

## PNW RA Technical Committee Meeting November 18, 2005

Introductions were made. Attendance was diminished compared to previous meetings, so it was discussed that whatever is decided at the meeting should also be emailed to the entire mail list for concurrence.

### **Selection Energy Metric and Target:**

There was much discussion on how to formulate the energy target with respect to the definition of the hydro condition to which to plan and what level of spot market purchases to which to plan. The consensus appears to be to use critical hydro in the equation, but to explicitly allow reliance on the spot market to a certain level. The question is what is a reasonable level of out-of-region surpluses to assume are available in California or in Canada? The meeting participants **agreed that the energy metric is an annual load resource balance with hydro defined under critical water conditions and the out-of-region spot market availability defined as 1500 aMW with up to 3,000 MW available in any one hour (with the understanding that the amount of "reliable" spot market surpluses will be revised as new information is obtained)**. This is equivalent to an annual load resource balance with hydro defined at an 85% percentile but no additional spot market availability. This initial agreement was possible because the Technical Committee will continue working on analytical exercises to refine the out-of-region spot market assumptions and how the load resource balances are performed.

Other parts of the discussion centered around whether there needs to be a different standard of firmness of resources for a time horizon of 1 to 2 years than for 10 years out. There are additional decisions that need to be made to define the load resource balance calculations. One of the specific issues is how to handle contracts within region or out-of-region?

### **Description of Capacity Metric and Target Options:**

As decided by the Steering Committee, the hydro capacity metric should be in the form of some sort of sustained peaking capacity. Capacity needs to be evaluated on a monthly basis. Eric King and Mary made a presentation showing 3 different options.

- Planning reserve margin
- Capacity derate option
- Operational capacity Option

(see powerpoint for more detail)

These are all simple spreadsheet types of computations. But some of the data comes from more sophisticated programs like the HOSS (hourly hydro simulation program).

All three options involve some sort of hydro derating, i.e. how do you get to a sustained peak?

Question came up on the California metric about the 90% year out requirement versus 100% requirement a month out. The bottom line is that load serving entities need to demonstrate a year out that they have sufficient (owned or firmly contracted) to meet 90% of their annual peak load requirements plus 15%. One month out, they have to demonstrate that they have 100% of resources to meet firm peak load plus 15%, presumably this requirement applies to their monthly peak load.

We should keep in mind that this type of metric and target is designed to help the region determine at what point the Region needs to consider building infrastructure to meet load obligations plus reserves because there is a shortfall of generation machines (i.e. capacity) not fuel shortfalls (i.e. energy).

The group concluded that **all three options suffer from the lack of a simple approach to calculate sustained hydro. So the decision was to defer a decision on a capacity metric pending further work by the Technical Committee on a simplified evaluation approach.**

There may be some difficulties in applying option 1 – the 50-hour sustained peaking number, to anything, but the Federal hydro system. Given that the White Book now presents operation capacity, i.e. Option 3; it may no longer be possible for BPA to provide Option 1 sustained hydro numbers even for the Federal system. Also, it is uncertain whether this approach could be expanded to the entire region. Is the sustained peak adjustment most important for the Lower Snake Federal projects? What does the sustained peaking adjustment look like for the Willamettes?

Option 2 calculates the 50-hour sustained peak but over all water conditions. It also includes planned and unplanned outages. The discussion centered around the ability of hydro to follow load during a cold snap of a week. Dick Adams indicated that Grand Coulee operational constraints plus the lack of energy in the Lower Snake River Dams are the constraining factor on hydro capacity for the Federal System. Dick questioned whether any other hydro facilities in the Region have similar constraints on a weekly basis. However, Clint Kalich indicated

that his studies for the Avista system showed that a 72 hour period might represent the most hydro capacity-constrained timeframe in a cold snap situation for their system.

The question is what type of capacity metric and target can regional utilities report on, at least, in the WECC reporting process in the interim until further analysis can be done to support. For now, the group decided that the regional utilities, except BPA, will still report the one-hour critical hydro capacity found in the PNCA analysis. BPA will report its 50 hour sustained peak capacity, if possible. Otherwise, BPA will also report its PNCA number. Further analysis is still needed to be able to define a reasonable methodology for sustained hydro peak capability and for a capacity metric. The suggestion was made to look at Avista's methodology.

In order to facilitate decisions regarding counting protocols for analyses using the selected energy metric and initial target, a suggestion was made to go through the White Book in detail in order to help the group discuss counting protocols, etc. for these analyses.

**The next meeting January 12, 2006.**