

Journal

April 2015

Mock scenarios prepare linemen

A bit of stage makeup, ketchup and fake skin helped linemen get into character for roles they never intend to play in real life. Just as they would in an actual crisis at a field location, the “injured” linemen relied on the only available emergency responders around: their crew.

It was part of a new advanced first aid training course for Transmission Line Maintenance workers. In January, the last of BPA's 17 TLM crews completed the training.

In one scenario, several linemen came upon an unconscious co-worker, Kurt Marsh, who was caught under a truck. They snapped into action, remembering the lessons from their two-day certification course in Butte, Mont.

It's critical that line crews know how to quickly and effectively respond in a medical emergency, says foreman III Mike Stolfus from TLM Kalispell. Most of BPA's 15,000 miles of transmission lines are in rural, mountainous, heavily wooded and secluded areas, miles from clinics and hospitals. An ambulance can easily be an hour away. This puts the responsibility on the line crews to hike, drive or transport the injured person out of the area and reach emergency personnel.

In this scenario, the crew conducted a head-to-toe check of Marsh, foreman I for the Kalispell crew, and saw a shard of glass in his forehead. They determined it was not life-threatening, continued to move their attention down the lineman's body, pulled up his shirt and discovered a chest injury. Guided by their training, the linemen realized Marsh's chest was taking in air through the wound, which can cause the lungs to collapse.

It's a life-threatening scenario, but the Kalispell crew knew how to react. They pulled a “sucking chest wound” patch from their medical bag and sealed the injury so the wound was protected but the trapped air could escape.

After the injuries were dressed, the linemen carefully rolled Marsh onto a backboard and strapped him in. The four-person team lifted him up on the count of three and moved him to the truck to haul him out of the area.

Brad Bea, chief safety officer, says BPA is learning from previous incidents and moving to get in front of them. With the full support of BPA administration, Bea is spearheading a shift in the way BPA approaches safety by considering infrastructure design, human performance and culture.



Communication is more challenging under duress. Sense of smell, hearing and taste shut down, so linemen learned to incorporate communication through touch and vision, which are amplified during an emergency.



Through training, the crews continue to identify safety improvements. While training for long line/short haul rescue, an efficient way to evacuate an injured person when a helicopter is already on site, line crews identified the need for flexible stretchers, which can be combined with a backboard for a vertical rescue. Other improvements include adding foam to the backboards, which will make a bumpy ride through the wilderness a little more bearable for the injured person.

First aid duffel bags kept on primary work trucks are currently being reviewed and replenished. But line crews often need to hike into their work site, so the equipment in their trucks isn't always accessible. Crews have identified the value and effectiveness of a personal kit for treating

critical wounds. The kit is small and light enough to hook to each person's existing gear, so every lineman can be prepared when tramping to the transmission line or climbing a steel tower.

"These guys mitigate the risk as much as they can, but if something happens they'll know how to take care of it better and possibly save somebody's life," says Craig Froh from TLM Technical Services. "They're getting better tools and more knowledge, which will provide a better outcome if something were to happen."

As with any emergency training, the goal is to be prepared, says Froh. "I'm glad they're getting the training, but I hope they never have to use it, ever."

Partners work together on earthquake planning

For more than a decade, BPA has been quietly and diligently preparing for the potential impacts of a major Northwest earthquake resulting from Cascadia subduction zone or other tectonic activity. In late February, BPA expanded those preparedness efforts in much more visible ways to include its customers and federal and state partners.

On Feb. 25, BPA hosted the Cascadia Subduction Zone Preparedness Summit. The event featured panel presentations and discussion about the threat posed by a Cascadia subduction zone earthquake, the general and specific power system impacts that can be expected, lessons learned from other recent disasters, and current and upcoming preparedness efforts. Nearly 100 people attended, representing BPA customers; federal entities such as the Federal Emergency Management Agency and Department of Energy headquarters; and state-level transportation, emergency management and geological agencies.

"BPA has come a long way in earthquake planning and preparedness," said BPA Administrator Elliot Mainzer. "This summit takes us one step further, ensuring we are aligned and coordinated with others across the region, which will benefit all of us as we work together to recover in the aftermath of a major earthquake."

Richard Shaheen, BPA senior vice president of Transmission Services, added, "When it comes to the unpredictable, such as a Cascadia subduction zone earthquake, planning and preparation are the best defense."

Dr. Leon Kempner Jr., a BPA structural engineer who has worked on seismic standards, testing and reinforcements on BPA facilities for more than two decades, discussed BPA's efforts at the summit. BPA has reinforced more than

400 major transformers, as well as substation components and several key buildings, including control houses, control centers, communication facilities and a bushing storage facility. These reinforcements protect vital equipment, allowing it to remain in service or possibly be put back in service more quickly in the event of a major earthquake.

In addition to BPA's preparedness efforts, attendees heard from key staff and subject matter experts with knowledge of challenges to power production, transmission and distribution; transportation; infrastructure and other key sectors that could affect efforts to restore power.

Yumei Wang, of the Oregon Department of Geology and Mineral Industries, praised the coordination. "BPA operates a major portion of the transmission system and must work with its public and other customers that distribute electricity to Northwest homes and businesses," Wang said. "BPA has done a great job starting the conversation and needs strong partnerships with its customers and others to ensure the entire electricity supply chain is fulfilled and prepared to be restored quickly in the aftermath of a disaster such as this."

The summit was just the beginning of a more robust effort. At the end of the event, attendees and presenters made recommendation for subjects that smaller, more specialized groups could begin to discuss in subcommittees.

"The objective is to build on the momentum gained and information shared at the summit," said Lee Hall, BPA's chief security and continuity officer. "The work BPA and its partners will do in these smaller groups will advance our preparedness and understanding of the risks we face from a major Northwest earthquake, and help us work together to enhance our response and get the lights on more quickly should such a disaster occur."

R&D projects judged at TI summit

BPA partners with electric utilities, nonprofits, research organizations, technology developers and universities across North America and even internationally in research with the potential to improve operations, solve challenges, increase efficiencies and avoid costs. Every year, BPA's Technology Innovation Office performs an intense evaluation of its entire research and development portfolio. This review cycle begins with TI's annual summit in Portland, Ore.

"The summit is an opportunity for us to hear firsthand if a project is on course and for partners to make their case for continued funding," said Terry Oliver, chief technology innovation officer.

BPA's R&D portfolio is a balance of projects across various technologies, time horizons (generally one to five years), risk/reward profiles and cost concerns. Each project has predefined stage gates that trigger decisions for continuation, revision or termination. This process helps ensure each project is on course to accomplish its objectives.

In January, researchers and project partners were on the summit stage in Portland. A diverse group of executives and employees known as the Technology Confirmation and Innovation Council heard 20-minute presentations from project partners. After a handful of follow-up questions, council members scored each project on its progress, benefits and technology transfer plan.

By the end of the week, the council had heard updates on more than 40 BPA-funded R&D projects, in six main topic areas: hydropower, transmission assets, transmission operations, transmission planning, demand response and energy efficiency. For example, this fiscal year's portfolio includes a project that's studying the impacts of climate change on the Federal Columbia River Power System; a pair of projects mining synchrophasor data for more uses; and a group of projects looking at the demand response potential of everything from energy storage to lighting and advanced heat-pump water heaters.

Guest council member Chris Heimgartner, chief operating officer of Snohomish PUD, was impressed by how BPA manages its research.

"I was surprised by the breadth of topics BPA is working on," Heimgartner said. "The discipline and rigor of the effort will serve BPA and its Northwest customers very well, long into the future."

Other invited guests included Jay Landstrom, manager of transmission and distribution for Portland General Electric; Rob Manning, vice president of transmission at the Electric Power Research Institute; Subhash Paluru, senior vice president and regional manager for Western Area Power Administration; and Alison Silverstein, independent consultant.

In early February, the council reviewed 16 Electric Power Research Institute projects that BPA participates in with other member utilities. These projects include developing a standard communication interface for demand response; improving the safety and reliability of transmission system components; and developing seismic standards so utilities can purchase qualified substation equipment.

A few weeks later, the council used evaluations from the summit to complete the review of the portfolio. They decided BPA would no longer fund nine projects.

"It's essential that we invest in research that's most likely to deliver direct benefits to us," Oliver said. "And so there has to be some turnover in the process to make room for new research."

In March, Technology Innovation solicited proposals for its fiscal year 2016 R&D portfolio. BPA will review proposals in June and select projects in July.

Visit the Technology Innovation web page to learn more about BPA's industry-leading R&D program: www.bpa.gov/goto/TI.

Fourth sustainability report shows progress

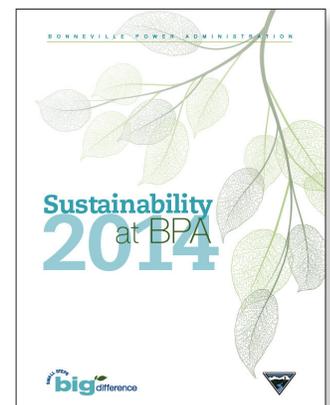
BPA's 2014 sustainability report documents measurable results in energy management, water conservation, materials management and fossil fuel reduction.

Since its inception in 2010, the sustainability program at BPA has reduced energy use by 5 percent, reduced water use by 20 percent, diverted 78 percent of BPA waste from landfills, and reduced the use of fossil fuels for administrative and operations support by 6.8 percent.

In fiscal year 2014, BPA won first place in the Northwest Energy Efficiency Alliance Kilowatt Crackdown as well as EPA's Federal Green Challenge in the transportation category, and four BPA buildings were certified Green Globes.

Some examples of BPA's efforts in 2014 included implementation of new printing devices that will reduce energy use by approximately 40 percent, and conversion to computers that rely more heavily on servers, which saves about 2,006 kilowatts-hours a day — equivalent to 60 gallons of gasoline.

To review the report, go to www.bpa.gov/goto/sustainability.



Public Involvement [updates & Notices]

BPA PROJECTS

BP-16 Rate Case [Regionwide]

BPA is conducting a consolidated power and transmission rate proceeding, BP-16, to set rates for the fiscal year 2016–2017 rate period. BPA is proposing a 6.7 percent average wholesale power rate increase and a 5.6 percent transmission rate increase. The formal rate-setting process will culminate in the filing of a final rate proposal and the administrator's record of decision with the Federal Energy Regulatory Commission in late July. BPA will request approval for the rates to be effective Oct. 1. For information, go to www.bpa.gov/goto/BP16.

Northwest energy market assessment [Regionwide]

BPA is participating in the Northwest Power Pool's Market Assessment and Coordination Committee, or MC. A collaboration of 19 public and investor-owned utilities from across the NWPP footprint, the MC is identifying solutions to improve the reliability, efficiency and integrity of regional operations. BPA is holding a public process to consider its participation in the proposal being developed by the MC and expects to release a draft proposal by May. For information, go to www.bpa.gov/goto/MarketAssessment.

Transmission

Hooper Springs Transmission Project [Caribou County, Idaho]

The BPA administrator has signed a record of decision to build the Hooper Springs Transmission Project in Caribou County, Idaho. The line will improve system reliability in the southern portion of Lower Valley Energy's transmission system and address ongoing load growth in southeast Idaho and northwestern Wyoming. The project will be constructed along Option 3A, BPA's preferred alternative. For information, go to www.bpa.gov/goto/HooperSprings.

Environment, Fish and Wildlife

Upper Columbia Spring Chinook and Steelhead Acclimation Project [Chelan and Okanogan counties, Wash.]

BPA will hold scoping meetings in April and accept comments through May 4 on the draft environmental assessment to fund this project proposed by the Confederated Tribes and Bands of the Yakama Nation. The project would improve acclimation and release of existing hatchery-bred juvenile steelhead and chinook in a manner that more accurately imitates natural systems. For information, go to www.bpa.gov/goto/ChinookSteelheadAcclimation.

Kootenai River restoration at Bonners Ferry [Boundary County, Idaho]

In April, BPA will issue a finding of no significant impact along with the final environmental assessment and response to comments. BPA is proposing to fund this project of the Kootenai Tribe of Idaho to restore and enhance portions of the Kootenai River near Bonners Ferry. For information, go to http://efw.bpa.gov/environmental_services/Document_Library/BonnersFerry/.

Crooked River Valley Rehabilitation Project [Idaho County, Idaho]

BPA, the Nez Perce Tribe and the U.S. Army Corps of Engineers are cooperating agencies on this U.S. Forest Service proposal to rehabilitate two miles of the Crooked River damaged by mining on Forest Service lands. The Forest Service will accept objections to its draft record of decision through early April. BPA expects to decide whether to fund this project in May. For information, go to http://data.ecosystem-management.org/nepaweb/nepa_project_exp.php?project=40648.

Trestle Bay Restoration Project [Clatsop County, Ore.]

The U.S. Army Corps of Engineers has released a draft environmental assessment for the proposed Trestle Bay Restoration Project in the Columbia River estuary. BPA is a cooperating agency. The project proposal is to breach portions of the Trestle Bay jetty to improve habitat for juvenile salmon and steelhead. The Corps will accept comments on the draft EA until April 11. For information, go to www.nwp.usace.army.mil/Media/Announcements/tabid/1887/Article/580536/draft-ea-trestle-bay-restoration-project.aspx.

CLOSE OF COMMENT

- **May 4**, Upper Columbia Spring Chinook and Steelhead Acclimation Project

CALENDAR OF EVENTS

For current meeting information, go to www.bpa.gov/PublicInvolvement/Cal.

Upper Columbia Spring Chinook and Steelhead Acclimation Project scoping meetings

- **April 22**, 6 to 8 p.m., Chelan County Fire District 3, 228 Chumstick Highway, Leavenworth, Wash.
- **April 23**, 6 to 8 p.m., the Winthrop Barn conference room, 51 N. Highway 20, Winthrop, Wash.

FOR MORE INFORMATION

Information on other projects under environmental review is available at www.bpa.gov/goto/NEPA.

For information about the National Environmental Policy Act in general, go to www.bpa.gov/goto/environmentalplanning.

The Journal is a monthly publication of the Bonneville Power Administration. If you have questions or comments, or you want to be added to the mailing list for any project, call toll free 800-622-4519.

To order copies of documents, call: 800-622-4520 or 503-230-7334. Written comments may be sent to: BPA, P.O. Box 14428, Portland, OR 97293-4428. Email address: comment@bpa.gov. BPA home page: www.bpa.gov. For details on BPA environmental reviews listed above, including site maps and documents issued to date, see www.efw.bpa.gov/environmental_services/nepadocs.aspx. Process Abbreviations: EA-Environmental Assessment, EIS-Environmental Impact Statement, ESA-Endangered Species Act, FONSI-Finding of No Significant Impact, NOI-Notice of Intent, ROD-Record of Decision.

