# NORTHWEST POWER POOL AREA
# ASSESSMENT OF RELIABILITY AND ADEQUACY
# 2006 SUMMER OPERATING CONDITIONS

February 24, 2006

## INTRODUCTION

The Northwest Power Pool (Power Pool) area is comprised of all or major portions of the states of Washington; Oregon; Idaho; Wyoming; Montana; Nevada; and, Utah; a small portion of Northern California; and, the Canadian provinces of British Columbia and Alberta. The Power Pool in collaboration with it members has conducted an assessment of reliability in response to questions raised regarding the ability of the Power Pool to meet the load requirements during the summer 2006. Analyses indicate the Northwest area will be able to meet firm loads and required forced outage reserve for the 2006 summer operations, assuming normal ambient temperature and normal weather conditions.

This assessment is valid for the Northwest Power Pool area as a whole; however, these overall results do not necessarily apply to all sub-areas (individual members, control areas, states, and or provinces) when assessed separately.

### Report Details

- Demand and Energy

  The Northwest Power Pool 2005 coincidental summer peak of 50,812 MW occurred on July 18, 2005. The 2005 coincidental summer peak was 98.7% of the forecast. The 2006 summer peak forecast for the Power Pool area, as one single entity, of 51,500 MW is based on normal weather, reflects the prevailing economic climate, and has a 50% probability of not being exceeded. The Power Pool peak Area Load forecast includes approximately 200 MW of interruptible demand capability and load management.

  Under normal weather conditions, the Power Pool area does not anticipate dependence on imports from external areas during summer peak demand periods. However, if much lower than normal precipitation were to occur, it may be extremely advantageous to maximize transfer capabilities to reduce reservoir drafts and aid reservoir filling.

- Resource Assessment

  Over 60% of the Power Pool resource capability is from hydro generation. In addition, generation is produced from conventional thermal plants and miscellaneous resources, such as non-utility owned gas-fired cogeneration or wind.

#### Hydro Capability

Northwest power planning is done by sub-area. Idaho, Nevada, Wyoming, Utah, British Columbia and Alberta individually optimize their resources to their demand. The Coordinated System (Oregon, Washington and western Montana) coordinates the operation of its hydro resources to serve its demand. The Coordinated System hydro operation is based on critical water planning assumptions (currently the 1936-1937 water years). Critical water in the Coordinated System equates to approximately 11,000 average megawatts of firm energy load carrying capability, when reservoirs start full. Under Average water year conditions, the additional non-firm energy available is approximately 3,000 average megawatts.

The 2006 Mid- February forecast for the January through July Volume Runoff (Columbia River flows) at The Dalles, Oregon is 106 Million acre-feet (Maf), or 99 % of the thirty (30) average.

~~The~~ Last year, the Coordinated System hydro reservoirs refilled to approximately 93.8% of the Energy Content Curve by July 31, 2005.

April through July

This period is the refill season when reservoirs store spring runoff. The water fueling associated with hydro powered resources can be difficult to manage because there are several competing purposes including but not limited to: current electric power generation, future (winter) electric power generation, flood control, biological opinion requirements resulting from the Endangered Species Act, as well as, special river operations for recreation, irrigation, navigation, and the refilling of the reservoirs each year. Any time precipitation levels are below normal, balancing these interests becomes even more difficult.

With the competition for the water, power operations for the 2006 may be difficult. The goal is to manage all the competing requirements while refilling the reservoirs to the highest extent possible.

Sustainable Hydro Capability

Operators of the hydro facilities maximize the hydrology throughout the year while assuring all the competing purposes are evaluated. Although available capacity margin at time of peak can be calculated to be greater than 20%, this can be misleading. Since hydro can be limited due to conditions (either lack of water or imposed restrictions), the expected sustainable capacity must be determined before establishing a representative capacity margin. In other words, the firm energy load carrying capability (FELCC) is the amount of energy that the system may be called on to produce on a firm or guaranteed basis during actual operations. The FELCC is highly dependent upon the availability of water for hydro-electric generation.

The Power Pool has developed the expected sustainable capacity based on the aggregated information and estimates that the members have made with respect to their own hydro generation. Sustainable capacity is for periods at least greater than two-hours during daily peak periods assuming various conditions. This aggregated information yielded a reduction for sustained capability of approximately 7,000 MW. This reduction is more relative to the Northwest in the winter; however, under summer extreme low water conditions, it impacts summer conditions.

Thermal Generation

No thermal plant or fuel problems are anticipated. To the extent that existing thermal resources are not scheduled for maintenance, thermal and other resources should be available as needed during the summer peak.

- Transmission Assessment

Constrained paths within the Power Pool area are known and operating studies modeling these constraints have been performed and operating procedures have been developed to assure safe and reliable operations.

The Northwest Operational Planning Study Group (NOPSG) coordinates seasonal inter-area transmission transfer capability studies. Daily studies to determine transfer capabilities during planned outage conditions are coordinated by the operators of the individual operating paths.

Transmission Facilities

No major transmission projects are scheduled for summer 2006. The recent completion of ~~the~~ Bonneville Power Administration's Schultz-Wautoma 500kV project and Puget Sound Energy's reconductor of the Bothell-Sammamish 230kV line should benefit the North of John Day and Northern Intertie paths, respectively.

The PDCI will have a 3100 MW north to south (export) limit. The PDCI south to north (import) limit will be 2200 MW due to lack of direct service industry (DSI) load tripping remedial action.

It is anticipated that the West of Hatwai path will have a 4065 MW operating transfer limit for the summer period.

- Reliability Coordinator

The Reliability Coordinator (Pacific Northwest Security Coordinator {PNSC}) is ~~in place and is~~ responsible for monitoring, advising, and directing action when necessary, in order to preserve the reliability of transmission service between and within the interconnected systems of the Pacific Northwest control areas. Also, Coordination occurs between the PNSC and the two other WECC Reliability Centers.

- Reserve Sharing

Control areas within the Power Pool use a fully automated system of sharing resources, when requested, to meet the NERC Disturbance Control Standard for loss of generation in the Pool area. The system has the ability to automatically move generation over a 2-Province, 7-State area while taking into consideration transmission constraints within the area. This system assures adequate resources are available over a broad area; an adequate response is delivered within the prescribed time; and the impact of the disturbance to internal as well as neighboring systems is mitigated.

## MISCELLANEOUS ITEMS

During late 2000 and 2001 electricity demand decreased due to concerns surrounding the electricity crisis, large increase in electricity rates (retail and wholesale) and an economic slowdown. The Northwest Direct Service Industry (DSI), which are mostly aluminum smelters, electricity consumption dropped from just above 2500 average megawatts in 2000 to less than 500 average megawatts in 2002. It is anticipated that the electricity consumption for the DSIs will remain relatively flat for the summer 2006 season.

## RESPONSE TO THE NERC RECOMMENDATIONS ASSOCIATED WITH THE AUGUST 14, 2003 OUTAGE

The Northwest Power Pool is a sub-region within the Western Electricity Coordinating Council and participates in the process responding to ~~the~~ NERC recommendations assuring the reliability and ~~adequacies~~ adequacy of the sub-region are continuously met.

## STRATEGIC UNDERTAKINGS

- Adequacy Response Team

  The Northwest has developed an Adequacy Response Process whereby a team addresses the area's ability to avoid a power emergency by promoting regional coordination and communications. Essential pieces of that effort include timely analyses of the power situation and communication of that information to all parties including but not limited to utility officials, elected officials and the general public.

- Emergency Response Team (ERT)

  In the fall of 2000, the area developed an Emergency Response Process to address immediate power emergencies. The ERT remains in place and would be utilized in the event of an immediate emergency. The ERT would work with all parties in pursuing options to resolve the emergency including but not limited to load curtailment and or imports of additional power from other areas outside of the Power Pool.

## CONCLUSIONS

In view of the present overall power conditions, including the forecasted water condition, the area represented by the Power Pool is estimating that it will be able to meet firm loads including the required reserve. Should any resources be lost to the area beyond the required forced outage reserve margin and or loads are greater than expected as a result of extreme weather, the Power Pool area may have to look to alternatives which may include emergency measures to meet obligations.