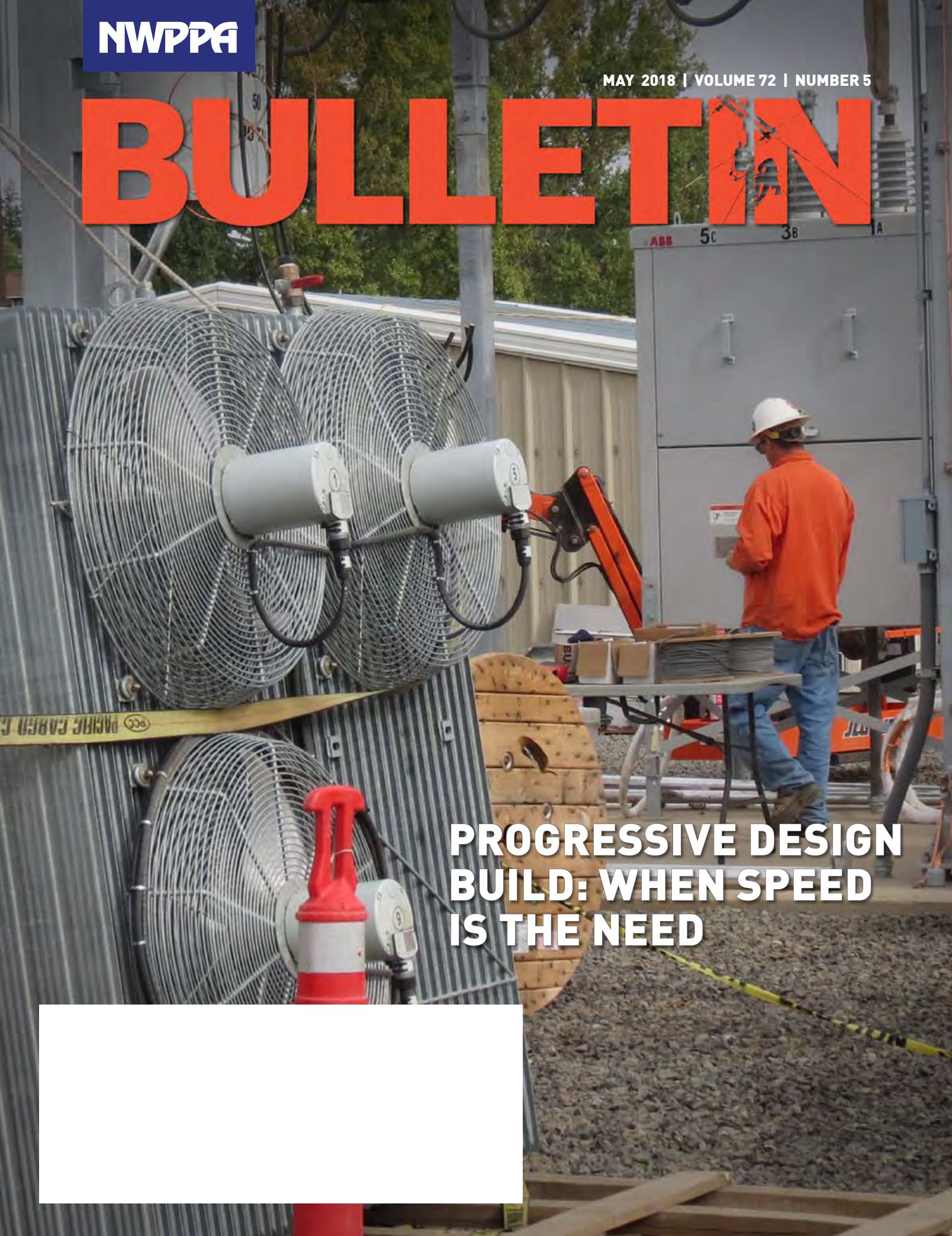


BULLETIN



**PROGRESSIVE DESIGN
BUILD: WHEN SPEED
IS THE NEED**





On the cover: Grant PUD's Central Ephrata Substation was the eighth added to its progressive design build roster after an arc-flash fire destroyed the substation in February 2017. Work was complete by late October.

Opinions expressed in single articles are not necessarily policies of the Association. For permission to reprint articles, write or call the associate editor.

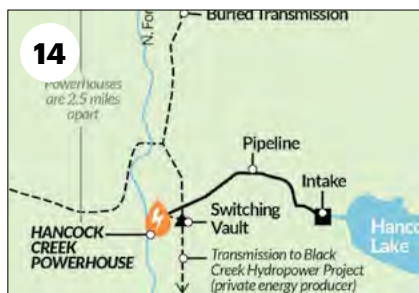
Editor: Debbie Kuraspediani
 Associate Editor: Brenda Dunn
 Graphic Designer: Mark Woodward
 Advertising: Brenda Dunn at (360) 816-1453
 or brenda@nwppa.org

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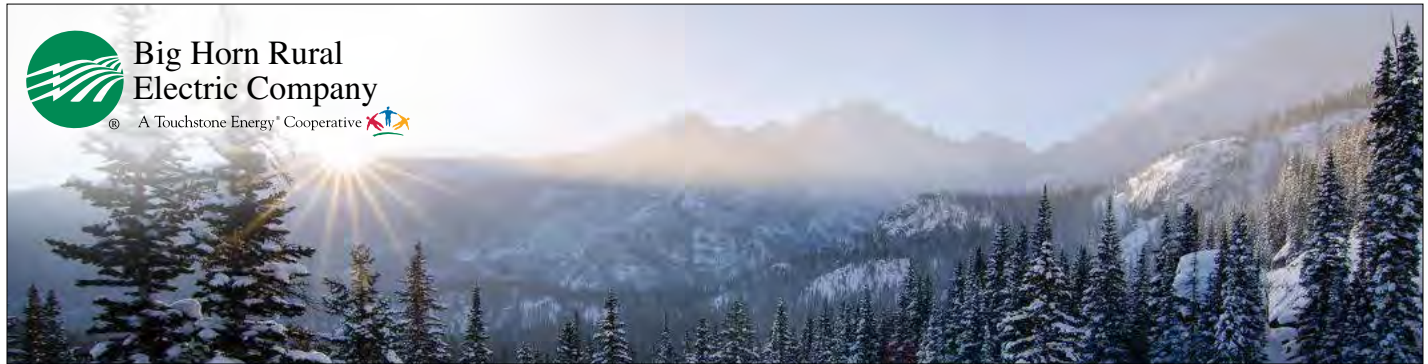
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NWPPA Welcomes Big Horn Rural Electric



We are excited to announce that another Wyoming utility has joined the Association—welcome to Big Horn Rural Electric Company!

Big Horn is a member-owned nonprofit cooperative that was incorporated on April 2, 1937, as a result of a concept planted in 1935 at a summer picnic sponsored by the County Farm Bureau and held on the Davis Ranch east of Greybull, Wyo. Big Horn began functional operations as a utility at 5:45 p.m. on February 1, 1938.

Big Horn is located in Basin, Wyo., and provides service to Big Horn, Washakie, Park, Sheridan, and Johnson counties in Wyoming as well as Big Horn and Carbon County in Montana. The cooperative provides service to 3,100 square miles and has approximately 3,545 meters over 1,300 miles of line.

A five-member board oversees the cooperative, and Jeff Umphlett serves as general manager. Big Horn employs 19 full-time employees.

For more information about Big Horn Rural Electric Company, visit www.bighornrea.com. **NWPPA**

April ETF Meeting Recap

The Environmental Task Force held its second meeting of the year on April 9 in conjunction with the Engineering & Operations Conference and Trade Show in Tacoma, Wash. During the opening of the meeting, longtime ETF members were honored for their service and dedication to the task force. ETF Chair Amanda Froberg of Cowlitz PUD presented plaques to the following for their service and dedication to the ETF: (1) Dan Bottger, Okanogan PUD; (2) Jack Himmelberger, Columbia Rural Electric Association; (3) Steve Sanders, Bonneville Power Administration; and Pat Mitchell, Grant PUD.

One of the goals of the ETF leadership is to develop well-rounded meeting agendas that cover all aspects of

environmental issues that utilities face. Last month's meeting was filled with presentations ranging from keeping soil clean and pole yard odor mitigation to pollinator habitat management and the Migratory Bird Treaty Act. After the networking lunch, utility members met in roundtables to discuss topics such as SPCC obligations on customer facilities; site visits and inspections; project management; and the NWPPA Government Relations Committee presentation.

The next ETF meeting will be held on Tuesday, September 11, 2018, in Anchorage, Alaska. Two additional classes are scheduled around this meeting: a half-day *Spill Prevention Control and Countermeasures* class will be held on Monday, September 10; and the *HAZWOPER 8-Hour First Responder Awareness and Refresher Training for Utility Personnel* class will be held on Wednesday, September 12. The ETF and both classes will be held at the Anchorage Hilton. For more information on these events, please visit our website at www.nwppa.org or email Jenny Keesey at jenny@nwppa.org.

Mark your calendars now for next year's three ETF meetings, which will be held on January 8, April 8, and September 10, 2019. Location and meeting information will be available on our website this summer. **NWPPA**



The 2018 E&O Powered Forward in a Sea of Change

Thank you to the over 1,000 attendees and exhibitors who networked together, visited the trade show, and attended over 30 available educational sessions at last month's NWPPA Engineering & Operations Conference and Trade Show in Tacoma, Wash., April 10-12.

On Tuesday morning, attendees sat in on the engineering, linemen, and supply chain roundtables. These roundtables have been very popular sessions because they allow utility employees to come and discuss issues of the day, best practices, challenges, and solutions. The exchange of best practices is why many come to the E&O.

Afterwards, SMUD's Pat Durham, the 2018 E&O chair, kicked off the opening general session to a packed room. "This year's theme, Powering Forward in a Sea of Change, is very appropriate for our industry which is

changing at an ever-increasing pace," he said. "This is why we have gathered in Tacoma—to come together as colleagues, companies, and as an industry to work together through these changes. To share, learn, and return to our companies with solutions and ideas."

NWPPA Board of Trustees President Steve Taylor, general manager of Mason County PUD No. 1, followed Durham and described some of the new technologies being pursued in the industry. His closing comments stood out with a challenge to the audience to remain relevant as an industry. "Non-utility companies such as Amazon, Google, and others are coming," he said. "If we are going to be more than a lines-and-wires industry and challenge these potential new market entrants that would take our place with customers, then we must be innovative. We must engage change. We must take on new ideas, methods,

and services that are perhaps outside of our utilities' current business model."

Durham and Taylor also took the opportunity to present the 2018 Safety Heroism Award to Clark Public Utilities Customer Service Representative Joshua Vincent for his life-saving actions on the evening of March 23, 2017. That day, Vincent was on a call with a customer when he noticed that she was disoriented. Concerned, he asked permission to call an ambulance to her address. The ambulance arrived just in time to save the customer's life. She had been having a heart attack and was pre-stroke, so Vincent's careful attention and concern was likely the reason she's still alive.

Closing out the opening general session was our keynote speaker, Neal Petersen, who shared his story of perseverance and achievement. Petersen endured not only months at sea alone for a race around the world, which were at



(1) Drew Anderson, Chuck Krieger, and the rest of the team at Terex won this year's Best Theme of Conference. (2) [L-R] E&O Safety Committee Chair Sean Eskridge, Clark Public Utilities' Joshua Vincent and Margaret Anderson, NWPPA Board President Steve Taylor, and E&O Conference Chair Pat Durham. (3) Central Lincoln PUD's Joe Foiles, Kyle Foiles (student), and Bob Cusick. (4) [L-R] E&O Conference Chair Pat Durham and NWPPA Executive Director Anita Decker with Thursday's CEO Panel: Umatilla's Robert Echenrode, Healdsburg's Terry Crowley, Kootenai's Doug Elliot, and Snohomish's John Haarlow. (5) Harley Denio entertained attendees with his "powerline blues" at his Powerline Infrared booth. (6) The ladies of National Metering won this year's Best Enthusiasm. (7) 2019 Chair Tina Ward, 2018 Chair Pat Durham, and 2020 Chair Ryan Amundson welcome attendees to the trade show grand opening.

times in very dangerous conditions, but he had to rise out of the racial prejudice of South Africa to even get to the race's starting line. To do that, he built his own sailing ship and raised funds along the way.

That evening, we opened the trade show, which provided attendees the opportunity to meet with nearly 200 local, regional, and national vendors. "National shows are very good, but our West-focused trade show brings greater value because we have the opportunity to network with our vendors. They know our situations and needs because we work with them often," said Durham. "To see them all in one place really makes the time at the E&O worthwhile."

Throughout the rest of the week, attendees heard valuable presentations from multiple speakers and panels. Topics covered system engineering, substation automation, safety, operations, supply chain, fleet equipment, and more. And every E&O ends with a banquet on the last night with the presentation

of awards from NWPPA's annual safety contest. For a complete list of the first-, second-, and third-place winners per category, please visit our website at www.nwppa.org.

Also at the banquet, the E&O Associate Member Committee presented the vendor awards: Terex Utilities won this year's Best Theme of Conference Award, Platt Electric Supply won Best Presentation of Product, and National Metering won Best Enthusiasm. The winners will each receive one free standard booth in the 2019 E&O trade show. Didn't win a free booth this year but are still interested in being a vendor in Spokane? Booths for 2019 were pre-sold at the Tacoma event, but at the time this issue went to print we still had 50 10'X10' spaces available. Email Taryn Johnson at Taryn@nwppa.org to purchase a booth before they are all gone!

As always, a huge thank you to our sponsors for their generosity: Platinum Sponsor ECI, Inc.; Gold Sponsors Gore Electric, IPS Energy, POWER Engineers,

SPX Transformer Solutions; Silver Sponsor Futura; and Signature Sponsor General Pacific. Without our event sponsors, attendees would not enjoy the lunches, refreshments, receptions, and other services that they provide.

Mark your calendar for the next E&O, which will be in Spokane, April 9-11, 2019. There you will find your friends from nearby utilities and your vendors! For more photos from this year's conference and trade show, visit www.facebook.com/NWPPAAssoc. **NWPPA**



25th Anniversary Excellence in Communication FAQ

For the silver anniversary of our Excellence in Communication Awards, we thought it would be useful to revisit some of the most frequently asked questions we have received over the recent years. Enjoy and good luck to everyone!

Q: Which Annual Report do I enter?

A: Submit the one that was written and produced in 2017, not 2018; for most utilities, this means you will want to submit your 2016 Annual Report. (Yes, it confuses us, too!)

Q: Which calendar do I enter for the Special Publications category?

A: Submit your 2018 calendar because that should be what you produced in 2017.

Q: Can I send every issue of our newsletter for 2017?

A: Yes, please do! A June issue and an October issue of the same newsletter should not be two separate entries; they should be entered as one Newsletter entry and the separate editions are helpful examples of the newsletter for the judges.

Q: If I entered my website last year, can I enter it again this year?

A: Yes, assuming you have maintained it at some point during 2017, which you should have! Be sure to briefly explain the updates to the website in an attached statement of purpose.

Q: What is a statement of purpose?

A: This helps the judges understand the meaning and success of an entry. The statements do not need to be lengthy, but if you can include an explanation of its purpose, the targeted audience, and its measured success, the judges really appreciate that information. Without that information, judges can't assess how successful a nice-looking brochure/bill insert/website was, or even why a utility created it or what they used it for.

Q: We have a Facebook account and an Instagram account that we used to publicize our solar project. How do we enter that?

If you have a social media campaign that uses multiple platforms to convey the same message (such as a solar project, rate change, energy efficiency rebate, etc.), it should be entered under Category 3, Advertising Campaign.

Q: We have a Twitter account, a Facebook account, and a YouTube channel that we update separately (no consistent advertising campaign used throughout them). How do we enter those?

A: Choose your two strongest accounts and enter them separately as two Social Media entries. Or find a common thread to them all and enter that as an Advertising Campaign. Do not enter all three as one Social Media entry.

Q: How do I enter the People's Choice Award for Photography?

A: All photo EIC entries are automatically entered into the People's Choice contest and will be viewed by your peers at the Northwest Communications & Energy Innovations Conference (NIC) Welcome Reception in September. To be eligible for the People's Choice Award, you must submit your entry into the EIC contest. You can submit two photos. This year there will be three People's Choice Awards: best photo of an employee, best photo of a child/children, and best photo of miscellaneous.

Q: How do I choose what photo(s) to enter?

A: Remember that photos must be utility related—judges have scored low in the past if they do not see a utility connection.

Q: What is the best way to package my entries?

A: Please mail in everything: one hard copy of printed materials (annual reports, newsletters, calendars, posters, bill inserts, coloring books, etc.),

physical items (mugs, t-shirts, tchotchkes, etc.), and jump drives for digital entries (videos, radio ads, etc.). Because we sometimes have multiple judges in the office at one time, it is also best to send entries on separate jump drives. For example, if you have one video for an Advertising Campaign entry and another for an Internal Communication entry, please send two separate jump drives whenever possible.

Q: What if I am not comfortable supplying my credit card number via the mail?

A: In this day and age, that is a very valid concern. Every entry must include a label attached to it; however, NWPPA only needs the billing information one time. Feel free to only write your credit card information on one form, or better yet, include it on a separate sheet of paper that can easily be shredded and recycled. All credit card information is immediately shredded, but if you are still not comfortable sending it in via a hard copy, you can also call Brenda at (360) 816-1453 and give her the payment information over the phone.

The Call for Entries includes even more information about what and how to enter. If you did not receive one, you may download the complete brochure at www.nwppa.org; the Call for Entries can be found near the bottom of the Communications page under the Member Resources tab. All entries and fees must be postmarked by Friday, June 29.

The winning entries and utilities will be honored at Tuesday's evening reception at the NIC. This year the NIC is heading back to Idaho and will be held at the Coeur d'Alene Resort, September 16-19. Look for more information about the conference in upcoming *Bulletins*. Also, be sure to follow us on Facebook for weekly examples of the winning entries from 2017.

Contact Brenda at brenda@nwppa.org if you have any questions about the contest. **NWPPA**



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DIRECTORY UPDATES NEEDED

If you have not yet submitted an update for the 2018-2019 Northwest Electric Utility Directory, please do so before May 31. Current information is not only needed to update our annual directory, but it also helps ensure that we have the most up-to-date information in our database and you receive the most accurate membership investment pricing.

If you have any questions or need the survey link, please contact Mark at mark@nwppa.org or (360) 816-1452. Thank you for your participation! **NWPPA**



ASKING FOR DIRECTORY UPDATES EARLIER THIS YEAR

To provide a more timely publication to our membership, we have bumped up the printing of our annual directory to July (previously it's been mailed in August). However, in order to design, print, and mail it sooner, we need your help.

A link for the 2018-2019 Northwest Electric Utility Directory update form was emailed to all key contacts in March. If you have not yet submitted an update for the 2018-2019 Northwest Electric Utility Directory, we ask that you please do so **as soon as possible** before May 31.

If you have any questions about the directory update process or need assistance, please contact Mark Woodward at mark@nwppa.org. **NWPPA**

40TH ANNUAL HAROLD BACKEN CO-OP GOLF TOURNAMENT

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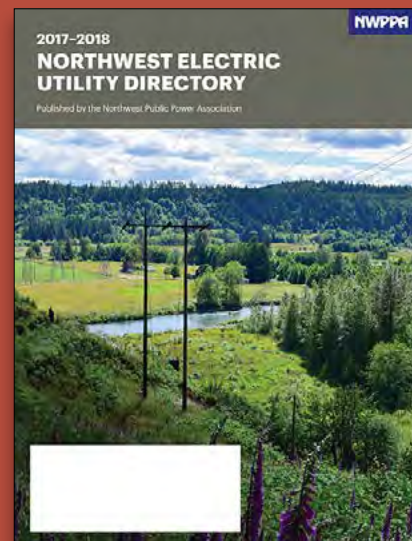
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4-PERSON TEAM SCRAMBLE

For entry information and registration go to www.eventregisterpro.com/event/backentournament or contact Dave Sabala at (541) 680-6173 or dsabala@douglaselectric.com.

DIAMOND WOODS GOLF CLUB • JUNCTION CITY, OREGON
JUNE 23, 2018





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October 25, 2018
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A Look Back at Public Power

50 YEARS AGO – 1968

The Seattle City Light Seafair Float won the governor's trophy for its 60-foot float decked in nearly 100,000 golden daffodils at the Puyallup Valley Daffodil Festival (Wash.) ... Kootenai Electric Cooperative won the certificate of excellence for safety at the National Rural Electric Cooperative Association's annual convention (Idaho) ... Science students from nine Clark County high schools visited the atomic energy installments at Richland and Hanford as participants of Clark County PUD's third annual field trip (Wash.) ... Vera Irrigation started welcoming its new customers with a four-color, 16-page booklet featuring a brief history as well as services, rates, and billing procedures (Wash.).

25 YEARS AGO – 1993

Jim Sisk, a former member of NWPPA's Legislative and Resolutions Committee and former member of Franklin County PUD's board, died at the age of 72 (Wash.) ... Tillamook PUD selected Seattle Northwest as underwriters for a negotiated sale of \$5 million in revenue bonds (Ore.)

... Alaska Village Electric Cooperative announced that Robert Beans of Mt. Village and Alexie Jimmie of Toksook Bay were elected by AVEC delegates to serve three-year terms on the board of directors ... Central Montana Electric Power Cooperative, Inc. hired Pacific Northwest Generating Co-op's former manager, Dave Harper, as their new general manager (Mont.).

5 YEARS AGO – 2013

Annette Creekpaum assumed the Mason County PUD No. 3 general manager role on April 1 (Wash.) ... Snohomish County Public Utility District joined with Pacific Northwest National Laboratory to co-sponsor a Cyber Summit aimed at sharing information about protecting critical systems (Wash.) ... Retired Salem Electric engineering and operations manager Robert "Bob" Vernon James passed away at the age of 84 (Ore.) ... Pend Oreille PUD Commissioner Curt Knapp was elected to serve as the Washington Public Utility Districts Association president (Wash.) ... Clatskanie PUD celebrated 70 years by featuring displays in their lobby covering the past, present, and future (Ore.). **NWPPA**

JUNE AND JULY 2018

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

STAKING TECHNICIAN CERTIFICATION PROGRAM: SIZING TRANSFORMERS AND CONDUCTORS

Who Should Attend: Staking technicians.

June 4, 2018—Spokane, Wash.

STAKING TECHNICIAN CERTIFICATION PROGRAM: UNIQUE STRUCTURES

Who Should Attend: Staking technicians.

June 5, 2018—Spokane, Wash.

ELECTRIC UTILITY SYSTEM OPERATIONS

Who Should Attend: Any electric utility industry employee (utility or vendor) whose job performance will benefit from a basic understanding of the operations side of the utility business, including engineering, operations, safety, purchasing, information technology, regulatory and rates, customer service, public relations, legal, and accounting; as well as utility commissioners and board members.

June 5–6, 2018—Vancouver, Wash.

FOREMAN LEADERSHIP ACCELERATED PROGRAM: PART 2

Who Should Attend: Foremen and crew leaders who have participated in *Foreman Leadership Accelerated Program: Part 1*.

June 5–7, 2018—Great Falls, Mont.

LEADERSHIP SKILLS #2: LEADERSHIP CHALLENGES

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

June 6–7, 2018—Whitefish, Mont.

STAKING TECHNICIAN CERTIFICATION PROGRAM: OVERHEAD/POLE-LINE STRUCTURE DESIGN AND LAYOUT

Who Should Attend: Staking technicians and engineers.

June 6–8, 2018—Spokane, Wash.

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.

June 11–12, 2018—Spokane, Wash.

ELECTRIC DISTRIBUTION SYSTEMS

Who Should Attend: Engineers, line workers, substation workers, apprentices, and support staff that have direct responsibility for the construction, operation, and maintenance of the utility's distribution system. **Prerequisite:** It is highly recommended that students complete *Electric Utility System Operations* before attending this class. Those who do not must have substantial experience in the basics of electric systems and utility operations.

June 12–13, 2018—Tacoma, Wash.

ENTERPRISE RISK MANAGEMENT: ADDING VALUE TO YOUR ORGANIZATION

Who Should Attend: Chief financial officers, senior-level accounting staff, auditors, general managers/CEOs, policymakers, and legal counsel.

June 13–14, 2018—Spokane, Wash.

SENIOR LEADERSHIP SKILLS SERIES SESSION 3: COACHING

Who Should Attend: General managers, directors, and experienced leaders of teams.

June 13–14, 2018—Hood River, Ore.

ONLINE — ENGINEERING WEBINAR SERIES: APPLICATION AND USE OF FAULT INDICATORS

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

June 19, 2018—Online

NEW! ACCOUNTING & FINANCE CONFERENCE

Who Should Attend: CFOs, general managers, all levels of accounting staff, and utility employees who work closely with the accounting department.

June 19–20, 2018—Spokane, Wash.

LINEMAN SKILLS SERIES: REGULATORS AND CAPACITORS—POWER QUALITY FOR LINEMEN

Who Should Attend: Electrical linemen, linecrew foremen, substation personnel, electrical engineers, and all personnel who would benefit from a theoretical and practical knowledge of regulators and capacitors.

June 21, 2018—Richland, Wash.

ONLINE — ENGINEERING WEBINAR SERIES: UNDERSTANDING AND MITIGATING UPLIFT

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

July 10, 2018—Online

NEW! ETHICS IN DESIGN AND OPERATIONS

Who Should Attend: New engineers, experienced engineers, and professional engineers, as well as managers.

July 18, 2018—Spokane, Wash.

NEW! BEST PRACTICES IN RELIABILITY

Who Should Attend: Engineers, reliability engineers, and managers who have the responsibility to maintain or improve system reliability.

July 19, 2018—Spokane, Wash. [NWPPA](http://NWPPA.org)

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FEC MAKES ADVANCES IN OUTAGE COMMS

By Wendy Ostrom Price

A Flathead Electric Cooperative lineman works to restore power after a massive windstorm blew through the area on October 17, 2017.

“We’ve come a long way, but we will never be done improving on outage communications,” said Katie Pfennigs, communications and marketing supervisor at Flathead Electric Cooperative in Kalispell, Mont. Pfennigs says there is no such thing as a perfect system, but FEC has enhanced its communication tools to the point that members are finally getting the information they want.

“Outage communications are difficult for all utilities and FEC is no exception. Although our efforts have been fairly robust compared to some, like having an outage map that members can view on our website, we still weren’t answering key questions. Our Outage Viewer told people where the outage was, when it began, and how many members were being impacted; however, it didn’t answer their key questions: 1. When is my power going to be back on? 2. Why is my power out in the first place? 3. Is someone working on the problem?”

Phones ring off the hook in the dispatch center during outages and social media inquiries increase, and Pfennigs says those are the three questions posed repeatedly to FEC. According to a Touchstone Survey, they are also the same questions posed to utilities nationwide. Now that FEC is providing the answers to those questions, Pfennigs says the co-op has completely turned a corner in communications.

“When people visit our Outage Viewer now, they can click on a specific outage and learn the cause, whether or not a crew has been assigned, and an estimated time of restoration,” she said. “They can also sign up to receive this information via text message alerts on that outage.”

Pfennigs says being proactive with both traditional and social/digital media has improved public relations significantly as well.

Members’ feedback during outages used to be very negative, but the conversations have changed dramatically due to FEC’s efforts. Pfennigs and her team had the opportunity to test those efforts on October 17 when a windstorm took out power to over 16,000 FEC members. The severe storm was predicted for the area.

“By all weather forecasts and accounts, trees were going to topple on power lines and chances were high that we would experience widespread outages,” she said. “So instead of reacting afterward, we got ahead of the storm by telling people in advance what they might expect, what to do if they did experience an outage, how to reference more information, and so on, which they seemed to truly appreciate.”

When the storm did hit as expected, Pfennigs went out with a crew foreman to survey the damage and restoration efforts. She captured photos and video of linemen working in treacherous conditions to share with members via social media (Facebook and Twitter) during the outages.

“I even posted one video of a lineman working in a bucket truck as a tree fell across the road from him,” she said. “The impact was telling! Complaints turned to gratitude and concern.”

This was the first and only large outage in the past several years that didn’t lead to a single (not even one!) negative comment for FEC. In contrast, posting the real-time photos and videos completely changed the tone of the typical outage conversations on social media to a positive, supporting, and appreciative one. FEC was almost overwhelmed with comments thanking crews and staff for their hard work to restore power and communicate with members. The co-op received a number of new reviews on its social media channels (every single one of them was five stars!) and over 50 new page likes—even though some members were out of power for over 24 hours. Their posts reached 16,276 people. Pfennigs says the experience was very enlightening.

“We were able to educate our members on what it takes to restore power following an outage. Many of them seemed to think we just ‘flipped a switch’ to get their power back on immediately. Doing a better job of explaining what our crews are actually up against in the field led to more understanding and patience when our members began to experience outages,” said Pfennigs.

She said the transition into greater communications, which was and remains strongly encouraged by the board and management of FEC, was challenging and multidimensional; it required all departments—from engineering, operations, crews, dispatchers, etc.—to be on board. And, she said, there were no templates to speak of in the industry.

“We knew what we wanted to do, but could only find bits and pieces available, so basically we had to start from scratch,” she said. “Fortunately, we have an expert coder on staff who was able to program the information we wanted to provide members from our Outage Center.”

FEC’s next phase will be to look into enabling members to report outages electronically so they won’t have to call if they don’t want to. This should also lead to a decrease in call volumes, which will help dispatchers so they can concentrate on dispatching crews and directing traffic to restore outages more safely and quickly.

“This is all a work in progress,” said Pfennigs. “I think we have met our members’ expectations on outage communications, so the next question is: How do we now exceed those expectations?” **NWPPA**

Wendy Ostrom Price is the public relations officer for Flathead Electric Cooperative in Kalispell, Mont. She can be contacted at W.Ostrom-Price@flathead.coop.

Flathead Electric Cooperative, Inc.
October 17, 2017

We are experiencing widespread outages. There are multiple trees in lines causing damage to equipment due to the high winds. Thank you for your patience. Our crews are working hard to restore power quickly and safely. Please remember to stay safe -- never touch or drive over a downed power line, but if you see one, report it to the Co-op right away.

Like Comment Share

Pamela Jean Muhle Wambach, Keith Walsh and 32 others
Most Relevant

51 Shares

Write a comment

Bev Shaw Thank you Flathead Electric for working so hard to restore our power
Like · Reply · 27w

Munch Woods Thanks for working so hard out there!! Be safe!
Like · Reply · 27w

Flathead Electric Cooperative, Inc.
October 17, 2017

These extremely high winds are blowing trees down all over the area. At 0:28 in this video, you can see a tree come down across the road from our truck. Thanks for your patience as our crews work as quickly and safely as possible to restore these widespread outages.

5.4K Views

Like Comment Share

Pamela Jean Muhle Wambach, Casey Watt and 60 others
Most Relevant

New Snohomish PUD Hydropower Projects Come Online

By Neil Neroutsos



Hancock Lake in the Cascade Mountains foothills, location of the PUD's new Hancock Hydropower Project.

Thirty miles east of Seattle, Snoqualmie Falls drops nearly 270 feet, providing a dramatic and picturesque backdrop for the many busloads of tourists visiting every year. The falls also gained notoriety as one of the iconic landmarks in the popular *Twin Peaks* TV series of the 1990s.

What visitors may not know is that the river basin also powers several hydropower projects, the newest of which are fueled by Hancock and Calligan Creeks, tributaries of the Snoqualmie River. Snohomish PUD began generating energy at these projects this winter. Collectively, they can provide enough energy for up to 10,000 homes. They're the two newest among only a handful of hydropower projects that have been developed in Washington state in the past 50 years.

History and development

The two sites were considered for development by area utilities as early as the 1950s. Hydro West, a subsidiary of Puget Sound Energy obtained a license from the Federal Energy Regulatory Commission in the 1990s; however, it never broke ground on the project and the license expired in 2004.

Snohomish PUD subsequently purchased the property in 2010 and obtained the FERC license in 2015. Constructed in a period of about two years, the total budget for the two facilities came in at about \$60 million.

The PUD learned from the design and construction of its Youngs Creek hydropower project, completed in 2011, to reduce engineering costs and build in other design savings.

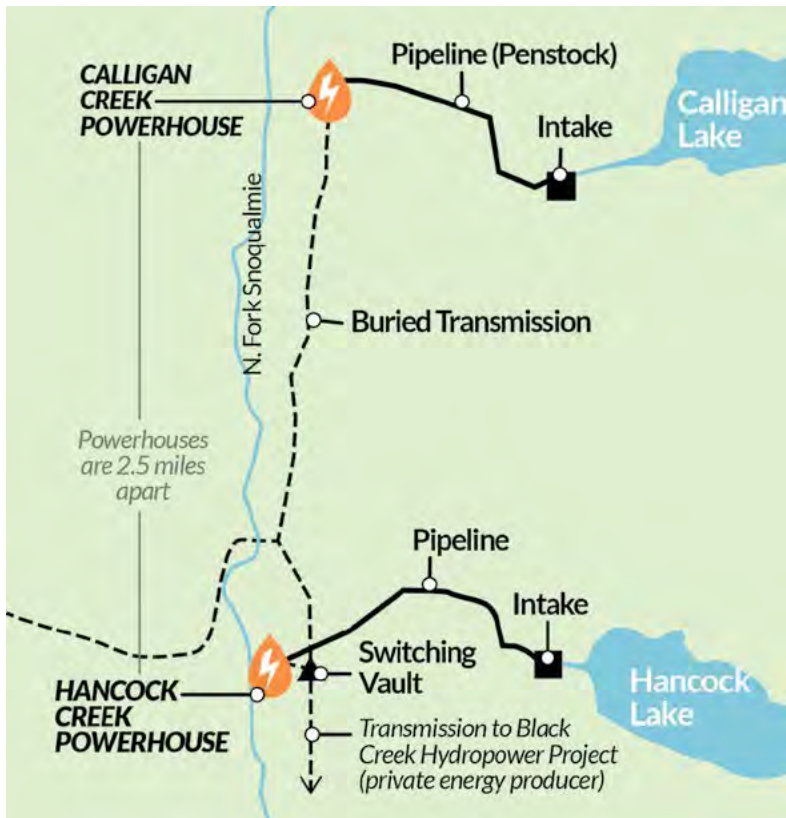
"The design of the Hancock and Calligan powerhouses are nearly identical to Youngs Creek, so we saved considerable time and money not having

to re-engineer various parts of the projects," said PUD Manager of Generation Engineering Scott Spahr. "Our engineering costs came in at less than 10 percent of total project costs—much lower than other projects."

Smart savings

The PUD also reconfigured the route of a section of pipe from an initial design to avoid a challenging area, cutting excavation work in that area by two-thirds and saving about \$1 million. In addition, the utility employed the expertise of its staff that work at other hydroelectric facilities to assemble the turbine/generator units at the Hancock and Calligan projects. By using internal resources, it avoided contractor costs of \$200,000.

"These moves also helped keep the projects' timeline in check, which was critical as we worked to construct two projects simultaneously," Spahr said.



KEY FACTS AND FIGURES:

- Rated capacity of 6 megawatts each; collectively enough to serve up to 10,000 homes
- Ideal sites for hydropower projects; area receives 135 inches of rain annually
- Each project’s pipeline drops more than 1,000 feet in elevation over a mile-long route from the intake to each powerhouse below
- 14,100 feet of pipe installed
- 56 District employees worked on the projects
- Zero reportable injuries for PUD employees to date

The PUD used high-density polyethylene pipe instead of steel pipe for the low pressure portions of the pipelines. It was less expensive and quicker to install—saving \$640,000 in project costs.

One of the favorable attributes of the area is a very steep grade below each of the projects’ intakes. Both pipelines drop more than 1,000 feet in elevation over a mile-long route from the intake to each powerhouse below.

Located in the foothills of the Cascade Mountains, it’s also a very wet area. With about 135 inches of rain annually, it’s an ideal site for hydro-power generation.

Since the two projects sit several miles above Snoqualmie Falls, an impassible barrier for salmon, there are fewer fish issues. However, the PUD’s design built in protections for resident trout.

The diversion weirs and water intakes on both Hancock and Calligan creeks are equipped with fish screens to prevent fish and debris from entering the penstock (pipe). As part of the projects, resident trout are being monitored and fish ladders at both intake areas allow

for passage along the creeks and into the upstream lakes. Minimum instream flows are maintained throughout the year to preserve fish habitat, and water quality monitoring is conducted using automated instrumentation placed at prescribed locations.

Challenges

During early construction, in the fall/winter 2016, the area experienced multiple heavy rain and snow events that impacted construction, as well as hot, dry periods the following summer that forced fire hazard shutdowns.

“Managing two projects at once also was challenging and created some tight timelines,” said PUD Principal Engineer Danny Miles. “We needed to fit a lot of work in during the summer months, since one of our permits (with Washington Department of Fish & Wildlife) restricted work to protect resident trout populations.”

In addition, despite extensive geotechnical testing throughout the project sites, there are always a few surprises, such as more rock in some places, which adds work to the excavation process

and penstock installation. At the intake sites, there was an issue with the ground conditions that required the utility to construct much deeper concrete walls. At the Calligan project site the PUD originally planned to go down 4 feet, but ultimately had to go down 18 feet.

Now what?

Going forward, forecasting models will be developed using historical data, hydrological principles, and weather forecasts to predict water flows and expected power generation down to an hourly basis. Additional communications links will be completed to assist project operations and communication between the new sites, the PUD’s Energy Control Center, and its Jackson Powerhouse (site where five hydro projects are remotely operated). The PUD Commission will formally dedicate the two projects this spring. **NWPPA**

Neil Neroutsos is media liaison for Snohomish County Public Utility District in Everett, Wash. He can be reached at nsneroutsos@snopud.com.

Cowlitz PUD Makes Plans for the Grid for Our Future

By Alice Dietz

When Cowlitz PUD engineers began the study for a 10-year capital plan that would improve Cowlitz PUD's 69-kilovolt system to a 115-kilovolt integrated system, they knew this would be a huge undertaking, involving every department across the District. After years of planning and months of individual site surveys, hundreds of pages of documentation were ready for presentation to the Cowlitz PUD Board of Commissioners. Luckily, they had a secret weapon for the case in funding this project: a recent major outage caused by a single squirrel. The radially operated system was lacking redundancy and when one of the utility's substations, which was fed from another substation across town, was taken down by a squirrel, thousands of customers lost power, including the local college, multiple schools, and major shopping centers. The need for an integrated system had been brewing for a while, but when the commissioners were able to witness the impact of Cowlitz not having a system that backs up its feeders in a more reliable way, they knew that it was up to them to make a decision for the future of Cowlitz PUD's infrastructure.

In 2007, when Cowlitz PUD's board of commissioners approved the budget for a 10-year capital plan, rebuilding

a series of substations to create an integrated transmission system, it was not the only thing they were approving; they were also approving a future of growth. Cowlitz County was growing, and the board knew that along with that growth, updated electrical infrastructure was necessary. The commissioners sought to build a sustainable foundation that fostered economic growth for an ever-changing population. Cowlitz PUD, along with their partners Cascade Networks, JH Kelly, TriAxis Engineering, the Bonneville Power Administration, and their community, recently celebrated the completion of their 10-year capital plan at a local restaurant in Historic Downtown Longview. Tim Johnston, the lead engineer on the project, gave a heartfelt presentation concluding with, "This is a grid for our future and I'm really proud of all the craftsmanship that went into this."

Before the rebuild, it was not unheard of for Cowlitz PUD to be working with 40-, 50-, even 60-year-old equipment that had an original lifespan of 20-30 years. Engineer Lance Larwick quipped, "Without a doubt, we got use out of the equipment we replaced!"

But with any industry, times change, technology improves, and the demands that were once met with the original

utility infrastructure no longer meet the needs of an ever-growing urgency for automation. Joe Furer, a relay technician that saw this project from start to finish and who comes from the mindset "If it's not broken, don't fix it," even agreed that Cowlitz's system was "really old." Having completed a full transition to automated meters in 2012, Furer emphasized the necessity to transfer more data and communication with more departments across the District than in the past. "We made the system more reliable for our customers, but we are also helping maintain our system internally, with new technology," he said.

The integrated transmission system meant the utility took a 69-kilovolt system that operated radially to an increased 115-kilovolt system that now operates in a loop. By integrating the system, much more system growth can be accommodated. Along with these system improvements, Cowlitz has increased the protection of the system. "We can have a single line go out and not experience an outage versus before we could have a single line go down and lose anywhere from 1 to 5 substations and thousands of customers," said Larwick. The completion of the integrated transmission system upgrade has already benefited the customers as it has helped maintain a more reliable system for Cowlitz's large industrial loads and provided a stable system with increased redundancy for its residential customers.

If you attended a recent Cowlitz PUD board meeting, you will have heard Board President Dena Diamond-Ott talk about fiscal responsibility. She



Before and after of the Columbia Way Substation rebuild.

emphasized the importance of maintaining and improving the utility's infrastructure while making long-term decisions that are not based on the next one or two years, but are instead based on the next decade. Cowlitz PUD's decision to invest in a decade of work on the integrated transmission system came because of the guarantee of future reliability, capacity, and the desire to develop and maintain an electrical infrastructure that is the foundation for a growing economy and future generations.

"I'm really proud of the work that was accomplished by our dedicated staff members," said Diamond-Ott. "Whether they realize it or not, almost every PUD employee had a hand in the project."

NWPPA

Alice Dietz is the public relations and communications manager for Cowlitz PUD in Longview, Wash. She can be reached at adietz@cowlitzpud.org.



Cowlitz PUD Relay Technicians Joe Furer, Ron Johnson, and Dale Axon work in the Columbia Way Substation.



Senior Engineer Tim Johnston presents the 10-year Capital Plan at the Integrated Transmission System Completion.

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Grant PUD Continues Spillway Inspections



As of April 10, Grant PUD crews continue investigating the leakage discovered in spillway monoliths at Priest Rapids Dam. Initial analysis shows that a disbonded lift joint is the source of the leakage. A lift joint is the area between two concrete blocks poured at different times. A monolith is the structure that supports the piers holding up the spillway gates.

Priest Rapids Dam continues to generate electricity and operations continue as usual. There is no threat to property or people. The monoliths are stable, but do merit further investigation.

The monolith lift joint has lost some of its bonding, resulting in the leakage of three to four gallons a minute, which has been detected by the investigative drilling. This leakage has been found through the same lift joint near the base of four of the 22 spillway monoliths.

To date, inspection drilling has occurred through about half of the spillway and will continue throughout the remaining monoliths. This is anticipated to continue into May. The spillway structure is stable and no movement has been detected in the structure. Once the investigation and analysis are complete, Grant PUD officials will decide on what, if any, remedies are needed beyond the drilling. The inspection drilling is reducing pressure from the water inflow through the disbonded area of the joint lift.

In late March, out of an abundance of caution, Grant PUD officials declared a non-failure emergency at Priest Rapids Dam. This was discovered after inspection drilling revealed the leaking in spillway monoliths.

Grant PUD has reduced reservoir elevation behind the dam by approximately three feet. This is still within the normal operating range while inspection work continues. Priest Rapids Reservoir will be held to operating elevations between 484.5 to 481.5 feet above sea level. The maximum reservoir elevation is 488.0 feet. The reservoir will remain at the lowered level at least until the inspection work is complete. **NWPPA**

Next Director of Richland Energy Services Named

Richland City Manager **Cindy Reents** has named a new member to the leadership team. Current Engineering & Operations Manager **Clint Whitney** will be the next director of Richland Energy Services (Wash.). Whitney transitioned to his new role on April 5 as current Director **Bob Hammond** retires.

“I’m pleased to promote Clint to director of Energy Services,” said Reents. “He has proven his commitment and expertise over the past 20 years and I’m confident he will maintain the same level of service and professionalism Richland customers expect.”

Whitney has worked for the City of Richland for over 20 years in both engineering and operations capacities. Although not originally from Washington, he has lived in the Tri-Cities since 1983. He graduated from Washington State University with a B.S. in electrical engineering and is a registered professional engineer. Previously, he spent five years at Hanford working on the electrical distribution system. He is currently working towards a Master in Business Administration from WSU with an expectation of completing this fall. He has been married for 30 years and has two sons. **NWPPA**

WPUDA Elects Officers for 2018-2019

Washington Public Utilities Districts Association members have elected a new slate of officers for 2018-2019.

Lewis County PUD Commissioner **Dean Dahlin** was elected president, Chelan County PUD Commissioner **Randy Smith** was elected vice president, and Skamania County PUD Commissioner **Liz Green** was elected secretary. Lewis County PUD Commissioner **Ben Kostick** is serving the second half of his two-year term.

WPUDA’s new president is a retired locomotive engineer and active weatherman. Commissioner Dahlin has served on the Lewis County PUD Board of Commissioners since January 2013. Dahlin, in his first meeting as president, outlined his priorities for the year, including working collectively as an association to pass legislation that would enhance customer access to affordable and reliable broadband service; moving forward on honoring Homer T. Bone, a founding father of public power, by dedicating the WPUDA building in his name; and reviving a PUD organized lineman rodeo.

Vice President Smith moved into position after having served as secretary. Smith has served on the Chelan County PUD Board of Commissioners since 2007.

Newly elected Green began serving on the Skamania PUD Board in 2015.

WPUDA Treasurer Kostick has served on the Lewis County PUD Board since 2007 and is serving the last year of his third term as WPUDA treasurer.

WPUDA 2017-2018 President **Ron Skagen** now becomes past president continuing his service on the association’s Executive Committee. **NWPPA**

Douglas PUD Honors Paul Scott

Douglas County PUD Commissioners **Ronald E Skagen**, **Molly Simpson**, and **Aaron J. Viebrock** awarded System Operator **Paul Scott** with his 30-year service award during the April 9 commission meeting held at the District's East Wenatchee, Wash., office.

Commissioner Skagen thanked Scott on behalf of the citizens of Douglas County for his years of service. Scott thanked the commission and said, "I love my job and the place I work."

NWPPA



Commissioner Viebrock, Commissioner Skagen, Paul Scott, and Commissioner Simpson.

Mason 3 Issues Bitcoin Moratorium

Bitcoin miners are intent on staking their claim to Mason PUD 3's (Shelton, Wash.) affordable electricity rates and high-speed fiber-optic network.

To provide time to evaluate the effect of these energy intensive operations on the local power system and rates, on April 10 PUD commissioners approved a moratorium on accepting applications for service to "cryptocurrency" operations. The moratorium covers computer or data processing loads related to virtual or cryptocurrency mining, bitcoin, Blockchain, or similar purposes. It does not apply to existing approved applications.

"The Pacific Northwest has seen a rush of cryptocurrency operations recently," said **Michele Patterson**, PUD 3 power supply manager. "We need breathing room to study the local impact on power demands, the ability of the system to handle these energy-intensive operations, rate structure considerations, and protecting the power supply of existing customers."

"A large grocery store or hospital uses between 30 and 40 kilowatt-hours per square foot," said Patterson. "Computer data processing can use over 2,100 kilowatt-hours per square foot." NWPPA

Franklin PUD Announces New AGM

On April 10, Franklin PUD (Pasco, Wash.) announced that **Holly Dohrman** has been promoted to the assistant general manager for the utility.

Dohrman has been the power director for Franklin PUD since July 2015 and has over 15 years in the electric utility industry. She has extensive analytical and technical expertise, and project management experience regarding transmission, distribution issues, and other rates and revenue matters regarding power supply and delivery.

"We are excited to have Holly on board with such impressive skills and talents," said Franklin PUD General Manager **Tim Nies**. "We are pleased that Holly is taking on this new position of assistant general manager to assist Franklin PUD customers and employees regarding current and future electric utility issues."

Dohrman is a graduate of Washington State University with a B.A. in social science, and Yakima Valley Community college with an A.A. in engineering. NWPPA



Grays Harbor Outages Increased in 2017

Several significant weather events at the beginning and end of the year led to an increase in the number of power outages for the Grays Harbor PUD (Aberdeen, Wash.) in 2017. While the number of major outages fell from 369 in 2016 to 315, the total number of customers impacted jumped from 59,334 in 2016 to 73,337. That total equaled 264,624 hours in which customers were without power, a sharp rise from 2016 totals.

The 2017 numbers were impacted by several large-scale events in which power was out for many customers. In all, 19 of the major outages recorded impacted 53,666 customers or 73 percent of the yearly total. Among those was the January 17 downing of eight transmission poles on State Route 105 that knocked out power to all of the South Beach area and the November 13 storm that knocked out power to 8,148 customers in North Grays Harbor, the South Beach, and Central Park.

"Living on the Washington coast, we can expect wind storms to have a major impact on our utility system. While 2017 was a tough year, I think it also tells a story about the toughness and dedication of our crews and utility staff," said Board of Commissioners President **Arie Callaghan**. NWPPA

Tenney Denison Joins PPC Staff

On April 3, the Public Power Council announced that **Lauren Tenney Denison** joined PPC as a senior policy analyst.

Tenney Denison was most recently a public utilities specialist with the Bonneville Power Administration. Having held various positions at BPA since 2008, she has extensive analytical and technical expertise and project management experience regarding complex transmission issues and other rates and revenue matters regarding federal power supply and delivery.

“We are excited to have an expert coming on board with such impressive skills and talents,” said PPC Executive Director **Scott Corwin**. “We are very pleased that Lauren will join our team at this critical time for our members regarding current and future generation and transmission options.”

Tenney Denison resides in Portland and is a graduate of Lewis and Clark College with a B.A. in economics. In addition, she has conducted graduate work on energy policy and management at Portland State University. **NWPPA**



Dunbar Named New Jefferson PUD GM

In a unanimous decision at their March 20 regular meeting, the Jefferson County PUD Board of Commissioners (Port Townsend, Wash.) approved a resolution formally appointing **Larry Dunbar** as its new general manager. Dunbar began the position on April 23.

Both District 1 Commissioner **Jeff Randall** and **Joel Paisner**, PUD legal counsel, described the contract negotiations as “remarkably smooth.” Dunbar, previously a utility manager for the City of Port Angeles and currently with the City of Ellensburg, “wants to be here and is ready to get started,” said Paisner.

Randall noted that Dunbar was the only general manager candidate from Washington state, and the only one who had lived on the Olympic Peninsula. “He knows the area and culturally he’ll be a good fit,” said Randall. Dunbar and the PUD signed a three-year contract.

King also commended Assistant General Manager **Kevin Streett** for the work he had done not only as acting general manager during the search process, but in building up the PUD’s electrical division from “nothing, not even a spool of wire or a screwdriver” when Streett was first hired in 2012.



NWPPA

Craig Collar Announces Retirement

Snohomish County Public Utility District (Everett, Wash.) CEO/General Manager **Craig Collar** has announced his retirement from the utility, effective October 1, 2018, with his last day at the PUD being June 29, 2018. Collar has led the PUD for nearly three years, and previously served as an assistant general manager of Power, Rates and Transmission. He joined the utility in 2006. Collar is leaving to spend more time with family.

Collar has played an instrumental role in securing tens of millions of dollars in grants and forging numerous partnerships with universities and research organizations as the PUD has studied and developed new renewable energy resources in the Pacific Northwest. He also led negotiations with the Bonneville Power Administration, the utility’s largest energy supplier, and worked to address a broad range of federal energy compliance issues.

“PUD customers have benefitted greatly from Craig’s expertise amid an increasingly complex energy industry,” said PUD Board of Commissioners President **Kathleen Vaughn**. “His many contributions have helped reinforce our continued commitment to conservation, financial prudence, renewable resources, safety, customer service, and ongoing improvements to system reliability.” **NWPPA**

Sawatzke to Lead Energy Northwest

On April 26, Energy Northwest’s executive board named **Brad Sawatzke** as the agency’s chief executive officer. Sawatzke has been acting as interim CEO since the departure of **Mark Reddemann** on March 30.

The board also appointed **Grover Hettel** as chief nuclear officer. Hettel previously served as vice president for Operations. Replacing Hettel as Operations vice president is **Bob Schuetz**, who will also continue in his role as Columbia Generating Station’s plant general manager pending selection of a new plant manager.

In an organizational change, the Energy Northwest Executive Board moved the agency’s hydro, wind, and solar operations, as well as new development and energy business services, under the leadership of **Brent Ridge**, who continues as vice president for Corporate Services.

“I am humbled and honored with this new opportunity,” Sawatzke told the board. “We have a talented and capable team, and I’m very enthusiastic about the bright future facing us as a 100-percent clean generator of environmentally safe and affordable electricity.”

Prior to the appointment, Sawatzke served as the agency’s chief operating officer and chief nuclear officer. Before joining Energy Northwest in 2010, Sawatzke was the director of site operations at the Prairie Island Nuclear Generating Plant, operated by Xcel Energy. He worked for Xcel Energy for nearly 29 years. **NWPPA**

We Remember: Robert Wayne Phillips

Jefferson County Public Utility District #1 (Port Townsend, Wash.) is mourning the loss of one of its longest serving employees. **Robert Wayne Phillips**, special projects coordinator, was returning to the PUD's Four Corners Operations Center after checking on a number of projects around the county on April 16 when, according to East Jefferson Fire and Rescue, his PUD-issued utility truck drifted from Highway 20 and struck a tree. Phillips died at the scene. He was 72 years old.



Phillips, or Bob as he was known to friends and coworkers, performed a variety of duties for the PUD. He managed tree trimming, easements, right of ways, and provided support to permitting and construction.

Originally hired as a water distribution manager in 2005, Phillips also stationed the customer service counter taking payments and answering the phone until 2012. During the transition to public power, Phillips served as the PUD's purchasing agent. He worked to obtain all the tools and equipment necessary to get the PUD's electrical division up and running by April 2013.

This is the first time the PUD has lost an employee on the job. **NWPPA**

NCPA Partners with SJCE

The San Jose City Council has voted to approve a contract with the Northern California Power Agency to provide San Jose Clean Energy with wholesale energy services. The city established SJCE to offer renewable energy choices to customers, lower greenhouse gas (GHG) emissions, increase local control, and promote economic growth.

"SJCE is excited about partnering with NCPA to support the launch of our program. NCPA brings tremendous expertise in helping locally governed community choice energy providers and public power utilities meet local energy needs," said **Lori Mitchell**, director of community energy.

NCPA will provide SJCE with a variety of wholesale energy services, including scheduling coordination and portfolio management and optimization services. These services will provide support as SJCE procures power for delivery to SJCE customers over the Pacific Gas & Electric Company transmission and distribution system.

"NCPA has been providing local communities and agencies with wholesale energy services since 1968," said NCPA General Manager **Randy Howard**. "Extending a commitment to help SJCE deliver affordable, reliable, and clean electricity to the city truly honors NCPA's roots as we celebrate our 50th anniversary this year." **NWPPA**

Spring Storms Boost PCWA Supplies

Despite a dry start to 2018, storms in late March and early April have produced above-average precipitation in the watersheds that source Placer County Water Agency's (Auburn, Calif.) water supply. The favorable news was reported to the PCWA Board of Directors at its April 19 meeting during a hydrology and water supply update.

As of April 17, cumulative precipitation at Lake Spaulding, which supplies nearly 90 percent of PCWA demand, measured 66.5 inches, or 102 percent of average for this time of the year. Much of the increase is attributed to precipitation in the month of March, which more than doubled the historical average with a total measurement of 22.7 inches. April precipitation, currently at 8.5 inches, is 146 percent of normal.

"At the time of our first hydrology and water supply update in 2018, there was lots of speculation about the return of drought from certain corners," PCWA General Manager **Einar Maisch** said. "But as one or two dry months don't make a season, today we can 'close the book' on any drought for PCWA customers this year." **NWPPA**

Another Clean Audit for Pend Oreille

Pend Oreille County Public Utility District (Newport, Wash.) received another clean financial audit for 2017. The PUD utilized a third-party firm, Moss Adams LLP, to conduct the audit that covered the financial statements and reporting for the PUD's electric, generating, water, and broadband systems.

On April 10, Moss Adams LLP Partner **Olga Darlington** presented her final audit report at the PUD board meeting. She stated that District personnel were courteous, responsive, and fulfilled all requests in a timely manner. Darlington also mentioned that management was helpful and transparent during the process.

Board President **Dan Peterson** said, "The commission is very pleased with the year-after-year excellence demonstrated by the District's finance staff and management." **NWPPA**



AMP Increases DIY Rebate

Alameda Municipal Power (Calif.) has bumped up its rebate rate for self-install lighting upgrades from 10 to 23 cents per kilowatt-hour. With the self-install lighting program, customers will have the choice to use their own contractor.

The rebate program provides customers with enhanced lighting at their business as well as lower energy bills. AMP must approve the proposed lighting upgrade before work begins. The utility also has final approval of all projects. **NWPPA**

Terex's Barron Named to GTA Board

Terex Utilities announced that **Ted Barron**, vertical market manager, was recently named to the Green Truck Association Board of Governors. GTA is an affiliate division of the National Truck Equipment Association.

As a member of the board of governors, Barron will work with other industry professionals to set policy and develop strategy for the organization, as well as play an active role in the development of programs and services. GTA's members include utilities, municipalities, and component and OEM manufacturers.

Barron's background as a fleet manager for a utility and his current role with Terex Utilities provides a combination of perspectives, which he shares in service to other industry groups.

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, www.linkedin.com/company/terex, and www.facebook.com/Terex-Corporation. **NWPPA**



SEL, Dragos Form Partnership

Dragos, Inc., the industry's leader in industrial threat detection and response, and Schweitzer Engineering Laboratories (SEL), the industry's lead supplier of digital systems that protect power grids around the world, have formed a partnership to arm the electric power community with the tools to better detect and respond to threats within their industrial control system (ICS) networks.

"With the increasing and persistent cyberattacks focused on critical infrastructure, new solutions are required to protect ICS networks," said SEL COO **Dave Whitehead**. "To combat these challenges, Dragos and SEL have integrated their technologies to create a proactive, intelligence-driven approach to threat detection and incident response."

The Dragos Platform integration with SEL devices provides comprehensive insight into power system networks and their communications, allowing asset owners and operators to gain deep packet inspection into SEL communications to monitor for security events. The partnership also opens new opportunities for unique detection and response practices.

Schweitzer Engineering Laboratories (SEL) is a supplier of digital systems that protect power grids around the world. For more information, visit <https://selinc.com/>. **NWPPA**

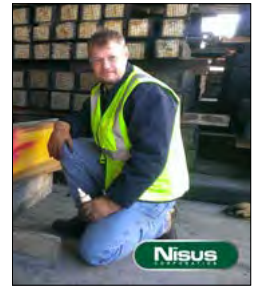
Nisus Promotes Lloyd, Hires Gaston

Nisus Corporation announced that **Dr. Jeff Lloyd** has been named to the position of senior vice president, Innovation and Sustainability, and **Jamey Gaston** has been hired as vice president of Research and Technology.

Lloyd's position allows for a greater focus on key Nisus objectives. He joined Nisus on November 30, 2001, and has been responsible for research and development as well as opening new global markets. He holds degrees in applied biology and microbiology, and a Ph.D. in biochemistry/preservation technology from Imperial College at The University of London.

Gaston introduces a wealth of relevant product experience to Nisus. In his most recent role as Omnova's innovation program leader, Gaston managed product portfolios, acted as liaison between technology group managers and project managers, and leveraged a strong business acumen with technical knowledge to achieve long-term, sustainable growth.

Nisus Corporation is the leading manufacturer of sustainable pest control products and also provides sustainable wood preservatives to the railroad, utility, and lumber industries. For more information, visit www.nisuscorp.com. **NWPPA**



Dr. Jeff Lloyd



Jamey Gaston

Senstar Systems Protect Major U.S. Airport

Senstar is pleased to announce it has delivered the perfect perimeter intrusion detection (PIDS) solution to protect the perimeter of one of North America's largest cargo airports. Due to the facility's unique perimeter security requirements, Senstar combined multiple technologies to form a comprehensive system that effectively protects the airport and keeps the nuisance alarm rate (NAR) low.

"With a busy road running along one side of the airport's five-mile perimeter, and people using the airport's fence to lean on while waiting at bus stops, a fence-mounted solution alone would have been an NAR nightmare," said **Nancy Marshall**, Senstar's executive director of business development. "By combining multiple technologies, we created a system in which a single alarm is not enough to trigger a response, but, if multiple alarms are received, the threat is deemed to be real and a response is initiated."

Senstar has been safeguarding people, places, and property with the world's largest portfolio of perimeter intrusion detection sensors for over 35 years. For more information, visit www.senstar.com, www.YouTube.com/SenstarCorp, or www.twitter.com/SenstarCorp. **NWPPA**

Toth & Associates Opens Portland Office

Last month, Toth & Associates opened an office in Portland, Ore. The new location is Toth's second company office, expanding its Midwest footprint to the Pacific Northwest. Located at 107 SE Washington Street, this additional office will better serve an existing client base, as well as future clients in the Pacific Northwest.

Jess Moran, professional engineer, will head up the new location. Moran has close ties with the Portland community and is dedicated to the office growth and progress.

"The company's history of client satisfaction and detail-oriented engineering in the Midwest gives us this exciting opportunity to expand our presence in the Pacific Northwest, bringing our expertise to new and existing clients in the region," said Moran.

Toth & Associates also has an office located in Springfield, Mo.

Established in 2003, Toth & Associates, Inc. is a consulting engineering firm offering electrical engineering, structural engineering, civil engineering, professional land surveying, and GIS/mapping services. To learn more, visit tothassociates.com. **NWPPA**

Larry Weis Joins ECI

Electrical Consultants, Inc. is pleased to announce the addition of Larry Weis to its corporate staff as the new vice president of Engineering and Construction. Weis brings with him over 36 years of experience in the electric and water utility industry with 28 consecutive years in the position of general manager/CEO for four electric utilities. He has a wealth of demonstrated strategic leadership as witnessed during his tenure at each of the electric utilities he managed, including two of the largest municipals in the U.S.



He has transitioned the utilities he has led to diversify their generation using renewable energy resources, leveraging his expertise in risk management and fuel supply strategies. Externally, he has provided strategic leadership in state and national government relations and regulatory affairs; he also has had direct experience in numerous FERC-licensing issues and regulatory matters.

Weis has been active in many industry associations and has served as a trustee and past president of NWPPA; president-elect of the Texas Public Power Association; and as a director, trustee, and board member for multiple associations and agencies nationally, regionally, and at the state level.

ECI is a full-service engineering design firm specializing in the power and telecommunications industry. For more information, visit www.electricalconsultantsinc.com. **NWPPA**

Oxbo Assists with Double Transformer Replacement

Crews recently used OXBO's 30,000-pound slide gear to remove and replace two transformers at a dam facility.

The two-phase job included moving each transformer 55 feet, turning them 90 degrees, and moving them sideways for the final 10 feet.

The state-of-the-art transformers replaced units that were installed back in the 1960s.

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Hydroelectric Power Licensing Reform Floats to the Top of the D.C. Agenda

By Nicole Case



A group of 18 NWPPA member representatives made the annual pilgrimage to Washington, D.C., in the third week of April. They joined the Northern California Power Agency for a joint policy conference prior to heading on their own to share our message of western consumer-owned utility dedication to reliable, low-cost power, and local control with members of Congress and congressional staff. This year, NWPPA's visit to D.C. followed a significant win on passage of provisions of the Electric Reliability and Forest Protection Act of 2018 and a budgeting fix for wildfire funding. With these wins other issues took center stage.

NWPPA members have reason to celebrate: legislation addressing vegetation management on rights of ways over federal lands (similar to the Electric Reliability and Forest Protection Act of 2018) and a 10-year budgeting fix for wildfire funding passed the U.S. Congress and were signed into law as part of a package of authorizing legislation included in the Omnibus Appropriations Act of 2018. These legislation provisions

were high-priority issues for NWPPA's members during our D.C. rallies for the past several years. Many hours have gone in to urging congressional delegation support for both pieces of legislation, with a focus on the vegetation management legislation. NWPPA was pleased to see both signed into law on March 23, 2018.

With our annual D.C. Rally following so soon after the FY 2018 Omnibus Appropriations bill was signed into law, another high priority issue for NWPPA members—legislation to reform hydroelectric power licensing and recognition of all hydroelectric power as a renewable—became our priority issue. Some NWPPA members with licenses to operate hydroelectric power projects have undergone more than a decade of federal processes to renew these licenses, or to obtain a new license. The cost of this process typically ranges at or above \$20 million. Faced with sometimes conflicting and oftentimes expensive conditions placed upon the license by federal agencies, hydroelectric power project owners spend countless hours, time, and

funding to navigate the licensing process.

Armed with stories of their own hydroelectric power project licensing struggles, NWPPA member representatives underscored the need for hydroelectric power licensing reform, and reiterated support for H.R. 3043, which passed the House of Representatives last year, and the licensing reform provisions in S. 1460, the Senate Energy bill. The message was welcomed in many of our nine-state delegation offices. All eyes will be on the U.S. Congress after mid-term elections in hopes that hydroelectric power relicensing reform will move to the Senate floor for consideration and pass, setting up a conference on the hydroelectric power licensing provisions.

Another new issue that made the top of NWPPA's list this April was reauthorization of the ability to advance refund tax-exempt municipal bonds. Last year, NWPPA worked in concert with municipal bond advocates to protect the tax-exempt status of municipal bonds during the tax reform debate. This effort was a success; however, the Tax Cut and Jobs Act of 2017 (the Tax Reform

Act), removed an important tool from tax-exempt municipal bond financing: advance refunding. Advance refunding is much like refinancing a home mortgage. Advance refunding can save electric consumers hundreds of thousands of dollars in smaller communities and over time, millions in larger communities. The Tax Reform Act removed this “advance refunding” authority, which was a loss for, and in some cases a penalty for, consumer-owned utilities to refinance bonds or repay in advance ahead of schedule.

Per the U.S. Constitution, all tax bills must originate in the U.S. House of Representatives. H.R. 5003, the Hultgren-Ruppersberger bill, was recently introduced in the House and would restore advance refunding. NWPPA members asked House members to co-sponsor this bill and urged senators to support the bill when it heads to the Senate.

NWPPA members also urged its congressional delegation to collaborate with consumer-owned utilities when defining resiliency of the bulk electric grid. Resiliency is a relatively new focus and not clearly defined. Ensuring that grid and utility systems are protected from physical and cyberthreats, including severe weather conditions, has long been a priority for NWPPA members. NWPPA members believe resiliency is addressed with the existing Federal Energy Regulatory Commission and North American Electric Reliability Corporation standard-setting process for the bulk electric system. As Congress, the administration, and FERC take steps to define resiliency, consideration should be given to the current FERC/NERC process and to collaborating with consumer-owned utilities.

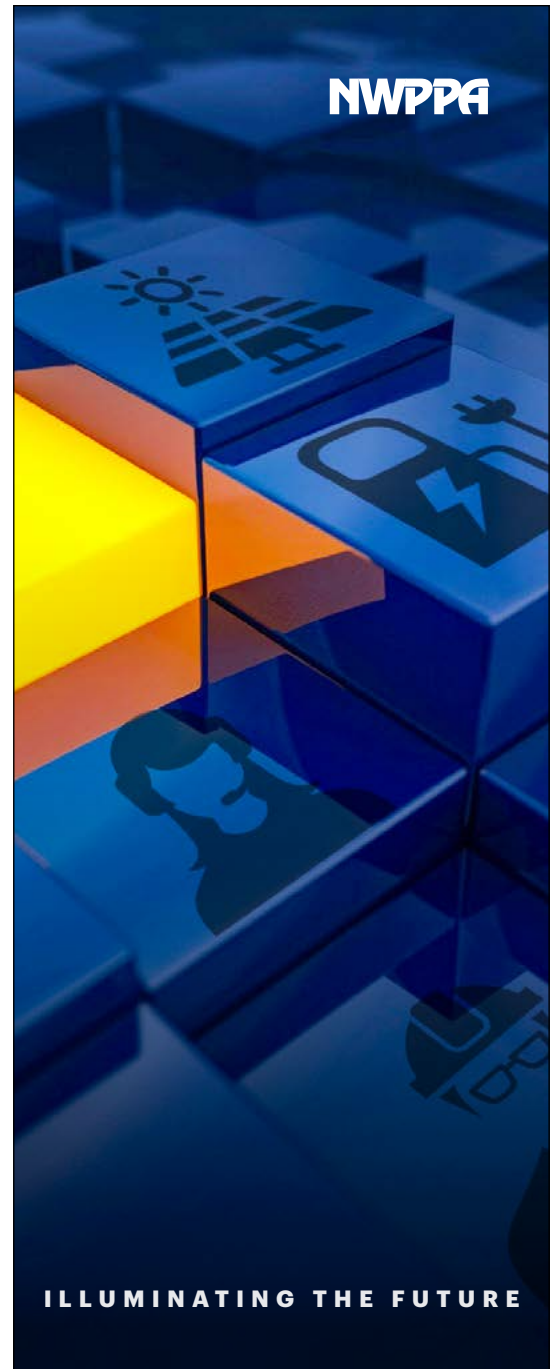
Rounding out our messaging in Washington, D.C., were the following: the need for common-sense reform of the Endangered Species Act, including concerns where the courts interfere in the science, process, or costs; opposition to the privatization of the power marketing administrations or a move to market rates; support for maintaining the current state authorities to regulate vehicle emissions as

it pertains to electric vehicles, and consumer-owned utility efforts to incent production and deployment of electric vehicles; local control of pole attachments; and support for full Rural Utility Service funding.

Capping four days in Washington, D.C., was testimony by NWPPA member representative Doug Hardy, the general manager of Central Montana Electric Power Cooperative, in the Senate Energy & Natural Resources Committee hearing on rural energy. Hardy emphasized the challenges of serving rural areas, including the tremendous amount of power-system infrastructure needed to serve customers. In Montana, individual co-op lines, if connected end to end, would be long enough to circle the earth at the equator two and one quarter times. He explained further that four of CMEC’s cooperatives serve about 10,000 members in a geographic area that is larger than a combination of Rhode Island, Connecticut, Delaware, New Jersey, and Massachusetts. With the high fixed costs of power system infrastructure and few customers per mile of line to pay those costs, rural utilities have little room to absorb additional costs associated with changes in regulatory policies or increased costs due to changes to power marketing administration cost-based rates or sale of assets. “People are struggling at the end of rural utility lines right now,” Hardy said. “They don’t have the headroom to absorb additional costs.”

NWPPA’s D.C. Rally sets the stage for developing relationships with our west-wide delegation, laying the groundwork for continued work on priority federal policy issues for NWPPA members and learning more about how the NWPPA congressional delegation considers our issues. NWPPA staff and member representatives will continue to engage our delegation through communications designed to reinforce our priority issues and that build upon our meetings in Washington, D.C. **NWPPA**

Nicole Case is NWPPA’s legislative consultant and can be reached at nicole@nwppa.org.



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Ultimate build-out of the new Cloud View Substation includes 230kV H-bus rated for 3000A; three sets of transformers, each including a 230kV live-tank breaker; 41MVA 230 x 115-13.8kV transformer; and six-bay distribution structure.



PROGRESSIVE DESIGN BUILD: WHEN SPEED IS THE NEED

Extraordinary load growth demanded a faster way to build; Grant County PUD found one

By Russ Seiler and Mark Milacek

Pushed by a decade of extraordinary industrial load growth, Grant County PUD was facing a five-year backlog of needed substation upgrades, including two brand new substations, expansion of two existing substations, and ground-up rebuilds of three more—all within a very tight 24-month time frame.

However, the traditional design-bid-build procurement process for public utilities would have added at least two years to that ambitious schedule. Big customers were impatiently awaiting more capacity, and system upgrades were critical to handle anticipated growth and ensure reliability of service.

A new option

Grant PUD's \$40 million in pent-up substation work couldn't wait, but the upgrade project couldn't sacrifice quality, consistency, or worker safety.

The utility found its solution when it became the first public utility district in Washington state to take advantage of a 2013 state law that gave public entities a progressive design-build procurement option—one that has proven both flexible and efficient, producing work that is virtually on time with outstanding quality and an excellent record of safety.

Like its more widely known design-build predecessor, progressive design build lets project owners hire a project

designer and contractor under a single contract, with a guaranteed maximum price for multiple construction projects. The progressive version goes further by allowing project owners to choose their contractors based almost entirely on qualifications, although not without a competitive-price component.

Robyn Parkinson, the Mercer Island, Wash., attorney who helped draft Washington's 2013 design-build legislation, says the process gets the three key players (project owner, designer, and builder) together early in the process to develop a scope of work, refine designs, materials, and time frames, and, together, determine a maximum project cost.

The project's ultimate success, she said, depends on the ability of these three key players to work together.

Getting it done

The progressive-design-build alternative sounded perfect for the PUD's substation projects. The idea was pitched. Coworkers and management liked what they heard, and they got started putting together the required owners project-management team, which included both PUD staff and hired consultants (attorney Parkinson; Vanir Construction Management of Bellevue, Wash.; and POWER Engineers of Hailey, Idaho). These consultants were skilled in the design-build process.



Early construction at Cloud View substation shows crew at work as one of the data centers that is driving the need for system expansion operates in the background.



Will Shaw, electrician for Wilson Construction, wires the metering portion of a relay cabinet at the Cloud View Substation, now complete.



The Central Ephrata Substation was the eighth added to the progressive design build roster after an arc-flash fire destroyed the substation in February 2017. Work was complete by late October.

The team created the initial scope of work and submitted an application to the state Project Review Board to see if the substations project would qualify for the progressive-design-build option. The consultants' contribution was valuable at this stage. The state board needed to see that the PUD had enough experience on its team to ensure a successful project and preserve the reputation of the design-build alternative. The project qualified.

Throughout the scoping-and-approval process, the team kept the PUD's elected board of commissioners informed of the progressive-design-build process and its advantages. PUD board members agreed in October 2015 to hire the design firm of Omaha-based HDR Contractors Inc. and Canby, Oregon-based builder Wilson Construction Company under a single contract with a maximum cost of \$24 million. Both of these companies had prior experience doing design-build substation and transmission work.

HDR Deputy Project Manager Jake Van Houten describes the interaction with Grant as "free-flowing and continuous to be sure everyone is on the same page with regard to expected outcomes and delivery dates."

HDR-Wilson led the project under a single team that included the same project managers, procurement managers,

controllers, design manager, and construction managers for all seven substation projects.

Notable subcontractors on this project were Tommer Construction Company of Ephrata, Wash.; Specialty Engineering of Vancouver, Wash.; and KVA Electric of Arlington, Wash.

Work began on the first of the seven substations in June 2016. As that work progressed, the PUD team, together with HDR and Wilson, got to work on the design and logistics of the next substation.

The team gained efficiencies with each stage of construction as they learned lessons from the last.

"It was a real go for a few months. A real scramble," said Patrick Smith, site superintendent for Wilson Construction "Of all the design-build projects, this is the largest number of sites I've worked on that are contained within one project. It brought challenges of complexity and speed."

In February 2017, an arc-flash fire caused extensive damage to Grant PUD's Central Substation in the city of Ephrata, population 8,032. PUD officials added the rebuild of the damaged substation to the ongoing progressive-design-build project. This brought the total number of project substations to eight.

Work progressed on schedule and with good results. The unseasonably cold winter of 2016-2017 caused some delays

Continued

COVER STORY

and required schedule shuffling, but the overall project—including the additional substation—was finished by late October 2017, only three months longer than planned and with an excellent safety record.

Van Houten said his crew logged more than 60,000 man hours on the project with zero lost-time incidents. Worksites passed multiple surprise inspections from state labor officials. “Safety was huge,” he said.

Lessons learned

Grant PUD’s internal team conducted a series of lessons-learned exercises. Here are a few of their findings:

- With design, procurement, and construction happening in parallel, design build requires the three key participants (project owner, project designer, and project builder) to work closely and collaboratively. The attitude of the key players is critical. The success of the project depends on establishing a culture of trust and collaboration.
- With multiple phases of the project underway at any given time, the project owner should expect to assign more than one staffer to manage the project. Work happens fast and the owner has to be very involved. It can be too much for a single project manager or engineer to handle. Operations folks should also be included throughout the process. They bring a critical perspective. The contractor wants to give the owner what we want, project engineers say; but every utility has its own stamp. The utility has to work with the contractor to reach that goal.
- Get everyone to the table as early as possible. Spending effort and resources on a well-coordinated, organized start is a huge benefit. When the unexpected comes up in the heat of battle, it can stress relations on the team. Catch problems and bring them up early, so it can bring the team closer together. Sometimes you have to slow down to go fast.
- Bundling the work really had a positive impact on quality. Builders fought through the learning curve early in the build to meet PUD expectations. By the time crews had finished the first three substations, both quality and speed improved. For example, control house wiring took 12 weeks on the first substations. Crews had cut that time in half by the third.
- Grant PUD wants every one of the eight substations to look, feel, and even smell just like every other substation in the PUD system. When crews go to troubleshoot, it’s a big help to have everything be the same, as much as possible.
- Grant PUD also partnered with two professors from Washington State University to conduct independent research and interviews to compile a formal, lessons-learned report. The effort supports the utility’s drive to develop a culture of continuous learning and innovation. **NWPPA**

Russ Seiler (rseiler@gcpud.org) is a project manager and Mark Milacek (mmilacek@gcpud.org) is an electrical engineer in the Transmission and Distribution Group, both with Grant County PUD in Ephrata, Wash. Christine Pratt of Grant PUD Public Affairs also contributed to this article.



Updated with new equipment that includes a 115kV circuit switcher and 25MVA 115-13.8kV transformer, with new and reused distribution breakers, the Winchester Substation is now ready for future area residential, commercial, and industrial growth.

So why the rush?

The pent-up need for more substations and capacity was a product of timing and circumstance for this rural PUD with a 2,800-square-mile service area that includes small cities, expanses of irrigated farmland, homes, businesses, and industry in Central Washington’s high-desert country. Grant PUD generates its own power from two federally licensed Columbia River dams and delivers power to some 49,000 electric meters connected by more than 4,000 miles of transmission and distribution lines.

A decade ago, some of the biggest names in the internet discovered that Grant County had the perfect mix of cheap land and electricity, low seismic activity, and ideal climate to site their sprawling, energy-intense data centers—super-wired warehouses filled with thousands of high-capacity computers. Data centers are the earth-bound technology that floats the intangible data cloud. They process the massive amount of data that flows over the internet every day, all year, non-stop.

Microsoft, Yahoo!, Intuit, and others located here, and energy demand soared.

Over the 10-year period ending in 2015, Grant PUD’s load grew 63.5 percent to 590 average-megawatts. Average annual growth of 5.04 percent was more than 19 times the national average of 0.26 percent during the same period, according to historical data from Grant PUD and the U.S. Department of Energy. PUD forecasters are predicting similar levels of load growth for at least the next five years.

Data centers today account for about 20 percent of the county’s total load—that’s up from virtually zero in 2005. Other big industrial customers include vegetable-processing plants, agricultural irrigators, and new manufacturing also drawn to Grant County for its land and power benefits. **NWPPA**

Timeline: Seven Substations in One Project

October 22, 2016: Nelson Road Substation in Moses Lake, the county's largest city, population 22,080, and a center for manufacturing. Build a second transformer lineup with a six-bay distribution structure, adding a circuit switcher, new 25MVA, 115-13.8kV transformer, and five distribution breakers. Add a motor operator to a 115kV line switch and remove associated ground switch. Upgrade existing communications system for new IP SCADA system, with relays to each existing breaker. Build out was for 230kV, but operated at 115kV.

November 15, 2016: Babcock Substation in Quincy, a farm community, population 7,358, that has become a center for computer data center operation. Replace existing transformer and switchgear with an open-air distribution structure. Replace all existing equipment with 115kV circuit switcher, 41MVA 230 x 115-13.8kV transformer, and five distribution breakers. Add room for future transformer lineup, including below-grade work. Install new control house, all new relaying. Install oil-containment system to protect nearby irrigation system from potential spills.

December 23, 2016: Peninsula Substation in Moses Lake. Replace existing switchgear with open-air distribution structure. Replace circuit switcher with a higher-rated unit.

April 30, 2017: Winchester Substation in Quincy. Replace aging equipment to increase capacity. New equipment includes a 115kV circuit switcher, 25MVA 115-13.8kV transformer, including new and reused distribution breakers. Add relays to existing breakers to provide communications for IP SCADA. Install tap for mobile substation. Install two new transmission poles for mobile substation tap and take-off point for future line extension. Install new control house, upgraded for relaying and communications.

June 15, 2017: Coulee City Substation in Coulee City, a small agricultural community, population 569. Remove aging equipment, and level and regrade site. Install new equipment, including 115kV circuit switcher, a 41MVA, 230 x 115-13.8kV transformer. Reuse existing breakers. Replace some existing breakers. Install a new control house for upgraded relaying and communications.

July 31, 2017: Quincy Plains Substation in Quincy. New construction. Build-out includes 230kV H bus rated for 3,000A, a 230kV live tank breaker, a 41MVA 230 x 115-13.8kV transformer, and an eight-bay distribution structure. Foundation and conduit for the future addition of 230kV transmission breakers, and one additional full transformer line-up with a 230kV live-tank breaker. Control house designed for ultimate build-out.

August 31, 2017: Cloud View Substation in Quincy. New construction. Ultimate build-out includes 230kV H-bus rated for 3000A; three sets of transformers, each including a 230kV live-tank breaker, 41MVA 230 x 115-13.8kV transformer, and six-bay distribution structure. Current build-out includes 230kV H-bus with 230kV transmission breakers to be installed in the future; one full transformer line-up; and 230kV live-tank breakers for the other two line-ups. Two of the 230kV breaker isolation switches will have line-break ability until the 230kV transmission breakers are installed. Two of the distribution breakers will operate in parallel to provide a 2000A circuit to an industrial client. Control house will accommodate ultimate build-out. [NWPPA](#)



Work included a second transformer lineup with a six-bay distribution structure, added circuit switcher, new 25MVA, 115-13.8kV transformer, and five distribution breakers. Build out was for 230kV, but operated at 115kV.

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COMPANY: PUD #1 of Clallam County (Carlsborg, Wash.)
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DEADLINE TO APPLY: May 29, 2018
TO APPLY: Visit www.clallampud.net.

POSITION: Managing Director - District Services
COMPANY: Chelan County PUD (Wenatchee, Wash.)
SALARY: DOE
DEADLINE TO APPLY: May 31, 2018
TO APPLY: Visit www.chelanpud.org.

POSITION: Senior Financial Analyst
COMPANY: EES Consulting, Inc. (Kirkland, Wash.)
SALARY: DOE
DEADLINE TO APPLY: May 30, 2018
TO APPLY: Email careers@eesconsulting.com.

POSITION: System Engineering Supervisor
COMPANY: Grays Harbor PUD (Aberdeen, Wash.)
SALARY: DOE
DEADLINE TO APPLY: May 26, 2018
TO APPLY: Visit www.ghpud.org.

POSITION: GIS Analyst/Staking Technician
COMPANY: Oregon Trail Electric Cooperative (Baker City, Ore.)
SALARY: \$70,000+ per year
DEADLINE TO APPLY: May 24, 2018
TO APPLY: Visit www.otecc.com/careers.

POSITION: Specialist III, Materials Specialist R17-577
COMPANY: Portland General Electric (Portland, Ore.)
SALARY: DOE
DEADLINE TO APPLY: May 24, 2018
TO APPLY: Visit https://PGN.igreentree.com/CSS_External/CSSPage_Referred.ASP?Req=R17-577.

POSITION: Manager of Engineering
COMPANY: Kootenai Electric Cooperative, Inc. (Hayden, Idaho)
SALARY: DOE
DEADLINE TO APPLY: June 4, 2018
TO APPLY: Visit www.kec.com.

POSITION: Journeyman Lineman
COMPANY: Northern Wasco County PUD (The Dalles, Ore.)
SALARY: \$46.71 per hour
DEADLINE TO APPLY: June 30, 2018
TO APPLY: Visit www.nwasco.com/jobs.cfm.

POSITION: SPEC IV - Automation Test and Energization R7-526
COMPANY: Portland General Electric (Portland, Ore.)
SALARY: DOE
DEADLINE TO APPLY: May 29, 2018
TO APPLY: Visit https://PGN.igreentree.com/CSS_External/CSSPage_Referred.ASP?Req=R17-526.

POSITION: Consulting Engineer and Below #06103
COMPANY: Puget Sound Energy (Bellevue, Wash.)
SALARY: DOE
DEADLINE TO APPLY: May 29, 2018
TO APPLY: Visit pse.com/careers.

POSITION: Senior Project Engineer
COMPANY: Matanuska Electric Association (Palmer, Alaska)
SALARY: \$113,555 per year
DEADLINE TO APPLY: May 25, 2018
TO APPLY: Visit www.mea.coop.

POSITION: Engineering Technician
COMPANY: Mason County PUD No. 1 (Shelton, Wash.)
SALARY: Union scale per hour
DEADLINE TO APPLY: May 25, 2018
TO APPLY: Visit www.mason-pud1.org.

POSITION: CEO
COMPANY: Coos-Curry Electric Cooperative, Inc. (Portland, Ore.)
SALARY: DOE
DEADLINE TO APPLY: May 30, 2018
TO APPLY: Visit www.suediciplegroup.com/careeropportunities.html.

POSITION: Senior Pipeline Safety Analyst
COMPANY: Oregon Public Utility Commission (Salem, Ore.)
SALARY: \$5,282-\$7,752 per month
DEADLINE TO APPLY: May 21, 2018
TO APPLY: Visit www.puc.state.or.us.

POSITION: Associate Legislative Analyst
COMPANY: Silicon Valley Clean Energy (Sunnyvale, Calif.)
SALARY: \$5,587 per month
DEADLINE TO APPLY: May 31, 2018
TO APPLY: Visit www.SVCleanEnergy.org/Jobs.

POSITION: Journeyman Lineman
COMPANY: Orcas Power & Light Cooperative (Eastsound, Wash.)
SALARY: \$45.35 per hour
DEADLINE TO APPLY: May 25, 2018
TO APPLY: Visit www.opalco.com.

POSITION: **Regional Transmission Engineer/Sr Regional Transmission Engineer**
COMPANY: Snohomish County PUD (Everett, Wash.)
SALARY: \$80,133-\$150,777 per year
DEADLINE TO APPLY: May 21, 2018
TO APPLY: Visit www.snopud.com.

POSITION: **Journeyman Lineman**
COMPANY: City of Cascade Locks (Cascade Locks, Ore.)
SALARY: IBEW union scale per hour
DEADLINE TO APPLY: May 20, 2018
TO APPLY: Visit www.cascade-locks.or.us.

POSITION: **Principal Financial Analyst**
COMPANY: Portland General Electric (Portland, Ore.)
SALARY: DOE
DEADLINE TO APPLY: June 1, 2018
TO APPLY: Visit https://PGN.igreentree.com/CSS_External/CSSPage_Referred.ASP?Req=R18-266.

POSITION: **Rates and Financial Planning Manager**
COMPANY: City of Tacoma (Tacoma, Wash.)
SALARY: \$162,905.60-\$208,811.20 per year
DEADLINE TO APPLY: May 18, 2018
TO APPLY: Visit www.cityoftacoma.org.

POSITION: **Division Manager – Community Energy Department**
COMPANY: City of San Jose, Calif. (San Jose, Calif.)
SALARY: \$157,656 per year
DEADLINE TO APPLY: May 16, 2018
TO APPLY: Visit <https://secure.cpsr.us/escandidate/JobDetail?ID=342>.

POSITION: **Senior Regulatory Analyst**
COMPANY: Silicon Valley Clean Energy (Sunnyvale, Calif.)
SALARY: \$7,540 per month
DEADLINE TO APPLY: May 31, 2018
TO APPLY: Visit www.SVCleanEnergy.org/Jobs.

POSITION: **Manager of Engineering Services**
COMPANY: Homer Electric Association (Homer, Alaska)
SALARY: DOE
DEADLINE TO APPLY: June 8, 2018
TO APPLY: Visit <http://homerelectric.applicantpro.com/jobs>.

POSITION: **Staking Technician**
COMPANY: Orcas Power & Light Cooperative (Eastsound, Wash.)
SALARY: \$25.84-\$35.19 per hour
DEADLINE TO APPLY: May 25, 2018
TO APPLY: Visit www.opalco.com.

POSITION: **System Engineer**
COMPANY: Orcas Power & Light Cooperative (Eastsound, Wash.)
SALARY: DOE
DEADLINE TO APPLY: May 25, 2018
TO APPLY: Visit www.opalco.com.

POSITION: **Electric Utility Financial Administrator**
COMPANY: City of Roseville - Roseville Electric (Roseville, Calif.)
SALARY: \$113,028-\$151,468 per year
DEADLINE TO APPLY: May 23, 2018
TO APPLY: Visit www.roseville.ca.us/jobs.

POSITION: **Journeyman Lineman**
COMPANY: Modern Electric Water Company (Spokane Valley, Wash.)
SALARY: \$45.24 per hour
DEADLINE TO APPLY: May 22, 2018
TO APPLY: Email hr@mewco.com.

POSITION: **Spec V, SDPM**
COMPANY: Portland General Electric (Portland, Ore.)
SALARY: DOE
DEADLINE TO APPLY: May 20, 2018
TO APPLY: Visit https://PGN.igreentree.com/CSS_External/CSSPage_Referred.ASP?Req=R18-260.

POSITION: **Energy and Water Management Programs Supervisor**
COMPANY: Eugene Water & Electric Board (Eugene, Ore.)
SALARY: \$80,000 per year
DEADLINE TO APPLY: May 18, 2018
TO APPLY: Visit www.governmentjobs.com/careers/eweb?.

POSITION: **Financial Energy Manager**
COMPANY: Placer County Water Agency (Auburn, Calif.)
SALARY: \$82,617-\$105,441 per year
DEADLINE TO APPLY: May 18, 2018
TO APPLY: Visit www.pcwa.net.

POSITION: **Director of Engineering**
COMPANY: Oregon Trail Electric Cooperative (Baker City, Ore.)
SALARY: \$118,000-\$183,000 per year
DEADLINE TO APPLY: May 18, 2018
TO APPLY: Visit www.otecc.com/careers.

POSITION: **Director of Decarbonization and Grid Innovation Programs**
COMPANY: Silicon Valley Clean Energy (Sunnyvale, Calif.)
SALARY: \$10,233 per month
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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*

Cache Valley Electric

1338 South Gustin Road
Salt Lake City, UT 84104
Call (801) 978-1983

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*

EG 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*

NW Utility Services, LLC

228 Frontage Rd S Suite A
Pacific, WA 98047
Call (253) 891-7802

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

Patelco, Inc.

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

Patelco, 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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