

Journal

April 2016

BPA puts modernized Celilo Converter Station into service

The Northwest transmission grid has taken a big step into the future with the \$370 million modernization of a one-of-a-kind piece of infrastructure, the Celilo Converter Station in The Dalles, Ore.

BPA Administrator Elliot Mainzer called Celilo's return to commercial operation "an important moment for infrastructure development in the region." Construction began in the fall of 2014, and the station returned to operation this January.

The unique converter station, owned by BPA, tames and transforms high volumes of electricity flowing through the northern end of the Pacific Direct Current Intertie. The 846-mile electron super-highway, the longest commercial transmission line of its kind in the nation, connects the Northwest with the Los Angeles Department of Water and Power at Sylmar, Calif. By sharing resources, the intertie provides affordable energy, reliability and cost benefits to customers at either end, and the electricity that flows from north to south is virtually carbon-free.

Later this year, BPA, which funded the improvements, will finish line upgrades on the 265-mile portion of intertie that it owns from the Columbia River to the Nevada-Oregon border.

"I am very proud of the talent and teamwork demonstrated by BPA and our partners that enabled us to hit this milestone so safely and successfully," Mainzer said. "Thanks to their ingenuity and dedication, a unique but aging collection of 20th-century technology has been transformed into a state-of-the-art asset to serve the Northwest and beyond for many years to come."

The modernization of the converter station — including seven massive new transformers, each weighing more than a Boeing 747 airliner — anchors a \$498 million package of BPA-funded grid upgrades to the northern leg of the PDCI. When the final phase of the overall project is completed



Two massive transformers built in Sweden by contractor ABB head up the Columbia River to BPA's Celilo Converter Station, the end of their 11,341-mile trip.

this fall, the BPA transmission-line upgrades will raise the capacity of the intertie from 3,100 to 3,220 megawatts, with potential for 3,800 megawatts pending future improvements by BPA's southern partners.

"BPA and its partners completed the work on this complex and challenging project on time and on budget, while achieving an outstanding safety record," said Richard Shaheen, BPA senior vice president of Transmission Services. "These significant steps to improve the backbone of the regional grid will both strengthen reliability and increase our capacity to deliver energy, contributing to the vitality of the Northwest. It's a great example of our strategic focus to ensure the long-term health and operational efficiency of our physical assets."

The Pacific Direct Current Intertie, a high-voltage direct current system was a marvel and a model when it was energized in 1970. Direct-current systems move large amounts of electricity over long distances more efficiently than alternating current lines because they lose less power to the air as heat along the way. But after more than four decades of vigorous, dependable service, the vintage equipment at the converter station had far surpassed its operational life span and was due for a transformation of its own.



“The new equipment not only supports the western transmission grid with greater security, reliability, capacity and flexibility, but will be able to work harder,” Shaheen added.

Keeping the old equipment in safe operating condition required shutting down the intertie for weeks of maintenance each year. The next-generation equipment, much of it digital, needs far less routine upkeep, reducing outages and costs while improving performance for customers.

Watch us work

A 11,341-MILE JOURNEY

To see a time-lapse video of the massive new transformers being shipped from the manufacturer in Sweden to the United States and up the Columbia River by barge to The Dalles, visit www.youtube.com/watch?v=pQ_f0BF0pvY.

Technology Innovation hosts annual R&D portfolio review

Every year, BPA hosts an intense weeklong review of its research and development portfolio. At this year’s Technology Innovation Summit, held Jan. 25 to 29 in Portland, Ore., researchers and project partners shared updates on 45 BPA-funded projects. They covered topics such as demand response, dynamic transfers, energy efficiency technologies, energy storage, hydro system modeling, seismic mitigation, smart grid and voltage stability.

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. The Technology Innovation Office updates and reviews BPA’s research portfolio annually to ensure BPA is sponsoring research most likely to result in tangible benefits to its transmission system operations, the operations of the federal dams, as well as to BPA’s energy efficiency program, smart grid and distributed energy resources group and information technology department.

“We evaluate each project and decide which ones BPA will continue to fund and those that will be pruned to make room for new research,” said Terry Oliver, chief technology innovation officer.

Following each 20-minute presentation, a group of executives and experts known as the Technology Confirmation and Innovation Council, as well as guest members from BPA’s customer utilities and partners, scored each project on its progress and ability to transfer into real-world benefits. Invited guests included David Ortiz, deputy assistant secretary for Energy Infrastructure Modeling and Analysis in the Department of Energy’s Office of Electricity Delivery and Energy Reliability; Chris Heimgartner, chief operating officer of Snohomish County Public Utility District; and Anda Ray, senior vice president, Energy, Environment and External Relations at the Electric Power Research Institute.



BPA electrical engineer Dmitry Kosterev explains approaches to increasing dynamic transfers at BPA’s Technology Innovation Summit

Permanent external council member Subhash Paluru, senior vice president and regional manager for the Western Area Power Administration, is impressed with the dynamic that BPA has established with its stakeholders and the industry.

“The nurturing and support of new technologies and business innovations helps Bonneville, Western and electric utility partners remain forward-looking,” Paluru said.

The Technology Innovation Office accepted proposals for its fiscal year 2017 research portfolio in March. To learn more about the research proposal solicitation and BPA’s industry-leading R&D program, visit: www.bpa.gov/ti.

Public Involvement [Updates & Notices]

BPA PROJECTS

Focus 2028 [Regionwide]

After accepting comments about topics, BPA hosted a round of Focus 2028 discussions in February. Sessions included an executive panel and overviews of these topics: cost-management practices; managing for financial health; long-term approach to federal hydropower system stewardship; performance-based environmental stewardship; optimizing BPA's energy efficiency program design; and finding balance in transmission business and builds. www.bpa.gov/goto/Focus2028

Financial reserves policy [Regionwide]

BPA is developing a financial reserves policy. It will address the target level of reserves, how the Treasury note is used for rate-making purposes, and what actions, if any, should be taken when reserves are above or below target levels. The first workshop was held on March 29, with upcoming workshops on May 10 and June 7. www.bpa.gov/Finance/FinancialPublicProcesses/Pages/Access-to-Capital.aspx

Rate Period High Water Mark public process [Regionwide]

BPA is beginning the process for establishing Rate Period High Water Marks that will be used to set power rates for fiscal years 2018 and 2019. The RHWM is the amount of energy a customer is eligible to purchase at BPA's lowest-cost Tier 1 rates in the upcoming rate period. BPA will share preliminary RHWM calculations and gather input from customers on May 10. Staff will discuss the inputs to the RHWM calculations, including customer load forecasts, the Tier 1 System Firm Critical Output and RHWM augmentation amounts. Information will be available before the meeting.

BP-18 Rate Case Workshops [Regionwide]

BPA will hold a series of workshops in preparation for the BP-18 rate proceeding to set power, transmission and ancillary service rates for fiscal years 2018–2019, including a workshop on April 20. www.bpa.gov/goto/ratecase

POWER

Cost verification for fiscal year 2015 Slice true-up adjustment charge [Regionwide]

BPA posted a summary of agreed-upon procedures to be completed by an external auditor. The work commenced in March. The fiscal year 2015 composite cost pool savings, when compared to the rate case forecast, are \$144.7 million. As a result, the fiscal year 2015 Slice true-up adjustment that is applicable to Slice customers is a credit of \$40.4 million. www.bpa.gov/goto/costverification

Proposed momentum savings baseline alignment library [Regionwide]

BPA is seeking feedback on its proposal to scope and implement a baseline alignment library, which would provide an optional resource for utilities that conduct conservation-potential assessments. Without alignment on baselines, BPA cannot accurately report "momentum" savings to utilities. Baseline alignment also affects Northwest Energy Efficiency Alliance and program savings. BPA sought feedback on the proposal and approach through Jan. 27. Comments will be considered as BPA makes a final decision, and the agency will respond to them in a letter to the region. www.bpa.gov/goto/BaselineLibrary

TRANSMISSION

Midway-Moxee Rebuild and Midway-Grandview Upgrade Transmission Line Project [Benton and Yakima counties, Wash.]

BPA expects to release a final environmental assessment in March and a decision on whether to rebuild the two transmission lines and upgrade the Midway-Grandview transmission line. The final environmental assessment addresses comments received on the draft environmental assessment. If BPA decides to rebuild and upgrade the lines, construction would begin in September or October. The Bureau of Land Management is a cooperating agency with BPA for the environmental assessment. www.bpa.gov/goto/MidMoxGrand

Hills Creek-Lookout Point Transmission Line Rebuild Project [Lane County, Ore.]

BPA proposes to rebuild the 26-mile Hills Creek-Lookout Point 115-kV wood-pole transmission line between the cities of Oakridge and Lowell, Ore. Improvements would involve replacing all wood-pole structures (including poles and other hardware), replacing conductors and ground wires, realigning the line to avoid a rock fall and landslide, and improving access roads. BPA expects to publish the draft environmental assessment for comment in March. The U.S. Forest Service is a cooperating agency with BPA for the EA. If BPA decides to proceed with the project, construction would begin in the summer of 2018. www.bpa.gov/goto/hillscreeklookoutpoint

I-5 Corridor Reinforcement Project [Cowlitz, Clark counties, Wash.; Multnomah County, Ore.]

BPA released a final environmental impact statement on Feb. 3. The final EIS does not represent or include a decision concerning whether to build the proposed I-5 Corridor Reinforcement Project. Before BPA makes any such decision, it is further reviewing the cost and rate implications of the project. BPA is also continuing to explore potential options that would not involve building the line — referred to as non-wire measures — to see if there are any feasible and cost-effective options that could defer the need for the project, either long term or indefinitely. BPA expects to make a decision about the project by the end of 2016. If it decides to build, BPA would then focus on negotiating acquisition of the required easements from property owners and obtaining permits. www.bpa.gov/goto/i5

Lane-Wendson Transmission Line Rebuild Project [Lane County, Ore.]

BPA proposes to rebuild the 41-mile Lane-Wendson No. 1 115-kV wood-pole transmission line between Eugene and Florence, Ore. The project is necessary due to the age and condition of the line. BPA's intent is to rebuild the lines using the same general structure locations and pole heights, except where changes may be needed to conform to safety standards. Improvements would involve replacing all wood-pole structures (including poles, cross arms, cross braces, guys, anchors and insulator assemblies); replacing conductors and ground wires; replacing five disconnect switches; and improving access roads. BPA is preparing a final EA and finding of no significant impact to be issued in mid-April. If BPA decides to proceed with the project, construction would begin this summer. efw.bpa.gov/environmental_services/Document_Library/Lane-Wendson/

Public Involvement continued [Updates & Notices]

ENVIRONMENT, FISH AND WILDLIFE

Columbia Estuary Ecosystem Restoration Program [Ore. and Wash.]

BPA, along with the Portland District, U.S. Army Corps of Engineers, is planning to issue a draft programmatic environmental assessment evaluating the Columbia Estuary Ecosystem Restoration Program. The program was jointly instituted by BPA and the Corps to undertake the activities necessary to evaluate, protect, monitor and restore fish and wildlife habitat in the lower Columbia River and estuary. The draft is expected to be released at the end of April and the comment period will be open for 30 days. www.bpa.gov/goto/EstuaryRestorationProgram

Kerry Island Restoration Project [Columbia County, Ore.]

BPA is proposing to fund the Kerry Island Restoration Project, proposed by the Columbia Land Trust and located along Westport Slough about a mile east of Westport, Ore. The project would benefit Endangered Species Act-listed Pacific salmonids and their habitat by removing a levee surrounding the island, restoring a tidal channel network and restoring connections between the tidal wetlands and floodplain. Initial project scoping began in late February. A public comment period remains open until April 4. www.bpa.gov/goto/KerryIslandEstuary

Lower Elochoman Restoration Project [Wahkiakum County, Wash.]

BPA is proposing to fund the Lower Elochoman Restoration Project, proposed by the Columbia Land Trust and located along the Lower Elochoman River about two miles north of Cathlamet, Wash. The project would benefit Endangered Species Act-listed Pacific salmonids and their habitat by removing a levee along the Lower Elochoman River and restoring connections between the wetlands and floodplain. Initial project scoping began in late February. A public comment period remains open until April 4. www.bpa.gov/goto/LowerElochomanEstuary

Wallacut River Confluence Restoration Project [Pacific County, Wash.]

BPA is proposing to fund the Wallacut River Confluence Restoration Project, proposed by the Columbia Land Trust, along the Wallacut River at its confluence with the Columbia River about 1.5 miles northeast of Ilwaco, Wash. The project would benefit Endangered Species Act-listed Pacific salmonids and their habitat by removing a levee along the Wallacut River, restoring a tidal channel network, and restoring connections between the tidal wetlands and floodplain. Initial project scoping began in late February. A public comment period remains open until April 4. www.bpa.gov/goto/WallacutRiverConfluenceestuary

Eightmile Ranch Coho Acclimation Site [Okanogan County, Wash.]

BPA and the U.S. Forest Service plan to release the final environmental assessment for the Eightmile Ranch Coho Acclimation Site early this year. The Forest Service plans to release its draft decision notice for the project at the same time. Release of these documents will begin a 45 day public objection period. Tentatively, the Forest Service plans to issue its final decision notice and special-use permit, if warranted, in early to mid-2016. BPA plans to release its finding of no significant impact, or FONSI, if warranted, within two weeks after the Forest Service issues the special-use permit. www.bpa.gov/goto/Eightmile

CLOSE OF COMMENT

- **April 4**, Kerry Island Estuary Restoration
- **April 4**, Lower Elochoman Estuary Restoration
- **April 4**, Wallacut River Confluence Estuary Restoration

CALENDAR OF EVENTS

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

BP-18 Rate Case Workshop

- **April 20**, 9 a.m. to noon
BPA rates hearing room, 1201 Lloyd Blvd., Suite 200, Portland, Ore.

BP-18 Generation Inputs Workshop

- **April 20**, 1 to 4 p.m.
BPA rates hearing room, 1201 Lloyd Blvd., Suite 200, Portland, Ore.

Financial Reserves Policy Workshop

- **May 10**, 9 a.m. to noon
BPA rates hearing room, 1201 Lloyd Blvd., Suite 200, Portland, Ore.

RHWM Process Workshop

- **May 10**, 1 to 4 p.m.
BPA rates hearing room, 1201 Lloyd Blvd., Suite 200, Portland, Ore.

BP-18 Generation Inputs Workshop

- **May 24**, 1 to 4 p.m.
BPA rates hearing room, 1201 Lloyd Blvd., Suite 200, Portland, Ore.

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.

