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September 9, 2020

DECISION MEMORANDUM

TO: Council Members

FROM: John Ollis, John Fazio
Power Planning Division

SUBJECT: Contract with Gwendolyn Shearer for GENESYS Model Redevelopment Testing and Support

PROPOSED ACTION:

Authorization to contract with Gwendolyn Shearer for the 2021 fiscal year in an amount not-to-exceed \$75,000, to assist staff in testing the redeveloped GENESYS model and performing analyses needed to develop the 2021 Power Plan.

SIGNIFICANCE:

The GENESYS model is a key tool used to develop the Council's power plans. It provides data required by other Council computer models used to forecast electricity prices (AURORA) and to develop resource acquisition strategies (Regional Portfolio Model). GENESYS is also the tool used by the Council and the Resource Adequacy Advisory Committee to assess the adequacy of the region's power supply. Without Ms. Shearer's assistance, the 2021 power plan would be delayed.

BUDGETARY/ECONOMIC IMPACTS:

Total contract budget not-to-exceed \$75,000 for fiscal year 2021.

BACKGROUND AND ANALYSIS

The Council's Seventh Power Plan called for review and updating of the GENESYS model in action items ANLYS-21 (review analytical methods), ANLYS-22 (GENESYS model redevelopment) and ANLYS-23 (enhance the GENESYS model to improve the simulation of hourly hydroelectric system operations). Because the regional power supply is becoming more complex, with significant amounts of variable generation resources and new market structures, it is imperative that GENESYS be capable of

accurately reflecting more granular system operations, including how balancing reserves are treated. Toward that goal, the GENESYS model was redeveloped by Power Systems Research, Inc. (Brazil). Ms. Shearer has supported Council staff in the redevelopment and testing of the model. Staff is seeking her support in performing analyses required to develop the 2021 Power Plan.

If Council authorization to contract with Ms. Shearer is provided, as recommended by staff, it is anticipated Ms. Shearer will,

1. Assist staff in acquiring and importing data into the redeveloped GENESYS
2. Assist staff in the testing and vetting of the redeveloped GENESYS
3. Assist staff in preparing and running GENESYS studies for the 2021 plan

Ms. Shearer has worked for the Bonneville Power Administration and Power Systems Research, Inc. and has extensive knowledge of both the classic and redeveloped GENESYS models and has experience with pacific northwest power operations.

ALTERNATIVES

The Council could proceed without Ms. Shearer's assistance. However, because both the classic and redeveloped versions of the GENESYS model will be used for plan development, significantly more staff time will be required, which would delay the completion of the 2021 Power Plan. Alternatively, the Council could proceed with a different contractor; however, any other contractor would encounter a substantial learning-curve and would certainly delay the completion of the plan.