

BULLETIN



START THE NEW YEAR
WITH INCREASED CYBER
KNOWLEDGE



On the cover: EnergySec President Steven H. Parker outlines strategies—for utilities big and small—to tackle the ever-present challenge of cyber risk against a backdrop of constant and rapid change.

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14



16

JANUARY 2018 | VOLUME 72 | NUMBER 1

- 3 NWPPA News
- 8 Training Opportunities
- 12 Executive Director
- 13 Accounting & Finance
- 14 Community Outreach
- 16 OpEd
- 18 Member News
- 22 Associate Member News
- 24 Washington, D.C.
- 25 Regulatory Update
- 26 Cover Story
- 30 Job Opportunities

SENIOR LEADERSHIP SKILLS

Serves as a Launchpad for Leaders



There are countless programs, classes, and seminars that teach about leadership. However, the big difference in NWPPA's Senior Leadership Skills Series is that it helps leaders develop their capabilities and capacity to actually lead at the organizational level.

The series, a blended-learning experience, is a launchpad for leader, and organizational, success that begins by helping the learner "lead self." Knowing and understanding your key strengths and development areas is critical. You have to know yourself—warts and all—to make an intentional impact in your environment.

From there attendees move to leading within key relationships (getting work done with and through other people) and then teams (how do teams work, and what kinds of leadership is needed as teams of peer, direct report, and cross-functional work is managed).

A whole session is focused on coaching. Instructors deliver real tools, practice, and feedback to help leaders help others succeed. And finally, attendees focus on the organization and culture as a whole, while knowing that they are surrounded by continuous change.

The real learning with this series is in the doing. Though the introduction of tools, conversations, and practice happens in each session, the rubber meets the road between classes where leaders apply their learnings within the context of their everyday

work. And with the relationships developed throughout the sessions, attendees and graduates discover new colleagues with whom to connect, bounce off ideas, and give/receive feedback.

"I think what will help me the most from this program is an increased level of confidence that I will better perform my role and responsibilities due to the knowledge and skills attained," said Columbia Basin Hydropower's Larry D. Thomas, a 2017 graduate. "I would recommend this program to others because of the high quality of the training and the opportunity to network with others in the power industry seeking to improve themselves and their organizations."

Participants have the opportunity to plan a six-to-nine-month strategic growth project that contributes to the success of their team and organization, while also enabling them to grow personally as a leader.

The continuous change of leadership teams due to increased retirements creates opportunities for new leaders to step in and bring their unique skills and experience to the table. The Senior Leadership Skills Series helps leaders broaden their capabilities and clarify their leadership goals.

"The Senior Leadership Series allowed me to combine my experience with ideas, tools, and practical learning as I move into this next key role," said Tony Schacher, Salem Electric's incoming general manger. "What have been absolutely invaluable are the



Columbia Basin Hydropower's Larry Thomas gives his final project presentation at December's Senior Leadership Skills Session 5.

connections I've made with fellow classmates that I can now call, even two years later, to discuss a problem or get advice. That is the best thing about this program!"

The series runs in five sessions from February to December in various locations throughout NWPPA's membership territory. For greatest success, it should be taken as part of a year cohort, but this is not a requirement.

For more detailed program information, please visit the Senior Leadership Skills Certificate Program section at www.nwppa.org, or connect with Director of Education and Workforce Development Elaine Dixon at elaine@nwppa.org. **NWPPA**

■ *Registration Open*

2018

ENGINEERING
& OPERATIONS

CONFERENCE AND TRADE SHOW

POWERING FORWARD IN A SEA OF CHANGE

Not since the development of our electric grid 100 years ago have we seen such fundamental change in our industry. Solar and wind are now major players. Demand response and energy storage are helping to move generation away from a central power plant industry model to the distribution system. Utility employees are challenged with customer expectations in the age of Amazon and Google; the building and maintenance of their electrical systems; and the passing of the torch to new employees as many others retire. Get the latest information and network with your industry colleagues at the 2018 NWPPA Engineering & Operations Conference and Trade Show. **NWPPA**

To learn more or to register today, visit www.nwppa.org/eo.

#2018NWPPAEO



Safety Award Entries Due Next Month

The annual Utility Safety Awards recognize NWPPA member utilities for the best safety records of 2017 based upon incident experience, utility size, and the total injury and illness (incidence) rate. Data for this contest is available on your OSHA Form 300 or OSHA Form 300A.

Contest entries are due by February 9, 2018. For entry forms and rules, go to www.nwppa.org/eo/awards. For additional information, please contact Scott Lowry at (360) 816-1448 or slowry@nwppa.org.

The winning utilities will be announced at the 2018 NWPPA Engineering & Operations Conference and Trade Show in Tacoma, Wash., during the evening banquet on April 12. Registration is now open for the conference and trade show at nwppa.org/eo. With the annual E&O, you won't find a better buy for an event that includes linemen, engineering, and supply chain roundtables; over 30 speakers on a variety of timely topics; nearly 200 exhibiting companies; and networking with colleagues (new or known) that are important to getting your job done. We hope to see you there! **NWPPA**

NEW

NEW CONTENT AVAILABLE ONLINE
AT WWW.NWPPA.ORG

Learning on Demand Program Adds New Content in 2018



NWPPA's Learning on Demand program, which launched on June 1, 2017, began its second subscription year on January 1, 2018. Brand new content will be added to the program throughout this year.

In 2017, employees of utilities that subscribed to the program enjoyed 24/7 access to *The History of Public Power in the Northwest*, an interactive online course for new employees and others who want to learn about how electric power developed; how power generation developed and grew in the Northwest; and what challenges public utilities faced as they grew and evolved into the way they operate today.

They also gained an overview of electric utilities through *Electric Power Utility Basics*, an interactive online course for new employees and others who want to learn about how electric power is generated and delivered; the differences among power utilities; and the jobs at utilities and the employees who work in them.

Workplace Violence Prevention Tips, five-minute videos on recognizing and defusing threatening situations with internal and external customers in the office and in the field, offered them the opportunity of viewing 12 videos individually or as a group at monthly safety meetings.

In 2018, subscribers will be able to view additional videos, including *Communication Tips*, 12 three-minute videos on various communication skills such as effective listening, destressing, and staying calm under pressure; *Employee Law FAQs*, 24 three-minute videos on employment law issues that managers need to know; and *Microsoft Office Tips*, thirty-second videos with tips to more easily navigate Microsoft Office.

Learning on Demand is ideal for employees, commissioners, and board members who want to learn about the public power industry and gain tips on violence prevention, employee law, communication, and Microsoft Office. The program will continue to add new content throughout 2018.

Subscription pricing is based on the number of a utility's full-time employees. To request a price for your utility, go to www.nwppa.org/lod and click on SEND ME PRICING INFORMATION at the bottom of the page. **NWPPA**

Innovative #MorePowerfulTogether Materials Now Available!



Thank you to all of our members who have helped spread the word that public power and its consumers are #MorePowerfulTogether over the last three months! We loved seeing the Local messaging coming through on social media and in print. Now it is time to roll out the second quarter of messaging: **Innovative**.

The Innovative messaging focuses on public power's role in renewables and sustainability. Ad copy, social media messaging, and the editorial talk about providing solutions, a launch pad for growth, and a key to savings. Artwork for this theme highlights solar, system upgrades, and mobile apps. As with the Local materials, we encourage you to make the collateral your own with personalized copy and photos from your utility or community.

Find all the materials—for free!—at www.nwppa.org/mpt. Easy-to-customize content created for the second quarter includes:

- Print and digital ads
- Social media posts
- Leadership editorial
- Website content
- Pop-up banner art for utility lobbies, community events
- How-to webinar

The third batch of materials (highlighting **Expert**) will be unveiled in April; **Driven** materials will be available in July.

If you would like to know more about More Powerful Together, the what, why, and how of the project is available at www.nwppa.org/mpt. We have uploaded two webinars that you can watch any time; the webinars describe more about the project's purpose and also walk you through how to customize the collateral. Questions? Contact Brenda at Brenda@nwppa.org.

We are #MorePowerfulTogether. **NWPPA**



ILLUMINATING THE FUTURE

SAVE THE DATE

**2018 ANNUAL
CONFERENCE
AND MEMBERSHIP
MEETING**

MAY 20-23 | BOISE, IDAHO

A Look Back at Public Power

50 YEARS AGO – 1968

Commencing with the January billings, Seattle City Light used envelope billing for both residential and commercial service; envelope billing permitted enclosure of a variety of bill stuffers (Wash.) ... Milton Hunt Meguire, McMinnville Water and Light Department's general manager from 1927 to 1957 and namesake of NWPPA's prestigious engineering and operations award, passed away on December 23 at the age of 80 (Ore.) ... Clark PUD Crewman Joseph Landrum received a special citation for his "act of courage" in saving the life of a fellow crewman (Wash.) ... Milton-Freewater City and Power celebrated its 80th year of electric service (Ore.).

25 YEARS AGO – 1993

Northern Wasco PUD hired Dwight Langer from Indiana as its new general manager (Ore.) ... Commissioner John Kostick of Lewis County PUD was elected vice president of the Washington Public Utility Districts Association ... Bonneville Power Administration and the American Institute of Architects/Portland Chapter announced a new energy awards competition to recognize design excellence in energy efficient non-residential buildings in the Pacific Northwest ... Steve Eldrige of Umatilla Electric Cooperative was elected vice president of the Oregon Rural Electric Cooperative Association ... Chelan County PUD's Fall Mentorship Program finished on a high note when the PUD's first-ever speech contest winners were announced (Wash.).

5 YEARS AGO – 2013

Snohomish County PUD partnered with 1Energy Systems on a one-megawatt battery energy storage system, built on an innovative Modular Energy Storage Architecture (MESA) (Wash.) ... The Emerald People's Utility District Board chose Scott Coe as its new general manager (Ore.) ... After serving as district director for U.S. Rep. Norm Dicks for six years, Clark Mather joined Tacoma Public Utilities' team as a senior manager for external Affairs (Wash.) ... Clatskanie PUD held a month-long food drive to help stock the shelves of Turning Point Community Services Center in Clatskanie and H.O.P.E. of Rainier; the community, employees, and board gathered 1,283 pounds of food (Ore.). NWPPA

Enterprise Software Solutions



Designed for Utilities

NISC is a leading provider of utility and telecom software solutions and services. We offer robust and integrated solutions that feature automated workflows, electronic approvals, business intelligence reporting and more. Our business covers all functional areas including billing & customer service, mailroom services, accounting, engineering & operations, work management, meter data management, distribution analytics, payment channels and apps.



FEBRUARY, MARCH, AND APRIL 2018

Please visit www.nwppa.org to view the full course descriptions for these and other courses.

STAKING TECHNICIAN CERTIFICATION PROGRAM: NESC & UTILITY SPECIFICATIONS

Who Should Attend: Staking technicians.

February 5–7, 2018—Seattle, Wash.

LEADERSHIP SKILLS #2: LEADERSHIP CHALLENGES

Who Should Attend: Supervisors, managers, and employees who will be transitioning to a supervisory or managerial role in the future.

February 7–8, 2018—Santa Rosa, Calif.

LABOR AND EMPLOYEE RELATIONS GROUP MEMBER MEETING

Who Should Attend: Members of the NWPPA Labor and Employee Relations Group: general managers, labor relations managers, operations managers, and human resource professionals.

February 8–9, 2018—Portland, Ore.

STAKING TECHNICIAN CERTIFICATION PROGRAM: OBTAINING PERMITS

Who Should Attend: Staking technicians.

February 8–9, 2018—Seattle, Wash.

STAKING TECHNICIAN CERTIFICATION PROGRAM: PHASE 2 WITH TRANSFORMER AND CONDUCTOR SIZING

Who Should Attend: Staking technicians and engineers.

February 12–16, 2018—Kalispell, Mont.

ONLINE — COMMUNICATION TUNE UP WEBINAR SERIES: ALL THREE SESSIONS

Who Should Attend: Anyone who wants to increase his or her communication skills to be more effective working with both internal and external customers.

February 13—April 17, 2018—Online

ONLINE — COMMUNICATION STYLES: WHY CAN'T YOU HEAR ME?

Who Should Attend: Anyone who wants to increase his or her communication skills to be more effective working with both internal and external customers.

February 13, 2018—Online

NEW! ONLINE — ENGINEERING WEBINAR SERIES: SIZING SINGLE-PHASE TRANSFORMERS

Who Should Attend: Engineering personnel and others who would benefit from an understanding of current electric utility engineering principles and practices.

February 13, 2018—Online

NEW! WAREHOUSING: OVERVIEW, SHIPPING, RECEIVING, AND SAFETY

Who Should Attend: Warehouse and materials management professionals.

February 13–14, 2018—Vancouver, Wash.

HARDENING WINDOWS NETWORKS

Who Should Attend: Network, server, desktop, and security administrators and management-level individuals interested in this topic.

February 13–16, 2018—Vancouver, Wash.

NEW! POWER DIVERSION WORKSHOP

Who Should Attend: Engineering, operations, customer service, metering, and safety personnel, as well as anyone seeking the latest information and best practices on power diversion.

February 27, 2018—Richland, Wash.

FOREMAN LEADERSHIP SKILLS #2: EFFECTIVE PROBLEM SOLVING; TRANSITIONING FROM EMPLOYEE TO FOREMAN

Who Should Attend: Foremen and crew leaders.

February 27–28, 2018—Vancouver, Wash.

SENIOR LEADERSHIP SKILLS SERIES: ALL FIVE SESSIONS

Who Should Attend: General managers, directors, and experienced leaders of teams. See page 3 for more information.

February 27–December 5, 2018—Multiple Locations

SENIOR LEADERSHIP SKILLS SERIES SESSION 1: LEAD YOURSELF

Who Should Attend: General managers, directors, and experienced leaders of teams. See page 3 for more information.

February 27–March 1, 2018—Vancouver, Wash.

METERING FOR LINEMEN

Who Should Attend: Journeyman linemen, safety, and other electrical workers, including customer service personnel, who want a better understanding of revenue metering and the hazards associated while working with revenue meters for both single-phase and three-phase meters.

February 28, 2018—Richland, Wash.

NUTS AND BOLTS OF WORK ORDERS

Who Should Attend: Employees involved in any aspect of preparing and/or processing work orders for their electric utility, or employees outside the accounting area who want a better understanding of the work order process.

February 28–March 1, 2018—Anchorage, Alaska

FRAUD FUNDAMENTALS FOR UTILITY PERSONNEL

Who Should Attend: Mid- and senior-level management, as well as those involved in the accounting, treasury, purchasing, inventory, cashier, billing, and collection functions at the utility.

March 2, 2018—Anchorage, Alaska

IT CONFERENCE PRE-SESSION CLASS: OVERVIEW OF THE C2M2—CYBERSECURITY MATURITY MODEL

Who Should Attend: IT professionals and others who are responsible for information technology programs.

March 6, 2018—Coeur d'Alene, Idaho

NEW! ENTERPRISE RISK MANAGEMENT: CUSTOMIZE YOUR ERM PROGRAM

Who Should Attend: Utility professionals who are responsible for developing, implementing, managing, and/or sponsoring enterprise risk management within their organizations. It will be important for participants to have a good foundation and working knowledge of ERM terminology and concepts; they may have attended prior NWPPA ERM classes or have some prior ERM training or work experience.

March 7–8, 2018—Seattle, Wash.

IT CONFERENCE

Who Should Attend: IT professionals and others who are responsible for information technology programs, as well as operations and engineering employees who would like to build a stronger relationship with IT.

March 7–9, 2018—Coeur d'Alene, Idaho

ONLINE — LISTENING FOR EFFECTIVE PROBLEM SOLVING

Who Should Attend: Anyone who wants to increase his or her communication skills to be more effective working with both internal and external customers.

March 13, 2018—Online

NEW! ONLINE — ENGINEERING WEBINAR SERIES: SIZING THREE-PHASE TRANSFORMERS

Who Should Attend: Engineering personnel and others who would benefit from an understanding of current electric utility engineering principles and practices.

March 13, 2018—Online

ADMINISTRATIVE PROFESSIONAL CERTIFICATE LEVEL 1: ALL FOUR DAYS

Who Should Attend: Administrative assistants, executive assistants, or employees in administrative or service-oriented roles.

March 13–16, 2018—Anchorage, Alaska

ADMINISTRATIVE PROFESSIONAL CERTIFICATE LEVEL 1: DAY 1—BUSINESS COMMUNICATION SKILLS

Who Should Attend: Administrative assistants, executive assistants, or employees in administrative or service-oriented roles.

March 13, 2018—Anchorage, Alaska

ADMINISTRATIVE PROFESSIONAL CERTIFICATE LEVEL 1: DAY 2—RESOLVING CONFLICT IN THE WORKPLACE

Who Should Attend: Administrative assistants, executive assistants, or employees in administrative or service-oriented roles.

March 14, 2018—Anchorage, Alaska

ADMINISTRATIVE PROFESSIONAL CERTIFICATE LEVEL 1: DAY 3—UNDERSTANDING THE BASICS OF ELECTRICITY

Who Should Attend: Administrative assistants, executive assistants, or employees in administrative or service-oriented roles.

March 15, 2018—Anchorage, Alaska

ADMINISTRATIVE PROFESSIONAL CERTIFICATE LEVEL 1: DAY 4—PERSONAL LEADERSHIP SKILLS

Who Should Attend: Administrative assistants, executive assistants, or employees in administrative or service-oriented roles.

March 16, 2018—Anchorage, Alaska

SUBSTATION SERIES: PRINT READING AND ELECTRICAL CIRCUIT TROUBLESHOOTING TECHNIQUES

Who Should Attend: Substation personnel, engineers, and all who have responsibility for the operation and maintenance of distribution and transmission substations.

March 14–15, 2018—Sacramento, Calif.

FOREMAN LEADERSHIP ACCELERATED PROGRAM PART 1

Who Should Attend: Foremen and crew leaders.

March 20–22, 2018—Great Falls, Mont.

NEGOTIATING YOUR COLLECTIVE BARGAINING AGREEMENT

Who Should Attend: Those involved in any aspect of administering or supporting the collective bargaining agreement and/or supporting the labor relations function within their organization including human resources, labor/employee relations, all levels of management (line, senior, assistant GM, GM/CEO, and elected officials), and any others who would like to sharpen their negotiation skills and become more familiar with the details of the process.

March 20–22, 2018—Vancouver, Wash.

SUBSTATION SERIES: SUBSTATION TRANSFORMERS & LTC DIAGNOSTICS

Who Should Attend: Line and substation personnel, as well as engineers who have responsibility for distribution and transmission substations.

March 21, 2018—Coeur d'Alene, Idaho

NEW! WAREHOUSING: INVENTORY, MATERIALS MANAGEMENT, AND SUPERVISION

Who Should Attend: Warehouse and materials management professionals.

March 21–22, 2018—Tacoma, Wash.

LEADERSHIP SKILLS #1: SITUATIONAL LEADERSHIP

Who Should Attend: Supervisors, managers, and employees who will be transitioning to a supervisory or managerial role in the future.

March 21–22, 2018—Sacramento, Calif.

LINEMAN SKILLS SERIES: LINEMAN RIGGING

Who Should Attend: Linemen and line crew foremen.

March 22, 2018—Coeur d'Alene, Idaho

SUBSTATION SERIES: SUBSTATION BATTERY MAINTENANCE AND TESTING

Who Should Attend: Line and substation personnel, as well as engineers who are responsible for distribution and transmission substations.

March 22, 2018—Coeur d'Alene, Idaho

continued

TRAINING OPPORTUNITIES

NEW! INCIDENT INVESTIGATION

Who Should Attend: Any manager, supervisor, foreman, lead employee, HR employee, or anyone who may be involved in or is responsible for investigating an employee incident or near hit.
March 22, 2018—Coeur d'Alene, Idaho

NRECA CCD 2610: UNDERSTANDING THE ELECTRIC BUSINESS

Who Should Attend: Directors, policy makers, and general managers.
March 28, 2018—Eugene, Ore.

NEW! OREGON UTILITIES RECORDS MANAGEMENT GROUP

Who Should Attend: Records managers, records coordinators, administrative assistants, executive assistants, and anyone managing records for their department.
March 28, 2018—Eugene, Ore.

NRECA CCD 2630: STRATEGIC PLANNING

Who Should Attend: Directors, policy makers, and general managers.
March 29, 2018—Eugene, Ore.

ENVIRONMENTAL TASK FORCE MEETING

Who Should Attend: Utility environmental professionals (new and experienced), government agency staff, vendors and anyone who is tasked with or interested in environmental issues, regulatory compliance or mitigation in the environmental arena of electric utilities.
April 9, 2018—Tacoma, Wash.

NEW! FUTURE-PROOF YOUR BUSINESS—THRIVE IN TIMES OF CHANGE

Who Should Attend: Utility and business individuals, leaders, and teams.
April 9, 2018—Tacoma, Wash.

NEW! ONLINE — ENGINEERING WEBINAR SERIES: TRANSFORMER BANKING

Who Should Attend: Engineering personnel and others who would benefit from an understanding of current electric utility engineering principles and practices.
April 10, 2018—Online

ENGINEERING & OPERATIONS CONFERENCE AND TRADE SHOW

Who Should Attend: Electric utility engineering and operations personnel, as well as those in information technology, safety, purchasing, environmental, accounting, communications or any area where a more in-depth knowledge of engineering and operations would be beneficial.
April 10-12, 2018—Tacoma, Wash.

MANAGING IN A MULTIGENERATIONAL WORLD

Who Should Attend: Managers and supervisors who would like to develop practical skills for working with all generations in today's workplace.
April 10, 2018—Spokane, Wash.

COMMUNICATION ESSENTIALS FOR SUCCESS

Who Should Attend: Anyone who needs to communicate effectively with others in their utility as well as with customers and members.
April 11-12, 2018—Spokane, Wash.

ONLINE — MANAGING ANGRY CUSTOMERS

Who Should Attend: Anyone who wants to increase his or her communication skills to be more effective working with both internal and external customers.
April 17, 2018—Online

LINEMAN SKILLS SERIES: AC SYSTEM TROUBLESHOOTING

Who Should Attend: Line and other operations personnel, such as metering, service, engineering, and other individuals who require understanding of AC theory and how it relates to equipment used to troubleshoot problems.
April 18, 2018—Seattle, Wash.

SENIOR LEADERSHIP SKILLS SERIES SESSION 2: LEAD YOUR TEAMS

Who Should Attend: General managers, directors, and experienced team leaders.
April 18-19, 2018—Salt Lake City, Utah

MANAGING CHANGE AND TRANSITION

Who Should Attend: General managers, managers, supervisors, and anyone who has taken Leadership Skills.
April 18-19, 2018—Vancouver, Wash.

QUALIFIED WORKER TRAINING - OSHA 1910.269

Who Should Attend: Individuals who do not hold an electrical journeyman certificate, but as a part of their duties must enter or open secured areas such as substations, pad mounted transformers, switch gear, vaults, and metering cabinets.
April 19, 2018—Seattle, Wash.

LEADERSHIP SKILLS #4: HR BASICS & BUILDING A MORE EFFECTIVE WORKPLACE

Who Should Attend: Supervisors and managers, and those employees who will be transitioning to a supervisor or manager role in the near future.
April 25-26, 2018—Bend, Ore. NWPPA



View the latest Training and Event Catalog online at www.nwppa.org.

2018 CONFERENCE SCHEDULE

Engineering & Operations Conference and Trade Show

April 10–12, Tacoma, Wash.

NWPPA Annual Conference & Membership Meeting

May 20–23, Boise, Idaho

Accounting and Finance Conference

June 19–20, Spokane, Wash.

Northwest Communications and Energy Innovations Conference (NIC)

September 16–19, Coeur d'Alene, Idaho

Labor and Employee Relations Group Annual Meeting

October 10–12, Seattle, Wash.

3 Cs Conference: Credit, Collections, and Customer Service

October 24–26, Vancouver, Wash.

EXCELLENCE. INNOVATION. VALUE.

At Energy Northwest, we work to understand and meet the energy needs of our members – the Washington state public power utilities serving nearly 1.5 million customers.

We are public power.
We are **MORE POWERFUL TOGETHER.**



To learn how you and Energy Northwest are #MorePowerfulTogether, visit www.energy-northwest.com



Recruiting *This* and the *Next Generation*

Like many of you, I've been to more than my share of retirements of late—people who had long-standing careers, who held many positions along the way, who took on successive levels of responsibility. And at the end of the day, whether they were linemen or general managers, they would not have worked in any other industry because they found deep personal fulfillment in solving gnarly problems alongside others who understand the value of serving others.

This past fall I attended several statewide and NWPPA events, hearing the same message at all of them: the challenges of workforce development and recruiting continues to plague many of our member utilities as Baby Boomers retire and years of experience walk out the door.

But I've also heard some really great ideas and practices from our members about what they are doing to face these challenges.

- **Scholarships.** If you're giving scholarships to community youth, is the utility using them strategically as a potential feeder for future workforce?
 - Limit scholarships to professions consistent with positions in your utility.
 - Invite the recipient to job shadow your employee(s) for a day.
 - Provide an unpaid internship or a minimum wage internship during the summer.
 - Invite the recipient to contact someone in your organization after the first semester and at the end of the school year.
- **Community colleges.** Look for times (for example, one month after school starts and a month before school is out) to meet with the dean or department heads who teach the students you want to recruit: IT, GIS, pre-engineering, communications, etc.
 - Offer a paid or unpaid limited-duration internship (a student can often receive credit in doing so).
 - Offer an opportunity to work on a special project at your utility.
 - Is there a lineman or other trade-associated program? Offer to have one of your employees present to the class or offer a visit to your facility.
- **Universities/colleges.** Same as community colleges, but also find out if there is an IEEE chapter or other campus professional clubs.
 - Offer to make a presentation to the chapter.
 - Offer to help with career guidance or connect students to others who can.
 - Identify capstone projects students can do that accomplish a grade for them and information for your utility. Have them present to your leadership team or your board of directors/commissioners. (A clear scope of expectation and what you want is really important here.)
- **Industry events.** Lastly, take a student or prospective employee with you to an industry event. There is no greater way to indoctrinate someone than to show them. For example, NWPPA has a student rate for the 2018 Engineering & Operations Conference in April. Call us to ask about other events suitable for students.

You never know who you might encounter that may be a good fit for your utility or who you might want to refer to one of your peers. Every one of us has our own story to share that can create interest in our best kept secret: jobs in the electric utility industry are rewarding, dynamic, and opportunity rich.

I look forward to seeing and talking with many of you throughout this coming year. Whether it's your last year in the public power industry or your first year, may you have a happy, healthy, and blessed 2018. **NWPPA**



Jobs in the electric utility industry are rewarding, dynamic, and opportunity rich.

DO YOUR ASSETS HAVE A RETIREMENT OBLIGATION?

By Julie Desimone

Both the Financial Accounting Standards Board and the Governmental Accounting Standards Board have finally adopted standards addressing asset retirement obligations (ARO). Those who report under FASB guidance have been following this standard for quite some time. In November 2016, GASB issued Statement No. 83—Certain Asset Retirement Obligations. Though the concept for FASB and GASB are quite similar, practical application is vastly different. The requirements of GASB 83 are effective for reporting periods beginning after June 15, 2018. This new standard will require communication between departments (primarily accounting and engineering/operations) and if an ARO is identified, it may require expertise and evaluation outside of the utility's expertise.

The first step is to determine whether an ARO exists. In order to determine this, the following thoughts need to be taken into consideration:

- Is there a legally enforceable liability associated with the retirement of a tangible capital asset?
- Does that liability result from normal operations of a tangible capital asset?

It is vital to remember that though this is an accounting standard, conversations must be had outside the accounting department. Is the communication between your utility's departments currently enough to determine if an ARO exists?

There are very obvious AROs (for example, the decommissioning of a nuclear or coal plant); however, there are many obligations that are not typically considered. For most nuclear and coal facilities there are federal, state, or contractual obligations to remediate the facility and land after the facility has been retired. However, less common AROs may be a wind facility owned by a utility that is on leased land and the lease contract requires that the utility leave the land in its original condition. This is a legally enforceable liability associated with the wind facility as it will require a significant amount of costs to restore the land after the facility is retired. Anytime there is a lease agreement associated with tangible capital assets, an ARO evaluation must take place.

Initial recognition

Once an ARO is determined, the accounting is very different between FASB and GASB followers. Where FASB followers are required to record the obligation initially at present value and accrete it to full value over the useful life of the asset, GASB has determined that current measurement of the ARO should be based on the best estimate of the current value of outlays expected to be incurred. Also, for FASB, once the initial obligation is recorded, a capital asset is recorded and depreciated over the estimated useful life of the asset. For GASB, a deferred outflow of resources is established and this outflow is reduced in a systematic and rational manner over a period of time

depending on whether the ARO was established at the beginning of the capital asset's estimated useful life or after the asset was placed into operation. For an ARO associated with an asset reported at the beginning of the capital asset's estimated useful life, the reduction of the deferred outflow of resources should be recognized over the entire estimated useful life of the capital asset. For a deferred outflow of resources initially reported after a capital asset has been placed into operations, but before the end of its estimated useful life, the reduction of the deferred outflow of resources should be recognized over the remaining estimated useful life.

Subsequent measurement

Subsequent to the initial measurement year, both FASB and GASB followers must analyze and update the ARO obligation and asset/deferred outflow of resources.

For FASB, the entity should at least annually consider where the determinates (risk-free credit adjusted rate and inflation) have changed. If so, the standard requires a new layer of the obligation to be reported. Also, if any significant changes to the overall obligation occur (i.e. new study or updated information), an adjustment or new layer will be established. Under the FASB model, this layering could result in very technical calculations and spreadsheets that are generally only understood by a few individuals in the utility.

For GASB followers, the entity should at least annually adjust the current value of its ARO for the effects of general inflation or deflation. A government should also annually evaluate all relevant factors to determine if those factors significantly increase or decrease the estimated outlays associated with the ARO. A government should remeasure the ARO only when the results of the evaluation indicate there is a significant change in the estimated outlays, which may include changes in technology; state or federal laws; or price increases or decreases.

Notes to the financial statements

Under both standard setters, the utility is required to disclose certain information regarding the ARO and methods and assumptions used to measure the liabilities.

Retirement of tangible capital asset

The ultimate goal under both standards is that at the time of retirement of the capital asset, the estimated future outlays associated with the ARO are recognized as a liability. Though there will be changes to this amount, as the balance is an estimate, it should be the utility's best estimate.

Recommendations

Though these standards are very narrow in scope, the impact can be significant to utilities. In order to ensure that your accounting department has the best information available to them, we recommend that each utility initiate meetings between operations, accounting, and management to consider whether any asset retirement obligations exist. If an ARO is determined, a utility may need to utilize outside resources to measure the obligation. This consultation or use of a specialist may take a considerable amount of time; therefore, getting an early start on these discussions will be invaluable to the efficient implementation of these standards. **NWPPA**

Julie Desimone is a partner in the Portland, Ore., office of Moss Adams LLP, the largest accounting and consulting firm in the West. She can be reached at julie.desimone@mossadams.com.



The Return of Ravalli's Warming Tree

By Melissa Greenwood

Besides providing electricity for heat, the employees of Ravalli Electric Cooperative in Corvallis, Mont., provided an additional way for community members to warm up this winter. In place of a traditional Christmas tree, the reception area of REC hosted a Warming Tree. Because of its growing success, what started off last year as a small idea may become an annual holiday tradition.

In late 2016, the picturesque valley of Ravalli County that sits nestled between the lustrous Bitterroot Range and Sapphire Mountains in southwestern Montana experienced one of the coldest winters since 1978. Numerous electric co-op members experienced an unusual

increase in their electricity bills and the phone calls to REC came flooding in.

"I was getting several calls throughout the day with members questioning their high electricity bills," said Member Services Manager Jim Maunder. "When the weather is colder, you have to use more heat to stay comfortable and warm, so energy use goes up."

While the community struggled to heat their homes and stay warm in the freezing temperatures, employees at REC knew there were some people who lacked winter weather attire as well. Feeling a need for action they put their heads together and came up with an idea to try and help others as the bitter cold temperatures of winter settled in to the

small rural community. That idea was the Warming Tree.

Ravalli Electric Co-op decided to break tradition that year when it came to decorating the annual office Christmas tree with holiday ornaments and sparkling tinsel. Instead, hats, gloves, scarves, and other winter apparel would adorn the Warming Tree. They began to spread the word of their efforts throughout the community, encouraging others to bring in donations for their tree. For several weeks the cooperative collected donations from employees, board directors, co-op members, and the public.

"People were very responsive to our efforts," said Maunder. "We even had one woman bring in over 100 handmade

knitted hats to put under our Warming Tree.”

The tree branches quickly filled with colorful mittens, blankets, scarves, and hats. Piles upon piles of items began to cover the floor around the tree. At the end of 2016, the co-op collected 182 hats, 104 pairs of gloves, 16 ear warmers, 14 blankets, 44 scarves, and 42 pairs of socks and slippers. The co-op was overwhelmed by the generosity and success of their endeavor. The donations were then distributed to local non-profit organizations in the Bitterroot Valley that helped provide them to those in need.

“The two organizations were amazed at what we brought them, and truly grateful for our efforts,” said Maunder.

As a member-owned cooperative utility, Ravalli Electric operates on seven cooperative principles. Cooperative principle number seven is Concern for Community. REC Human Resources Director Leslie McAfee felt the Warming Tree provided a sense of community.

“The co-op has employees and a membership that is really service-oriented and enjoys giving,” she said. “We receive a lot from people every day with their kindness. There is just a lot of goodwill in our community.”

Because of the success of the first Warming Tree, Ravalli Electric decided to bring it back in 2017. Upon announcement, donations began to pile up as word got out through local newspapers and social media. Once again, the REC Warming Tree was a success; this year’s Warming Tree collected over 450 items! The items were delivered to community organizations, including the Bitterroot Homelessness Task Force, Ravalli Early Head Start, Ravalli Council on Aging, and several elementary schools.

“I think our Warming Tree is a fun and unique way to help others in need, and people get excited to participate,” McAfee said smiling. “It’s neighbors helping neighbors—a little bit of help for a neighbor in need.” **NWPPA**

Melissa Greenwood is the communications specialist at Ravalli Electric Cooperative. She can be reached at (406) 961-3001 or mgreenwood@ravallielectric.com.



(L-R) Ravalli Electric Cooperative employees Rob Dostart, Cindy Harper, Melissa Greenwood, and Jim Maunder.



Cooperative supporter Gail Beaver saw a Warming Tree advertisement and brought items in for the tree.



McNary Dam

THIS REGION NEEDS THE SNAKE RIVER DAMS

By Kristin Meira

Opinions in this article are the author's and do not necessarily reflect those of NWPPA or the membership as a whole.

The last time you drove through the Gorge, did you catch sight of a barge tow and wonder just how much is really moving on our rivers? From a distance, those four barges being pushed by a towboat may look pretty insignificant; however, that single barge tow is the equivalent of 538 tractor trailers which would otherwise be on the highway next to you. If that cargo had made its way to a rail line, it would have taken 140 rail cars to get the product to its destination. So much of a barge tow is actually underwater, unseen, and maximizing the use of our 14-foot inland navigation channel from Vancouver to Lewiston. Barging is the most fuel-efficient way to move cargo; has the fewest spills and accidents of any mode of cargo transport; and plays an important role in relieving surface transportation congestion and maintenance.

The Columbia Snake River System is one of the top cargo gateways for our nation, especially for exports of U.S. goods. Over 50

million tons of cargo—worth \$24 billion—is transported through the system, including over 9 million tons of cargo moving through the Columbia and Snake River dams. This river system is the third-largest grain gateway in the world, moving significant quantities of wheat, soy, and corn. In fact, our Columbia and Snake Rivers represent the nation's single largest wheat export gateway, transporting over 50 percent of all U.S. wheat to markets overseas. Our river system is also tops on the West Coast for wood products and mineral bulks, like potash and soda ash; and it's a major destination for auto imports and exports.

Some in the region have targeted the Snake River dams and argued that they are no longer needed for our region's goods. The numbers tell a different story.

Nearly 10 percent of all U.S. wheat exports move through just the locks on the Snake River as our Northwest farmers send their product through the river system for

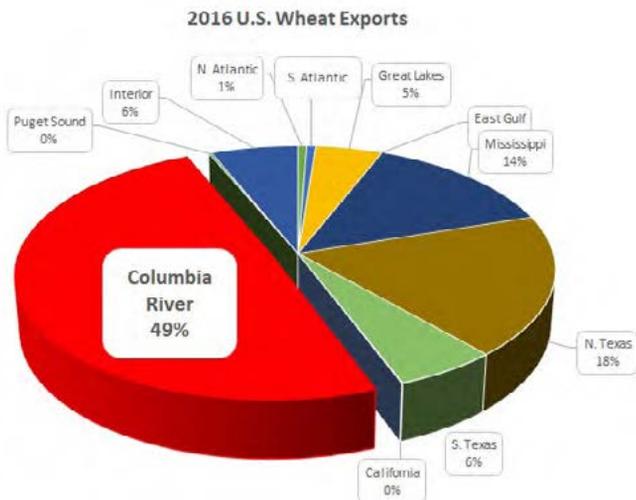
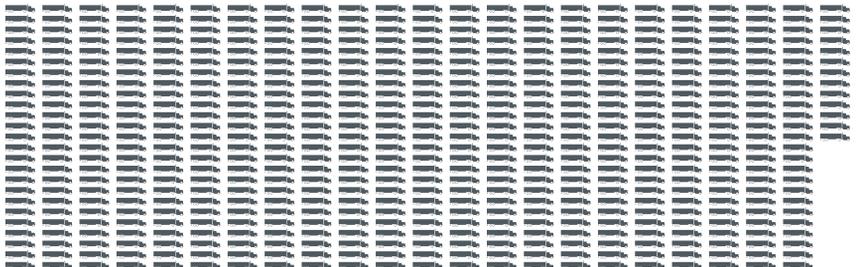
FREIGHT COMPARISON OF BARGES, TRAINS, AND TRUCKS

Barge	4-Barge Tow	Jumbo Hopper Car	100 Car Unit Train	Large Semi-Truck
				
3500 ton 122,500 bushels 875,000 gallons	14,400 ton 490,000 bushels 3,500,000 gallons	100 ton 3,500 bushels 30,240 gallons	10,000 ton 350,000 bushels 3,024,000 gallons	26 ton 910 bushels 7,865 gallons

1 Barge = 35 Jumbo Hoppers = 134 Trucks



1 Tow = 1.4 100-Unit Trains = 538 Trucks



eventual export. In fact, over 4.3 million tons of cargo were sent by barge on the Snake River in 2015. Without the Snake River dams, it would have taken 43,610 rail cars to carry this cargo, or over 167,000 semi-trucks. Barging through the four Snake River dams is a critical transportation link for our region.

Ready to get out on the river? We know there are lots of ways to enjoy our Columbia and Snake Rivers, including fishing tours, wind-surfing, sailing, and more. In the last 10 years, cruise boat demand has steadily increased and represents a growing market in the region. Each summer, thousands of passengers experience the Columbia and Snake Rivers via cruises that travel the 325 river miles between Vancouver, Wash., and Clarkston, Wash., making use of the inland navigation channel and eight locks along the way. Over 18,000 passengers visited in 2017, contributing over \$15 million to communities along the two rivers.

Interested in learning more? Head to www.pnwa.net to check out fact sheets about our river system. If you have a particular interest in the Snake River dams, visit www.snakeriverdams.com for more! **NWPPA**

Kristin Meira is the executive director of the Pacific Northwest Waterways Association. She can be contacted at kristin.meira@pnwa.net.

Schacher Selected as Salem Electric GM

The Salem Electric (Ore.) Board of Directors announced that effective February 8, 2018, **Tony C. Schacher** will become Salem Electric's new general manager, replacing **Terry M. Kelly**, who will retire on February 7, 2018.

Schacher joined Salem Electric as an engineer in 2007, after having worked at Central Lincoln PUD from 2004. He was promoted to Engineering & Operations manager in 2012.

Schacher is an electrical and computer engineering graduate from Oregon State University and a graduate of the Willamette University Atkinson School of Utility Management Certification. He has served on numerous boards and committees, and is currently a member of the Salem City Club, SEDCOR, the Oregon Utility Notification Center Board, and Regis St. Mary School Board. He is also active with several industry-related organizations, including NWPPA, Public Power Council, and the Oregon Rural Electric Cooperative Association.

"Salem Electric is a shining example of a well-organized company with dedicated staff and a membership that understands the benefits of a robust cooperative model. I hope to continue to build on the achievements obtained in the past, and keep an eye toward future opportunities to benefit our members," said Schacher. "I look forward to my new role at the cooperative." **NWPPA**



Tony C. Schacher

Widespread Bitcoin Mining Raises Concerns

Chelan PUD (Wenatchee, Wash.) is concerned that increasing numbers of homeowners and small businesses may be creating a significant safety risk by employing high-electric-use cryptocurrency mining computers without notice to the utility. The PUD is getting indications of widespread use of bitcoin mining machines across the county by customers knowingly or unknowingly violating District policies for serving these energy-intensive loads.

John Stoll, Customer Utilities managing director, said he understands that the financial reward can be tantalizing, but urged customers not to act without talking with PUD staff. The potential money isn't worth the safety consequences – which can be severe – affecting not only the mining operator, but their neighbors and PUD line workers, too, Stoll said. Unplanned high-electric usage taxes the electric infrastructure potentially leading to a serious fire risk.

On December 18, Stoll updated the Chelan Board of Commissioners on the unprecedented increase in requests for large amounts of power to serve cryptocurrency and blockchain operations. Stoll said PUD staff is developing options to tighten policies addressing situations where customers knowingly try to hide their bitcoin mining operation from the utility. **NWPPA**

Kalispel Tribe Creates New Electric Utility

The Kalispel Tribe of Indians is proud to announce it continues its cultural connection to the region's rivers by establishing its own electric utility company to service its Airway Heights, Wash., property. Kalispel Tribal Utilities began officially providing electricity and natural gas to Tribal businesses on October 1, 2017, resulting in energy cost savings and expansion of economic development opportunities for the Tribe. The signing ceremony on December 12 was a public celebration of the key partnerships between the Tribe, BPA, Avista, and Inland Power & Light.

The Energy Policy Act of 1992 paved the way for tribes across the country to form their own utility companies to serve tribal lands; provide employment; support conservation and resource development; and improve utility infrastructure and service. For the past 10 years, the Kalispel Tribe has been exploring this option and recently signed an agreement to purchase wholesale hydroelectric power from BPA starting in October 2017.

"The Kalispel Tribe has always relied upon the great rivers of the region to sustain our people and our culture," said Kalispel Tribal Chairman **Glen Nenema**. "Our formation of a tribal utility and purchase of hydroelectric power generated at the dams on our rivers is a modern way to continue our ancient cultural connection to the rivers and to remain a protector and participant in all regional decisions affecting the Columbia River and its tributaries."

The Tribe's businesses located in Airway Heights have been served for many years by Inland and Avista. Working in cooperation with those companies, the Tribe will continue working to acquire Inland- and Avista-owned facilities on tribal lands in Airway Heights and construct other needed facilities. **NWPPA**



(L-R) David Meyer, Avista Utilities; Raymond Pierre, Kalispel Tribe of Indians; Elliot Mainzer, BPA; and John Francisco, Inland Power & Light.

Cordova Electric Welcomes DOE

Leading experts from the U.S. Department of Energy met in December with various national laboratories and state-wide associations at the Cordova Center in Cordova, Alaska, to strategize the implementation of an innovative three-year microgrid modernization effort entitled “RADIANCE,” which is set to begin in Cordova in 2018.

This project is anticipated to make significant advances to microgrid technology applications from the smallest rural Alaskan utilities to the continental American power grid. In Cordova, the project will build on the modelling, optimization, and installation of a grid-scale battery that will liberate 500 kilowatts of currently wasted hydroelectricity (two supersize Walmarts or about 15 percent of Cordova’s average electricity use) at about one-tenth the cost of developing new hydro.

In September 2017, the DOE announced awards of up to \$50 million to DOE’s National Laboratories to improve the resiliency of the nation’s critical energy infrastructure, including the electrical grid. This innovation effort at the DOE has selected Cordova, Alaska, as one of the premier locations to develop and implement new technology, and Cordova Electric Cooperative has found a new partner in executing its Smart City vision for the coming years.

“CEC is thrilled to partner with DOE’s National Laboratories and leading experts to upgrade and improve Cordova’s energy grid and resiliency,” said **Clay Koplín**, CEO of Cordova Electric Cooperative. “The improvements we implement throughout this partnership with the Department of Energy will not only improve the energy efficiency and security of the people of Cordova, it will benefit rural Alaskans who depend on isolated microgrid use and potentially all Americans; this is public-private partnership at its best.” **NWPPA**



Rob Housapian of the Idaho National Laboratory addresses the GMLC partners. Photo provided by Cordova Electric Cooperative.

City of Shelton Partners with Mason 3

The future of Shelton, Wash., is getting brighter, thanks to a grant award for nearly \$267,000 to continue an upgrade of outdated streetlights to new, energy efficient LED lights.

On December 14, the City of Shelton received a \$266,913 grant from the Washington State Transportation Improvement Board’s Relight Washington program. It will fund the ongoing conversion of old high-pressure sodium streetlights to LED lights. The goal of Relight Washington is to lower energy use and operating costs by helping cities pay for the initial expense of making the conversion.

The City of Shelton and Mason PUD 3 have partnered to continue the streetlight conversion throughout Shelton. All the lights are owned and maintained by PUD 3.

So far, PUD 3 has upgraded over 500 HPS lights in the city to LED technology. There are approximately 250 streetlights left to replace. The average cost of updating one street light is \$346. The grant covers the cost of upgrading the remaining streetlights, and reimburses PUD 3 for previously converted streetlights. Under the terms of the Relight Washington program agreement, the grant money will be paid directly to Mason PUD 3.

“Associate Engineer **Logan Brady** did a fantastic job spearheading the efforts to secure funding to continue this important project. His innovative approach and creative application of this grant program is greatly appreciated,” said City Manager **Ryan Wheaton**. “We are excited to continue our partnership with Mason PUD 3 to increase energy savings and reduce operating costs for both organizations.”

In October, PUD 3 commissioners agreed to lower the City of Shelton’s streetlight daily rate by 30 percent from original HPS rate levels. The change was contingent upon the award, and payment of the TIB grant through the Relight Washington program. The reduced rate translates to an annual cost savings of over \$38,000. **NWPPA**

Schneider Named ORECA Board President

Midstate Electric Cooperative (La Pine, Ore.) General Manager **Dave Schneider** was elected to be the new president of the Oregon Rural Electric Cooperative Association Board of Directors. The election took place at the 75th ORECA Annual Meeting on November 30, 2017, in Salem. Schneider succeeds Lane Electric Director **Chris Seubert** who stepped down after the customary two years and will continue to serve on the Executive Committee.

The 2018 ORECA slate of officers includes: President Schneider; Vice President **Bob Durham**, director, Wasco Electric Cooperative; Secretary/Treasurer **Bob MacPherson**, director, Umatilla Electric Cooperative; Executive Committee At-Large **Alicia Bonesteele**, director, Salem Electric; Executive Committee At-Large **Shirley Cairns**, director, Douglas Electric Cooperative; and Immediate Past President Seubert. **NWPPA**

WPUDA Honors Moses and Young

The Washington Public Utility District Association recently awarded the WPUDA Good Samaritan Award to two Lewis County PUD employees: **Corenne Moses** and **Bonnie Young**. The WPUDA Good Samaritan Award is given to a member or members who, in the past year, demonstrated meritorious action in a life-threatening situation.

Moses and Young were presented with the award for their quick actions in coming to the aid of an individual experiencing a life-threatening medical emergency. Young administered CPR while Moses called 911. Their actions saved the life of the individual. **NWPPA**

PUD 1's Denison Receives Lifetime Award

At the annual conference of the Washington Public Utility Districts Association in Spokane last month, former Mason County PUD No. 1 commissioner **Karl Denison** was presented with the association's Lifetime Achievement Award, citing Denison's exceptional leadership and commitment to the philosophy and purpose of the association and public utilities. General managers **Doug Miller** of Pacific County PUD and **Bob Geddes** of Lewis County PUD were also recipients of the award.

Denison thanked the PUD 1 Commission and staff, sharing how honored he was to be nominated for the award by both PUD 1 and Energy Northwest, for whom Denison was a member of their Participant Review Board for several years. Denison served 12 years as a PUD 1 commissioner, representing District 1. Addressing the crowd of PUD commissioners, managers, and executives, Denison reflected on Washington state energy policy urging the utility leaders to "always ask questions and don't give up local control."

Also notable, another former PUD 1 commissioner, and current state senator, **Tim Sheldon** was honored with the Legislative Champion Award for his work to promote public utility ratepayers' interests in the state legislature. **NWPPA**



(L-R) Commissioner Mike Sheetz, PUD Attorney Rob Johnson, Commissioner Ron Gold, Melanie & Karl Denison, General Manager Steven Taylor, Senator Tim Sheldon, and Commissioner Jack Janda.

SMUD's Credit Rating Highest in Three Decades

Two of the three leading credit agencies have raised their assessment of SMUD's credit worthiness. Fitch and S&P upgraded SMUD's credit ratings to AA, from AA-. Meanwhile, SMUD's credit worthiness continues to be rated Aa3 by Moody's. This is the strongest SMUD's credit ratings have been in 33 years.

The agencies cited improved finances, sound operating fundamentals, competitive rates, and a diverse energy portfolio among the many reasons they raised their assessment of SMUD's credit worthiness.

Exceeding financial goals helps SMUD maintain solid credit ratings and provides for lower interest rates when SMUD borrows. The upgrades are expected to save three basis points (0.03 percent) on SMUD's upcoming bond transaction, which is worth \$350,000 net value over the term of the debt. Additionally, SMUD will continue to pay lower interest rates every time the electric utility issues debt in the future.

According to Fitch: "The rating upgrade reflects the district's strong and sustainable financial performance, moderate leverage with manageable capital needs, and management's proactive plans to comply with environmental mandates and adapt to a rapidly evolving industry."

S&P noted: "We have assigned SMUD a business profile score of '3' on a 10-point scale, with '1' being the highest, reflecting our view of SMUD's competitive electric rates, diverse and coal-free resource portfolio, strong financial management, and stable and diverse service territory." **NWPPA**

Spilfogel Joins Modern's Management Team

Modern Electric Water Company (Spokane Valley, Wash.) is proud to announce and welcome **Carrie Spilfogel** as the newest member of its management team.

As the human resources generalist/executive assistant to the general manager, Spilfogel's responsibilities include managing recruitment, payroll, benefits/compensation, professional development, legal compliance, and providing executive-level support to General Manager **Joe Morgan**.

Spilfogel earned her Bachelor of Science in health administration from the University of North Florida, before relocating to Spokane. Prior to joining the Modern family on June 12, 2017, she held the role of HR specialist for a local manufacturer in Spokane Valley. She is a member of the Inland Northwest Society of Human Resources Management's Spokane chapter and NWPPA's Labor and Employee Relations Group.

"I am excited to have started this new opportunity. I truly enjoy working for Modern as HR generalist/executive assistant to our GM," said Spilfogel. "I look forward to working with our employees and management team to further develop Modern's commitment of serving reliable electric and water utility services in our community." **NWPPA**



Tacoma-Area Zoo Receives Solar Grant

A grant from Tacoma Power (Wash.) will help fund a renewable energy boost at a building where tigers, tapirs, gibbons, and other zoo animals rest their heads. With funding provided by the utility's Evergreen Options program, Point Defiance Zoo & Aquarium will receive a \$50,000 grant to help fund a solar energy project.

The grant will help the zoo purchase and install 86 solar energy panels on the roof of a building in the Asian Forest Sanctuary area. Projections show that the panels, made in Washington, will produce more than 26,000 kilowatt-hours of electricity in the first year and save more than \$200,000 over their 30-year lifetime.

"Tacoma Power wanted to find a way to further support the development of renewable resources in our community," said Tacoma Power Superintendent **Chris Robinson**. "With money collected through Evergreen Options, our renewable energy choice program, we can offer grants to nonprofit and government organizations to build their own renewable energy projects. Evergreen Options participants voted and selected this year's grant winner out of two outstanding finalists: University of Washington Tacoma and Point Defiance Zoo & Aquarium. Both are worthy of the grant, but we have just one to give this year."

Starting this year, Tacoma Power plans to offer two grants each year as long as funding allows. Nonprofits, schools, and government organizations who are Evergreen Options participants in the utility's service area can apply, and Evergreen Options customers will vote to select the winners. **NWPPA**

Whatcom, Wahkiakum PUDs Report Clean Audits

Wahkiakum PUD (Cathlamet, Wash.) recently completed their 2015-2016 Accountability Audit and Financial Audit. The PUD reports both were clean audits.

In addition, Public Utility District No. 1 of Whatcom County (Ferndale, Wash.) announced that, for the 10th year in a row, another clean *Financial Statements Audit Report* has been issued by the Washington State Auditor's Office.

The audit covered calendar years 2015 and 2016, which were years of operations and facility maintenance and capital infrastructure activity for the District.

Whatcom Finance Director **Annette Smith** said, "By continuing to follow policies in place, with dedication and hard work, it takes the whole staff to successfully pass an audit. The quality of all of our employees continues to place the District in a solid position moving forward to ensure excellent service to our customers and community." **NWPPA**

Bush Elected as Benton PUD President

Benton PUD (Kennewick, Wash.) Commissioner **Barry Bush** was elected president of the Benton PUD Commission for 2018. **Jeff Hall** was elected vice president and **Lori Sanders** was elected secretary. Bush became commissioner for Benton PUD in January 2013. He resides in Kennewick.

Benton PUD is directed by a three-member board of commissioners elected by citizens of Benton County. Each commissioner represents a different sector of the county and serves a six-year term. The election of officers takes place annually. **NWPPA**

Students Tour MEA Power Plant

Nearly 60 students earned a behind-the-scenes tour of Matanuska Electric Association's Eklutna Generation Station (Alaska) as winners of the 2017 Power Pledge Challenge. **Brad Kirr's** second period science class from Gruening Middle School was the regional winner for Eagle River/Mat-Su and **Jenny Tennant's** sixth period science class from Palmer Junior Middle School was the statewide winner. In addition to the tour/lunch for the class, Tennant also took home \$1,200 in energy gear for her classroom.

"This is a good experience for our students," said Tennant. "It gets them thinking about their personal energy consumption and start connecting that to what their families are spending on electricity. It's a cool field trip."

Over 1,800 eighth grade students from the Mat-Su and Eagle River area recently completed the 2017 Power Pledge Challenge in collaboration with Renewable Energy of Alaska and other Alaska utilities.

The Power Pledge Challenge began in 2012, offering energy presentations to 700 students in the Anchorage area. The now statewide initiative is held through support of Alaska Energy Authority, Alaska Energy Light & Power, Alaska Housing Finance Corporation, Chugach Electric Association, ENSTAR Natural Gas Co., Homer Electric Association, Matanuska Electric Association, Municipal Light and Power, and Renewable Energy Alaska Project. **NWPPA**



Gruening Middle School's Mr. Kirr's 2nd period science class and the PPC's Eagle River/Mat Su winner.

ABB Launches TruONE

Last month ABB launched TruONE, an all-new automatic transfer switch (ATS) with connectivity and monitoring functions for critical power applications. TruONE is the world's first true ATS to package all the necessary sensors and controllers into a single easy-to-install device that helps improve protection and makes installation 80 percent faster.



Critical power applications use an ATS to sense when power is lost and to switch automatically to the backup generator. The ATS is usually a complex installation with various sensors, controllers, switches, and operator interfaces all wired together. Putting everything into a single package, including an integrated controller with detachable Human Machine Interface, the TruONE makes ATS installations faster, simpler, and more reliable.

With seven communications protocols, the TruONE ATS is part of the ABB Ability™ portfolio of software-enabled and connected solutions that help customers be more productive, with features including predictive maintenance and condition monitoring.

Wellington Rodrigues, product marketing manager for ABB's Protection and Connection business in the United States, said, "ABB has produced the solution everybody who works with ATS devices has been waiting for. The all-new TruONE ATS is the first to integrate everything that critical power applications need into one seamless unit. Designed and tested to exceed industry requirements, the TruONE ATS ensures the reliable delivery of critical power."

The TruONE ATS is simple to install, requiring only a single wire and standard enclosures. Ergonomic studies indicate this will make installation up to 80 percent faster and will cut cabling and commissioning times, and costs, by up to 90 percent.

ABB is a pioneering technology leader in electrification products, robotics and motion, industrial automation, and power grids, serving customers in utilities, industry, and transport infrastructure globally. For more information, visit www.abb.com. **NWPPA**

CoBank Announces 2018 Board Officers

On December 13, CoBank, a cooperative bank serving agribusinesses, rural infrastructure providers, and Farm Credit associations throughout the United States, announced board officers for 2018. The CoBank board elects its officers to serve a one-year term commencing January 1 and expiring December 31 each year.

Kevin Riel will serve as board chair, succeeding longtime board chair Everett Dobrinski; Jon Marthedal will serve as first vice chair; and Kevin Still will serve as second vice chair.

"I look forward to working closely with Jon, Kevin, and the rest of our directors in the coming year," Riel said. "Our board and executive management team are fully committed to preserving and building the long-term financial strength of the bank so it can continue fulfilling its mission and delivering dependable credit and financial services to our customers."

Riel thanked Dobrinski for his 10 years of service as chair. Dobrinski, a farmer from North Dakota who remains a member of the board with a term expiring in 2019, was first elected as a director in 1999 and has served as chair since 2008.

Riel also thanked directors Gary Miller, Ken Shaw, and Stephanie Herseith Sandlin, all of whom will be stepping down from the CoBank board on December 31, 2017.

CoBank's 2018 board will consist of 21 directors elected by customer-owners from six voting districts around the country, as well as two outside directors and one appointed director.

CoBank is a \$124 billion cooperative bank serving vital industries across rural America. For more information about CoBank, visit www.cobank.com. **NWPPA**

Gulezian Joins Novinium as Safety Director

Novinium has announced the hiring of Ken Gulezian for the position of safety director for the company. His primary responsibility is to provide guidance and compliance support in the field and throughout the Novinium organization. Gulezian will work closely with CEO Glen Bertini and safety supervisors to evolve the safety program and to help ensure the highest safety standards for all Novinium employees.

Prior to joining Novinium, Gulezian managed and directed safety programs in the construction and electrical industries. He is a graduate of Central Washington University with a B.S. degree in health and safety management with a Construction Health Safety Technician designation through the Board of Certified Safety Professionals.

"We are very pleased to add Ken's expertise to the Novinium team during this important stage in our company's growth," said Bertini.

Gulezian can be reached at kenneth.gulezian@novinium.com

Novinium's patented injection process rejuvenates and extends the reliable life of cable up to 40 years. Further information is available at www.novinium.com. **NWPPA**

Terex Ships Auger Drill to Antarctica

In December, Terex Utilities shipped a Model 330 Auger Drill to Leidos, a contractor working for the National Science Foundation in Antarctica. Designed to meet the specific needs of the Antarctic Support Contract, the 330 Auger Drill features a unique mounting configuration and numerous insulation and heating modifications to operate in the extreme environment. The new Auger Drill replaces a Model 330 that has been in service by the contractor since 1990.

The 330 will be used to drill 48-inch-diameter holes up to 20-feet deep through the sea ice. The equipment is used by Leidos to support the National Science Foundation's mission to monitor effects on sea ice from global warming and pollution. Once the hole is drilled, scientists place robotic probes to explore beneath the ice, taking thickness measurements and gathering samples of ice and water.

Delivering on the customer's unique requirements meant designing the 330 Auger Drill to perform in temperatures as low as -45°F and to travel over uneven, icy terrain.

"It's not every week we get to work on a unit that will be used for scientific research," said **Chad Rudebusch**, branch manager at the Terex Watertown Service Center. "Our team took pride in building the 330 that won't miss a beat on the job, knowing that our work is helping scientists explore a continent that is so far from our home in South Dakota."

Terex Corporation is a global manufacturer of lifting and material processing products and services delivering lifecycle solutions that maximize customer return on investment. More information about Terex is available at www.Terex.com. **NWPPA**



The Terex Utilities team from Watertown, S.D., responsible for building the A330 Auger Drill to meet the specific needs of the Antarctic Support Contract stands with the unit prior to shipping it.

NEEA Celebrates Leaders in Energy Efficiency

Last month, the Board of Directors of the Northwest Energy Efficiency Alliance honored winners of the 2017 Leadership in Energy Efficiency Awards. These awards recognize outstanding achievement in collaboration, innovative solutions, and achievement that have significantly contributed to greater energy efficiency in the Northwest.

The regional energy efficiency community participated in nominations, and a select panel of Northwest energy and utility leaders selected the winners: **Kevin Van Den Wymelenberg** of the University of Oregon's Energy Studies in Buildings Laboratory garnered the Leadership in Energy Efficiency Award for Innovation; Pacific Power and Energy Trust of Oregon won the Leadership in Energy Efficiency Award for Collaboration for their Targeted Community Pilot; and **Graham Parker** of the Pacific Northwest National Laboratory won the Tom Eckman Leadership in Energy Efficiency Award for Lifetime Achievement in recognition of his more than 40-year career in energy efficiency.

John Francisco, chief of Energy Resources for Inland Power & Light and chair of NEEA's board of directors, emceed this year's event, held in downtown Portland in conjunction with NEEA's Annual Board Meeting.

The Northwest Energy Efficiency Alliance is an alliance of more than 140 utilities and energy efficiency organizations working on behalf of more than 13 million energy consumers. For more information, visit www.neea.org. **NWPPA**

California Water & Power Magazine Debuting in 2018

The California Municipal Utilities Association has announced a partnership with Ruralite Services, Inc. to launch a new statewide water and energy issues magazine.

The first-of-its-kind quarterly publication, *California Water & Power* will explore trends and topics around policy, technology, innovation, and management while showcasing how municipally owned utilities are confronting new challenges and embracing new opportunities to provide reliable, cost-effective, and environmentally responsible service to Californians.

Each magazine issue will feature stories on water and energy; Q&A interviews with key industry players; a section for news from California publicly owned utilities and private industry; a recurring feature on technology and research; case studies about successful projects; and more.

California Water & Power will be distributed in print and digital versions to CMUA members, state regulators, policy-makers, legislators, and other key influencers and stakeholders in the water and power industries. The first issue of the magazine is scheduled for publication in the spring of 2018.

RSI, a not-for-profit communications cooperative based in Hillsboro, Ore., provides customizable magazines in partnership with consumer-owned utilities, as well as website hosting and other services to utilities in California, the West, and nationwide. For more information, visit www.ruraliteservices.org. **NWPPA**

Election Year Agenda Still Taking Shape

By Elizabeth Whitney



When the GOP took control of both chambers of Congress and the White House in 2017, it brought sweeping visions of reform. Work on the party's top two objectives consumed the

year (with mixed results), leaving little time to plan for an election-year legislative agenda. Nevertheless, as the smoke from tax-reform fireworks begins to clear, a focus on infrastructure is returning to the forefront, which could encompass several areas of interest for NWPPA members.

However, major questions remain about the national mood leading up to the 2018 elections, and several special elections have already been scheduled. What happens in those elections and in November could have big implications for a lame duck session next fall, which is already expected to feature a tax reform technical corrections and extenders bill.

Regardless of what happens in Congress, executive agencies will continue to move forward on their own agendas. The coming year will see further action on a re-proposed Clean Power Plan, endangered species, and Waters of the U.S. Early in the year, however, the Federal Energy Regulatory Commission is expected to act on Energy Secretary Rick Perry's grid pricing initiative, which could inject new worries about the grid's "resilience" into the mix.

Long-awaited infrastructure package could be a boon—or a bear

Before Congress began to tackle health care in earnest, dozens of hearings were held on a potential infrastructure bill—a priority that had wide appeal and lots of possibilities for the electric sector. Now that health care has been abandoned and tax reform has been enacted, Congress is expected to turn back to this topic in early 2018.

All eyes are on the secretary of Transportation, however, to take the lead on a proposal. That initial volley (thought to

be presented in January) is expected to be heavily tilted toward roads and bridges, but it is likely that energy infrastructure will be part of the discussions as a bill takes shape. That could provide a vehicle for the long-suffering energy bill, which includes NWPPA-supported provisions on hydro-power relicensing and vegetation management. It could also refocus attention on the wildfire budgeting fix that many in the West have sought.

However, a legislative focus on infrastructure is not without its risks for public power. The president has suggested that states and localities would need to raise taxes to get federal dollars, and has quietly floated "public-private partnerships" that could incentivize selling off state-owned power assets to finance other infrastructure needs. It could also funnel dollars toward urban areas, neglecting the expanses in the West where infrastructure investment is just as critical.

Tax extenders and technical corrections expected

The ink was barely dry on the final tax reform bill before leaders were tallying up items for an extenders and/or technical corrections bill, although the timing and details are still fluid.

A handful of items included in the original House tax reform bill—like the nuclear Production Tax Credit fix, which NWPPA supported—were jettisoned in the back and forth, with promises of a separate vehicle to move right away. That effort could still be considered early in the year, but may come too late to help the under-construction reactor in Georgia—one of the likely recipients of the nuclear PTC that desperately needed the legislative fix. That reactor's failure could sap momentum for the legislation as legislators in the South were among its strongest advocates. The small modular reactor project in Idaho could still use the fix, however, and will continue pushing for its enactment.

It will be an uphill battle to get Congress to consider reversing course on restoring advance refunding bonds, which were eliminated in the tax reform bill. Still, a technical corrections vehicle gives municipal utilities and other governmental entities an opportunity to press their case.

It is not yet clear what the timing for an extenders or technical corrections package might be. There is pressure to take care of extenders early in the year, while a technical corrections bill might move in the lame duck period.

That means the 2018 election will come into play. After famously botching their predictions for the 2016 presidential election, pollsters are cautious about suggesting that one of the chambers could change control. But Democrats are energized by an unlikely victory in Alabama, and further controversy in the White House could drive turnout in their favor. Meanwhile, the Republicans are counting on tax reform providing a winning message, and may pursue entitlement reform legislation that could exacerbate the partisan divide. With the uncertainty around the election, some items are likely to be pushed to the lame duck session, with lots of gamesmanship expected if the balance of power is set to shift.

Regulatory agenda

Executive agencies' actions increasingly feature in partisan messaging, and this year is likely to continue that trend.

In particular, the Environmental Protection Agency has an aggressive agenda aimed at reversing the policies of the prior administration, and 2018 promises major decisions on multiple fronts. Early in the year, the White House will release a re-worked Clean Power Plan (likely under a different name). Preliminary documents suggest that the EPA will focus on measures that can be undertaken at individual units and will likely let states set their emissions goals—two things NWPPA called for in comments to the agency. The EPA is also set to revise vehicle standards (which could quickly become a high-profile endeavor) and continue walking back the Waters of the U.S. definition.

However, the broader energy policy debate could be upended by FERC's decision on Secretary Perry's grid pricing rule. He had asked the agency to allow certain "fuel secure" units (coal and nuclear) to recover their full cost of service in competitive markets, a notion that would entirely upend the eastern RTOs that have been plagued with problems for years. The proposal wasn't likely to be adopted when FERC ruled on January 10, but it has started a dialogue on the resiliency of the grid, its ability to withstand natural disasters, and the value of various generation attributes. Those are big questions not confined to the organized markets, and Congress is keen to put its imprimatur on the discussion. **NWPPA**

Elizabeth K. Whitney is managing principal at Meguire Whitney LLC, NWPPA's Washington, D.C., consulting firm. She can be reached at elizabeth@meguirewhitney.com.

What the End-of-the-Year Reliability Actions Will Mean for 2018

By Bill Dearing



With the new year upon us, now is a good time to reflect on where FERC, NERC, Peak, and WECC left off in 2017, and what lies ahead for each in 2018.

FERC

Just after enough new commissioners were sworn in to reach a quorum, FERC approved the 2018 NERC and WECC budget, and requested a delay in responding to the Department of Energy Notice of Proposed Rulemaking on resiliency. As FERC staff noted at the recent NERC Board meeting, there were 1,345 emails and comments from industry on the NOPR—very high interest! The request proposes the creation of special rates within areas with organized markets (RTOs) to incent large base load coal and gas turbines to remain available, even if currently uneconomic due to other competitive generation.

NERC

There will be new leadership for the CEO and cybersecurity leadership with CEO Gerry Cauley and VP and Chief Security Officer Marcus Sachs having both resigned in late November; the NERC Board launched the new CEO search on December 14. The CEO position is vital in the continuing push for reliability-based standards and walking the fine line with the FERC on jurisdiction and sustaining the industry-based standards development process.

NERC has also just launched a new effort to review the existing (all non-Critical Infrastructure Protection related) standards with a goal to reduce the compliance burden by eliminating paperwork and other standards and requirements that do not meaningfully contribute to improved reliability. Since there is now a 10-year history with mandatory standards, the review will also focus on seldom violated standards to see if they can be eliminated; the aim is to remove or modify 20 percent of the current requirements. NERC has formed a steering committee and extended the deadline for nominations for the technical work groups. NERC is particularly interested in more small public power participants, including participants

from the Northwest. The application and more information can be found at www.nerc.com. NERC is also continuing work on a new “universal” portal for all utilities and regions in the U.S. to enter compliance information and file mitigation plans. This new tool will assist in ensuring consistent compliance action and penalties across all regional entities in the U.S.

The Standards Drafting Team continues to work on revisions to the Critical Infrastructure Protection version 5 standards. Of particular interest to NWPPA members is clarifying the definition and function of a “control center,” or any center that has SCADA equipment that can open and close breakers. Currently, “low-impact” control centers have a much more reduced compliance obligation compared to a “medium” or “high” impact center. Revisions to CIP-002 (Critical Cyber Asset Identification) should help clarify, and hopefully, keep smaller systems that have very little impact on the overall bulk electric system out of a larger compliance obligation. In regard to supply chain cyber concerns, NERC and the industry recently approved a new standard that has been sent to FERC for approval. FERC staff continues to be concerned about the potential impact of low-impact cyber assets and systems in the supply chain and other CIP standards.

Peak Reliability

At their December meetings, the Peak Board and Member Advisory Committee discussed the potential impacts of the withdrawal of the Mountain West region (mostly in Colorado and Wyoming) from receiving services from Peak Reliability. If the Mountain West joins the Southwest Power Pool Market, as is expected, they will also use SPP as their reliability coordinator (RC) instead of Peak. This is expected to increase costs for the remaining Peak members, which could precipitate others to withdraw. If that happens, Peak is concerned that its services could become uneconomic by 2019.

Options discussed included a significant reduction in services, a “wind down” of the Peak organization, or finding other ways to add value. Along those lines, Peak recently signed an agreement with the PJM Connex (distinct from PJM RTO) to explore the option of developing a day-ahead market and to develop a business plan by March 2018 for board review.

Every organized market in the U.S. currently also performs the RC services for its members, and Peak is the only stand-alone RC provider. Peak CEO Marie Jordan noted it was a fiduciary responsibility of the board to look at all options given the expected financial impact, and that this is a unique opportunity to “shape the West for the West.” She cited the short (18-month) turnaround for this project and PJM’s track record of bringing projects in on time and on budget as the primary reasons for picking PJM Connex versus other alternatives.

WECC

At its board and MAC meetings in December, CEO Jim Robb discussed the progress and areas of concern in the West since the 2011 Southwest Outage. While visibility and modeling have improved, he said the West is still in a reactive, rather than proactive, mode in looking at potential system problems. He said there is still too much reliance on experience and “tribal knowledge,” and system operators remain too internally focused. He noted it is not an issue of capital and resources, but more in culture and attitude that needs to evolve to ensure reliability in the entirety of the WECC region.

WECC discussed potentially changing its name to avoid confusion with its changed role since bifurcation with Peak, and that another organization in the Midwest uses the same “WECC” acronym. The leading contender for a new name is Reliability West, but there was not consensus on whether the name change is really necessary. Any decision by the board will need a bylaw change and an affirmative vote of the membership.

WECC and many of its members participated in the NERC Grid-Ex IV exercise in November which is an annual nationwide cyber and physical attack drill. Over 100 utilities, regulators, and government agencies from all over the U.S. participated. Next year, WECC will host Grid-Ex V likely in San Diego, Calif.

NWPPA

Bill Dearing is NWPPA's regulatory consultant. He can be contacted at wdearing@nwi.net.

Start the New Year with Increased Cyber Knowledge

By Steven H. Parker

Recently, during breakfast with my siblings, my younger brother asked a question which seems to be on the minds of many: “Are we really just one virus away from the grid going down?” That’s an easy question to respond to, but a difficult question to answer. Undoubtedly, the North American bulk electric system is not as vulnerable or fragile as is often depicted in national media, but the extent to which cyber risks threaten the grid, and the actual potential impacts, are difficult to measure with certainty or precision. In the midst of this uncertainty, against a backdrop of constant and rapid change, utilities big and small are tackling the challenge of cyber risk.

Over the last several years, a variety of initiatives have gained prominence in the electric sector and have become regular talking points in the media, and in Congress. The NERC CIP standards, now on version 6, have become the foundation for security programs in the transmission and generation segments of the industry. The E-ISAC, operated by NERC, has established itself as a hub for exchanging security threat information. The Electric Sub-Sector Coordinating

Council was formed to provide a CEO-level interface between government and industry. And, with the support of the ESCC, a cyber mutual aid program has been developed to provide a mechanism for utilities to share personnel and expertise during cyber incidents.

There have also been government initiatives to help industry secure its systems. The Electric Sector Cybersecurity Capability Maturity Model (ES-C2M2) and the NIST Cyber Security Framework (CSF) both provide guidelines for developing security programs. Additionally, the U.S. Department of Energy has provided significant grants (\$2.5 million each, annually) to two major trade organizations, the American Public Power Association and the National Rural Electric Cooperative Association, to help build security capabilities at small to mid-size public power and cooperative utilities.

Grant PUD Security Manager Nick Weber offers yet another option: he believes we need to look at what has already been working for physical security teams for years. “The question of how to address cybersecurity concerns is a daunting one that has confounded

and even paralyzed organizations across all sectors,” he said. “However, cyber is merely another dimension of security and should be treated accordingly. Applying Enterprise Security Risk Management principles will help leaders understand the impacts of a protection failure, helping to set the risk appetite and subsequently the level of protection and/or resilience needed for that system or device.”

Still, there are no effective, cookie-cutter approaches to addressing cyber risks. With a seemingly limitless array of potential attacks and hundreds of security “solutions” on the market, it is difficult to know where to begin, or what to do next. It may help to sort cyber threats into three general categories: those that are possible, those that are plausible, and those that are probable.

Probable threats include routine, opportunistic attacks such as non-targeted malware, ransomware, and denial-of-service attacks. Because such attacks happen regularly, most organizations already have some level of protection in place and are able to respond appropriately. As threats evolve, the minimum baseline of generally

accepted defenses changes to match the current landscape. Defenses here include anti-virus software, firewalls, intrusion detection systems, system hardening, email filtering, and similar established technologies.

On the other end of the spectrum are those threats that are possible, but very unlikely. This is generally the domain of sophisticated and well-financed actors, such as nation-states, terrorists, and criminal organizations. There are very few attack scenarios that don't fit into this bucket, since nearly anything that can be imagined is technically possible and the limits of feasibility continue to be pushed with new and novel attack methods being introduced on a regular basis. Most utility organizations should not spend much time or money worrying about this category since, at the extreme end of the attack spectrum, it is very difficult and expensive to develop or acquire the capability to adequately defend and respond, and the likelihood of attack approaches zero.

As usual, it is the middle ground that is the most challenging. Here, we find attacks that are plausible, but the probability is impossible to calculate, and the impacts can be wide and varying. This is where the cutting edge of

for end users," said Taylor Cox, Consumers Power's network security administrator. "Finding creative ways to reduce the most risk while being the least disruptive is a constant balancing act in this industry."

Several broad trends are driving security concerns and investment. First, industrial control systems (ICS), such as those used by utilities to operate power grids, are rapidly becoming a cyber battleground. The attacks against electric distribution systems in Ukraine have been widely discussed; more recently, a successful attack against safety systems resulted in the shutdown of an industrial

(IT), systems that support general business functions like finance, human resources, and customer service; and operational technology (OT), systems used to monitor and control operational systems such as generating plants, electrical transmission, and distribution systems. OT systems are increasingly based on the same technologies used in IT systems such as the Windows and Linux operating systems and internet protocol networking. Also, business networks increasingly rely on data from operational networks. In support of this convergence, support teams are either being integrated, or are forging closer



“The question of how to address cybersecurity concerns is a daunting one that has confounded and even paralyzed organizations across all sectors.”

theory meets the bleeding edge of reality. A lack of empirical data and experience leaves organizations guessing as to the right level of investment and the correct areas of focus. This is exactly where the electric sector sits today.

“One of the biggest challenges we face is finding the line between functionality and security. Security exists to protect business interests, not interfere with them. Adding layers of security often adds complexity or inconvenience

process at a critical infrastructure organization in the Middle East. On the defensive side, there has been a sharp increase in the number of security products and services designed specifically for ICS environments. Maturing threat capabilities and successful real-world attacks against operational technology will undoubtedly drive continued security investments in our sector.

Another distinct trend is the convergence of information technology

working relationships. Security programs are following suit. As described by a CISO at a large public power entity, “We are looking to establish a singular organizational structure, allowing for cross-organizational governance. We recognize that traditional utility IT/OT silos are not sustainable nor cost effective.”

A related trend is the increasing use of technology “at the edges” of the

continued

power grid. This includes smart meters, distribution automation, microgrids, and distributed energy resources such as rooftop solar. This trend is exponentially increasing the attack “surface area,” making defense much more challenging.

Finally, workforce challenges exist at all levels of security organizations. There is a significant shortage of skilled security professionals worldwide and across all sectors. Electric utilities are feeling this pinch and are struggling to fill positions at all levels. Turnover in the security field may be as high as 21 percent, according to a recent study released by Frost and Sullivan. This is supported by anecdotal evidence from our industry. In 2017, nearly 25 percent of the senior security executives on EnergySec’s advisory board either left the industry or changed employers.

In the midst of this, utilities are tasked with keeping the power flowing to an increasingly dependent society. Yet, even in an industry as critical to our way of life as electric power, resources for cyber defense are not limitless. Organizations must take a strategic approach in prioritizing cyber defense activities. The NIST CSF suggests five high-level tasks around which a defensive strategy can be built: identify, protect, detect, respond, and recover. Though simplistic, these five areas can be applied to provide guidance to utilities in building their programs.

The first step is to identify the items most needing protection. For utilities, these are the systems and facilities involved in the generation, transmission, and distribution of power, including critical operational technology and support systems. Even within this category, some facilities, such as control centers, are more important than others. Balancing the level of protection with the resources available is a difficult challenge, and one without any easy answers. Success in this stage requires a focus on operational risk at a strategic level, rather than reactive moves in response to a specific

event or threat. The correct balance and priority areas will be different for every organization.

“One of the ways we’ve performed cyber risk modeling is through Monte Cristo simulations, which assist utilities in understanding the probability of a particular cyberattack being successful and its related business impacts,” said Snohomish PUD Chief Information Officer Dean Galvez. “In addition, we assess our security program against cyber maturity models on an ongoing basis to benchmark our progress. We’re now equipped with much better information about the number and types of potential attacks over a five-year period, the cost implications, and our cyber program improvement needs.”

The second step is to protect. The goal in this stage is to make successful attacks more difficult, with the understanding that complete prevention is rarely possible, and almost never practical. A key point to consider is that no technology is perfect. Anti-malware products don’t catch everything. Firewalls can have vulnerabilities themselves, potentially resulting in compromise. And even full-patched systems have vulnerabilities that are not yet known, or not yet public. The key is to build a multi-layered defensive strategy that does not rely completely on any single tool or technique.

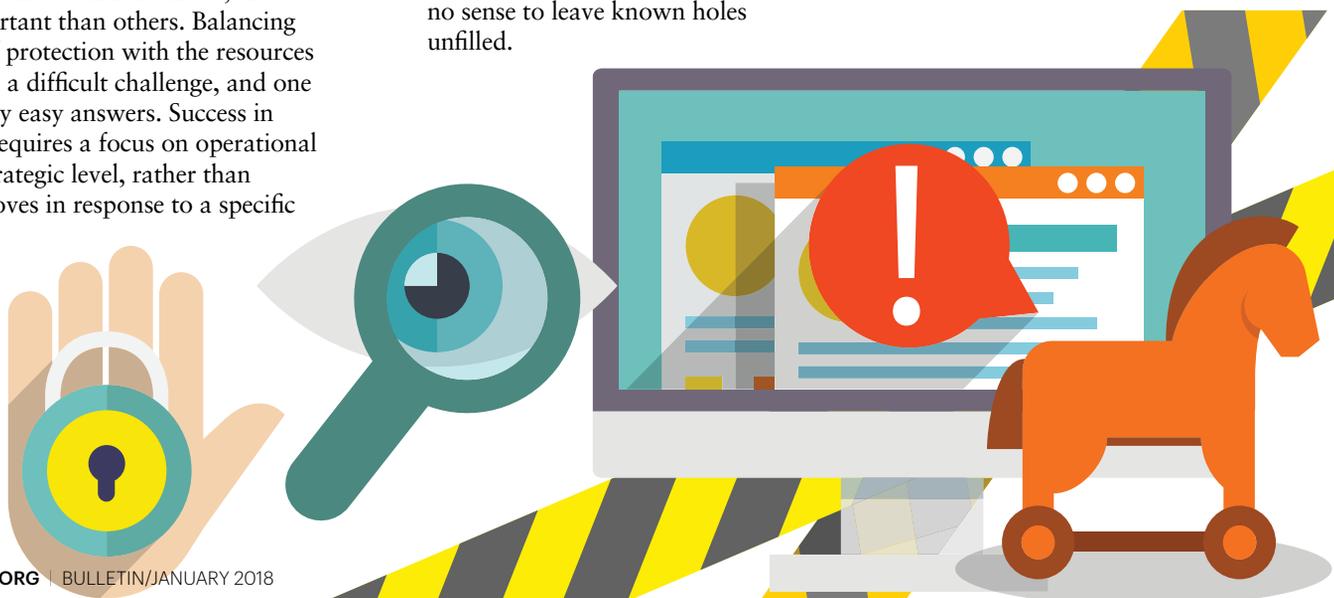
A security architect at a mid-size public power entity provided some tips on protection:

1. “Patch, patch, patch.” There is more than enough cyber risk associated with unpublished “zero-day” vulnerabilities, so it makes no sense to leave known holes unfilled.

2. Segment networks containing critical systems. This creates a defensible boundary and another obstacle for attackers to traverse.
3. Perform vulnerability scans inside and out at least once a year. Internal discovery can be sobering, but it will provide direction on where to apply remediation efforts.
4. Regularly send test phishing emails to utility staff, effectively training them to recognize potentially malicious messages and developing a culture of security.
5. Don’t put in technology for technology’s sake. Shiny new things can actually reduce security. Be strategic.

The third high-level step in the NIST CSF is to detect incidents. This is perhaps the most critical and challenging aspect of the five. Although protection is important to reduce the number of successful attacks, we know that some attacks will succeed. The key to limiting impact is rapid detection, ideally before any significant damage has occurred. But detection requires resources, something in short supply at smaller organizations. There are many good tools on the market for detecting potentially malicious activity. Although all tools will require some human labor to manage and monitor, technology investments in this area can provide a good return in increased security.

Detection is an area where information sharing can be tremendously valuable. Although most utilities are in



listen-only mode—receiving threat information but providing little back— expansion of capabilities to both receive and provide information about security threats and incidents should be a high priority for all utilities. FERC agrees. In its December meeting, the commission proposed to require new rules on security incident reporting for utilities subject to the NERC CIP reliability standards.

The fourth step is response. This is where small to mid-size organizations will likely struggle, and the reliance on outside assistance is paramount. Organizations should have plans in place that include calling upon third-party resources to help in the event of a significant incident. Utilities should also maintain close working relationships with law enforcement, including their local FBI field office and fusion center. Finally, consider having a retainer contract in place with a reputable response provider for assistance during any major incidents.

The final step is recovery. Planning and practicing ahead of time are crucial to ensuring that cyber systems can be rebuilt—if needed—after an attack. Organizations should also consider how they might operate in a degraded state during and after an attack, ensuring continued delivery of critical services in the absence of operational technology.

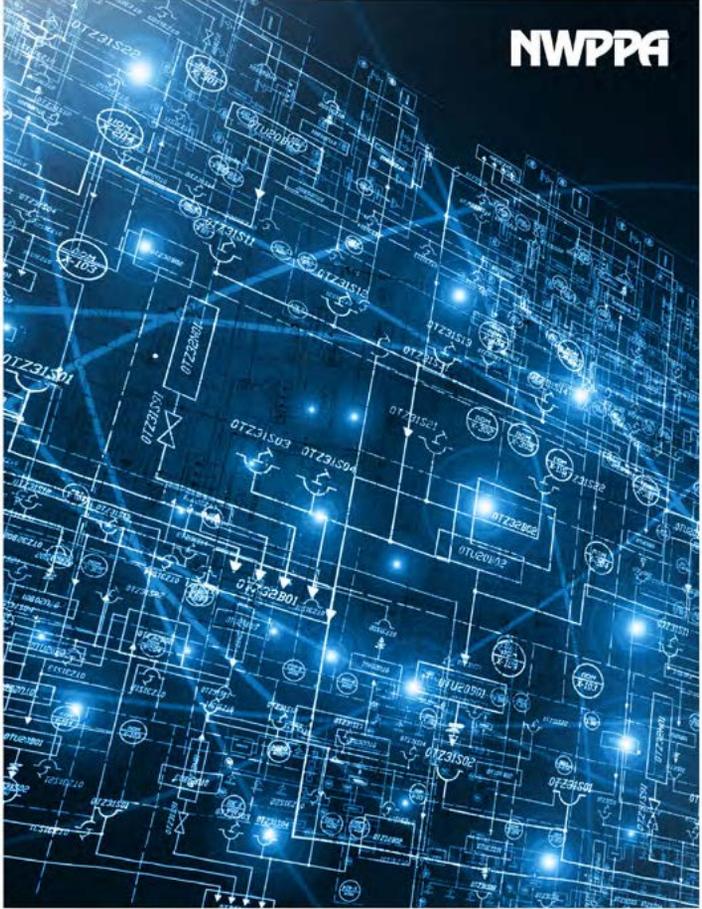
“The cybersecurity sector is constantly changing, and new attacks are being launched continuously. However, every new cyber incident that occurs is a chance to learn and be better prepared to defend against the next one,” said Cox. “The best way to fail at cybersecurity is to ever believe that you are now ‘secure’ and have no more ways in which you can improve.”

Over the past decade, as cybersecurity has emerged as a leading risk for electric utilities, the industry has responded with diverse and diligent efforts to address this risk. As the risk continues to grow and change, these efforts will also need to continuously adapt as well. The only certainty is that cybersecurity, like safety and reliability, is now a permanent part of utility operations, just another daily challenge to the task of keeping the lights on and the darkness away. **NWPPA**

Steven H. Parker is the president of the Energy Sector Security Consortium, Inc. (EnergySec), a non-profit corporation formed to support energy sector organizations with the security of their critical technology infrastructures. He can be contacted at either steve@energysec.org or (503) 905-2923.

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SALARY: \$7,860 per month

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TO APPLY: Submit a completed City of Gridley application.

POSITION: **Human Resource Manager**

COMPANY: Fall River Rural Electric Co-op Inc. (Ashton, Idaho)

SALARY: \$91,451 - \$122,720 per year

DEADLINE TO APPLY: January 26, 2018

TO APPLY: Send résumé and salary history to melanienichols2@gmail.com.

POSITION: **Journeyman Electrical Lineman**

COMPANY: Alaska Power & Telephone (Klawock, Alaska)

SALARY: DOE

DEADLINE TO APPLY: January 27, 2018

TO APPLY: Visit www.aptalaska.com.

POSITION: **Member Services Representative**

COMPANY: Coos-Curry Electric Cooperative (Port Orford, Ore.)

SALARY: DOE

DEADLINE TO APPLY: January 21, 2018

TO APPLY: Visit www.ccec.coop/content/career-opportunities.

POSITION: **Community Relations Coordinator**

COMPANY: Tillamook People's Utility District (Tillamook, Ore.)

SALARY: \$4,927 per month

DEADLINE TO APPLY: January 22, 2018

TO APPLY: Visit www.tpubd.org.

POSITION: **Journeyman Lineman**

COMPANY: Northern Wasco County PUD (The Dalles, Ore.)

SALARY: \$45.79 per hour

DEADLINE TO APPLY: February 28, 2018

TO APPLY: Visit www.nwasco.com/jobs.cfm.

POSITION: **Engineering Manager**

COMPANY: PUD #1 of Clallam County (Carlsborg, Wash.)

SALARY: \$9,292 - \$13,177 per month

DEADLINE TO APPLY: March 21, 2018

TO APPLY: Visit www.clallampud.net/employment/.

POSITION: **Journeyman Lineman**

COMPANY: City of Milton-Freewater (Milton-Freewater, Ore.)

SALARY: \$44.88 per hour

DEADLINE TO APPLY: March 25, 2018

TO APPLY: Visit www.mfcity.com.

POSITION: **GIS/Staking Technician**

COMPANY: Vigilante Electric Co-op (Dillon, Mont.)

SALARY: DOE

DEADLINE TO APPLY: January 22, 2018

TO APPLY: Contact Mr. Gary Ferris, engineering manager, at gf@vec.coop.

POSITION: **Engineer II/III Electrical (R17-633)**

COMPANY: Portland General Electric (Portland, Ore.)

SALARY: DOE per hour

DEADLINE TO APPLY: January 19, 2018

TO APPLY: Visit www.portlandgeneral.com/careers.

POSITION: **Electrical Distribution Engineer**
COMPANY: Salem Electric (Salem, Ore.)
SALARY: DOE
DEADLINE TO APPLY: February 28, 2018
TO APPLY: Send a cover letter and résumé in PDF format to jobs@salemelectric.com.

POSITION: **Safety and Loss Control Instructor**
COMPANY: Montana Electric Cooperatives' Association (Great Falls, Mont.)
SALARY: DOE
DEADLINE TO APPLY: January 19, 2018
TO APPLY: Submit a cover letter and résumé to meca@mtco-ops.com.

POSITION: **Lineman**
COMPANY: City of Port Angeles (Port Angeles, Wash.)
SALARY: \$43.20 per hour
DEADLINE TO APPLY: January 18, 2018
TO APPLY: Visit www.cityofpa.us.

POSITION: **Assistant General Manager**
COMPANY: Kootenai Electric Cooperative, Inc. (Hayden, Idaho)
SALARY: DOE
DEADLINE TO APPLY: February 12, 2018
TO APPLY: Visit www.kec.com.

POSITION: **General Manager**
COMPANY: PUD No. 1 of Okanogan County (Okanogan, Wash.)
SALARY: \$165,000 - \$200,000 per year DOE
DEADLINE TO APPLY: February 5, 2018
TO APPLY: Visit www.okanogapud.org.

POSITION: **Journeyman Lineman**
COMPANY: Peninsula Light Company (Gig Harbor, Wash.)
SALARY: \$42.90 per hour
DEADLINE TO APPLY: January 29, 2018
TO APPLY: Visit penlight.org/jobs.

POSITION: **Journeyman Lineman**
COMPANY: Canby Utility (Canby, Ore.)
SALARY: \$42.75 per hour
DEADLINE TO APPLY: January 28, 2018
TO APPLY: Visit www.canbyutility.org/about/jobs/.

POSITION: **Project Maintenance & Operations Foreman**
COMPANY: Southeast Alaska Power Agency (Ketchikan, Alaska)
SALARY: \$46.53 per hour
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Well, for one thing, they're all qualified electrical contractors—they know how to work with utilities. For another, NECA members can be right there when you need them, and cost you absolutely nothing when you don't. Keep this list of member firms. It can save you a lot of time, money, and headaches whenever you want it to.

Northwest Line Constructors Chapter
National Electrical Contractors Association
Tracy Harness, Chapter Manager

6162 N.E. 80th Ave., Portland, OR 97218
(503) 255-4824 • Fax (503) 256-1907
tracyh@nwlineca.com • www.nwlineca.com

*Emergency (night) numbers for firms having stand-by crews and equipment immediately available for disaster or storm repair.

Advanced Underground Utilities

P.O. Box 309
Sumner, WA 98390
Call (253) 988-2449

Aztech Electric, Inc.

P.O. Box 11795
(Zip 99211-1795)
5204 E. Broadway
Spokane Valley, WA 99212
Call (509) 536-6200

Brent Woodward, Inc.

307 S.W. 2nd St.
Redmond, OR 97756
Call (541) 504-5538

Burke Electric LLC

13563 S.E. 27th Place, Ste. A
Bellevue, WA 98005
Call (425) 644-0351*

Christenson Electric Inc.

17201 N.E. Sacramento St.
Portland, OR 97230
Call (503) 419-3300*

Cougar Construction

3015 Salem Ave. S.E.
Albany, OR 97321
Call (541) 791-3410

DJ's Electrical, Inc.

2319 S.E. Grace Ave.
Battle Ground, WA 98604
Call (360) 666-8070
(360) 518-0904*

EC Company

6412 S. 196th St.
Kent, WA 98032
Call (206) 242-3010

Holmes Electric

600 Washington Ave. S.
Kent, WA 98032
Call (253) 479-4000

International Line Builders, Inc.

SO. California Office
2520 Rubidoux Blvd.
Riverside, CA 92509-2147
Call (951) 682-2982

International Line Builders, Inc.

Sacramento Office
1550 S. River Rd.
West Sacramento, CA 95691
Call (503) 692-0193
(Tualatin's-we transfer)

International Line Builders, Inc.

Tualatin Office
19020 A S.W. Cipole Rd.
Tualatin, OR 97062
Call (503) 692-0193

International Line Builders, Inc.

Newman Lake Office
5516 N. Starr Rd.
Newman Lake, WA 99025
Call (503) 692-0193
(503) 523-7985 cell

Jaco Construction, Inc.

P.O. Box 1167
Ephrata, WA 98823-1167
Call (509) 787-1518

Key Line Construction, Inc.

725 Ash St.
Myrtle Point, OR 97458
Call (541) 559-1085

Magnum Power, LLC

P.O. Box 355
Castle Rock, WA 98611
Call (360) 967-2180
(360) 901-4642*
(360) 901-0233*

Michels Power

P.O. Box 15059
Tumwater, WA 98511-5059
9433 Dowcor Lane S.W.
Tumwater, WA 98512
Call (360) 236-0472

Mountain Power Construction

5299 N. Pleasant View Rd.
Post Falls, ID 83854
Call (208) 667-6011
(208) 659-0832*

Moza Construction, Inc.

P.O. Box 44400 (Zip 98448-0400)
3420 128th St. E.
Tacoma, WA 98446
Call (253) 531-5674*

North Sky Engineering

14103 Steward Rd.
Sumner, WA 98390
Call (253) 863-0484*

O'Neill Electric Inc.

4444 S.E. 27th Ave.
Portland, OR 97202
Call (503) 493-6045

Par Electrical Contractors

2340 Industrial Ave.
P.O. Box 521
Hubbard, OR 97032
Call (503) 982-4651

Potelco, Inc.

3884 Highway 99 E.
Hubbard, OR 97032
Call (503) 902-0255

Potelco, Inc.

14103 Stewart Rd.
Sumner, WA 98390-9622
Call (253) 863-0484*

Power City Electric, Inc.

3327 E. Olive
P.O. Box 2507
Spokane, WA 99202
Call (509) 535-8500

Power Technology

1602 Guild Rd.
Woodland, WA 98674
Call (360) 841-8331

Robinson Brothers Construction, Inc.

6150 N.E. 137th Ave.
Vancouver, WA 98682
Call (360) 576-5359

Salish Construction

10111 S. Tacoma Way Ste. D1
Lakewood, WA 98499
Call (253) 922-5325
(253) 218-8233*

Service Electric Co.

1615 First Street
P.O. Box 1489
Snohomish, WA 98291
Call (360) 568-6966

Sturgeon Electric Company, Inc.

1500 N.E. Graham Rd.
Troutdale, OR 97060
Call (503) 661-1568

Summit Line Construction

875 South Industrial Parkway
Heber City, UT 84032
Call (435) 657-0721
(435) 503-5393 cell

Tice Electric Company

5405 N. Lagoon Ave.
Portland, OR 97217
Call (503) 233-8801

Wilson Construction Company

1190 N.W. 3rd Ave.
P.O. Box 1190
Canby, OR 97013
Call (503) 263-6882
(503) 720-0016*

Yates Line Construction Company

7358 Hillsboro Silverton Hwy.
Silverton, OR 97381
Call (503) 812-9827*



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