

PNUCC - Capacity Analysis

Background

PNUCC's Northwest Regional Forecast provides an indicator of the need for the region to acquire power over the next 10 years based on individual utilities' load and generation information. Historically we have reported both an energy and capacity picture. However, in the past few years we stopped reporting capacity data because we wanted to reevaluate the appropriateness of our assumptions and methodology for estimating the power system's capacity needs and hydropower capability.

In 2008 the Northwest Regional Forecast will again include a capacity analysis. Our goals will be to:

1. Maintain the same measure of adequacy as has been used in past years.
2. Include the winter peak indicator (January peak) as we have traditionally done and also include a summer peak indicator, either a July or August peak.

Key Elements of Capacity Analysis

The capacity analysis parallels the energy analysis in the report. It is a simple load/resource balance calculation where the region is adequate when resources are equal to or greater than loads.

1. **Load** is maximum 60-minute load for each month, based on normal weather conditions. (Non-coincident and the sum of 26 utility forecasts.)
2. **Reserve margin** (adequacy target) is 12% of the load increasing 1% per year, with a maximum of 20%. The planning reserves account for forced outages, unanticipated load growth and project construction delays.
3. **Firm contracts** are included. Monthly capacity values provided by utilities.
4. **Firm thermal and non-hydro renewable** project capability is maximum capacity for the month. (E.g. nuclear, coal, CTs, cogeneration, wind, biomass)
5. **Hydropower** project operational capability assumes:
 - 1-hour peak capability
 - Based on critical water (1937 water conditions)
 - Reflects an operation that meets all operating requirements in normal weather/non-emergency situations (e.g. minimum flow, fluctuations, spill, ramp rates)