

Staff Report

for the Water and Hydroelectric Operations Committee Meeting of June 17, 2020

TO: Water and Hydroelectric Operations Committee

FROM: Keane Sommers, P.E., Hydroelectric Manager *KSS*

DATE: June 2, 2020

SUBJECT: **Combie South Powerhouse Operations**

HYDROELECTRIC

RECOMMENDATION:

Hear an informational presentation on the changed operations at the Combie South Powerhouse.

BACKGROUND:

On May 1, 2020 power sales were converted from a standard Small Renewable Generator Power Purchase Agreement with Pacific Gas & Electric to a market based agreement with the Northern California Power Agency. That change has brought about a need for a shift in operations which will be discussed during the meeting.

This item is in alignment with Goal No. 1 of the District's Strategic Plan as the changed operations optimize revenue from the powerhouse.

BUDGETARY IMPACT:

No budgetary impact.

Attachments: (1)

- Presentation for June 17, 2020 WHO Committee Meeting

Combie South Powerhouse Update

Water and Hydroelectric Operations Committee

June 17, 2020



NID

Water for Life

Combie South Powerhouse

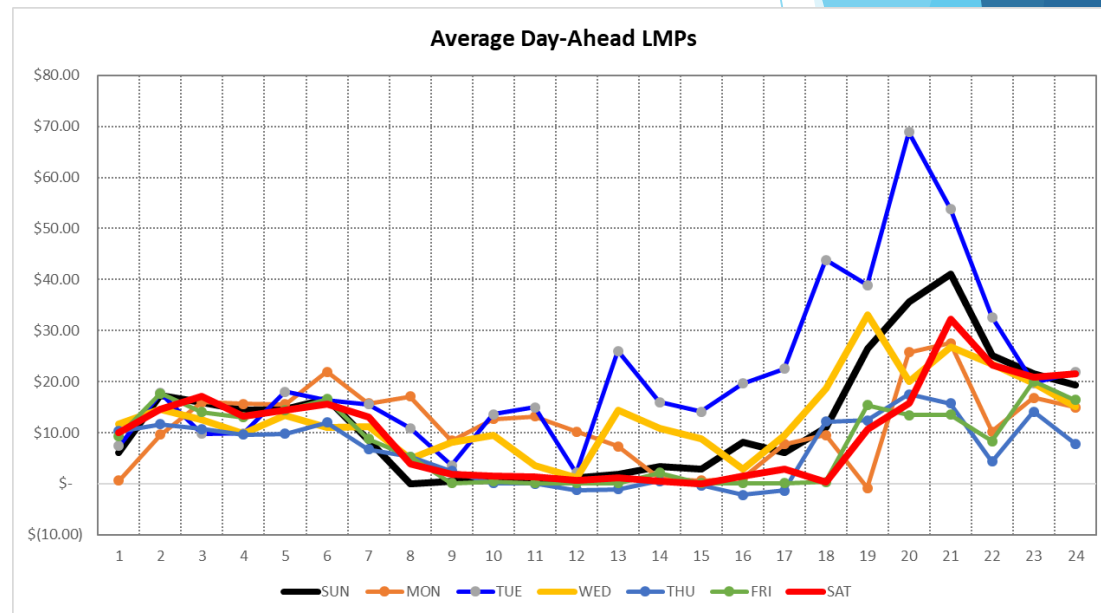
Recent Changes

- ▶ On May 1, 2020 power sales were converted from a standard Small Renewable Generator Power Purchase Agreement with Pacific Gas & Electric to a market based agreement with the Northern California Power Agency
- ▶ New agreement is based on Locational Marginal Price (LMP) for energy sales
 - ▶ Day Ahead (DA)
 - ▶ Fifteen Minute (FMM)
 - ▶ Real Time (RT)
- ▶ Resource Adequacy
- ▶ Renewable Credits



Energy Market

- ▶ Demand reductions (COVID-19)
 - ▶ 5-8% load reductions during weekdays
 - ▶ 1-4% reductions during weekends
- ▶ Significant renewable curtailments
 - ▶ 10,632 MWh of self scheduled cuts 1/1/2020 - 4/2/2020
- ▶ Load forecasting errors due to lack of historic data
- ▶ Significant price swings in FMM and RT pricing
 - ▶ May 29, 2020 RT prices ranged from -527.44 to 214.82 \$/MWh



Changing Operations

Challenges

- ▶ Lower water than past years in Lake Combie

- ▶ Fluctuating flows below Lake Combie

Solutions

- ▶ Identified a firm minimum elevation
- ▶ Data collection and modeling to ensure minimum is met

- ▶ Data collection on impacts of unit cycling
- ▶ Staggered unit start times
- ▶ Minimum number of units online

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Questions?