Should the Pacific Northwest Develop a Resource Adequacy Framework?

The Northwest Power and Conservation Council and the Bonneville Power Administration are embarking on an effort that we hope will lead to the implementation of regional resource adequacy standards. As a first step, the Council and Bonneville propose to hold a series of meetings or teleconferences with industry leaders, regulators and others. The purpose of these teleconferences is to assess the degree of regional agreement regarding:

- The need for some sort of regional resource adequacy standard or target;
- The need for some framework through which such a standard could be implemented; and
- The willingness of parties to dedicate time and resources over the rest of this year to define an appropriate adequacy target and implementation framework.

The purpose of this paper is to provide some background regarding the concerns that are motivating this effort and at least some of the problems that will have to be addressed. It is intended as a "jumping off place" for discussion.

Why a Resource Adequacy Framework?

Regional Experience

In 2001, one of the lowest water years on record caught the Pacific Northwest 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.¹ West-wide, 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 regulatory approval for recovering the costs of those contracts in their rates.

One way to help get needed resources developed may be a resource adequacy (RA) standard and framework through which it could be implemented. 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 and that all in the region are sharing equitably in the cost of assuring resource adequacy. A framework for implementing the standard would lay the foundation for those entities to plan for and acquire sufficient resources to meet load.

National and Western Pressures

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 (FERC) was the first to call for an RA standard, but backed off on a one-size-fits-all national standard in favor of

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 Montana west of the Continental Divide.

regional/state standards. The North American Electric Reliability Council (NERC), 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 (WECC) in collaboration with Committee on Regional Electric Power Cooperation (CREPC) is in the process of developing RA assessment guidelines, but has indicated it will look to state and local regulators to work with their utilities to implement resource adequacy measures. The Northwest has an opportunity to craft an approach to resource adequacy that works for unique characteristics of the Northwest while also being compatible with the RA framework being developed for the Western interconnection.

Regional Issues

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 seems to be 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 (IOUs). 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.

BPA's Concerns²:

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 RA standard and framework would help achieve a consistent and equitable approach to planning for sufficient resources to meet load.

The Council's Concerns

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 implementing cost-effective conservation. An effective 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.

Getting to a Consensus Adequacy Target and Implementation Framework

There are a number of difficult questions that will have to be resolved. They include at least the following:

- Energy, capacity or both? While the region has historically been an energy-constrained system, some utilities have increasing concerns about capacity issues.
- What metric should be used? The region has historically used a load-resource balance metric. Others have used a loss of load probability. Each has advantages and disadvantages. Is one or the other preferable? Are there other alternatives? Are the metrics compatible with efforts at the level of the Western Interconnection?
- What target level? Regardless of the metric employed, the choice of a particular target level implies trade-offs between the cost of the resources needed to meet that target and the risks of incurring high power market costs and/or cost of lost load. How should the choice of target be made? Should the approach to the defining a target attempt to distinguish between maintaining physical reliability and avoidance of extreme market prices? If it does, which kind of target would be appropriate?
- Does "one size fit all" or will metrics and targets need to be customized for specific sub-regions or even utilities?
- Given that no entity has regional authority for implementing a standard, can a consensus framework be developed?

There are undoubtedly other issues that should be addressed. What are they?

Proposed Structure and Schedule

We propose that a steering committee composed of senior policy level people be formed. Parallel to that, a technical committee would be formed. The function of the technical committee would be to develop and analyze alternative metrics and standards. The function of the steering committee would be to decide among the alternatives developed and to develop a consensus framework for implementation.

Discussions with utilities, commissions Letter to the region announcing process Formation of steering and technical committees Standard developed April-May 2005 Late May 2005 June 2005 December 2005 Current Schedule of Consultations

- May 5 PacifiCorp; Western Montana G&T
- May 9 Montana PSC; PPC
- May 11 Northwestern; EWEB
- May 12 Washington Utilities and Transportation Commission
- May 16 Puget Sound Energy
- May 17 Oregon PUD Association; Oregon Rural Electric Cooperative; Idaho PUC; Clark PUD; Washington PUD Association
- May 19 Northwest Requirements Utilities
- More being scheduled