Buildings Center
- Snohomish County PUD
- University of Washington
- WA Clean Tech Alliance
- Washington National Guard
- WA State Emergency Management Association