NORTHWEST POWER POOL AREA
ASSESSMENT OF RELIABILITY AND ADEQUACY
2007 SUMMER OPERATING CONDITIONS

March 23, 2007

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 2007. Analyses indicate the Northwest area will be able to meet firm loads and required forced outage reserve for the 2007 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.

On February 1, 2007, Sacramento Municipal Utility District (SMUD) joined the Power Pool; for purposes of the 2007 summer assessment, SMUD has not been integrated into the process.

Report Details

- Demand and Energy

  The Northwest Power Pool 2006 coincidental summer peak of 54,597 MW occurred on July 24, 2006. The 2006 coincidental summer peak was 106% of the forecast; however, the coincidental peak occurred during above normal temperature conditions. Normalizing for temperature variance (50% probability), the 2006 coincidental peak would have been 51,597 or 100% of the forecast.

  The 2007 summer peak forecast for the Power Pool area, as one single entity, of 53,000 MW is based on normal weather, reflects the prevailing economic climate, and has a 50% probability of not being exceeded. Extreme temperatures have the potential of increasing the coincidental peak by 3,500 MW. 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. The remaining 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 2007 mid-March forecast for the January through July Volume Runoff (Columbia River flows) at The Dalles, Oregon is 101 Million acre-feet (Maf), or 94 % of the thirty (30) year average.

Last year, the Coordinated System hydro reservoirs refilled to approximately 93.8% of the Energy Content Curve by July 31, 2006.

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 2007 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 2007.

The Idaho to the Northwest Path (14) has recently undergone equipment changes on two of the three 230 kV lines in the path. The Ladd phase shifter failed on July 14, 2006, and has been removed from service. A 20 ohm switched reactor has been installed in the Lolo – Oxbow 230 line at Copperfield. This reactor is used to limit post contingency loading on the Lolo – Oxbow 230 line. Pacificorp and/or Idaho summer studies should verify a W-E OTC of 1090 MW and the existing Midpoint – Summer Lake W-E OTC of 400 MW.

- Reliability Coordinator

The Reliability Coordinator (Pacific Northwest Security Coordinator {PNSC}) 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 2,500 average megawatts in 2000 to less than 500 average megawatts in 2002. It is anticipated that the electricity consumption for the DSIs will be about 600 MW for the summer 2007 season.

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.