

**Review of Regional Load and Resource Information  
(How's Our Data?)**

**A Report to Resource Adequacy Technical Committee**

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## Introduction

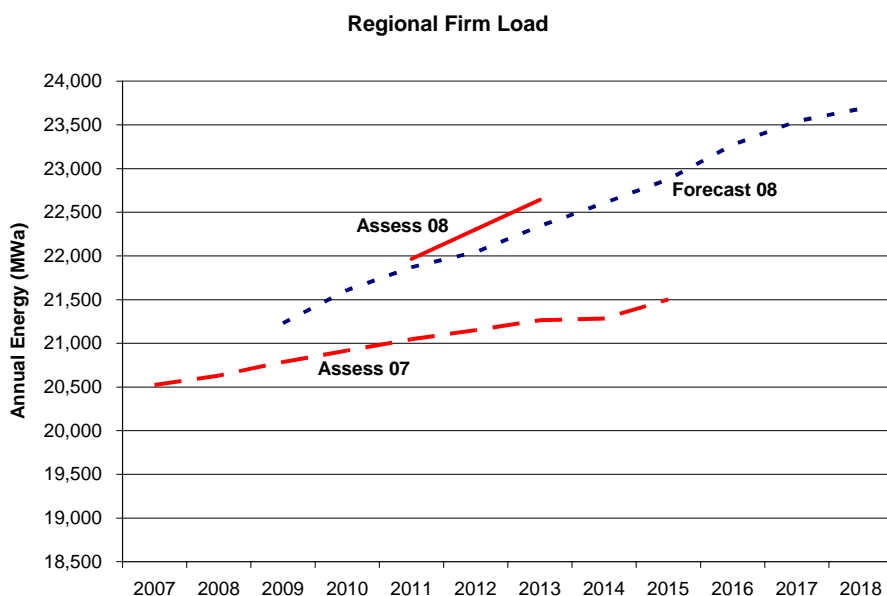
In the past few years, under the auspices of the Resource Adequacy Forum, the Northwest Power and Conservation Council adopted a Resource Adequacy Standard for the Northwest. Their April 2008 Standard describes the details of the standard as well as an Implementation Plan that provides an opportunity for some of the basic data and assumptions in the Council's *Pacific Northwest Resource Adequacy Assessment* to be compared with the utility view as reflected in PNUCC's *Northwest Regional Forecast*. This annual look at the detailed data and assumptions provides a quality control check of the information as well as highlights differences in assumptions that might provoke additional research.

This report summarizes the results of the rigorous review of the numbers embodied in each study. Data from PNUCC's April 2008 *Forecast* and the Council's August 2008 *Assessment* are used. Unless noted otherwise, the annual energy values for the year 2013 are compared and summarized.

## Forecasts of Energy Loads are Very Similar

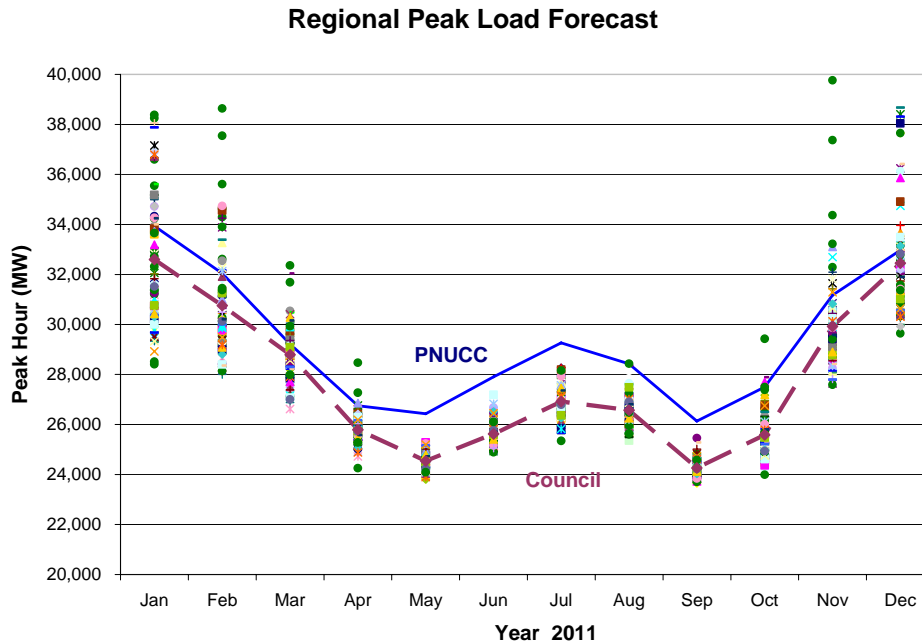
Both the *Assessment* and the *Forecast* use expected value, normal-weather annual energy loads for the same geographic area. The *Assessment's* load forecast is developed using a forecasting methodology developed and updated by the Council staff. The *Forecast* reflects projections of future loads developed by twenty-six individual utilities and Bonneville Power Administration. The individual forecasts are summed to provide a regional view.

One conceptual difference exists between the two forecasts - the treatment of non-utility industrial load. This load was formerly served by BPA through direct service. The following graph shows the two forecasts and the similarity of the 2008 studies. All former-DSI load has been removed for comparability.



## Forecast of Peak Loads Raises Questions

With a few minor adjustments, the load forecast used in the Resource Adequacy capacity assessment can be compared to the load forecast collected as part of PNUCC's *Northwest Regional Forecast*. Both forecasts for the year 2011 have been adjusted to a single peak hour (for each month) and exclude the former-DSI load. The Council develops a forecast of loads for each of 80 historical weather conditions, shown in the following graph. The average of the 80 years is also shown. The PNUCC's load forecast is a sum of the individual utilities single hour peak load based on normal weather.



A few observations about the two forecasts:

- The average load from the *Assessment* is lower than the *Forecast* for every month of the year. The difference between the two is less in the winter than in the spring/summer/fall.
- The spring/summer/fall loads from the *Forecast* are higher than the entire range of loads from the *Assessment*.
- It is reasonable to expect the *Forecast* load to be higher than the *Assessment* due to regional diversity of loads. The *Assessment* includes a forecast of coincident peak load – the maximum load for a given hour in the region. The *Forecast* includes a total of individual utility peak load, without regards to the hour of the month the peak occurs. This non-coincident peak load is likely a higher value than the coincident peak.

## Data Differences are Significant

Each individual contract and generating resource used in the Resource Adequacy energy assessment was meticulously compared to the information reflected in PNUCC's *Northwest Regional Forecast*. All differences were identified and an attempt was made to understand the root of cause of the disparity. These discrepancies are summarized as follows:

**Different Source** - both analyses included the contract or generating resource, but the amount of energy in the two studies was different. There is about 700 MWa of divergence.

**Errors and Omissions** – a few errors in the information were discovered (and will be corrected). In addition, there were contracts and resources included in one study but not the other. There is about 1,700 MWa of difference.

The plan is to continue refining the information in both analyses. PNUCC is beginning an update of the information from utilities, with a *Forecast* to be published in the Spring of 2009. Special attention will be made to confirm the appropriate values for information identified in this review. The updated information will be available for the summer 2009 Resource Adequacy Assessment. It is expected that the data errors and omissions will be resolved for the 2009 *Assessment*. The 700 MWa that reflects the use of different sources or assumptions should provoke additional discussion.

## Only Some Data Should Be Compared

The *Pacific Northwest Resource Adequacy Assessment* and the *Northwest Regional Forecast* are two analyses that have different purposes and address separate questions. The purpose of the *Assessment* is to gauge whether the Northwest electricity supply is sufficient to meet the region's needs now and in the future. It provides a minimum threshold that serves as an early warning should resource development fall dangerously short. It gauges our ability to “keep the lights on”.

The *Forecast* provides an indicator of the Northwest utilities' need to acquire additional firm power supply in the next decade. In a sense it is the sum-of-utilities individual integrated resource plans providing a regional view of a future resource gap and identifying utility actions to fill the gap.

Both of these analyses use a significant amount of common information/data that is comparable. Data and assumptions that should not be directly compared include:

- Generating resources physically located in the Northwest that are potentially available but not firmly committed to serving Northwest loads (2,200 MWa)
- A planning adjustment to calibrate the load/resource balance to the loss-of-load calculation (1,300 MWa)
- Full availability of natural gas-fueled generating resources (1,500 MWa)
- Inclusion of non-utility industrial load (500 MWa)