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PG&E Comments on CEC Workshop on RPS for Energy Storage Devices

Additional submitted attachment is included below.



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California Energy Commission
Renewable Energy Division – Renewables Portfolio Standard Program, RPS
Docket No 21-RPS-02
715 P Street
Sacramento, CA 95814

RE: Pacific Gas and Electric Company Comments on the CEC Staff Workshop on Renewables Portfolio Standard Requirement for Energy Storage Devices (Docket Number 21-RPS-02)

Pacific Gas and Electric Company (PG&E) appreciates the opportunity to comment on the California Energy Commission’s (CEC) staff workshop held on February 8, 2022 on renewables portfolio standard (RPS) requirements for energy storage devices.

PG&E supports the CEC’s goal of updating the language in the RPS Eligibility Guidebook (RPS Guidebook). As discussed below, the energy landscape has changed significantly since the CEC’s RPS Guidebook was last updated in 2017. Under the ninth edition of the RPS Guidebook, energy storage was envisioned to operate in conjunction with a renewable energy resource facility under two physical metering arrangement classifications (known today as “hybrid” arrangements).¹ While these two physical metering arrangements may continue to exist, commercial arrangements for co-located storage and renewable generation facilities have evolved beyond these two “hybrid” arrangements depicted in the RPS Guidebook, and include a physical metering arrangement known today as “co-located” arrangements. Under “co-located” arrangements, the energy storage device, and the renewable resource each have a California Independent System Operator (CAISO) meter. Accordingly, PG&E’s comments are focused on the hybrid and co-located arrangements that exist in today’s energy market.

PG&E offers the following responses and feedback to two of the four questions posed by the CEC during the workshop:

¹ CEC’s RPS Eligibility Guidebook, pp. 40-41 at <https://efiling.energy.ca.gov/getdocument.aspx?tn=217317>.

2- What does procurement look like for renewable facilities paired with energy storage? Do contracts account for energy losses from storage?

Today, renewable facilities paired with energy storage have two main physical metering configurations to sell energy into the CAISO markets - either “hybrid” or “co-located.” As described above, for co-located resources, the storage and the renewable resource will each have a CAISO meter. Thus, from a CAISO perspective, the renewable resource’s energy is measured and delivered to the CAISO’s controlled grid at the meter. This is the data that the CAISO effectively reports to the Western Renewable Energy Generation Information System (WREGIS) as the Qualified Reporting Entity (QRE).

Accordingly, PG&E recommends that the RPS Guidebook include “co-located” renewable generation and storage. In this case, while located at the same site, the renewable generation and the storage device are behind individual and separate CAISO meters. The Renewable Energy Credits (RECS) are measured at the CAISO meter in the same way these are measured at the hybrid facilities, but there is no netting of RECs from the renewable generation.

In that same vein, PG&E suggests the term “hybrid” refer to the two situations that are currently covered by the RPS Guidebook, which defines “integrated” and “directly connected storage.” In both configurations a renewable generator and a storage unit are located behind the same CAISO meter. “Integrated” facilities are those where controls are in place to ensure that the storage only charges from the renewable generator. The RPS Guidebook allows the combination of the two configurations to be treated as a single renewable generator behind-the-meter used for RPS purposes. In a “directly connected” situation, the storage can be charged from a source other than the renewable generator, and additional metering must also be installed behind the CAISO meter to enable calculation of renewable exports from the solar source versus non-renewable exports from the storage unit, which is considered non-renewable energy. In both cases, the CAISO meter would account for energy losses because those losses would occur before the energy is measured by the CAISO meter.

The contract terms of wholesale energy will vary with different buyers and sellers and may be confidential. In PG&E’s experience, energy is transacted at the wholesale measurement point, such as the CAISO meter. Therefore, PG&E recommends that co-located procurement (as described above) does not account for efficiency losses while hybrid procurement does account for efficiency losses.

4- Should the CEC develop energy storage loss accounting requirements for specific technology types, configurations, or scale?

PG&E recommends the CEC treat energy loss accounting by aligning with the way in which wholesale energy measurements are configured. Therefore, the energy from a co-located storage would not create any RECs. Given that the renewable resource’s energy is measured and delivered

to the CAISO's controlled grid at its individual and separate meter, under a co-located configuration, the energy generated from the renewable facility would not need to be discounted as the energy flows through the wholesale meter.

For hybrid facilities, the energy storage loss counting may be more nuanced, especially if the hybrid facility (e.g., directly connected) chooses to allow grid charging. In the case where the renewable generator and storage are considered a single renewable generator, the energy measured at the CAISO meter would measure the RECs. In cases where the storage device can charge from the grid, PG&E suggests the RECs be calculated with the existing methodology to ensure that the RECs are created only from renewable electricity sources.

PG&E appreciates the opportunity to comment on the CEC's staff workshop on RPS requirements for energy storage devices and looks forward to working with the CEC on this topic. Please reach out to me with any questions.

Sincerely,

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