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October 22, 2020

Via Electronic Filing

Public Utility Commission of Oregon
Attn: Filing Center
201 High Street SE, Suite 100
P.O. Box 1088
Salem, OR 97308-1088

**RE: AR 616 - In the Matter of Public Utility Commission of Oregon Rulemaking
Regarding Renewable Portfolio Standard Planning Process and Reports**

Dear Filing Center:

Portland General Electric (PGE) appreciates the opportunity to provide comments and requests a technical workshop in response to the Public Utility Commission of Oregon (“Commission”) Staff’s proposed rule language for OAR 860-083-0600, Associated Energy Storage, submitted on October 8, 2020.

Oregon and PGE’s Decarbonization Goals

As articulated in Executive Order No. 20-04, Governor Kate Brown calls for substantial reductions in economywide greenhouse gas emissions (GHG) (i.e., reduce GHG emissions at least 45% below 1990 levels by 2035 and at least 80% below 1990 levels by 2050). In addition, there is urgency in Executive Order No. 20-04 to act now to reduce GHG emissions as they “present a significant threat to Oregon’s public health, economy, safety, and environment” and “the transition from fossil fuels to cleaner energy resources can significantly reduce emissions and increase energy security and the resilience of Oregon communities in the face of climate change.”

PGE is fully invested in helping Oregon reach its decarbonization goals and increasingly clean electricity will be key to decarbonizing other sectors of the economy, especially the transportation sector. To do so while maintaining system reliability will require a significant expansion of capacity resources; our 2019 IRP identified a Reference Case capacity need in 2025 of 685 MW, which then escalates to 2,639 MW in 2050.¹ Energy storage presents one non-emitting method to meet these capacity needs. PGE agrees with Staff that energy storage is one

¹ See Section 4.3.2 – Capacity Need: [https://edocs.puc.state.or.us/efdocs/HAA/lc73haa162516.pdf](https://edocs.puc.state.or.us/efddocs/HAA/lc73haa162516.pdf)

way to integrate renewables into least-cost, least-risk portfolios regardless of physical location,² and looks forward to finding the most optimal size and timing for adding energy storage to its system.

Staff's Arguments in Support of the Proposed Rule

PGE is appreciative of the work and diligence of Staff in the collaborative process of creating a proposed rule. However, PGE notes several concerns with regards to Staff's arguments supporting a narrow view in defining the term 'associated energy storage' in the context of this rulemaking.

As provided in PGE's comments submitted on June 30, 2020, PGE continues to argue it is inappropriate to define 'associated' as physically 'co-located' when the ability to integrate the output of a renewable resource does not depend on the location of the energy storage facility. Narrowly defining 'associated energy storage' could result in losing out on the higher value storage projects when not co-located, resulting in sub-optimal investments and reduced cost-effectiveness. There may be better reasons to locate energy storage facilities at specific locations in a utility's service territory rather than co-located at the renewable resource site. For example, power flows can create opportunities for optimally located energy storage to alleviate transmission constraints or defer investments in the transmission and distribution systems while still providing the integration services envisioned in Senate Bill (SB) 1547. There may also be good reason to utilize a storage resource to integrate, firm, or shape multiple renewable resources to leverage the diversity benefits across those resources to reduce the integration burden placed on the storage resource. PGE is concerned that a rule providing such a narrow definition of 'associated energy storage' could discourage the utility from pursuing energy storage opportunities with higher value to the transmission and distribution system that more effectively integrate renewable resources, in favor of co-location with a single renewable resource.

In support of the proposed rule, Staff expressed concerns regarding the potential of double counting qualifying electricity generation and the accounting for storage losses. PGE is responding to these concerns as follows:

1. Double Counting of Qualifying Electricity Generation: Staff expressed concerns that adopting a broad interpretation of 'associated energy storage' could create double counting issues regarding qualifying electricity generation if "RECs are generated by both a generating resource and any storage devices that were charged by the same resources." To alleviate this concern, Staff proposed a rule that requires "associated energy storage to be co-located with an RPS-eligible resource on the high-side, generator side, of the connection to the grid" and "be coupled with a unidirectional inverter."

² Staff Request for Comments, pg. 5

PGE does not share the concern that qualifying electricity generation can be double counted, because energy storage would not generate RECs. Specifically, energy storage is not listed as an eligible renewable energy resource under Oregon's RPS statute, ORS 469A.025. Also, as Staff notes in their comments, under Green-e's Renewable Energy Standard for the United States, energy storage is not a qualifying source of renewable generation, thus it cannot generate RECs.

Furthermore, Staff is referencing Section 9 of WREGIS' Operating Rules, providing that "electricity from battery storage can generate RECs under a specific condition, namely when co-located with an RPS-eligible resource on the high-side (generator side) of the connection to the grid and coupled with a unidirectional inverter". Firstly, PGE was not able to find the reference in the WREGIS rules cited, and secondly, the adoption of Staff's proposed rule seems to actually create the specific condition described in Staff's reference to WREGIS Operating Rules, under which double counting of qualifying electricity could become an issue.

2. Accounting for storage losses: Staff is expressing concerns regarding the accounting for storage losses. PGE recognizes that there isn't a straightforward method to universally account for energy storage losses due to the numerous types of energy storage technologies that have specific loss factors. However, the energy storage losses issue does not have any implication in whether energy storage can be defined as 'associated energy storage'. Therefore, PGE does not share the need to only deem co-located energy storage as 'associated energy storage' to try resolve the storage losses issue.

Energy Storage Role in Variable Renewable Resources Integration

Increased penetration of variable renewable resources can present flexibility challenges due to both the variability and unpredictability of resource availability. These factors increase the need for resources that can quickly respond. Broadly, integrating renewables ranges from the moment-to-moment changes in output to shifting the output of renewables throughout the day to better meet system needs. This can be achieved in a manner specific to a single renewable resource, or it can be achieved on a systemic level by using storage and other flexible resources to integrate a portfolio of renewable resources by mitigating the combined variability and forecast errors across the system.

Energy storage facilities, whether co-located or not, can be dispatched in real-time at any point on the connected grid to shift the output to needed periods across the day, and/or to provide hourly and sub-hourly dispatch flexibility to respond to renewable ramping events. In addition to providing the types of balancing and distribution services that are increasingly needed on our system, energy storage systems also support environmental (i.e. decarbonization) and resiliency goals of the local communities that we serve. Therefore, an energy storage facility should be considered 'associated' with renewable energy resources,

whether co-located or not, if it is used to integrate the energy produced by the renewable resources and provide the aforementioned benefits.

“Associated Energy Storage” definition in the context of the AR 616 rulemaking

The projected rapid increase in variable generating resources provides an opportunity for dispatchable energy storage to be a cost-effective means of providing necessary capacity for utilities’ resource portfolio. The full value capacity of variable resources can be realized if the output is shifted to needed periods across the day, which, as described above, energy storage can support. Energy storage also provides services such as frequency response, contingency reserves, and other NERC-mandated reliability functions which cannot be reasonably provided by variable energy resources, as most renewables are. Energy storage enables utilities to provide these necessary reliability functions, which is increasingly important with the onset of variable generating resources, without having to rely on traditional fuel sources (e.g., natural gas, diesel, nuclear, oil).

As Staff notes, different storage technologies can perform different services, including load-leveling, arbitrage, firm or peaking capacity, ancillary services, etc. While some of these services are closely related to integration of renewables, others have value beyond renewable integration. Staff also notes in their proposed language that an energy storage device may be considered associated energy storage if “the device is integrated into the facility, such that the energy storage device is capable of storing only energy produced by the facility...” Limiting associated energy storage to only store energy produced by the co-located facility hinders energy storage’s ability to contribute to resource adequacy and capacity. PGE believes that a rule designed to define ‘associated energy storage’ should not be as restrictive as Staff’s proposed rule.

As provided in our June 30, 2020 comments, some possible criteria to consider in determining whether an energy storage facility is ‘associated’ include:

- Whether the storage facility is intended, able, and likely to be dispatched to integrate a renewable resource;
- Whether the resource was procured to meet renewable integration or system flexibility challenges identified within the IRP or another regulatory docket/process; and
- Whether the resource can be dynamically dispatched by the utility based on technical specifications and relevant contract provisions.

PGE proposes that parties to this docket hold a technical workshop to have a discussion on potential criteria that should be accounted for when defining “associated energy storage”.

In conclusion, energy storage, whether co-located or not, supports 1) the integration of renewables, 2) decarbonization goals, and 3) increasing capacity needs. Reducing the regulatory burden on utilities to build such storage will lead to a more efficient deployment of storage resources. Therefore, PGE proposes the definition of ‘associated energy storage’ to mean any energy storage, whether co-located or not.

Sincerely,

/s/ Jaki Ferchland

Jaki Ferchland

Manager, Revenue Requirement

Portland General Electric Company