

**DOCKETED**

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# **San Francisco Public Utilities Commission Hetch Hetchy Power Updated Integrated Resource Plan**

**SFPUC Clarifications to CEC Standardized Reporting Tables**



Services of the San Francisco  
Public Utilities Commission

The following comments provide additional information on the inputs to the CEC Standardized Tables.

**CAPACITY RESOURCE ACCOUNTING TABLE**

**Lines 1-7**

Peak load calculations (Line 1) are from Hetch Hetchy Power’s long-term load forecast submitted to the CEC for its most recent Integrated Energy Policy Report (IEPR). However, because the planning horizon for this IRP extends beyond the IEPR forecasting window (to 2034), the forecast assumes a modest 1% annual increase in load and customer count from 2035 to 2045. The effect of customer-side solar, storage, EV usage during peak hours and demand response (Lines 2-5) is included in the IRP’s peak demand forecast (Line 1).

**Line 5**

Additional achievable energy efficiency savings on peak is less than 1MW. This number is based on Hetch Hetchy Power’s SB 1037 Annual CMUA Report.

**Line 8**

The reserve margin is set at 15% consistent with Hetch Hetchy Power’s Resource Adequacy policy as adopted by the SFPUC on May 23,2006 in Resolution 06-0087.

**Lines 11a, 11b**

Hetch Hetchy Power’s IRP peak hour occurs consistently in the month of September. The CAISO assigns the Hetch Hetchy System a Net Qualifying Capacity (NQC) of 239 MW in the month of September. This NQC is aggregated at the INTKEP\_2\_UNITS price node and is not broken down by powerhouse. For this table the NQC for each powerhouse was developed as the ratio of the NQC to nameplate capacity (239/381) multiplied by the nameplate capacity of each powerhouse.

**Lines 11h, 11i**

WAPA generation is an “energy only” resource. Available generation from WAPA assumes the existing contract with WAPA, set to expire on December 31, 2029, will be renewed at the same levels through the 2045 planning horizon. The amount of WAPA power used to serve retail load varies depending upon Hetch Hetchy generation.

**Line 12a**

As noted above, NQC for the Kirkwood Powerhouse is based on the ratio of NQC to nameplate capacity.

**Lines 12b, 12c, 12d, 15a, 15b**

Generation from Moccasin Low-Head, Southeast Cogen, and In-City solar units, given their size and/or availability are modeled as “energy only” resources. In-city solar units are below the CAISO size threshold to be applied to meeting Hetch Hetchy Power’s RA obligations.

**Line 12o**

Sunset’s NQC as set by the CAISO varies by month. Highest monthly NQC is 2 MW; for purposes of this IRP, Sunset’s NQC for the month of September was used to establish the facility’s dependable capacity during Hetch Hetchy Power’s forecasted peak demand.

**Line 14a**

The IRP modeled a number of generic additions to the Hetch Hetchy Power generation portfolio to

support the utility's continued compliance with state and local requirements, including the addition of 75 MW 4-hour battery storage beginning in 2027. The values in 14a reflect the application of an Effective Load Carrying Capacity ratio of 85% for 4-hour battery storage resources that come on-line in 2027, as developed in the California Public Utilities Commission's IRP proceeding (85% \* 75 MW nameplate capacity = 63 MW of net qualifying capacity).

**Line 15a**

The IRP modeled a number of generic additions to the Hetch Hetchy Power generation portfolio to support the utility's continued compliance with state and local requirements, including the addition of 100 MW of solar photovoltaic resources beginning in 2033. The values in 15a reflect the application of an Effective Load Carrying Capacity ratio of 6% for utility solar PV resources that come on-line in 2033, as developed in the California Public Utilities Commission's IRP proceeding (6% \* 100 MW nameplate capacity = 6 MW of net qualifying capacity).

**Line 15b**

The IRP modeled a number of generic additions to the Hetch Hetchy Power generation portfolio to support the utility's continued compliance with state and local requirements, including the addition of 50 MW of geothermal generating resources beginning in 2035. The values in 14a reflect the application of an Effective Load Carrying Capacity ratio of 95% for geothermal resources that come on-line in 2035, as developed in the California Public Utilities Commission's IRP proceeding (95% \* 50 MW nameplate capacity = 48 MW of net qualifying capacity).

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## **ENERGY BALANCE TABLE**

### **Line 1**

This IRP utilizes Hetch Hetchy Power’s long-term load forecast submitted to the CEC for its most recent IEPR.<sup>1</sup> However, because the planning horizon for this IRP extends beyond the IEPR forecasting window (to 2034), the forecast assumes a modest 1% annual increase in load and customer count from 2035 to 2045.

### **Line 4**

Projections are from the CMUA Energy Efficiency Forecast Study.

### **Line 5**

This is the result of the net energy of the retail sales to the end-use customers reduced by the retail sale to the end- use customers (accounting for AAEE impacts).

### **Line 9**

Light Duty Personal Electric Vehicle (PEV) electricity consumption values are derived from information provided by Hetch Hetchy Power customers that plan to convert their PEV fleets to electric power.

### **Line 10**

Other transportation electricity consumption includes all electric energy currently provided to the San Francisco Municipal Transit Agency to operate their electric public transit fleet, bus electrification pilot, and Muni Metro east electrification upgrades. It also includes Hetch Hetchy Power’s planned provision of shore-side power to cruise ships visiting the Port of San Francisco.

### **Lines 12a, 12b, 13a, 13b**

These are Hetch Hetchy System hydroelectric generating units whose output will vary depending upon hydrological conditions. Forecasted generation levels used in these lines are based on normal hydrological conditions. Generation from the Kirkwood Powerhouse (Line 13a) can be counted as either RPS-eligible or as “qualifying hydroelectric generation” energy as part of Hetch Hetchy Power’s alternative RPS compliance obligation. The Moccasin Low-Head Hydroelectric Plant has been taken offline. While the SFPUC does not currently have plans to bring the Plant back on-line, we continue to identify the Plant in Line 13b. However, the energy generation values reported in Line 13b reflect the current offline status.

### **Lines 12h, 12i**

WAPA – Base Power forecasted deliveries are 3,100 MWh/year, which is based on historic actualized generation. The WAPA – Custom Power forecasted generation is based on normal hydrological conditions.

### **Line 13c**

The SFPUC recently decided to stop the operation of the Southeast Cogeneration Plant (2.0 MW) located in the Bayview/Hunters Point area of San Francisco. For the past two decades, this plant took

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<sup>1</sup> Hetch Hetchy Power’s (City and County of San Francisco) 2023 IEPR load forecast is available at <https://efiling.energy.ca.gov/GetDocument.aspx?tn=250844&DocumentContentId=85743> [accessed on March 19, 2024]

methane (also known as biogas) generated as a by-product of the SFPUC's processing of sewage biosolids waste and used it as a fuel to generate electric power. The SFPUC has opted to change the end use for its methane/biogas by-product to renewable natural gas (RNG) and will no longer produce electric power in the Southeast Wastewater Treatment Plant. Taking this facility offline has been reflected in Line 13c.

**Lines 16a, 16b**

Hetch Hetchy Power plans to add a number of RPS-eligible energy resources to support its compliance with state and local RPS requirements over this IRP's planning horizon. The IRP identifies 100 MW (nameplate) of new solar PV generation with commercial operations starting in 2033 and 50 MW (nameplate) of new geothermal generation with commercial operations starting in 2035. The energy values reflected in Lines 16b and 16c are based on operating information available to Hetch Hetchy Power from similar facilities.

**Line 17z**

Hetch Hetchy Power has an alternate RPS compliance obligation under Public Utilities Code Section 399.30(j) that requires it to procure RPS-eligible resources, including renewable energy credits, for the electricity usage unmet by its qualifying hydroelectric generation. Hetch Hetchy Power plans to purchase short-term RPS-eligible energy supplies to meet a forecasted RPS-energy shortfall in 2027, 2023, and 2040. The specific RPS-eligible resources to be procured will be determined at a later time, subject to a competitive procurement process.

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## **GHG EMISSION ACCOUNTING TABLE**

Hetch Hetchy Power’s zero-GHG hydroelectric generation and RPS-eligible resources are forecast to be generally sufficient to meet our retail electric needs on an annual basis from 2024- 2033, with surplus hydroelectric generation being sold on the wholesale market in many years. In dry years, when hydroelectric generation is below normal during the 2024-2033 timeframe, the IRP identifies short-term purchases of renewable energy that would be required to meet Hetch Hetchy Power’s annual power content goals. From 2033 to 2045, the IRP identifies new generic RPS-eligible renewable energy resources to be procured to ensure that Hetch Hetchy Power can maintain its annual power content goals over the IRP planning horizon, given projected load growth.

### **Line 5b**

The IRP identifies the procurement of new geothermal energy resources to serve Hetch Hetchy Power’s projected load growth beginning in 2035. This line uses the California Air Resources Board GHG emissions rate of 1,332 gCO<sub>2</sub>e/MMBtu (0.00454497 MT CO<sub>2</sub>e/MWh) for geothermal electricity generation as reported in the Low Carbon Fuel Standard.<sup>2</sup>

### **Lines 7, 8**

No spot market or short-term purchases from GHG-emitting resources were identified in this IRP. However, the IRP does report short-term sales of hydroelectric energy from resources reported in the EBT. Since these are specified sales from Hetch Hetchy Power’s portfolio to third parties, the emissions for these specified energy sales are reported as zero (rather than negative emissions).

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<sup>2</sup> For more information see California Air Resources Board, LOW CARBON FUEL STANDARD ANNUAL UPDATES TO LOOKUP TABLE PATHWAYS” at: [https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/fuelpathways/comments/2024\\_elec\\_update.pdf?ga=2.133187149.212825608.1714499312-499784725.1647364949](https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/fuelpathways/comments/2024_elec_update.pdf?ga=2.133187149.212825608.1714499312-499784725.1647364949)

## **RPS PROCUREMENT TABLE**

### **Line 2**

The CEC Guidelines state that “retail sales may be adjusted due to hydroelectric procurement or green power programs as allowed under PUC Section 399.11.”<sup>3</sup> Hetch Hetchy Power has an alternative RPS compliance obligation under Public Utilities Code Section 399.30(j) that requires it to procure RPS-eligible resources, including renewable energy credits, for the electricity demand unmet by its qualifying hydroelectric generation.

Line 2 excludes Hetch Hetchy Power’s forecasted hydroelectric generation from its retail sales (Line 1) with the remaining result being Hetch Hetchy Power’s retail sales subject to a RPS obligation for 2022-2045 as shown on Line 2. This RPS obligation includes an assumption for continued receipt of WAPA Base Power for Treasure Island during the planning period.

Excludes Hetch Hetchy Power’s forecasted hydroelectric generation from its retail sales (Line 1) with the remaining result being Hetch Hetchy Power’s retail sales subject to a RPS obligation for 2017-2030 as shown on Line 2.

Results for 2022 are from Hetch Hetchy Power’s 2022 RPS Compliance Report. Results for 2023 include a mix of actual and estimated data.

### **Line 4**

As allowed by the CEC Guidelines, Line 4 has been “edited or augmented to reflect how [Hetch Hetchy Power’s RPS] procurement requirement is derived.”<sup>2</sup> Unlike other POUs, Hetch Hetchy Power has a yearly RPS compliance obligation which can be calculated by subtracting Line 2 (qualifying hydroelectric generation plus green tariff sales) from Line 1 (retail sales) which equals Hetch Hetchy Power’s yearly RPS Procurement Target. Line 4 has been edited to sum this yearly RPS Procurement Target into a total obligation for each RPS compliance period.

### **Line 5**

Hetch Hetchy Power's RPS Compliance Report Summary for 2017-2020, currently undergoing final verification by CEC staff show Hetch Hetchy Power with 1,280,484 available banked RECs as of the end of 2020. Since then, Hetch Hetchy Power has generated additional RECs, surplus to its retail needs that will be banked for future compliance use within the 36-month compliance period for using/retiring RECs.

### **Lines 6, 7**

Hetch Hetchy Power has an alternate RPS compliance obligation under Public Utilities Code Section 399.30(j) that requires it to procure RPS-eligible resources, including renewable energy credits, for the electricity usage unmet by its qualifying hydroelectric generation. In order to identify whether Hetch Hetchy Power is expected to need additional RPS-eligible procurement during the planning horizon, Line 6 includes only RPS-eligible generation, such as remaining forecasted hydroelectric energy from the RPS-certified Kirkwood Hydroelectric Plant as well as from utility-owned solar and RPS-eligible power purchase agreements. The formula in Line 6 accounts for hydroelectric energy applied in Line 2, consistent with Public Utilities Code Section 399.30(j), to ensure that only excess RPS-eligible hydroelectric energy is counted. The formula in Line 6 also removes any short-term

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<sup>3</sup> CEC Guidelines, Appendix B, p. B-15.



specified wholesale sales of Public Utilities Code Section 399.30(j)-qualifying energy that have been made or are planned during 2022-2025. These sales are reported in Line 18a of the EBT.

Line 7 identifies the additional RPS-eligible generation required to meet 100% of Hetch Hetchy Power's annual retail sales with either hydroelectric generation qualifying under Public Utilities Code Section 399.30(j) or other RPS-eligible resources.