

## **Central Oregon Transformer Addition**

This project will install a second 500/230 kV transformer bank at BPA's Ponderosa substation. The existing 500/230 kV #1 transformer bank at Ponderosa is a primary source for the Bend, La Pine, Prineville and Redmond load areas. These areas represent 353 MW of load during the winter season. Current analysis indicates load levels are expected to increase at a rate of 3% per year in the Central Oregon area. In addition to the overall load forecast increase, Facebook is planning to add 40 MW of industrial load at Prineville by July 2011 and that load could grow to 120 MW shortly thereafter.

Recent studies indicate a high likelihood of NERC/WECC violations, starting in 2014, caused by an outage of the Ponderosa 500/230 kV #1 transformer. During peak-load winter conditions, a loss of the existing 500/230 kV transformer at Ponderosa will result in low voltage violations in the Redmond and Bend areas and may result in unstable voltage conditions causing localized blackouts. During the following summer season, thermal overloads of nearby transmission lines will likely result from the same outage during peak load hours.

The existing Ponderosa 500/230 kV #1 transformer is in good physical condition and has enough capacity to serve the area for more than 10 years. However, the immediate need for this project is driven by the potential for criteria violations during an outage of the existing transformer. The primary objective of this project will be to maintain BPA's standard for Transmission System Reliability in the Central Oregon area. The proposed project will allow the system to meet NERC/WECC Transmission Planning standard TPL-002 for planning study cases through at least the year 2020. It will also allow for growth of load in the region, particularly in the areas of Prineville, Bend, and Redmond.