Northwest **Power** and **Conservation** Council



January 5, 2016

**MEMORANDUM**

**TO:** **Council members**

**FROM:** **Tom Eckman, Ben Kujala, John Ollis and John Fazio**

**SUBJECT:** **Scenario Analysis Input and Modeling Assumption Updates**

## BACKGROUND:

Presenter: Tom Eckman and Ben Kujala

Summary: Staff will summarize the major changes in input assumptions and model logic that are being used to update RPM scenario analysis. Since the draft plan was released staff continued to refine data inputs and RPM assumptions, based on public comment and staff consultations and internal discussions. The following is a list summarizing all significant changes:

- Revised Adequacy Reserve Margin (ARM) from annual to quarterly value to reflect seasonal resource availability, particularly for hydrogeneration, wind, solar PV and energy efficiency
- Revised Associated System Capacity Contribution factors (ASCC) for combined cycled combustion turbines and energy efficiency to reflect seasonal resource availability.
- Added new solar PV and geothermal resources into the model, updated maximum potential for other renewable resources and updated solar resource costs for change in Investment Tax Credits (ITC)
- Applied the combined cycle combustion turbine (CCCT) Associated System Capacity Contribution (ASCC) to Aeroderivative gas-fired turbines and geothermal resources.
- Developed Associated System Capacity Contribution for wind and solar PV to reflect seasonal resource availability.

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- Updated RPM logic on agent-based linear programming forecast and resource build to incorporate seasonal ARM and ASSC values
- Changed critical hydro representation from 10-hour sustained peak to a low percentile (2.5%) representation of historic quarterly hydro.
- Reduces RPS requirements to reflect RPS based on sales rather than utility load.
- Reduced regional existing resource availability to account for balancing and flexibility reserves
- Revised natural gas price, external electricity market price and load forecasts
- Updated conservation and demand response supply curves
- Updated historical hydro dispatch to reflect revised regional “INC” and “DEC” reserves

Staff will describe these changes and discuss their general impacts on resource strategies at the Council meeting.

Relevance: A resource strategy is one of the mandatory components of the Council’s power plans. It is generally viewed as the most important element of the plan. The Plan’s resource strategy is based, in part, on RPM scenario analysis.

Workplan: 1. B. Develop Seventh Power Plan and maintain analytical capability

Background:

More Info: