

# factsheet

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## BPA, PGE and PacifiCorp bolster California-Oregon Intertie

For more than three decades, electricity consumers on the West Coast have benefited from a high-voltage transmission system that functions like a superhighway for electricity, carrying large amounts of surplus power between the Pacific Northwest and the Southwest. This system, known as the Pacific Intertie, has opened up Western markets, has helped avert potential power shortages and has reduced the need to build new power plants in each region.

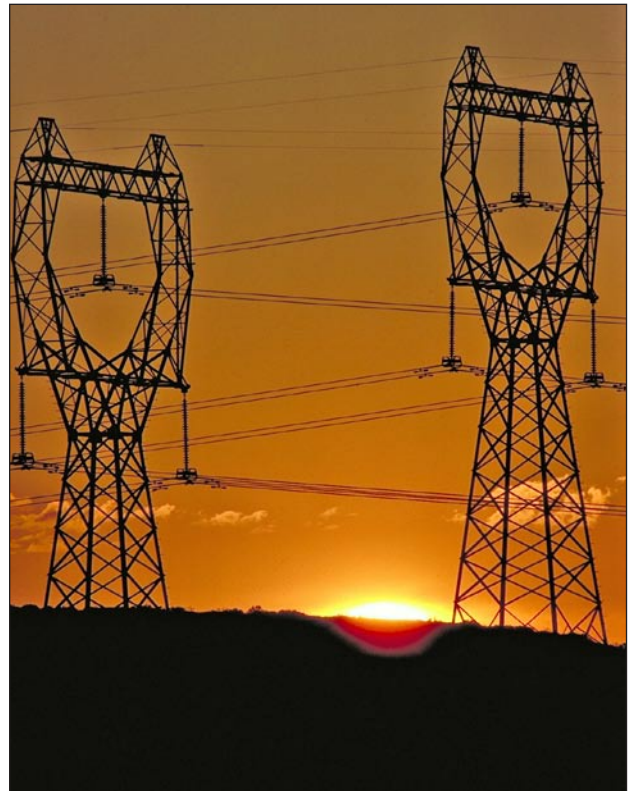
The Northwest part of the system — known as the California-Oregon Intertie (COI) — is owned by the Bonneville Power Administration, Portland General Electric and PacifiCorp. BPA is a federal power-marketing agency, and the other two owners are investor-owned utilities. BPA owns the majority of the transmission capacity on the system and has responsibility for operating the COI.

Demand for transmission on the COI has continued to grow over the years, and today demand exceeds the available capacity. BPA's queue for long-term transmission on the COI currently has a large number of requests amounting to approximately 3,300 megawatts.

### Why is this needed?

The COI is currently rated at 4,800 megawatts, but frequently it operates at less than full capacity due to various conditions that constrain the system. During times of high demand, the COI can be stretched to its limits. Whenever power flows exceed the COI's operational transfer capability — which is the industry threshold for safe and reliable operation — transmission transactions must be curtailed to reduce power flows to acceptable levels.

After studying the situation, BPA, PacifiCorp and Portland General Electric engineers concluded that installing new high-voltage equipment at several critical bottlenecks in the system would reinforce the Intertie so it can operate at full capacity more frequently and under a wider range of conditions.



*The California-Oregon Intertie is an important regional transmission system that transmits large amounts of electricity between the Northwest and California. Through the Intertie, the Northwest and the Southwest have enjoyed a unique power-sharing relationship that has benefited both regions since power was first transmitted on the lines in 1968.*



## What are the benefits?

These improvements will reinforce the COI so that more transmission capacity will be available more frequently on the transmission system. This will benefit the COI owners as well as users of the COI, providing increased transmission availability for Western and regional power markets.

Currently, BPA and PGE withhold a portion of their transmission capacity on the COI to ensure that the system operates within safe limits and to cushion the effect of curtailments on our transmission customers. With these improvements, BPA and PGE will no longer withhold that capacity and therefore can make long-term offers to transmission customers with requests in their respective transmission queues.

Additionally, because operations of the COI and the Pacific Direct Current Intertie (PDCI) are complementary, this project will enable BPA to offer additional PDCI capacity. (Like the COI, the PDCI also carries large amounts of power between the Northwest and California.) Bolstered by other actions BPA is taking to relieve congestion and improve transmission availability on the COI, these improvements will enable BPA to make additional capacity available on the PDCI.

With this project, COI and PDCI will be available more of the time. BPA will offer more COI and PDCI transmission and therefore enable more surplus power to be moved between the Northwest and the Southwest.

## COI owners to share project cost

The preliminary estimated total cost for this project is approximately \$63.5 million. Each of the COI owners will be responsible for a portion of the total cost, based on their percentage of ownership. The project is not expected to have an impact on BPA's rates.

## Proposed improvements

To optimize the COI's transmission capacity, this project involves adding and upgrading equipment at three BPA substations in Oregon and installing higher-capacity conductor on two spans of line.

- Slatt Substation (located in Gilliam County): One new shunt capacitor group and a total of three new circuit breakers would be installed.
- Captain Jack Substation (located in Klamath County): Two new shunt capacitor groups and a total of three new circuit breakers would be installed.
- Bakeoven Compensation Station (located in Wasco County): Two banks of series capacitors would be installed. Additionally, new facilities for communications would be built and power system control equipment would be installed.
- John Day-Grizzly #1 and #2 transmission lines (located in Sherman County): These transmission lines would be upgraded to accommodate higher power flows resulting from the addition of the series capacitors. Along two spans that cross Mack Canyon, BPA would remove existing wires and restring each span with higher-rated conductor wires.

The project is estimated to take between 36 and 38 months to complete once kicked off, with a projected in-service date of October 2011.