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June 4, 2019

MEMORANDUM

TO: Power Committee Members

FROM: John Ollis

SUBJECT: Forecast Electricity Prices

BACKGROUND:

Presenter: John Ollis

Summary: In preparation for the 2021 Power Plan, staff will be providing the Power Committee a series of presentations on different aspects to developing the Plan. This presentation will be on the forecast of the electricity prices.

Relevance: The Council updates a 20-year forecast of electric power prices for each power plan. The model the Council uses to analyze different resource strategies, the Regional Portfolio Model (RPM), does not have significant fidelity on the out of region Western Electricity Coordinating Council (WECC) market dynamics without information from the higher fidelity and granular look that comes from a WECC-wide production cost model. The AURORA model dispatches all resources in the WECC, generating an hourly fundamentals-based wholesale electricity price forecast. The forecast cases will likely include the following scenarios: high, medium, and low fuel prices and demand forecasts. In addition, AURORA will be used to examine electricity prices under a number of hydro conditions (in the past, it has been up to 80 different conditions). Representation of appropriate existing state and federal policies underly all electric price forecast scenarios.

These scenarios are used create a range of quarterly on and off – peak forecast prices which, in conjunction with historical Mid-C prices, are used to create an external wholesale electricity price distribution. That distribution is used as a basis for generating an equilibrium price forecast against which regional resources are evaluated against market economics. Note that the marginal

carbon emissions rate is also established per the information derived from the WECC-wide electricity price forecast.

Workplan: A.5.2 Update models to get ready for 2021 Power Plan modeling

More Info: Presentation on methodology associated with most recent price forecast,
https://www.nwcouncil.org/sites/default/files/2018_0710_p3.pdf

Forecast used in 7th Power Plan,
https://www.nwcouncil.org/sites/default/files/7thplanfinal_appdixb_wholesaleretail_pricefcst.pdf

Methodology behind incorporating forecast into RPM in 7th Power Plan,
https://www.nwcouncil.org/sites/default/files/7thplanfinal_appdixl_rpm_1.pdf