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San Francisco Public Utilities Commission Comments on PV and Battery Measure Proposal

Additional submitted attachment is included below.

June 21, 2021

California Energy Commission
Chair David Hochschild
Commissioner Andrew McAllister
Efficiency Division – Building Energy Efficiency Standards Program
Docket No. 21-BSTD-01
1516 9th Street
Sacramento, CA 95814-5512

Re: 2022 Building Energy Efficiency Standards (Title 24, Part 6)

Dear Chairman Hochschild and Commissioner McAllister,

The San Francisco Public Utilities Commission (“SFPUC”) is committed to eliminating the carbon footprint of electricity use in the City and County of San Francisco (“San Francisco”) and leading San Francisco’s efforts to become a carbon neutral city by 2045. SFPUC operates both a publicly owned utility, Hetch Hetchy Power, and a community choice aggregator program, CleanPowerSF. Hetch Hetchy Power has provided its customers with 100% greenhouse gas free hydropower for over 100 years and CleanPowerSF offers both 50% and 100% renewable energy products to its customers. CleanPowerSF plans to provide all of its customers 100% renewable electricity by 2025, twenty years ahead of the State’s goal of 2045.

The SFPUC supports the adoption of measures that will accelerate the deployment of technologies, such as battery storage, needed to achieve California’s 2030 greenhouse gas reduction mandates. However, certain proposed modifications to the *Express Terms 2022 Energy Code, Title 24 Parts 1 and 6*¹ (“Express Terms”) and aspects of the *Building Energy Efficiency Measure Proposal to the California Energy Commission for the 2022 Update to the California Energy Code, Title 24, Part 6 Building Energy Efficiency Standards Nonresidential PV and Battery Storage*² (“PV and Battery Measure Proposal”) are problematic because the changes would negatively impact Hetch Hetchy Power’s ratepayers.

¹ <https://efiling.energy.ca.gov/GetDocument.aspx?tn=237717&DocumentContentId=70942>

² <https://efiling.energy.ca.gov/GetDocument.aspx?tn=237773&DocumentContentId=71012>

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Unlike many publicly owned utilities (“POUs”), Hetch Hetchy Power does not own almost all the distribution system in San Francisco. Hetch Hetchy Power provides power through Pacific Gas and Electric Company’s (“PG&E”) distribution grid. This unique circumstance affects the export assumptions and resulting benefits used by the Energy Commission to assess cost-effectiveness and affects other assumptions used to calculate cost-effectiveness. In addition, the requirement that all community solar projects be on the same distribution system as the load serving entity that serves the building benefitting from the community solar project will unnecessarily burden projects developed to serve Hetch Hetchy Power’s customers.

For the abovementioned reasons, the SFPUC respectfully asks the Energy Commission to 1) modify the new location requirement for community solar and/or battery projects and 2) delay the adoption of the PV and Battery measure until the Energy Commission’s updates its analysis and allows additional review by stakeholders of the updates.

1. The Energy Commission should assess the customer costs of the PV and battery storage measure under conditions where the load serving entity providing service to the customer does not own the distribution grid being utilized.

Hetch Hetchy Power operates on PG&E’s grid and must purchase access to interconnect to PG&E’s grid. Furthermore, there are existing rules for interconnection of exporting facilities defined by PG&E.³ Hetch Hetchy Power can only apply to interconnect its customers pursuant to the terms of PG&E’s wholesale distribution tariff for exports⁴ and obtain excess generation compensation for a limited subset of its customers under PG&E’s NEMCCSF tariff.⁵ This relationship with PG&E makes developing net energy metering (NEM) or virtual net energy metering (VNEM) tariffs for Hetch Hetchy Power’s customer costly and, in some cases, impractical. Ultimately, PG&E has discretion over when and where our customers can export back onto PG&E’s grid, limiting the amount of solar Hetch Hetchy Power can permit our customers to install. Because of the unique circumstances of Hetch Hetchy Power’s operations, building developments that are served by Hetch Hetchy Power may

³ See PG&E Tariffs, Electric Rule 21, accessible at: https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_RULES_21.pdf (last accessed 6/9/21).

⁴ See PG&E’s Wholesale Distribution Tariff, accessible at: https://www.pge.com/pge_global/common/pdfs/about-pge/company-information/regulation/contracts-and-tariffs/wd-tariff.pdf (last accessed 6/17/21).

⁵ See PG&E’s NEMCCSF Tariff - Net Energy Metering Service For City and County of San Francisco Municipal Load Served by Hetch Hetchy and a Solar Generator, accessible at: https://www.pge.com/rates/tariffs/tm2/pdf/ELEC_3363-E-A.pdf (last accessed 6/17/21)

not be able to realize the export benefits that the measure proposal assumes will be realized.

For example, even when adding battery storage system requirements to reduce grid exports from the solar to 10% of the system's annual solar generation, the measure proposal assumes that the 10% of generation being exported to the grid will be compensated at time dependent valuation hourly avoided costs.⁶ This assumed compensation benefit is unlikely to be realized for building developments served by Hetch Hetchy Power that have limits on the amount of energy that can be exported back to PG&E's grid. Thus, the measure proposal's conclusion that the proposed code change is cost effective is based on assumptions that may not apply to many customers in Hetch Hetchy Power's service territory. The SFPUC recommends that the Energy Commission re-examine the cost-effectiveness of the proposed measure under conditions with the constraints faced by utilities uniquely situated, such as Hetch Hetchy Power, to determine whether the proposed code change is reasonable.

Furthermore, the measure proposal requires on-site PV and battery systems on high-rise multifamily buildings as well as non-residential, which are likely to be multi-use buildings in San Francisco. San Francisco is a densely populated urban environment primarily consisting of multi-use and multi-tenant buildings. The measure proposal's solution to apportioning the benefits of a single PV system to multiple tenants is to suggest that building owners can facilitate a VNEM-type arrangement with tenants and "share PV benefits in an agreed-upon manner" or that tenants can enroll in VNEM tariffs offered by their utility.⁷ However, the measure proposal acknowledges that VNEM is "not offered by some of the publicly-owned utilities" and proposes an exception, which is also present in the Express Terms issued May 6, 2021.⁸ The SFPUC supports this exception, with slight modifications. The SFPUC's proposed modifications to this exception are in **bold underline** and ~~striketrough~~ as follows:

"EXCEPTION 5 to Section 140.10(a). ~~Multi-tenant b~~**Buildings** in areas where **the** a load serving entity does not provide either a Virtual Net Metering (VNEM), **Net Energy Metering (NEM)**, or community solar program."⁹

⁶ PV and Battery Measure Proposal, p. 37.

⁷ PV and Battery Measure Proposal, p. 13.

⁸ Ibid

⁹ PV and Battery Measure Proposal, p. 315.

2. The requirement that all community solar projects be on the same distribution system as the load serving entity that serves the building should be removed.

The on-site PV and battery system measure can be met through the use of a community shared solar and/or battery storage system project.¹⁰ These community projects have provided an alternate compliance path for single family buildings and are being proposed as an alternate compliance path for multifamily and nonresidential buildings. The SFPUC is supportive of this alternate compliance mechanism and wants the option of providing community solar and/or battery projects to the multifamily high rise and nonresidential buildings it serves. However, the proposed modifications to Section 10-115 of the building energy efficiency standards code will drastically impact the costs of building community solar projects for Hetch Hetchy Power. Section 10-115(a)(6), the proposed addition to Section 10-115, requires community shared solar and/or battery projects that are used to comply with the on-site PV and battery measure to be located on the “distribution system of the load serving entity providing service to the participating buildings”.¹¹ This is concerning for three reasons: 1) Hetch Hetchy Power does not own most of its distribution system; 2) the locations where Hetch Hetchy Power does own distribution infrastructure are not the locations where participating buildings will be located; and 3) building community solar in a dense urban environment such as San Francisco will complicate the technical feasibility of projects and impact costs.

Hetch Hetchy Power’s customers are primarily located in San Francisco. Most of these customers are interconnected onto PG&E’s distribution system, not the distribution system of the load serving entity that provides service to the building. PG&E’s current interconnection tariffs could prevent Hetch Hetchy Power from interconnecting a community solar project that is designed to cost-effectively export its energy production onto PG&E’s distribution system because the interconnection process is time-intensive, very costly, and not under Hetch Hetchy Power’s control.^{12,13}

Modifying the proposed location requirement would allow Hetch Hetchy Power to interconnect community solar and/or battery projects outside of San Francisco where Hetch Hetchy Power owns most of its distribution and

¹⁰ Express Terms 2022 Energy Code, Title 24 Parts 1 and 6, Section 10-115, p. 46.

¹¹ Express Terms 2022 Energy Code, Title 24 Parts 1 and 6, Section 10-115(a)(6), p. 47.

¹² See PG&E’s Wholesale Distribution Tariff, accessible at:

https://www.pge.com/pge_global/common/pdfs/about-pge/company-information/regulation/contracts-and-tariffs/wd-tariff.pdf (last accessed 6/17/21).

¹³ See PG&E’s NEMCCSF Tariff - Net Energy Metering Service For City and County of San Francisco Municipal Load Served by Hetch Hetchy and a Solar Generator, accessible at: https://www.pge.com/rates/tariffs/tm2/pdf/ELEC_3363-E-A.pdf (last accessed 6/17/21)

transmission infrastructure (i.e., in the Sierra Foothills and Central Valley). The community solar and/or storage projects would not be located on the same distribution system that provides service to the buildings benefitting from the projects but would be located in areas with better insolation than San Francisco and would not necessitate involving PG&E in a complex interconnection process. Instead of adopting a requirement that will drastically increase the cost and complexity of building community solar and/or battery storage projects for a small publicly owned utility such as Hetch Hetchy Power, the Energy Commission should eliminate this new requirement or, at a minimum, modify it to exempt load serving entities that do not own the distribution system used to serve the benefitting building. This would allow Hetch Hetchy Power to build projects outside of San Francisco, prevent the costs of complying with the requirement from impacting the cost-effectiveness of the projects, and benefit Hetch Hetchy Power's ratepayers.

The SFPUC's proposed modifications to the proposed requirement¹⁴ are in **bold underline** and ~~strikethrough~~ as follows:

"Location. The community shared solar electric generation system and/or community shared battery storage system shall be located on a distribution system of the load serving entity providing service to the participating buildings **when the distribution system is owned by the same load serving entity that is providing service to the participating building.**"

3. The Energy Commission should consider additional peak periods when evaluating the benefits of the battery storage portion of the proposed measure.

Hetch Hetchy Power has a different peak period cost structure than that of the investor-owned utilities. However, cost-effectiveness for the battery storage system portion of the proposed measure was analyzed under a "Time-of-Use" control dispatch scheme which requires storage to only charge from the on-site PV during solar hours and only discharge from 4 pm to 9 pm.¹⁵ The purpose of including battery storage is to offset customer load during the 4 pm to 9 pm peak period. However, the peak period used for the analysis does not apply to Hetch Hetchy Power. The measure proposal overstates what the peak electrical demand reduction and associated savings provided by the battery storage would be for Hetch Hetchy Power customers because Hetch Hetchy Power is a 12 pm to 6 pm peaking utility. Thus, the measure proposal's

¹⁴ Express Terms, p. 47

¹⁵ PV and Battery Measure Proposal, p. 22.

conclusion that “the primary benefit of the proposed battery requirement is [in] the ability to limit exports to the grid from PV generation, and [in] reducing peak demand and energy use during peak periods”¹⁶ does not extend to Hetch Hetchy Power in the same way. The late evening peak period benefit will not materialize for Hetch Hetchy Power customers that comply with the measure if it is adopted as-is. For this reason, the SFPUC recommends that the Energy Commission widen the scope of its cost and benefit analyses by considering other utilities’ peak periods and time-of-use rate structures.

The SFPUC thanks the Energy Commission for its consideration of these comments and requests adoption of the recommendations proposed herein.

Sincerely,

Catherine Spaulding for

Barbara Hale

Assistant General Manager, Power Enterprise

San Francisco Public Utilities Commission

¹⁶ PV and Battery Measure Proposal, p. 14.