



April 2005

A Resource Adequacy Framework for the Pacific Northwest

Description of PNW Effort

The Northwest Power and Conservation Council, in partnership with the Bonneville Power Administration, is spearheading an effort to develop a consensus-based resource adequacy (RA) standard for the Pacific Northwest¹. To do this, the Council will convene regional stakeholders beginning in June, with the goal of agreeing on a resource adequacy metric and target as the basis for resource adequacy assessments in the PNW. By the end of 2005, the Council, in concert with regional stakeholders, would like to have the resource adequacy standard developed and begin to identify ways that the standard could be implemented. The Council and BPA recognize the central role of state regulators in implementing a resource adequacy standard and hope that each of the PNW states will actively support this process.

Need for a Resource Adequacy Standard

In 2001, one of the lowest water years on record caught the PNW short by 4,000 aMW on a critical-water planning standard basis to meet electrical loads in the states of Oregon, Washington, Idaho and Montana. Westwide, areas of resource deficiency, a flawed market design in California, and market manipulation caused high and volatile prices as well as localized rolling blackouts. The fallout from the West Coast energy crisis contributed to an economic recession from which the PNW is still recovering.

The crisis demonstrated that the public has little tolerance for high and volatile market prices over a prolonged period of time. It has also become clear that the financial community will no longer lend money for power plant construction unless developers have power contracts in hand and/or utilities have included the costs of those contracts in their rates.

One way to help get needed resources developed is a resource adequacy standard and framework. A resource adequacy standard would help utilities and their regulators gauge whether they have enough resources to meet their loads under a regionally accepted measure of generation sufficiency. A framework for implementing the standard would lay the foundation for those entities to plan for and acquire sufficient resources to meet load.

The Time is Right

The 2001 energy crisis in the West and the 2003 blackout in the East have heightened the national and regional awareness of the need for mechanisms to ensure timely construction of adequate electricity infrastructure – both transmission and generation. The Federal Energy Regulatory Commission was the first to call for a resource adequacy standard, but backed off on a one-size-fits-all national standard

¹ The Pacific Northwest is defined as the 1980 Northwest Power Act footprint encompassing the U.S. Columbia River drainage including the states of Washington, Oregon, Idaho and part of Montana. Although small parts of other states are included in the drainage, it is not envisioned that a PNW RA standard would impact these states.

in favor of regional/state standards. The North American Electric Reliability Council, which is in the process of revamping its reliability standards, has initiated its process to establish an RA standard, which would require each of the 10 reliability councils to adopt RA criteria most appropriate for their regions. The Western Electricity Coordinating Council in collaboration with the Committee on Regional Electric Power Cooperation is in the process of developing resource adequacy assessment guidelines, but has indicated it will look to state and local regulators to work with their utilities to implement resource adequacy measures.

BPA's Unique Role²

The 1980 Northwest Power Act gave BPA the role of “provider of last resort” for all NW utilities, adding to its historic role for the publicly owned utilities. However, BPA’s recent unprecedented rate increase, which was primarily the result of 3,000 MW of unanticipated load being placed on it in 2001 made both BPA and its power customers question the inherent risk involved with this role. Through the Regional Dialogue process to allow BPA, its power customers and other stakeholders to come to agreement on the principles and provisions of new 20-year power sales contracts, it has become clear that most parties want BPA to limit its power acquisition role in the region. If BPA is to reduce its role in acquiring new resources or power purchases, its customer utilities must have a common understanding of what constitutes resource adequacy; so when they procure resources to meet their load not served by BPA, the combined result will ensure overall regional resource adequacy. A regional resource adequacy standard and framework would help achieve a consistent and equitable approach to planning for sufficient resources to meet load.

Obstacles to Resource Adequacy in the PNW

In an environment where an increasing number of parties will be taking on the responsibility for acquiring resources to serve regional load, a resource adequacy standard/framework is key to ensuring overall regional sufficiency of resources to meet load at reasonable costs. The PNW is unique, not only in the predominately hydroelectric nature of its resources, but also in the ratio of public utilities to investor-owned utilities. Resource adequacy is more difficult to achieve in the PNW for the following reasons:

- In many years, normal or better than normal water conditions accompanied by abundant hydro generation can both mask a situation of resource deficiency and increase the capital risk of construction in a market with supply levels varying substantially from year to year;
- There is a continuing lack of clarity about the responsibility for resource acquisition between the public utilities and BPA;
- Although longer-term forward markets can provide efficient mechanisms for developing new resources, their success depends on the incentives provided to utilities to turn to those markets. Those incentives in the PNW are weakened by the two issues noted above.

The Council’s regional power plan must operate effectively in the context of multiple decision-makers constructing or causing the acquisition of resources, maintaining an inventory of ready-to-develop projects, and paying for cost-effective conservation. An equitable way for the Fifth Power Plan to accomplish its objectives is through the consensus-based selection of a regional resource adequacy framework.

² With the possible exception of the Tennessee Valley Authority, BPA is the only Federal Power Marketing Agency with a regional adequacy responsibility.

Possible Metric and Target

The Council uses a Loss of Load Probability (LOLP) metric with a 5 percent target to determine whether the PNW has adequate resources. On a regional basis, this way of measuring resource adequacy has generally gained acceptance. However, the LOLP metric is difficult to apply on a utility-by-utility basis due to modeling complexities. Because the PNW is energy – rather than capacity – constrained, a deterministic energy metric and target represents perhaps a more practical way of assessing resource adequacy. The Council’s Fifth Power Plan chapter on resource adequacy presents a graph that relates the LOLP metric and target to an annual energy load resource balance metric with a target based on some definition of adverse hydro. The region’s comfort level with how much surplus out-of-region capacity is available in the wintertime will help define the adverse hydro target.

Schedule:

Discussions with utilities, commissions	April-May 2005
Letter to the region announcing process	May 2005
First meeting of steering and technical committees	June 2005
Standard developed	December 2005