Oregon
Kate Brown, Governor

Public Utility Commission
201 High St SE Suite 100
Salem, OR 97301-3398
Mailing Address: PO Box 1088
Salem, OR 97308-1088
503-373-7394

May 31, 2022

BY EMAIL
Portland General Electric Company
pge.opuc.filings@pgn.com

RE: Advice No. 22-05

At the public meeting on May 31, 2022, the Commission adopted Staff's recommendation in this matter docketed as ADV 1385. The Staff Report and a receipted copy of the sheets in your advice filing are attached.

Nolan Moser
Chief Administrative Law Judge
Public Utility Commission of Oregon
(503) 378-3098

ITEM NO. CA1

PUBLIC UTILITY COMMISSION OF OREGON
STAFF REPORT
PUBLIC MEETING DATE: May 31, 2022

REGULAR ____ CONSENT X EFFECTIVE DATE June 1, 2022

DATE: May 24, 2022

TO: Public Utility Commission

FROM: Heide Caswell

THROUGH: Bryan Conway, JP Batmale, Sarah Hall **SIGNED**

SUBJECT: PORTLAND GENERAL ELECTRIC:
(Docket No. ADV 1385/Advice No. 22-05)
Updates Schedule 200 for dispatchable standby generation with inclusion of battery energy storage systems and tariff changes.

STAFF RECOMMENDATION:

Approve Portland General Electric Company's (PGE or Company) Advice No. 22-05, updating its Schedule 200 Dispatchable Standby Generation (DSG) with an effective date of June 1, 2022.

DISCUSSION:

Issue

Whether the Public Utility Commission of Oregon (Commission) should approve PGE's advice filing to update Schedule 200, Dispatchable Standby Generation offering, to provide conditions and allowance for inclusion of battery energy storage systems.

Applicable Rule or Law

ORS 757.205 requires public utilities to file schedules showing all rates, tolls, and charges for service that have been established and are in force at the time. Pursuant to ORS 757.210, the Commission may approve tariff changes if they are deemed to be

fair, just, and reasonable. Under OAR 860-022-0025, a public utility must submit the following information with their new or modified tariff filing:

a) a statement indicating any change in existing rates, charges, or rules and regulations;
b) a statement describing the number of customers affected by the proposed change and the change in annual revenue; and
c) a detailed description of the reasons for the proposed change.

Filings that make any change in rates, tolls, charges, rules, or regulations must be filed with the Commission at least 30 days before the effective date of the changes. ORS 757.220; OAR 860-022-0015.

The Commission first approved PGE's Schedule 200 Dispatchable Standby Generation in 2003 in Advice No. 03-2. The Commission most recently approved modifications to Schedule 200 in Advice No. 13-20.

Analysis

Background
This memo discusses background and summarizes the Company's proposed changes as presented in Advice No. 22-05. The memo concludes with Staff's recommendation to approve the Company's filing.

PGE submitted this filing to the Commission on April 7, 2022, pursuant to ORS 757.205 and 757.201 and OAR 860-022-0025, with a requested effective date of June 1, 2022. In its filing, the Company requests approval to revise Schedule 200 Dispatchable Standby Generation (DSG) for large nonresidential customers to accommodate battery energy storage systems (battery systems). The current DSG equipment is generally comprised of fossil-fuel based engines (generally diesel) which the Company says has grown to 59 sites with a cumulative nameplate capacity of 130 MW. The company proposes this inclusion for providing grid services and averting situations that could lead to power quality problems in PGE's service territory. Concurrently in Docket No. ADV 1386/Advice No. 22-06 PGE is seeking to update Schedule 26, the nonresidential demand response program known as Energy Partner, to better accommodate non-emitting resources.

PGE's filings reference each other and were filed on the same day with the same effective date. Staff has coordinated its review of these filings and Staff Memos. PGE

states in the filing that the proposed changes will allow the Company to meet the policy goals laid out in Oregon House Bill 2021 (HB 2021):

> *In 2021, Oregon's Legislature passed House Bill 2021 (HB 2021) the Clean Energy Targets bill, requiring electricity providers to rely on non-emitting electricity and eliminate greenhouse gas emissions associated with serving Oregon retail electricity customers by 2040, in a way that also provides the additional direct benefit of resilience. One way PGE can begin to meet the policy goals set out in HB 2021 is revise existing tariffs to include non-emitting electricity resources.*[1]

Estimate of Participation and Market Size
The updates to this Schedule 200 focus on offering large nonresidential customers interested in siting non-emitting dispatchable resources such as battery systems, with nominable capacity of at least 250 kW, access to the DSG program. Since this is a new offering the Company has not yet determined the number of customers and their expected resource capacity. However, the Company's workpapers model 22 battery system additions over a five-year period with a total capacity of 5.5 MW, and estimated service life of 10 years.

Customer Funding Levels
Customers can participate by providing access to the batteries for either ancillary service (which includes contingency reserve and frequency response) or for both demand response and ancillary service. The Company provides two alternative project funding levels for these participation levels. The Company stated that the funding levels were structured with values from the 2019 IRP and calculated to be cost effective from the total resource cost perspective. PGE provided workpapers that demonstrated the calculations, which Staff finds reasonable and accurate. Should the battery system only be used for ancillary service, the Company will provide project funding at $39.50 times the nominated capacity. If it is available for either ancillary service or demand response, the Company will provide project funding at $82.40 times the nominated capacity. The workpapers supplied by the Company support these calculations. The customer would be responsible for any project costs that exceed the funding level calculated based on the choice selected.

Staff would also note that the amount offered under this program is different than what PGE is offering for similar services in ADV 1386 Schedule 26 because underlying

[1] *See* Docket No. ADV 1385, Initial Utility Filing, p. 1, https://edocs.puc.state.or.us/efdocs/UAA/uaa131658.pdf.

assumptions for usage and access are different, even though the resource pricing for both programs is derived from published IRP values. Most notably, this tariff supports immediate access to the resource once it is placed in reserve status, while ADV 1386 provides customers to select differing access windows and the values are decremented to reflect the time restrictions.[2]

Staff recognizes valuation processes are involved in several different proceedings underway at this time, including UM 2225 (Clean Energy Plans) and UM 2005 (Distribution System Plans). Staff supports valuation approaches that are consistent, transparent, locally useful and able to evolve as technology and value streams change over time. Similar benefits should be extended to all resources that comprise the integrated portfolios, including battery systems and other distribution connected technologies, in order not to favor certain technologies or customers. This includes battery systems participating in PGE's residential DR pilot, IEEE 1547-18 inverters with two-way communications installed on new or existing solar systems, and other provisions under HB 3141 distribution-system connected technologies in future. Staff looks forward to working with PGE to ensure all distribution technologies capable of providing support to the grid have an equal opportunity to be compensated accordingly in the future.

Program Role in Energy Storage Resources
The Company states that this tariff update is intended to support PGE's efforts to decarbonize its energy supply in alignment with its policy direction of decarbonization. Further, this program is intended to complement other clean energy resources discussed in the Company's Distribution System Plan.[3] That Plan forecasts all potential storage resources, for which the high case forecast for those resources is 70 customers totaling 17.4 MW.[4]

The proposed changes focus on establishing funding levels to accommodate this new resource option and provisions for the immediacy of access to the resource. The summary below outlines the changes being proposed as part of the update application.

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[2] *See* Docket No. ADV 1385, Initial Utility Filing workpapers, https://edocs.puc.state.or.us/efdocs/UAA/uaa131658.pdf.
[3] See Docket No. UM 2197, Initial Utility Filing DSP https://edocs.puc.state.or.us/efdocs/HAA/um2197haa85326.pdf.
[4] *See* Docket No. ADV 1385, Initial Utility Filing, Attachment A, Table 3, p. 12, https://edocs.puc.state.or.us/efdocs/UAA/uaa131658.pdf.

***Table 1* - Comparison of Schedule 200: Current (Adv 13-20) and Proposed Tariff Changes (Adv 22-05)**

Schedule heading	Schedule provision	Current Tariff	Proposed Tariff	Staff response
Purpose	type of equipment	standby or backup generator	Generation Resource	none taken
	situation	averting situations affecting power quality problems in the region	providing Grid Services and averting situations affecting power quality in the region	none taken
Availability		all territory	no change	
Applicability	customers	non-residential customers with permanently installed standby or backup generation capacity	non-residential customers with permanently installed Generation Resources	none taken
Definitions		did not exist	aligned with current tariff structures	none taken
Customer Responsibilities	access	generation/generator	Generation Resource	none taken
	operation	limited number of hours per year…specified in service agreement	[hour limitation removed and now terms as] specified in Dispatchable Standby Generation Agreement	none taken
Company Responsibilities	interconnection analysis and costs	develop a cost estimate	cost estimate for the installation of the equipment necessary for participation under this schedule	Staff supports greater transparency in program costs, including cost estimates to enable customers to better decide which Schedule meets their energy needs
	fuel cost	company will pay for fuel for generator up to 15 hours over non-outage periods	company will pay for fuel for internal combustion generator up to 15 hours over non-outage periods	none taken
	maintenance and testing	company responsible for testing and maintaining generator	company responsible for testing and maintaining Generation Resource	none taken
	monitoring and reporting	company responsible for power quality monitoring and data	company responsible for power quality monitoring and data reporting for facility	none taken

Schedule heading	Schedule provision	Current Tariff	Proposed Tariff	Staff response
		reporting for facility and generator system	and Generation Resource	
Funding Level/Aid in Construction Allowance		Funding Level	Aid in Construction Allowance	none taken
	funding level	$31.50/kW historically	$39.50/kW (ancillary services) and $82.40/kW (ancillary services and demand response) for 10-year agreement	Staff supports this program addition and recommends incorporation of BESS placed into annual Flex Load Plan update
Special Conditions	permits		permits capped at $10,000 annually	Staff was told by Company that permits average around $8,000 annually, for which this level of participation seems reasonable
	immediacy of operation	24 hour minimum	no advance notice if place on Reserve Status; courtesy notice if possible	none taken
	certainty of storage availability		customer is responsible for maintaining the nominated capacity per Agreement	none taken

Added Definitions in Filing

In the filing, the Company adds definitions that can be characterized as related to bulk power system operations such as ancillary service, contingency reserve, frequency response, and grid services. Other definitions are more specific to the terms of operation (reserve status and dispatchable standby generation agreement), and the equipment classifications (battery energy storage system and internal combustion generator). Additional definitions focus on project costs (aid in construction allowance). The Company explained these additions are consistent with other PGE tariffs. The Company also included information regarding the calculation for its aid in construction allowance for customers nominating specific amounts of either ancillary service or demand response and ancillary service.

Interactions with Other Programs

Staff notes two programmatic interactions. First, the demand response aspect of Schedule 200 is related to the Company's Flexible Load Plan. Staff and the Company agreed that it would be appropriate the Company to report on any battery energy

storage system sited under Schedule 200 in its Annual Flexible Load Plan updates, due to the nascent state of the offering, use cases, and interaction with other clean energy options. The Company should include the use cases under which the system was operated, and the refinement of any valuation assumptions learned during the period.

Second, should customers meet the size requirement of 250 kW or more of nominated capacity, there is potential for customers to either utilize Schedule 26 or 200. As a result, Staff encouraged the Company to consider methods for customers to have better insight into which option would best suit their needs. At Staff's suggestion, the Company committed to developing a one-page document that would contrast the contrast the value proposition of each program, and programmatic features (such as terms and conditions).

In accordance with OAR 860-022-0025(2), the Company states that the changes do not increase, decrease, otherwise change existing rates, or impact revenues.

Staff recommends approval of this filing with the following conditions:

1. PGE report on installation and usage of battery systems through Schedule 200 as a specific program element in its Annual Flexible Load Plan Update, including identifying use cases for which the battery systems were operated and updating any key assumptions that modify resource valuation.
2. PGE develop and make broadly available to potential Schedule 200 and Schedule 26 customers a comparison document. The document should enable the customer to compare the value proposition of each program, and programmatic features such as terms and conditions under either tariff, by September 1, 2022.

Conclusion

Staff finds that PGE's proposed revisions represent progress toward clean energy goals by valuing grid services that leverage choices available to large nonresidential customers. The revisions are projected to be a cost-effective means for procuring additional capacity from battery systems that customers might choose to site and ensure alignment of costs and benefits for both the participating and non-participating customers. PGE's proposal to incorporate this offering of grid services and demand response is found to be progress toward clean energy subject to the conditions identified by Staff. In sum, because the proposal is projected to be a cost-effective means to support additional capacity, Staff supports this change.

PROPOSED COMMISSION MOTION:

Approve PGE's Advice No. 22-05 for update of Schedule 200 Dispatchable Standby Generation, effective June 1, 2022, with Staff recommendations.

CA1 ADV 1385

SCHEDULE 200
DISPATCHABLE STANDBY GENERATION

PURPOSE

To provide the Company with additional generation capacity by contracting with Large Nonresidential Customers for the right to operate their Generation Resource(s) for the purpose of providing Grid Services and averting situations that could lead to power quality problems for the power supply in the local region. (C) (C)

AVAILABLE

In all territory served by the Company.

APPLICABLE

To Large Nonresidential Customers with 250 kW or greater of permanently installed Generation Resource(s) in place or planned for installation within 24 months. (C) (C)

DEFINITIONS (N)

Aid in Construction Allowance - The amount of funding PGE may contribute to an individual project to enable the Generation Resource to be integrated with PGE for dispatch to support Grid Services.

Ancillary Services - Includes Contingency Reserve and Frequency Response for the purposes of this program.

Battery Energy Storage System (BESS) - An electrochemical device that charges (or collects energy) from the grid or on-site power generation sources and then discharges that energy at a later time to provide electricity or other grid services when needed.

Contingency Reserve - The ability to dispatch an enrolled Generation Resource in response to a critical need for replacement power in the region.

Demand Response - The dispatch of a qualified enrolled Generation Resource for the purpose of strategically reducing energy usage during times of peak demand and/or high energy market pricing.

Dispatchable Standby Generation Agreement (Agreement) - An agreement between the Company and Customer that defines the length of the Agreement, amount of capacity nominated to PGE, number of hours PGE may dispatch the Generation Resource, the terms of the Customer's usage of the Generation Resource, and amount of the Aid in Construction Allowance.

Frequency Response - An immediate reduction of site load or dispatch of power at a predetermined level for a short duration in response to a disruption that causes the frequency of the electrical system to fall below a nominal 60 hertz (Hz). (N)

SCHEDULE 200 (Continued)

DEFINITIONS (Continued) (N)

Generation Resource - An Internal Combustion Generator or a Battery Energy Storage System integrated with PGE pursuant to this Schedule.

Grid Services - For the purposes of this Schedule includes the dispatch of Generation Resources for Ancillary Services or Demand Response.

Internal Combustion Generator - A mechanical engine used to generate electricity.

Reserve Status - Indicates a resource is available for dispatch by PGE. (N)

CUSTOMER RESPONSIBILITIES (M)

The Customer will grant the Company access to its Generation Resource(s) such that the Company can operate the Generation Resource(s) at the site or remotely operate the Generation Resource(s) in parallel with the Company's distribution system. (C) (C)

The Customer may operate the Generation Resource(s) at the site as specified in the Dispatchable Standby Generation Agreement (Agreement). (C) (C)

COMPANY RESPONSIBILITIES

The Company will conduct an analysis of the Customer's Generation Resource and develop a cost estimate for the installation of the equipment necessary for participation under this schedule. The Company will be responsible for providing engineering and funding based on the cost estimate not to exceed the Aid in Construction Allowance. The Company will pay for and own all communications and metering equipment. (C) (C) (C)

The Company will normally pay for all fuel used to operate the Customer's Internal Combustion Generator (s) throughout the term of the Agreement. To the extent the Customer operates the Internal Combustion Generator(s) more than 15 (fifteen) hours per operating year during non-outage periods, the Customer shall be responsible for paying fuel costs, per the Agreement. (C) (C)

In, addition, the Company is responsible for routine maintenance as described in the Agreement. The Company will perform regular testing of the Customer's Generation Resource(s) and control system and testing of the Company's dispatch control and interconnection facilities. The Company will provide power quality monitoring and data reporting of the Customer's facility and Generation Resource(s). (C) (C) (C)

The Company's design will be such that during outage situations, the Customer's Generation Resource(s) will automatically start and provide backup power to the Customer. (C) (C) (M)

SCHEDULE 200 (Continued) (T)

AID IN CONSTRUCTION ALLOWANCE (C)(M)

The Company's Aid in Construction Allowance is based on the cost of Company owned equipment necessary for parallel operations, system protection, safety provisions and communications, related administrative costs and the Generation Resource and switchgear modifications, wiring and conduit necessary to permit Customer's Generation Resource(s) to run in parallel with the Company's system. (C) (C) (C)

PGE shall contribute $39.50 per nominated kW year for Ancillary Services, or $82.40 per nominated kW year for participating in both Demand Response and Ancillary Services. Only BESS resources are eligible to participate in Demand Response. The Customer will be responsible for cost components that bring the total project costs above the Company's Aid in Construction Allowance. Due to the individual nature of each Generation Resource, specifics on Company Funding and Customer payment responsibilities will be contained in the Agreement. (C) (C)

Upon termination of the Agreement, the Company may remove its equipment. (T)

SPECIAL CONDITIONS

1. The Customer's charges for Electricity Service under any of the Company's Standard Service or Direct Access Service schedules are not changed or affected in any way by service under this schedule and are due and payable as specified in those schedules.

2. Parallel operation of Generation Resources must satisfy Company interconnection requirements. (C)

3. The Customer will ensure that the Generation Resource(s), communications equipment, switchgear and metering equipment are accessible to the Company at all times. (C)

4. Prior to receiving service pursuant to this schedule, the Customer and the Company must enter into a written Agreement, signed by the Customer. (C) (C)

5. The Customer must obtain all required permits prior to service initiation to allow all planned operations as specified in the Agreement. The Company will reimburse the Customer for any permits specifically required for this service, including permit renewals during the term of the Agreement up to $10,000 annually. (C) (C)(M)

SCHEDULE 200 (Concluded)

SPECIAL CONDITIONS (Continued)

6. The Company may operate the Generation Resource(s) at any time without notice when the Generation Resources are placed on Reserve Status. When advance notice is possible, PGE will notify the Customer as specified in the Agreement. (C)(M)

7. Customers receiving service under this schedule will agree to an initial multi-year term for the Agreement, with options to renew. Should the Customer terminate the Agreement before the end of the initial term, the Customer will reimburse the Company for a portion of the capital investment plus a removal fee as specified in the Agreement. (C)(C)(C)(M)

8. The customer is responsible for maintaining the nominated capacity of the BESS, the details of which are described in the Agreement. (N)(N)

9. PGE may request that the Customer allow PGE to use the Generation Resource(s) in Reserve Status. The decision to allow PGE to use the Generation Resource(s) for any given period of time in Reserve Status is up to the Customer, as specified in the Agreement. (C)(C)

10. The Company will have the right to refuse to fund projects for any reason; including, but not limited to projects deemed high-risk, not cost effective, of poor equipment quality, or an excessive environmental risk. Reasons for funding denial will be provided in writing to the Customer upon request. (T)(M)