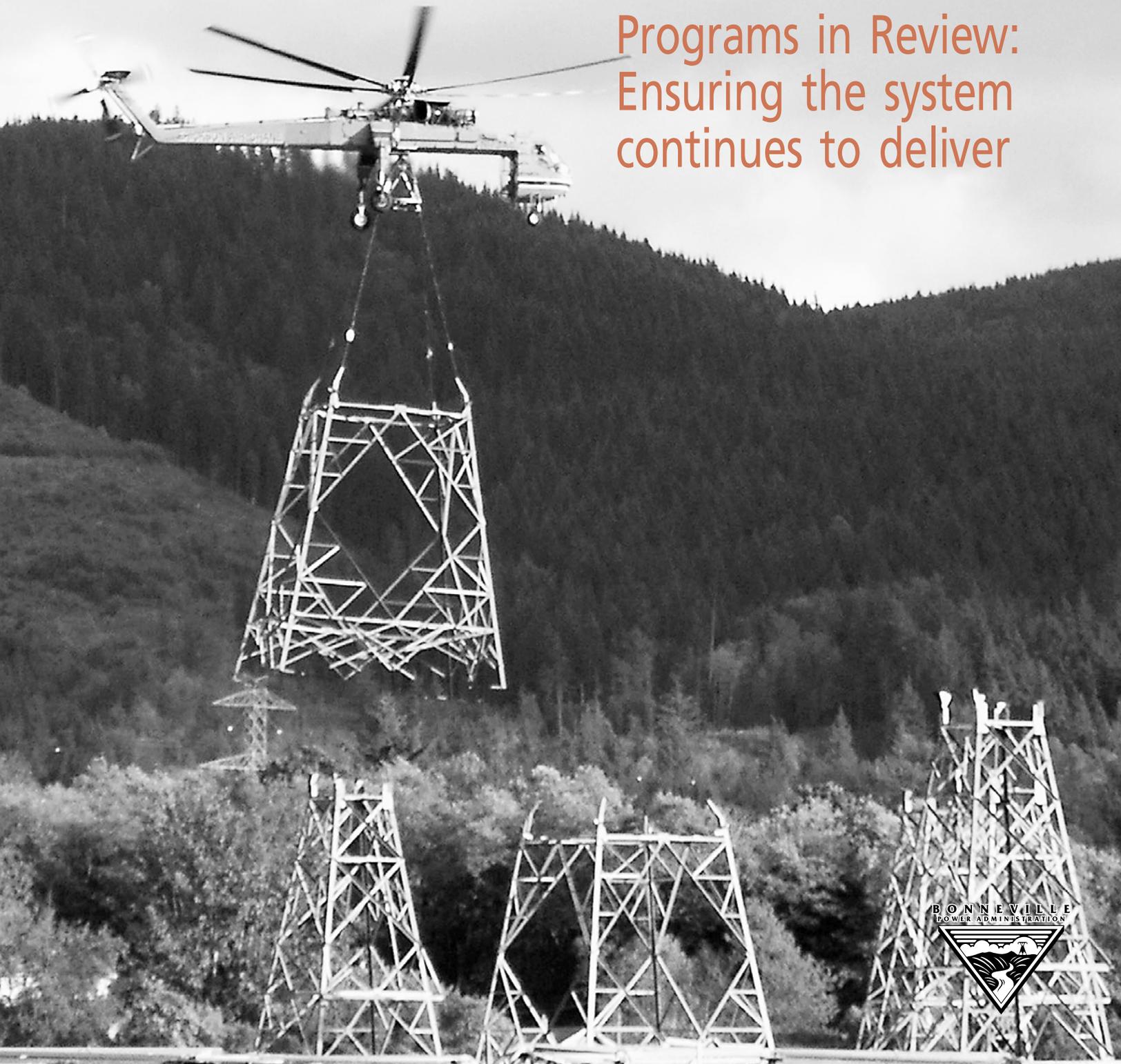


# keeping

# CURRENT

June 2004

Programs in Review:  
Ensuring the system  
continues to deliver



Today the Northwest is one of the few areas in the U.S. actively constructing transmission infrastructure thanks to the Bonneville Power Administration.

Over the past four years, BPA's Transmission Business Line has embarked on a vigorous infrastructure program to improve reliability, adequacy and availability of the Northwest's high-voltage transmission system.

Last December, TBL successfully completed the first major transmission line in the region in 16 years when it energized the Kangley-Echo Lake 500-kilovolt transmission line in the Puget Sound area. Other infrastructure upgrades have been completed throughout the region, further strengthening and boosting the system.

TBL identified a critical need for these projects in 2001 to meet the region's future power requirements, relieve the growing number of congested transmission paths, keep up with growing energy demands and accommodate open access service. Other projects to connect new power plants and proposed generation projects have been delayed or canceled due to a downturn in the economy.

TBL has continued an aggressive effort to find efficiencies, defer work and cut program costs to help keep transmission rates low. This became even more critical following a large decline in transmission sales since 2002. TBL revenues in 2003 declined by over \$57 million, or 8 percent, from actual 2002 revenues and 2004 revenues are now projected to be \$76 million, or 11 percent, below the level expected when current rates were established.

To address the situation, TBL instituted more than \$44 million of operating expense reductions to planned program spending. Additionally, 2004 capital investments were delayed for projects with energization dates through 2007. To achieve these reductions, some replacements and maintenance of existing infrastructure were deferred. All this was done while work continued to complete the infrastructure projects deemed critical to the region's electrical



*Construction workers inspect conductor hardware on the Grand Coulee-Bell transmission line project.*

reliability. As the development of new generation slowed down, capital projects for the FY 2004-2007 period totaling \$321 million were put on hold while others totaling \$273 million were canceled.

Although most operating costs are at or below 2002 levels, interest and depreciation expense is increasing as a result of capital projects necessary to maintain or improve the reliability. The drop in projected revenues, deferred operations and maintenance work and increase in costs along with successful completion of the high-priority capital projects are creating a tension between reliability and rates.

As TBL plans for the future, it is working to keep program levels as low as possible without jeopardizing reliability and while continuing to meet its statutory mandates. Thanks to TBL's ongoing work to cut expenses as much as possible, fiscal year 2006 and 2007 program proposals currently are lower than levels proposed for 2004-2005.

In the context of fluctuating power markets and a struggling Northwest economy, one thing remains constant – TBL's strategic vision to serve the people of the Northwest. TBL remains committed to keeping the transmission system at a high level of reliability; main-

taining low transmission rates consistent with sound business principles; continuing effective environmental mitigation; and being fully accountable to the region for the quality of our service.

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## Reviewing FY 2006-2007 program levels

In June and July, TBL is holding a series of public meetings known as “Programs in Review” to share its planned capital and expense level proposals for fiscal years 2006-2007 with customers, constituents and other interested parties. At the meetings, TBL executives will present an overview of the proposed program and budget levels for maintaining and operating the transmission network and seek feedback on proposed actions and spending levels.

This also is an opportunity to review TBL’s accomplishments during the current rate period, the particular challenges facing the organization and its plan for successfully managing those challenges through FYs 2006 and 2007. The results from the PIR process will serve as the basis for TBL’s financial planning efforts and be used by the BPA administrator to decide transmission capital and expense levels. These budget levels will be reflected in TBL’s rate proposal later this year.

The next TBL rate case, which will begin with workshops later this summer and a formal process in late fall, will determine transmission and ancillary services rates for FY 2006-2007.

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## Significant accomplishments

Here is a quick overview of some of TBL’s most significant accomplishments during the last two years.

### Completion of the Kangley-Echo Lake 500-kV transmission line

This nine-mile-long 500-kilovolt transmission line was energized on Dec. 31, 2003. The line was built as part of our continuing efforts to provide reliable elec-

trical service for the Puget Sound area. A major factor driving the need for this line was the increased risk of blackouts during a severe weather event such as an arctic surge that can occur during the winter months. Without this line, by 2005 the Puget Sound area could have been at risk of curtailments even during a “normal” cold winter. The line was built next to an existing BPA 500-kV line and crosses five miles of the Cedar River Municipal Watershed that provides drinking water to residents of Seattle. To mitigate environmental impacts, TBL used special construction techniques such as employing helicopters for tree removal and tower erection to minimize soil disturbance and erosion (see cover photo). A Feb. 24, 2004, *Seattle Times* editorial praised the project as “... a triumph of engineering, environmental coordination and achievement ...” The costs of this line and the rest of the projects associated with the Puget Sound Area Additions are estimated to be \$80 million.

### Grand Coulee-Bell 500-kV transmission line

The Grand Coulee-Bell transmission line will replace about 84 miles of existing 115-kV wood pole transmission line with a new higher capacity 500-kV steel lattice line. The line is being constructed on an existing BPA-owned transmission line corridor between the Bell Substation in Spokane, Wash., and the Bureau of Reclamation’s switchyard at Grand Coulee Dam. Construction on the Grand Coulee-Bell line began in April 2003 and is scheduled for completion in December 2004 at an estimated cost of \$175 million including substation additions at Bell, Grand Coulee and Dworshak.

The line will relieve congestion on the West of Hatwai flowgate (a constrained path on the BPA transmission network), maintain system reliability and potentially provide additional capacity for future needs. Congestion is a condition that exists when operators seek to dispatch generation in a pattern that would result in power flows higher than can be reliably accommodated by the transmission system. This project will work in concert with 230-kV transmission additions under construction by Avista Corp.

## Celilo modernization project

The Celilo Converter Station is the northern terminus of the 846-mile Pacific Direct-Current Intertie that ends at the Sylmar Converter Station in Los Angeles. Either station can convert alternating current to direct current and send it on its way with low line losses to the other station where it is converted back to AC. The capacity of the DC Intertie depends on the ratings of both the Sylmar and Celilo converter stations. Today the capacity of Celilo is 3,100 megawatts, about double its capacity when it was completed in 1970, creating additional stress to the aging equipment. Without the modernization effort, the capacity of the Intertie would eventually degrade to 1,100 megawatts. Modernization consists of replacing the mercury arc converters, which are giant versions of vacuum tubes used in old radios and TV sets, with modern solid-state silicon-based thyristors plus extensive modification of the switchyard. The project began in 2001 and was completed in April 2004 at an estimated cost of \$56 million.

## Non-federal financing

BPA financed construction of the Schultz-Wautoma project in part through a lease-purchase agreement with Northwest Infrastructure Financing Corp., a subsidiary of J.H. Management, which issued \$119 million in taxable bonds in March 2004 to finance and own the project. The portions of the project to be financed under the lease-purchase will relate to fixtures (towers and lines). Other parts of the project (substation, roads, rights-of-way) will be owned and financed by BPA using traditional U.S. Treasury borrowing. BPA lease payments to NIFC will back the bonds that it issued. BPA will lease the assets from Northwest Infrastructure Financing for 30 years but will manage construction of and exclusively operate the line. At the end of the lease, after the bonds are repaid, BPA has the option to purchase the line.

Leasing conserves BPA's use of scarce U.S. Treasury borrowing, which otherwise is expected to be exhausted in 2008. If applied to other projects, similar non-federal financing could reduce BPA's dependence on U.S. Treasury borrowing for critical transmission

projects. The president, Congress, the Office of Management and Budget and the Department of Energy have encouraged BPA to use non-federal financing.

## Non-wires solutions

TBL embarked on an innovative initiative to foster use of non-wires alternatives such as demand response or distributed resources to address transmission limitations. The goal is to make sure that TBL takes a thorough look at whether non-wires solutions could be used prior to building a line. This effort improved both the scope and the structure of TBL's transmission planning process.

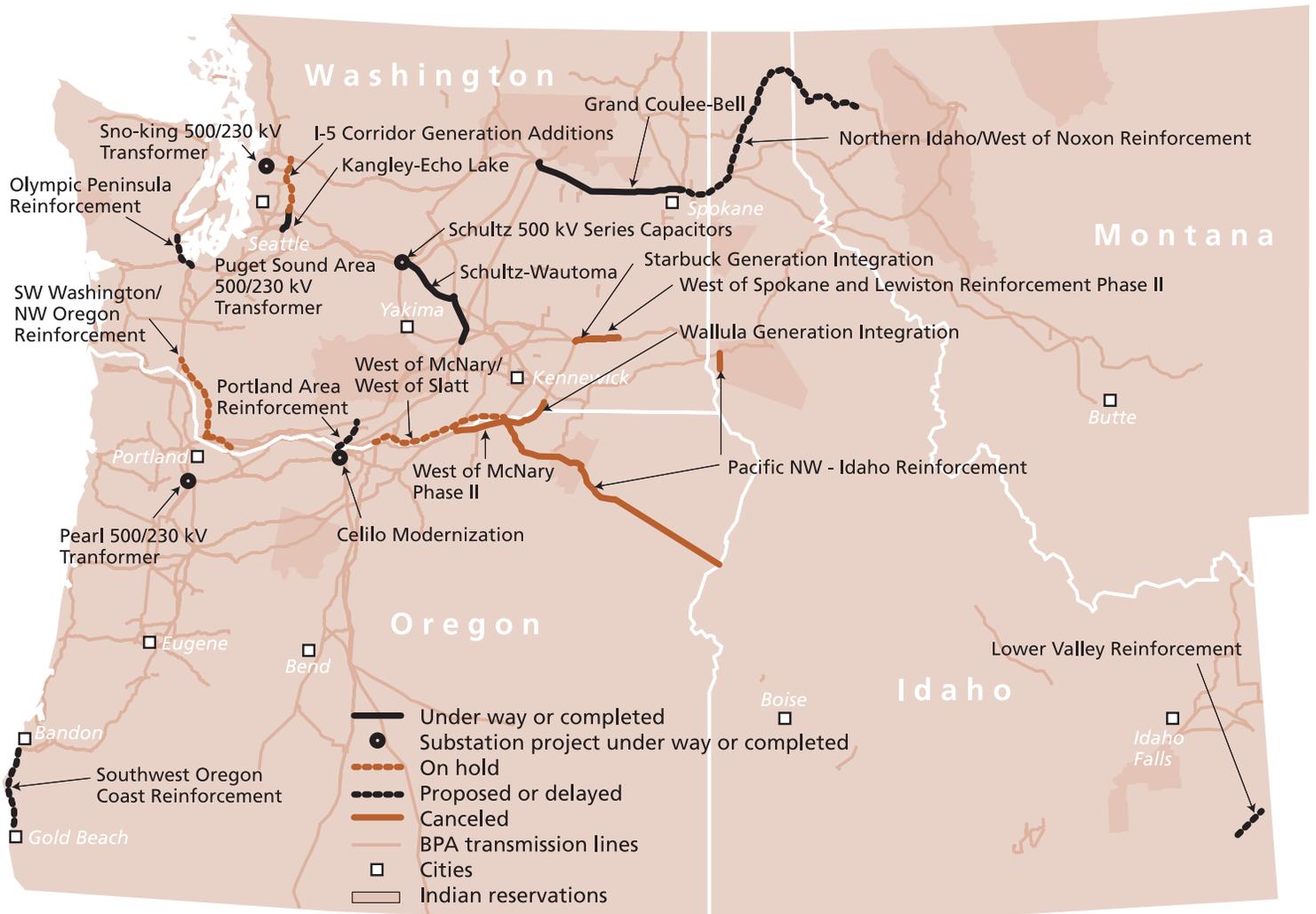
In January 2003, BPA established a Non-Wires Solutions Round Table composed of 18 individuals representing industry, public and private utilities, environmental interests, tribes and state public utility commissions. Members of the round table contribute ideas and commentary which help inform BPA in its decisions about potential non-wires solutions.

These efforts are bearing fruit. In March 2004, BPA completed a pilot project in which Nippon Paper Industries U.S.A of Port Angeles, Wash.; Port Townsend Paper Co. of Port Townsend, Wash.; Mason County Public Utility District #3 of Shelton, Wash.; the U.S. Naval Shipyard at Bremerton; and the Navy's submarine base at Bangor, Wash., participated in demonstrating a non-wires solution. In a few years, transmission lines in this area may not have the capacity to carry enough electricity into the Olympic Peninsula area during very cold weather. During the pilot, which simulated cold weather, BPA posted on the Web a price it would pay previously qualified customers for temporarily reducing their transmission use. Customers would then decide whether to accept or reject the offer.

The tests occurred over four days in March. During the tests, BPA was able to purchase an average of 22 megawatts of peak demand reduction during each hour of a simulated event. This is about one year's load growth on the Peninsula and illustrates the potential for deferring new transmission construction.

BPA is continuing to investigate opportunities for non-wires solutions with industries, cities and large energy users.

## Status of Infrastructure Additions



### Line rebuilds

Two transmission line rebuild projects are under way to address decades of wear and tear on transmission lines from weather and usage: Albany-Eugene and Raymond Cosmopolis.

The Albany-Eugene project will rebuild a 115-kilovolt transmission line located in Lane County, Ore. The project is needed to meet increased load commitments and to eliminate sagging voltages in the immediate area. New steel pole structures will replace the existing wood pole structures. Completion is scheduled for October 2004.

The Raymond-Cosmopolis project will rebuild a 115-kilovolt transmission line, located between the towns of Raymond and Cosmopolis in Pacific County and Grays Harbor County, Wash. This transmission line

was built in the 1930s, acquired by BPA in the 1940s, and upgraded in 1952. Work is scheduled to begin in June 2004 and be completed by fall 2004.

### Vegetation management

The biggest West Coast outage occurred in August 1996 when a power line sagged into a filbert tree. San Francisco went dark and about \$2 billion in economic costs may have resulted from that outage. Since then, TBL has aggressively ramped up its program to control vegetation growth under its transmission lines. TBL increased annual spending for vegetation management from \$2.6 million in 1996 to an average of \$4.6 million from 1997 to 2004. Outages related to vegetation have dropped from 42 in 1996 to nine in 2003. TBL's implementation of an aggressive vegetation management program has also provided early compli-

ance with new vegetation management requirements and recommendations being delivered by the Federal Energy Regulatory Committee and the National Energy Reliability Commission as a result of the Aug. 14, 2003, East Coast blackout.

## Challenges

TBL is facing a number of important challenges in the next two years and beyond. Here are some of the key issues facing the organization.

### Reduced revenues

A significant challenge confronting TBL is a reduction in revenues of about 11 percent from the projections it used when it put its fiscal years 2004-2005 rates in place. The Northwest economy has endured a prolonged recession and the aluminum industry has been particularly hard hit. At the same time, TBL's customers have increasingly turned to a maturing secondary market for transmission capacity in the region to reduce their purchases of transmission capacity from TBL. The result has been a reduced demand for transmission services.

Also, during fiscal years 2004 and 2005, availability of the Pacific Direct-Current Intertie between Celilo, Ore., and Sylmar, Calif., will be significantly reduced while the Intertie is shut down or de-rated for upgrades and planned maintenance in California. This will reduce not only Intertie capacity sales, but also market demand for network transmission services otherwise required to deliver power for sale over the Intertie.

All of these factors have combined to reduce expected revenues by about \$76 million in 2004 from the revenues TBL projected when it adopted its current rates.

### Reduced capital spending

TBL cut its capital spending by \$19 million in 2003 and delayed investments in 2004 for projects with energization dates through 2007.

Several major transmission line projects that were planned to remove constraints on the transmission

system and to provide transmission service to proposed new generation were put on hold since some of the new generation did not materialize as expected. Less expensive fixes are being considered to provide some relief on these congested paths. Other infrastructure projects, whose need was directly tied to these new generators, were canceled.

### Cost-cutting efforts

TBL has made aggressive cost cuts in response to the reduction in projected revenues. This includes savings of \$13.3 million resulting from reductions in training, contract work, hiring, information technology maintenance, non-electric plant maintenance and system maintenance. These measures are short-term and must be addressed in the next rate period.

With the goal clearly in mind to maintain low rates and accountability to the region for the quality of service, TBL is committed to continue cost containment efforts. TBL has undergone extraordinary cost-cutting for fiscal years 2003-2005 and is working with customers to increase the transparency of its fiscal management.

TBL is establishing the goal of achieving 10 percent savings in overall program costs for FYs 2007-2008 and is initiating a new asset management program this year. Asset management offers a more rigorous process to examine capital and expense commitments resulting in better business decisions and prioritization.

TBL also is seeking additional efficiencies by working to make better use of its overall resources to minimize duplication of business systems and other resources. TBL is working to streamline internal processes to achieve increased efficiencies with the goal of being more productive even as it seeks to reduce overall staffing.

### Staffing reductions

TBL is continuing to refine its overall work force management to achieve the most efficient and lowest cost staffing levels possible, consistent with maintaining a safe and reliable transmission system. In the past two years, overtime levels and premium pay have been reduced by 28 percent, administrative travel by 13 percent, non-electric plant maintenance by 3 percent and employee awards have decreased by 94 percent.

## Current BPA Infrastructure Improvement Projects

Project	Energization
Pearl Substation Bank Addition	October 2003
Schultz Series Capacitors	November 2003
Kangley-Echo Lake 500-kV Transmission Line Project	December 2003
Celilo Modernization	April 2004
Grand Coulee-Bell 500-kV Transmission Line Project	December 2004
Schultz-Wautoma 500-kV Transmission Line Project	April 2006
Olympic Peninsula Reinforcement (potential non-wires solution)	October 2007
Lower Valley – Idaho/Wyoming (potential non-wires solution)	October 2008
Puget Sound Additions	October 2010
North of John Day/Portland Area Reinforcement Project	October 2012
West of Noxon Reinforcement	October 2012
West of Noxon Reinforcement (Phase II)	October 2012

TBL has a target to reduce its overall work force levels by approximately 200 full-time equivalent or 10 percent of its current allocation through increased efficiencies. TBL anticipates achieving the desired work force reductions through attrition. Where needed, TBL will make up for the reduced staffing levels through temporary contract employees for peak workload needs, allowing the organization needed flexibility to quickly adjust the size of the work force to meet fluctuating workload demand.

## Capital program levels for FY 2006 and FY 2007

In 2001, TBL embarked on the largest capital program in more than 10 years. Six infrastructure projects have been completed or are under way including ones discussed under “Significant accomplishments.” Today, the nature of the needs TBL is seeking to address has changed.

Two years ago, TBL believed that it was facing a major need to accommodate new generation in the region, but economic and market conditions have resulted in less new generation than originally ex-

pected. The East Coast blackout in August 2003 also created a renewed urgency to reinforce the system and fully comply with reliability standards.

TBL will proceed with building needed transmission infrastructure replacements and keep the momentum going with measured, steady progress. It currently is focused on completing the Coulee-Bell and Schultz-Wautoma projects. In fiscal year 2005, it plans to launch the review of transmission needs in two major areas – the Olympic Peninsula in Washington and the Lower Valley area in Idaho and Wyoming.

TBL also is planning a number of infrastructure replacement efforts to assure continued reliability of the aging transmission system. These include system replacements based on age, maintenance cost and availability of spare parts of transformers, circuit breakers, communications and control equipment and wood poles. TBL plans to replace about 2,500 wood poles each year with the goal of replacing a total of 27,000 by 2015 at a cost of about \$6 million per year. Finally, TBL plans to replace 60 circuit breakers per year placing the highest priority on breakers prone to violent failure and high maintenance costs. The annual replacement budget also includes \$10 million set aside for emergency repairs and replacements.

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## Expense program levels for FY 2006-2007

**F**orecast operating expenses for FY 2006-2007, excluding depreciation, are less than what was forecast in the 2004 rate case. Average total operating expenses forecast for FY 2006-2007, excluding depreciation, are \$355 million compared to the FY 2004-2005 rate case average of \$370 million.

Completion of FY 2003-2006 infrastructure projects is resulting in an increase in capital related expenses. Preliminary estimates forecast depreciation expense increasing about 25 percent, and annual net interest expense increasing about 13 percent over FY 2004 expense levels.

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## Programs in Review meeting schedule

**M**eetings with customers and constituents are scheduled to begin in June. A summary of customer comments will be provided this fall. After reviewing the comments and considering customer and staff input, the BPA administrator will close the public process by issuing a letter detailing the final decision on the program levels.

Please plan to attend one or more of the following meetings:

### Idaho Falls

June 11, 2004  
12:30 p.m. to 3:30 p.m.  
Idaho Falls Power Conference Room  
140 S. Capital Ave.  
Idaho Falls, Idaho

### Kennewick

June 16, 2004  
9 a.m. to 1 p.m.  
Benton PUD Auditorium  
2721 N. 10<sup>th</sup> Ave.  
Kennewick, Wash.

### Spokane

June 18, 2004  
1 p.m. to 5 p.m.  
Spokane Teachers Credit Union  
106 W. Nora  
Spokane, Wash.

### Tacoma

June 24, 2004  
9 a.m. to 1 p.m.  
Tacoma Power Auditorium  
3628 S. 35<sup>th</sup> St.  
Tacoma, Wash.

### Portland

June 25, 2004  
9:30 a.m. to 1:30 p.m.  
Bonneville Power Administration Headquarters  
Rates Hearing Room  
911 N.E. 11<sup>th</sup> Ave.  
Portland, Ore.

### Springfield

June 30, 2004  
9 a.m. to 1 p.m.  
Springfield Utility Boardroom  
250 A St.  
Springfield, Ore.

### Missoula

July 22, 2004  
1:30 p.m. to 3:30 p.m.  
Holiday Inn Parkside  
200 S. Pattee St. #2  
Missoula, Mont.

TBL will take comments on its Programs in Review from June 11 through Aug. 31, 2004. You may e-mail your comments to [tblfeedback@bpa.gov](mailto:tblfeedback@bpa.gov), or mail them to:

Programs in Review – T-DITT2  
Bonneville Power Administration  
P.O. Box 491  
Vancouver, WA 98666

For more information about Programs in Review go to [http://www.transmission.bpa.gov/Business/Customer\\_Forums\\_and\\_Feedback/Programs\\_in\\_Review/pir2004.cfm](http://www.transmission.bpa.gov/Business/Customer_Forums_and_Feedback/Programs_in_Review/pir2004.cfm) or call toll free 1-888-276-7790.