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September 7, 2022

### **MEMORANDUM**

**TO: Council Members**

**FROM: John Ollis, Manager of Planning and Analysis**

**SUBJECT: WECC Buildouts for Adequacy Assessment**

### **BACKGROUND:**

**Presenter:** John Ollis

**Summary:** Staff are in the process of developing the Council's annual resource adequacy assessment. Resource adequacy is a critical component of the Council's mandate to develop a regional power plan that "ensures an adequate, efficient, economic and reliable power supply" and this year's assessment is an important check on implementation of the Council's 2021 Power Plan. Some of the potential resource adequacy assessment scenario work relies on the buildout information from the wholesale power market study. The focus of this presentation is to update the Power Committee on the scenario results from the market study that will likely be used to inform scenarios in the adequacy assessment analysis, and recent advisory committee feedback associated with this work.

**Relevance:** Wholesale power markets outside the region were highlighted as a key data point to monitor coming out of the 2021 Power Plan in which policy changes throughout the western states impacted not just wholesale power markets in the long term, but also in the short term. This update will revisit some of the plan market study findings and discuss the major drivers of changes in the updated study.

Background: The Council has periodically updated its wholesale electricity price study using the AURORA model to help inform Council staff and regional stakeholder analysis. The Council relies on the System Analysis Advisory Committee to help provide expert feedback on market fundamentals and power system modeling assumptions related to the market price study.

The Council's forecast is a fundamentals-based forecast that reflects actual power system operation, relationships of supply and demand for, and transmission of electricity. In addition, underlying a wholesale electricity price forecast in this region would be an understanding of the operating characteristics of future and existing supply and demand-side resources, as well as unit commitment, ancillary services, fuel prices, hydro, wind and solar conditions. The AURORA software captures many of these characteristics of the power system well and has a periodically updated WECC database, and thus, AURORA has been the Council's wholesale market electricity price forecasting model.

Due to significant clean and RPS policies and less dependence on new baseload generation to meet growing loads, the market price forecast studies from the 2021 Power Plan scenarios consistently showed extremely large buildouts of new resources, especially solar generation outside the region. These buildouts implied a persistence of market fundamentals that seemed to be just emerging at the time of the plan's development, like significant renewable generation curtailment and negative pricing mid-day. This market update is an early look at how the plan work compares to current market behavior and highlights some of the data sources the staff uses to monitor this behavior for reference.

The Council's adequacy model, GENESYS now relies on understanding the capabilities of resources external to the region to incorporate the WECC-wide supply and demand fundamentals. Different assumptions on these fundamentals of market supply may affect system adequacy and are under consideration by the Resource Adequacy Advisory Committee.

More Info: [Presentation](#) of draft results relating to buildouts to inform the adequacy assessment work

[August 31<sup>st</sup> SAAC Meeting](#)

[August 10<sup>th</sup> SAAC Meeting](#)

[July 27<sup>th</sup> SAAC/RAAC Meeting](#)

[Wholesale Power Price Forecast](#) from the 2021 Plan