



Journal

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Celilo shuts down historic equipment and ushers in a new era



Thyristor valves are among the equipment in two new converters expected to be operating at BPA's Celilo Converter Station in The Dalles, Ore., by the end of the year.

At 0400 hours on the morning of Oct. 3, chief operator Dave Potter pressed two green plastic buttons on the manual-control console at the Celilo Converter Station in The Dalles, Ore.

With that gesture, Potter halted the flow of electricity to a pair of hulking 1970s-era converters, effectively retiring them and propelling BPA into the future.

A converter is a device that changes alternating current into direct current, or vice versa. At Celilo, a critical part of BPA's power system portfolio, those converters and two others had provided major service to a unique portion of the West Coast transmission grid for almost half a century.

"We had a countdown calendar going for seven months. It's reading all zeros now," said Potter, the longest-serving active member of the crew at Celilo, where he started in June 1984. "It was kind of a historical moment."

The Celilo Converter Station is BPA's only interconnection point with Southern California. It anchors the northern end of one of the world's longest and highest-capacity DC transmission systems, the Pacific Direct Current Intertie. The 500-kilovolt line runs 846 miles to Sylmar, Calif., near Los Angeles, delivering renewable Northwest hydropower and wind energy to California, as well as carrying electricity north when there is peak demand in the Northwest.

BPA is investing \$498 million to modernize both the converter station and the 265 miles of BPA-owned intertie that runs from the Columbia River to the Oregon-Nevada border.

Saturday's "blocking" of converters 3 and 4 was a bittersweet event, symbolizing a final chapter and the beginning of a new era of operation for BPA's only high-voltage direct current converter station.

Potter, the longest-serving member of the Celilo crew with 31 ("almost 32") years of service, loves to joke about his "antiques" — affectionately referring to both the valuable equipment and to the invaluable senior staff at Celilo, several of whom have come back to work on contracts post-retirement.

After 45 years, much of the equipment at Celilo was well beyond its original design life. The controls were a hodgepodge of multiple plant expansions, different manufacturing types and technologies. After the last two similar plants in the world were mothballed in recent years, finding replacement parts has entailed international treasure hunts and salvaging expeditions.

"We're thankful for us and our customers that converters 3 and 4 made it through this year," said Erich Orth, project manager on the upgrade. "We're really looking forward to a new chapter in Celilo's history."

For the past decade, BPA's expert staff has coaxed, cajoled and nursed every bit of life out of Celilo's aging equipment. Key contributors include the Substation Maintenance and Operations and Systems Protection and Control teams with significant support from Substation Maintenance and High Voltage Engineering.



“The retirement of this old equipment and the upgrade to the new system is only part of the story out here,” says Dave Koski, operations and maintenance manager for The Dalles District. “This team at Celilo has time and again proved that with ingenuity and teamwork, they could keep this great machine performing well for decades.”

While the mood before the 4 a.m. shutdown was celebratory, once the old converters were de-energized, feelings were mixed.

“There was an initial sense of ‘We made it!’ and relief because there were many times over the last 10 years that plant personnel were unsure if the old controls were going to make it this far,” Koski said.

However, afterward there was a recognition that life was going to be radically different going forward — all new equipment, a single set of integrated controls and a much cleaner, simpler plant to operate and maintain. Two 21st century converters will take over the responsibilities of the four old ones.

“Yet, like that quirky relative with all their idiosyncrasies who drove you crazy while they were visiting, there was a certain familiarity and comfort in knowing what you had,” Koski explained. “We are going to miss the old Celilo now that it is gone.”

When Celilo returns to commercial operation Dec. 21, it will be made up of all new main circuit equipment and boast the newest in control technology that engineering firm ABB has to offer.

Work on the overall \$498 million project, including the line upgrades, is expected to be complete in the fall of 2016. The modernization will strengthen the line against weather and other threats to reliability and performance, as well as raising the capacity from 3,100 megawatts to 3,220 MWs. When BPA’s improvements are complete, Celilo will have the potential to convert and transmit up to 3,800 MW of energy, after upgrades by BPA’s southern partners to their portion of the line.

At 4:04 a.m. Saturday, Oct. 3, it was time to get back to work. There is switching to complete to clear the DC line between Celilo and Sylmar so that BPA’s Transmission Line Maintenance crews can start work to reinsulate the line and swing the conductors to new structures. There is much work remaining to decommission the old equipment and complete the integration of the new equipment.

“This technology transition is a salute to the many men and women who sacrificed a lot of their time and energy to make sure the lights stayed on and the power kept flowing, no matter what kind of challenges came their way,” Koski said.

BPA recognized for stewardship in rights-of-way



Steve Narolski (center), BPA’s program manager for vegetation management, accepts the accreditation plaque for a “Right-of-Way Steward” from the Right-of-Way Stewardship Council.

BPA joins a select group of large utilities as the only power marketing administration in the nation to receive the accreditation. In all, only seven utilities have earned the title of “Right-of-Way Steward” in North America.

“I’m immensely proud — it’s a huge step for us to be the first power marketing agency to receive this accreditation,” said Steve Narolski, BPA’s program manager for vegetation management. “We’re at the forefront of other utilities on vegetation management.”

Vegetation management plays a critical role in transmission system reliability. Under industry standards set by the North American Electric Reliability Corporation, vegetation in rights-of-way — or transmission corridors — must be controlled in order to prevent contact or other interference with transmission lines. A single tree coming into contact with a transmission line can cause a fault or cascading outage. Tree contacts were triggering events in both the 1996 West Coast Blackout and the 2003 Midwest-Northeast Blackout.

“This is tremendous recognition for our vegetation management team,” said Robin Furrer, BPA’s vice president of Transmission Field Services. “But it also speaks of the broader agency, too. Our vegetation crews work closely with employees from a cross section of this agency — from legal to environmental to realty to engineering and maintenance.”

BPA makes 32nd consecutive annual U.S. Treasury payment on time and in full

The Bonneville Power Administration made its 32nd consecutive annual payment to the U.S. Treasury on time and in full. The total payment was \$891 million for fiscal year 2015, which ended Sept. 30.

“Our enduring focus on sound financial management has enabled us to fulfill our commitment to make our Treasury payment for over three decades,” said Nancy Mitman, BPA’s executive vice president and chief financial officer. “This year’s payment reaffirms our diligence on cost discipline and risk management.”

BPA’s cumulative payments to the U.S. Treasury during those 32 years amount to more than \$25.7 billion.

This year’s payment includes: \$449 million in principal; \$350 million in interest; \$52 million in irrigation assistance payments and \$40 million in other payments. Of the \$891 million total payment, \$118 million was paid by applying Treasury credits for non-power-related fish mitigation efforts and other credits, including interest earnings.

The \$449 million in principal includes \$229 million in early retirement of higher interest rate U.S. Treasury debt. This was

made possible by a regional cooperation debt transaction this year through which Energy Northwest issued BPA-supported bonds to refinance debt. That action made available BPA resources that are now being used for the additional payment to the U.S. Treasury.

Completing the Treasury payment is the last financial transaction BPA makes each fiscal year, and the majority of the payment occurs after all other obligations have been met. BPA establishes rates around a high probability of this repayment, at least a 95 percent certainty of making its annual scheduled Treasury payments over two consecutive years, to assure full and timely payment for the benefit of American taxpayers. This equates to a 97.5 percent certainty of making annual scheduled payments in a single year of the rate period.

In addition to the U.S. Treasury payment, BPA paid operations and maintenance expenses for the U.S. Army Corps of Engineers, Bureau of Reclamation and U.S. Fish and Wildlife service projects directly funded by BPA. This direct funding amounted to \$388 million in fiscal year 2015.

Public Involvement [Updates & Notices]

BPA PROJECTS

Focus 2028 [Regionwide]

BPA will host a forum on Nov. 4, 2015 for regional leaders to establish a common understanding of the types of industry changes and strategic choices BPA may face to maintain its financial strength and cost competitiveness. Key issues will include Bonneville’s approach to capital investment in the hydropower and transmission systems, its internal operating costs and program delivery models, including energy efficiency. This forum sets the stage for follow-up engagements in early winter, which will explore conditions and choices BPA and the region may face in the future. Topics of these future discussions likely will include the evolving electricity market, changes in the electricity policy and regulatory landscape and technology advancements including distributed energy resources, all in the context of a changing climate. For information, go to www.bpa.gov/goto/Focus2028.

POWER

Alcoa Remand Public Process [Regionwide]

BPA accepted public input and comment to assist in its response to the decision issued Sept. 18, 2014, by the U.S. Court of Appeals for

the Ninth Circuit. The ruling in *Industrial Customers of Northwest Utilities, et al. v. Bonneville Power Administration* related to BPA’s contracts with its direct service industry customers. In its decision, the court instructed BPA to address four specific questions regarding service to Alcoa and the recovery of funds. BPA issued a draft record of decision on Sept. 4, 2015 and accepted comments through Oct. 9, 2015. Comments received will assist BPA in its decision-making before issuing a final record of decision on Dec. 11, 2015. For more information, go to www.bpa.gov/power/pl/regionaldialogue/implementation/Documents/DSI.SHTML.

TRANSMISSION

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

BPA accepted comments on a draft environmental assessment for the proposed Midway-Moxee Rebuild and Midway-Grandview Upgrade project through Oct. 9, 2015. The 115-kV lines, which are deteriorating due to age and exposure to weather, need to be rebuilt to ensure reliable electric service. The Bureau of Land Management is a cooperating agency with BPA for the EA. For more information, go to www.bpa.gov/goto/MidMoxGrand.

Public Involvement continued [Updates & Notices]

I-5 Corridor Reinforcement Project

[Cowlitz, Clark counties, Wash.; Multnomah County, Ore.]

BPA expects to release a final environmental impact statement in late 2015 followed by a record of decision in 2016. If BPA decides to build the project, it would then focus on negotiating acquisition of the required easements from property owners and obtaining permits. For more information, go to www.bpa.gov/goto/i5.

ENVIRONMENT, FISH AND WILDLIFE

Melvin R. Sampson Hatchery, Yakima Basin Coho Project [Kittitas County, Wash.]

BPA will initiate scoping on a proposal to fund the Confederated Tribes and Bands of the Yakama Nation to build and operate a hatchery near Ellensburg, Wash. The hatchery would rear up to 200,000 coho salmon for harvest and to aid in natural spawning. The fish would be released into the tributaries and mainstem reaches of the Yakima and Naches rivers. Scoping is expected to begin in late November and would include a public meeting in Ellensburg where project information, maps and project team members will be available. For more information, contact Dave Goodman at 503-230-4764.

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

BPA, along with the Portland District, U.S. Army Corps of Engineers, initiated scoping for a programmatic assessment evaluating the Columbia Estuary Ecosystem Restoration Program on Oct. 5, 2015. 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. BPA will accept comments through Nov. 4, 2015. For more information, go to www.bpa.gov/goto/EstuaryRestorationProgram.

Steigerwald Flood Plain Restoration Project [Clark County, Wash.]

BPA is proposing to fund the Steigerwald Flood Plain Restoration Project, which is located at the Steigerwald National Wildlife Refuge in Clark County, Wash. The project would involve reconnecting Gibbons Creek to the Columbia River. It is intended to improve water quality and habitat to benefit steelhead and cutthroat trout, chinook, coho and chum salmon and Pacific and western brook lamprey. Scoping is expected to begin in early December. For more information, contact Dave Goodman at 503-230-4764.

Early Winters 3 Coho Acclimation Site [Okanogan County, Wash.]

BPA plans to start scoping on a proposal to fund the Confederated Tribes and Bands of the Yakama Nation to build and operate two acclimation ponds near Early Winters Creek in Okanogan County, Wash. The ponds would be used to acclimate hatchery raised coho salmon smolts as part of the Mid Columbia Coho Restoration Program. The proposed Early Winters 3 site would replace sites that are

no longer being considered that were identified in the Mid-Columbia Coho Restoration EIS completed in 2012. Up to 75,000 hatchery reared juvenile coho smolts would acclimate in the pond from March to May of each year, for eventual release into Early Winters Creek. The scoping period is expected to begin in November and will be open for 30 days. For more information, go to www.bpa.gov/goto/midcolumbiacoho.

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 in November. Additionally, the U.S. Forest Service plans to release its draft decision notice for the project the same month. 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 2016. BPA plans to release its finding of no significant impact, if warranted, within one to two weeks after the U.S. Forest Service issues the special use permit. For more information, go to www.bpa.gov/goto/Eightmile.

CLOSE OF COMMENT

- **Nov. 4**, Columbia Estuary Ecosystem Restoration Program

CALENDAR OF EVENTS

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

Quarterly Business Review

- **Nov. 3**, 9:30 a.m. to noon,
BPA Rates Hearing Room
1201 Lloyd Blvd. Suite 200, Portland, Ore.

BPA Focus 2028

- **Nov. 4**, 1:30 to 5:30 p.m.,
Sheraton Portland Airport Hotel
8235 NE Airport Way, 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.

