

2012 BPA Rate Case Customer Workshop

**Market Price Forecast Study
July 15, 2010**



Market Price Forecast Uses

- 70 water year electricity prices are used for more rate-related components than before.
 - Net secondary revenue credit
 - Load shaping charge
 - Resource Shaping Service charge
 - Average System Cost forecasts
- The results of the 3500 game risk run are used in the risk analysis that determines Planned Net Revenues for Risk and for variable costs for generation inputs.



Software Updates

- AURORAxmp 9.6 is currently in use. We anticipate using version 10.0 for the rate case.
- The vendor's current default data base (North American DB 2009-02) is currently being used. We anticipate using the next release for the Initial Proposal (North American DB 2010-01).
- A limited AURORAxmp software license for interveners will be offered to interested parties for purchase.
 - A workshop focused on BPA's use of AURORAxmp in the rate case will be held prior to the beginning of ex parte. Only license holders will be allowed to attend due to BPA's license agreement with EPIS.



Updates to Standard Input Data Since WP-10

- The following forecasts will be re-examined and updated:
 - WECC Loads
 - Natural Gas Prices
 - Regional Hydro Inventory from HYDSIM
 - Refer to Loads and Resources Study and workshop materials for more information.
- Additional inputs being considered for further updates include:
 - California and BC Hydro Inventory
 - Forced outage rates and maintenance forecasts for large thermal resources
- All inputs will be compared to EPIS defaults to determine reasonableness when applicable.



Risk Modeling

- The market price risk forecast will continue to use models to quantify variability around the following elements:
 - Natural gas prices
 - PNW and California loads

- Additional attributes for quantification of variability are also being considered:
 - Transmission availability
 - Shape and output of regional wind power generation
 - CGS generation risk



RPS Standards and CO₂ Pricing

- A forecast will be developed of renewable generation expected to be built based on the various state RPS standards in WECC.

- Given current uncertainty surrounding CO₂ pricing, it may not be implemented in the market price forecast this rate case. CO₂ pricing legislation will continue to be monitored including:
 - Legislation in California concerning CO₂ pricing starting in 2013
 - National legislation creating CO₂ pricing

Further Model Adjustments for Consideration

- In past rate cases, BPA has reflected the fact that the PNW regional market is a predominantly bilateral market by including a 2500 aMW adjustment to the regional load forecast in AURORA.
 - Background:
 - AURORAxmp models a competitive single operator market. The decrement was a proxy to adjust for selling into a bilateral market.
 - The decrement was initially based on a 2500 aMW surplus from the Federal system.
 - The decrement was used with a BPA-developed zonal topology and customized AURORAxmp database.
 - The decrement was changed in FY 2003 to 1000 aMW (from the previous 2500 aMW) based on a revised surplus estimate.



Further Model Adjustments for Consideration (continued)

- What's different now:
 - A 2500 aMW Federal system surplus is not anticipated.
 - A different zonal topology is being used for the forecast.
 - AURORA is a more sophisticated model than in 2000 and also has better data.
- BPA is open to considering alternative approaches to adjusting AURORA to reflect this bilateral market. Possible alternatives include:
 - Adjustments that are not load-based
 - Seasonal adjustments to loads rather than an across-the-board adjustment
 - Other ideas?



Questions?

