

# ACCESS

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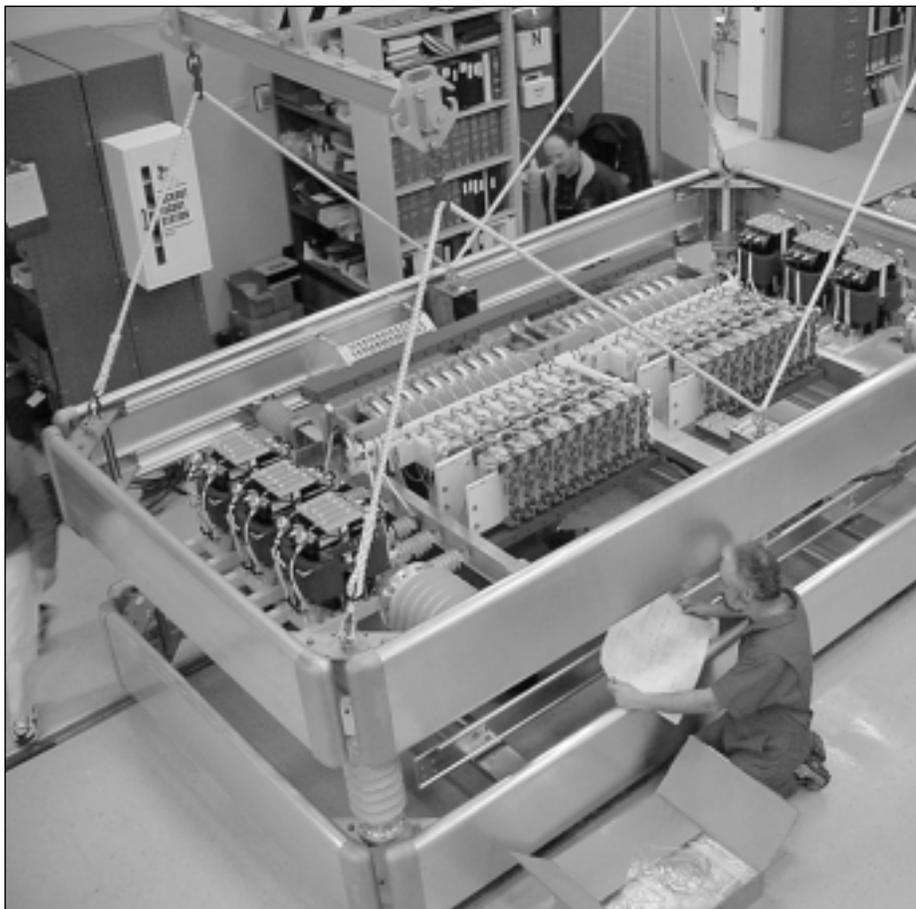
## Celilo modernization begins

After three years of planning and studies, crews began modernizing in April the Celilo Converter Station in The Dalles, Ore. Celilo is the northern terminus of the High Voltage Direct Current Intertie that extends to the Sylmar Converter Station just north of Los Angeles, Calif. The Los Angeles Department of Water and Power is proceeding with a similar project to rebuild the Sylmar facility.

Steve Wright, Bonneville Power Administration administrator, made the decision in January 2001 to maintain the DC Intertie at its current capacity of 3,100 megawatts long-term and to fund the work out of BPA's capital budget. That decision includes replacing the mercury arc valves that were installed in 1970. The DC Intertie is one of two critical interties that connect the Pacific Northwest and Pacific Southwest.

### In This Issue page

- *Celilo modernization begins* 1
- *Puget Sound project delay threatens reliability* .....2
- *San Juan cable commemorated at OPALCO annual meeting* .....3
- *Congress moves to settle energy legislation* .....4
- *TBL maintenance projects in full swing* .....5



Celilo Converter Station crews assemble new thyristor.

The work by Transmission Business Line crews and contractors at the Celilo converter station includes installing new controls and replacing the aging mercury arc valves with modern roll-in thyristor valves made by Siemens. However, the project depended on a similar upgrade with the same timeline at the Sylmar Station by BPA's DC Intertie partners, Los Angeles Department of Water and Power and Southern California Edison. The Los Angeles City Council approved the project in May and awarded the contract to ABB.

"The delay has put us behind the original schedule, but we believe we can still complete the valve replacement in early 2004," said Wayne Litzenberger, Transmission Business Line project manager. Originally, the conversion was to be completed by November 2003,



continued on page 6

## *Puget Sound project delay threatens reliability*

The Bonneville Power Administration is delaying for at least a year a top priority transmission infrastructure project in Puget Sound while it studies alternative power line routes outside the Cedar River watershed. The delay of the Kangley-Echo Lake 500-kilovolt project will give BPA, the city of Seattle and local residents concerned about the watershed the time needed to reopen the nearly completed environmental impact statement and more thoroughly explore options.

The delay will likely push energizing the line back to 2004. Without system improvements, an outage on the existing BPA line could cause power losses in the Puget Sound area by the winter 2002-03.

"The health of the Cedar River watershed is important to residents in Puget Sound and the transmission project is important to ensure reliable electricity service," said BPA Administrator Steve Wright. "While we spend this year to further explore ways to protect the watershed, we must keep in mind that rapid growth in the area already is threatening our reliability."

Winter electricity demand in the Puget Sound area is projected to grow 1.6 percent or 150 to 200 megawatts each year over the next decade, which is putting a strain on local transmission. The proposed Kangley-Echo Lake 500-kV line would address this growth by adding about 600 MW of transfer capacity to the area's transmission system. It also adds a degree of backup reliability if a transformer or line experiences problems.

Compounding the need for a transmission solution in Puget Sound is a 400 MW increase in the amount of energy that BPA must send to British Columbia to meet the requirements of the Canadian-U.S. treaty entitlement return. That increase begins during the winter of 2003. The arrangement returns

energy that Canada has been making available to the Northwest for many years under a reciprocal treaty.

The EIS considers several other alternatives, which is a requirement of the National Environmental Policy Act, but the Transmission Business Line chose as its preferred alternative an option with the least overall impact. That option originates at a tap point on the TBL's Schultz-Raver No. 2 500-kV line near Kangley, follows an existing 500-kV line right of way and terminates at the Echo Lake substation near North Bend.

The preferred alternative reduces the amount of trees and brush that needs to be cleared as well as the need for new roads, according to project manager Lou Driessen. Unlike the alternatives, it also minimizes impacts to housing in the area. However, some members of the Seattle City Council and residents in Seattle are concerned about the impact of expanding the existing right of way on Cedar River water quality.

For its preferred plan, BPA has agreed to use helicopters and other special construction methods to protect the Cedar River and would correct any problems that might arise due to the project. The existing line has been operating for 30 years without incident.

"We are confident that this route can be built and operated safely, but we take seriously Seattle residents' concern with the preferred route and will take a closer look at alternatives before making a final decision," Driessen said.

The TBL has been able to delay this project until now with technical adjustments and it already has taken all other steps available to address inadequate transmission capacity in Puget Sound, including nontransmission alternatives, such as conservation. In addition, the Northern Puget Sound management plan calls for pro rata cuts of firm transmission

service in the Puget Sound area when north-to-south transmission capacity is exceeded by loads on the Northern Intertie. The TBL is also working with the Canadians to shift as much of the entitlement return to the East Side Intertie prior to actual curtailments.

"The problem we face here is that the metropolitan area needs the electricity, but every conceivable route encounters opposition," said Driessen. "We think the best all-around solution is the preferred route through the watershed, but we want to be sure that we have thoroughly considered every alternative."

BPA has scheduled five public meetings in early June to seek the public's help in identifying issues and concerns the agency should address in its supplemental EIS. Those meetings are:

**Wednesday, June 5, 4-8 p.m.**

Seattle Center  
305 Harrison St.  
Rainier Room, North of the Key Arena  
Seattle, Wash.

**Thursday, June 6, 4-8 p.m.**

Mt. Si Senior Center  
Multi Purpose Room  
411 Main Ave. South  
North Bend, Wash.

**Saturday, June 8, 11 a.m. - 3 p.m.**

Black Diamond Community Center  
Main Hall  
31605 3rd Ave. N.E.  
Black Diamond, Wash.

**Wednesday, June 12, 4 - 8 p.m.**

Tahoma Senior High School  
The Commons  
18200 S.E. 240th St  
Kent, Wash.

**Thursday, June 13, 4-8 p.m.**

Maple Valley Community Center  
22010 S.E. 248th St.  
Maple Valley, Wash.

For more information please call  
1-888-276-7790.

## San Juan cable commemorated at OPALCO annual meeting

Promising a meeting with a venue unique among utilities, nearly 200 customers of the Orcas Power and Light Cooperative (OPALCO), along with board members and Bonneville Power Administration guests, boarded the San Juan Island Ferry to participate in the utility's annual meeting. The weather delivered smooth sailing for the cruise and meeting Saturday, May 11, as the ferry toured the beautiful San Juan Islands in Washington, making stops at Anacortes on the Washington mainland and on Lopez, Shaw and Orcas islands to pick up the Cooperative's members.



TBL's Mark Korsness (right) talks with OPALCO customers about new underwater cable.



TBL Account Executive Tom Noguchi speaks at ORCAS Power and Light Cooperative Annual Meeting.

OPALCO also commemorated the new San Juan Submarine Cable No. 5 project, which the Bonneville Power Administration energized May 3rd. Built by BPA, the cable stretches seven miles between the Fidalgo Substation near Bellingham to Lopez Island. The new 69-kV cable, which replaces a much older cable that had recently failed, took BPA three years to design and build. It is the fifth underwater transmission cable installed in BPA's system, all of which serve the San Juan Islands.

Transmission Business Line account executive Tom Noguchi, along with project manager Mark Korsness, met with OPALCO board

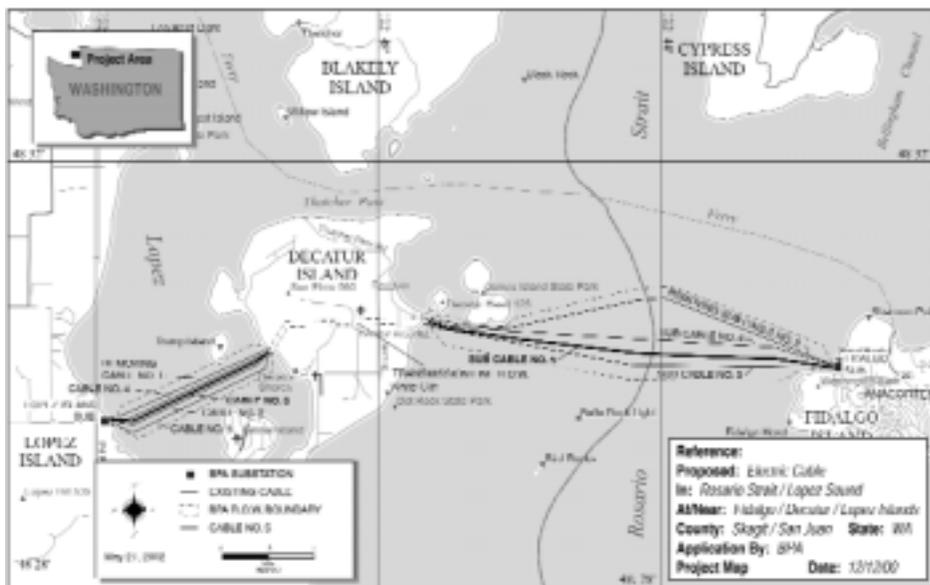
members and customers during the meeting and explained to the utility's members before and after the meeting how the cable system was built.

"This was a uniquely challenging project for BPA and a great example of successful teamwork between us, the tribes and our customer," Noguchi said.

Due to the harsh underwater environment in 7 miles of open ocean, including very strong bottom currents caused by tides, the TBL had to research state of the art technologies in cable design and installation to

ensure a reliable cable system, according to Korsness.

The TBL contracted with Nexans of Norway to manufacture and install the cable, using a special cable-laying ship. The ship has a dynamic positioning system, which allowed it to lay cable or pull the cable back up. It could even walk the ship sideways in strong winds and seas to avoid laying the cable over abrasive boulders, which were spotted during the installation by an underwater remote operated vehicle with cameras.



Bonneville Power Administration  
San Juan Cable Replacement Project

## Congress moves to settle energy legislation

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The US Senate approved energy legislation in late April that included Sen. Ron Wyden's (Ore.-D) last minute amendment to authorize \$1.3 billion in borrowing authority for the Bonneville Power Administration. BPA would use much of the additional borrowing authority to finance up to 20 new transmission infrastructure projects needed to remove transmission constraints, improve reliability and integrate new generation.

Among other electricity provisions in the Senate's energy bill are those that affect electricity restructuring, the formation of regional transmission organizations and an increase in Federal Energy Regulatory Commission oversight of transmission facilities.

Yet the Senate bill, which passed April 25 by an overwhelming 88 to 11 margin, is far from that proposed by the House of Representatives and that will likely slow, if not stop, a move by Congress to adopt a comprehensive energy policy this year.

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Send your letters and comments to your account executive or to "Access: Letters to the Editor," Bonneville Power Administration, Transmission Business Line – Attn: Linda Harris-Proctor, TMP-Ditt2, P.O. Box 491, Vancouver, WA 98666; e-mail: lharris@bpa.gov

"For the most part, the controversial provisions in both bills — such as oil exploration in the Alaska National Wildlife Refuge — may not have much

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*"The differences between the Senate and House bills are so divisive that it is possible the debate will not get settled before the end of the federal fiscal year."*

Kevin Ward  
TBL Policy Strategist

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to do with the needs of the Northwest," said Kevin Ward, Transmission Business Line policy strategist. "Yet, the differences between the Senate and House bills are so divisive that it is possible the debate will not get settled before the end of the federal fiscal year."

Even the bills' provisions that deal with electricity differ in some cases. For example, the Senate bill has a "FERC lite" provision, which means that FERC's jurisdiction over BPA's transmission terms and conditions is limited to ensuring comparability and are not unduly discriminatory or preferential. That, according to Ward, is a lesser standard than exists in a House electricity restructuring bill (H.R. 3406), which would regulate BPA as if it were an investor-owned utility.

When Senate and House bills that address the same topic are in disagreement, the two meet in conference committee to hammer out their differences. Of the 18 members that will make up the committee, two are from the Northwest — Sen. Max Baucus (Mt-D), who chairs the Senate Finance Committee, and Sen. Larry Craig (Id-R).

However, observers have no idea when the conference committee will

meet or how long it will take to reach a compromise. "The conference is going to be a mess and likely to go on for months," said Joe Nipper of the American Public Power Association. If the conferees don't reach an agreement before the November election, Congress will have start all over again in January 2003.

"We initially asked for a \$2 billion increase in our borrowing authority to fund BPA capital needs to build or improve our infrastructure," Ward said. "We haven't given up on that, but we will have to wait to see what Congress approves."

She added that while the Wyden amendment to the Senate bill would add \$1.3 billion, the House bill is set lower at \$700 million. In the meantime, BPA is looking at other ways to fund its capital needs. One way is "debt service reassignment," a comprehensive effort to retire higher cost federal transmission debt and provide more room within its existing borrowing authority to fund projects. Another way the TBL is exploring to pay for some of its new proposed transmission infrastructure projects is third party financing, which could include partnering with non-federal entities to build the projects.

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Much of BPA's ability to fund needed infrastructure improvements hinges on what the Senate/House conference committee decides, but, at this point, it is unclear how the debate will end.

## TBL maintenance projects in full swing

A project in Montana to overhaul breakers in substation yards this spring and summer leads the list of the Transmission Business Line's maintenance projects that will extend the useful lives of transmission components and property.

Among other projects TBL crews jam into the short maintenance and building season — typically April through October— is one that replaces spacer-dampers on conductors, a project to replace faulty wooden transmission structures, another to rebuild transmission line access roads and others that upgrade lines to increase their operating capacity. All are intended to maintain and extend the lives of existing infrastructure components and property, which is one way the TBL manages its facilities to keep costs down.

“While the TBL's high-profile infrastructure projects are getting much of the attention this year and will for the next several years, maintenance crews are going about their routine, but just as important, work of keeping the system up, running and reliable,” said Laura Demory, construction coordinator in Transmission Field Services.

Crews all over the TBL system, which includes about 17,000 miles of transmission line, numerous substations and other terminal facilities, already have begun hundreds of spring and summer maintenance projects. Several stand out in terms of effort and expense, according to Demory.

The TBL has a choice of either fixing or replacing breakers at the agency's Garrison Substation in Montana. The breakers are used to isolate transmission lines and transformers. While the cost to recondition the breakers is high — about a half million dollars — the cost of replacement is much higher. “It's a

substantial investment, but it's a project in which we can delay replacing these breakers, ensure a reliable system and save money in the long run,” Demory said. Most of TBL's maintenance projects have the same money-saving characteristics and all contribute to maintaining reliable service.

“While the TBL's high-profile infrastructure projects are getting much of the attention this year and will for the next several years, maintenance crews are going about their routine, but just as important, work of keeping the system up, running and reliable.”

Laura Demory  
Transmission Field Services  
Construction Coordinator

Several 500 kV lines with bundled wires will get new spacer-dampers. These components ensure the bundles of three conductors maintain a consistent space between wires. They also help to dampen movement among the wires. Worn spacer-dampers could affect lines' electrical properties, leading to conductor separation. Some are getting close to failure, Demory noted.

As part of its annual wooden pole replacement program on lower-voltage transmission lines (115 kV to 230 kV lines), Transmission Field Services crews will again replace this summer about 500 poles. Maintenance crews regularly test wooden poles and replace those that are in critical need of replacement.

Maintenance crews this year are working on the mostly dirt and gravel roads that provide access to transmission lines. Some simply need

road repair and maintenance in areas where brush has grown up over the road or where the road has been washed out and is impassable. However, some roads are in environmentally sensitive areas and their maintenance could affect Northwest salmon and steelhead recovery. To meet new environmental standards, crews this summer will add culverts and encourage native vegetation where critical streams could be affected.

Finally, crews will upgrade several lines to increase their operating capacity. For some projects crews will remove earth or “resag” lines; for others they will raise structures or add intermediate structures to allow for more line sag; some will need new wire. The improvements are intended to increase each line's operating range, a direct result of raising the line's capacity.

As they do every year, the TBL's Transmission Field Services is taking advantage of the short maintenance season for outdoor work when the weather is drier and transmission lines are needed less. In the winter, there is more loading of lines when Northwest temperatures are cooler. With a lower demand for electricity during spring and fall, there are more windows of opportunity to take lines out of service to make the repairs and to maintain the lines, Demory said.

### Correction

A front page picture in the April 2002 edition of **ACCESS: TBL Marketing Bi-Monthly** incorrectly identified the owner of the 263 MW Stateline Wind Project, located on the border of Oregon and Washington near Walla Walla, Wash. FPL Energy of Juno Beach, Florida owns and operates the project.

## Celilo modernization begins

continued from page 1

in time to accommodate the transfer of power during the Northwest's cold months. When the Administrator made his decision to maintain for the long-term the 3,100 MW capacity of the DC Intertie, he set aside another alternative — to maintain the aging mercury arc valves — which would have resulted in de-rating the line's transfer capability over the next five years. That option included the escalating costs of keeping the valves working and declining reliability. During past Arctic Expresses the Northwest has had to import more than 2,000 MW from California during the winter. During the energy crisis in California, that state often needed to import thousands of megawatts from other regions to meet its peak loads.

Rich Gillman, TBL Account Executive, said one complication is LADWP's planned construction outage in December 2003. The outage is needed to complete the installation of converters 1 and 2 at Sylmar, but it would run for nine months and drop line capacity by 1,100 MW during the Northwest's spring runoff period in 2004.

"That's the most profitable time of year for power sales," Gillman said. "It would affect both California and Northwest power providers. However, we're working with LADWP to change that outage timing and are confident they will make the change."

The thyristor valves began arriving from Germany in March, about the same time TBL crews began disassembling the outdated mercury arc valves. Thirty-six valves will arrive this year. The stations' mercury arc valves had been operating well, but

the technology was no longer being supported by its manufacturer, Litzenger said. However, the project is much more than just a replacement of an old technology with a newer one.

In addition to replacing the mercury arc valves, the TBL is also building cooling plants, installing a new HVAC system to cool the valve hall, replacing gapped arresters in the station yard, developing a new control system for the DC Intertie, and revising all of the station's manuals, drawings and other documentation to reflect the changes.

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