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I. Introduction

1 **Q. Please state your names and positions with Portland General Electric (PGE).**

2 A. My name is Darren Murtaugh. I am the Manager of Transmission & Distribution Planning at
3 PGE.

4 My name is Stefan Cristea. I am a Senior Regulatory Analyst in the Rates and Regulatory
5 Affairs department for PGE.

6 Our qualifications appear in Section VI of this testimony.

7 **Q. What is the purpose of your testimony?**

8 A. The purpose of our testimony is to request recovery of the 2020 revenue requirement
9 associated with the Beaverton Public Safety Center (BPSC) and the Anderson Readiness
10 Center (ARC) energy storage microgrid projects, through PGE's Schedule 122 - Renewable
11 Resources Automatic Adjustment Clause (RAC), pursuant to Oregon Revised Statutes (ORS)
12 757.210 and 469A.120(3). Specifically, we are requesting recovery of the fixed costs,
13 operation and maintenance costs (O&M), income taxes, property taxes, and other fees and
14 costs associated with the energy storage projects, including any Schedule 125 eligible, net
15 variable power costs (NVPC).

16 **Q. How is your testimony organized?**

17 A. After this introductory section, we provide a brief overview of the House Bill (HB) 2193
18 energy storage mandate and the subsequent regulatory proceedings where the Public Utility
19 Commission of Oregon (Commission or OPUC) approved PGE's proposal to develop five
20 energy storage projects, including the energy storage microgrids. We then provide a
21 description of the energy storage microgrid projects, discuss associated costs and present the
22 annualized revenue requirement for the BPSC and the ARC energy storage microgrids,

1 including any incremental 2020 net variable power costs, and then provide a conclusion. The
2 final section contains our qualifications.

3 **Q. What period of time does this request cover?**

4 A. For the purposes of setting Schedule 122 prices, PGE requests the Commission authorize
5 tariffs to collect the annualized amount beginning August 1, 2020, the in-service date of the
6 ARC energy storage microgrid, which is the later date of the energy storage microgrids' in-
7 service dates. We currently expect the BPSC energy storage microgrid to be placed in service
8 April 1, 2020. To the extent the in-service dates change, the effective date of the tariffs to
9 recover the incremental impact of these energy storage microgrids will change accordingly.
10 Additionally, any forecasted NVPC associated with the energy storage microgrids prior to
11 January 1, 2021, will be included in Schedule 122 prices for 2020. Beginning in 2021, we
12 would reflect the 2021 forecasted NVPC through PGE's Schedule 125, thus setting the
13 variable costs to zero in Schedule 122.

14 **Q. What is PGE's requested revenue requirement in this filing.**

15 A. PGE is requesting a total of approximately \$0.4 million of incremental annual revenue
16 requirement for the BPSC and the ARC energy storage microgrids.

17 **Q. What Rate of Return (ROR) is PGE using for this filing?**

18 A. PGE is using the currently authorized ROR of 7.30%, which consists of a Return on Equity
19 of 9.50% and Cost of Debt of 5.10% (see Commission Order No. 18-464).

II. Overview

A. Legislative and Regulatory Background

1 **Q. Briefly describe the history behind the energy storage microgrid projects.**

2 A. The enactment of HB 2193 in 2015 mandated that PGE procure at least five MWh and up to
3 one percent of 2014 peak load (approximately 38.7 MWh for PGE) of energy storage before
4 2020. In September 2015, the Commission opened Docket No. UM 1751 to establish
5 guidelines for implementing HB 2193 energy storage requirements. On December 28, 2016,
6 the Commission issued Order No. 16-504 adopting guidelines and requirements to implement
7 HB 2193. In that Order, the Commission encouraged PGE to “submit multiple, differentiated
8 projects that test varying technologies and applications.”¹

9 **Q. What actions did PGE take regarding HB 2193 requirements and Commission**
10 **guidelines?**

11 A. In compliance with HB 2193 requirements and the Commission guidelines provided in Order
12 No. 16-504, PGE submitted on November 1, 2017, in Docket No. UM 1856 (UM 1856),
13 proposals to develop five different energy storage systems, including the energy storage
14 microgrid program subject to this filing. In addition to energy storage microgrids, PGE
15 requested approval for: Residential Energy Storage Pilot, Port Westward 2 Generation Kick
16 Start, Coffee Creek Substation, and Baldock Mid-feeder. PGE proposed to develop these
17 projects to expand its knowledge around storage and its varied uses, system impacts, customer
18 benefits, operational impacts, and distribution system benefits.

¹ See at page 3 of Commission Order No. 16-504: <https://apps.puc.state.or.us/orders/2016ords/16-504.pdf>

1 **Q. What other benefits does PGE expect these energy storage projects to provide?**

2 A. PGE also expects the energy storage projects listed above to enhance PGE's resource portfolio
3 flexibility and support renewable energy resources integration. Energy storage system
4 resources can be rapidly dispatched, deployed at large or very small scales due to their
5 modularity, can be relatively easily sited and quickly developed, and have no direct emissions.
6 For these reasons, they have the potential to provide the types of balancing and distribution
7 services that are increasingly needed on our system, while supporting the environmental and
8 resiliency goals of the local communities we serve.

9 **Q. Did the Commission approve PGE's proposal to develop energy storage projects?**

10 A. Yes, Commission Order No. 18-290 adopted a stipulation among the UM 1856 parties with
11 an agreed approach to the development of the five energy storage projects by PGE. Consistent
12 with the stipulation, PGE: (1) submitted a plan to advance its energy storage modeling
13 capability,² (2) provided additional site selection analysis for the Coffee Creek Substation and
14 the Baldock mid-feeder energy storage projects,^{3,4} and (3) presented a revised design for the
15 Residential Energy Storage Pilot with evidence demonstrating that PGE will manage risk and
16 optimize learnings.⁵ Commission Staff submitted comments in UM 1856 acknowledging
17 PGE's compliance filings.⁶

² See PGE's compliance filing at: <https://edocs.puc.state.or.us/efdocs/HAD/um1856had13262.pdf>

³ See PGE compliance filing for Coffee Creek at: <https://edocs.puc.state.or.us/efdocs/HAD/um1856had152450.pdf>

⁴ See PGE compliance filing for the Baldock mid-feeder project at:
<https://apps.puc.state.or.us/edockets/edocs.asp?FileType=HAD&FileName=um1856had15244.pdf&DocketID=20913&numSequence=123>

⁵ See PGE compliance filing for the Residential Energy Storage Pilot:
<https://edocs.puc.state.or.us/efdocs/HAD/um1856had123254.pdf>

⁶ See Commission Staff's reports at: <https://edocs.puc.state.or.us/efdocs/HAC/um1856hac151859.pdf> and
<https://edocs.puc.state.or.us/efdocs/HAH/um1856hah152014.pdf>

1 **Q. Has PGE included any energy storage project costs other than the BPSC and the ARC**
2 **energy storage microgrids in this RAC filing?**

3 **A. No. The other energy storage projects included in PGE's energy storage portfolio approved**
4 **by the Commission are expected to be placed in service in 2021 and 2022, thus they are not**
5 **included in this RAC filing.**

III. BPSC and ARC Energy Storage Microgrids

1 **Q. Please restate which two energy storage microgrid projects are included in this filing.**

2 A. The two projects are the BPSC and the ARC energy storage microgrids.

3 **Q. What is a microgrid?**

4 A. A microgrid is a small-scale electric grid that operates in conjunction with the electrical grid
5 through a network of on-site generation, energy storage, and integrated controls. Under
6 normal conditions it is connected to the main grid. During a grid disturbance, the microgrid
7 resources provide stability support to the main grid. In the event the main grid experiences
8 an outage, the microgrid isolates itself and operates independently (islanding).

9 **Q. Briefly describe the BPSC and the ARC energy storage microgrid projects.**

10 A. PGE aims to create a microgrid program that provides reliability and resiliency to customers
11 while meeting their goals for clean energy solutions. As part of the microgrid program, PGE
12 will install energy storage systems to create two behind-the-meter customer microgrids. The
13 BPSC energy storage microgrid is a 250 kW/4-hour system and the ARC energy storage
14 microgrid is a 500 kW/2-hour system. Both energy storage microgrids will include Battery
15 Energy Storage Systems (BESS) and on-site solar photovoltaic (PV) generating resources and
16 diesel generators.

17 **Q. What are the goals and anticipated learnings related to the energy storage microgrids?**

18 A. Anticipated learnings include experience with microgrid planning, installation, operations,
19 maintenance, and informing larger scale microgrid program deployment. As an operational
20 program, this offering could be scaled to other communities, feeder sections, or non-

1 residential customers. PGE intends for the pilot to inform future program design elements,
2 including, but not limited to:

- 3 • Recruitment and enrollment strategies and best practices;
- 4 • Participation requirements and design specifications;
- 5 • Sizing considerations;
- 6 • Construction and commissioning processes and best practices;
- 7 • Operational strategies and best practices;
- 8 • Billing and Credits;
- 9 • Maintenance; and
- 10 • Automated dispatch.

11 PGE will also evaluate:

- 12 • Program costs;
- 13 • Realized system benefits;
- 14 • Realized customer value and willingness to pay; and
- 15 • Program structure/design considerations (e.g., who owns what equipment, who
16 pays for what/how much).

17 **Q. In addition to the anticipated learnings listed above, does PGE expect the energy storage**
18 **microgrids to provide system benefits through integrating renewable resources?**

19 A. Yes. As mentioned above, PGE expects that both the BPSC and ARC energy storage
20 microgrids will enhance PGE's resource portfolio flexibility and support renewable resources
21 integration.

1 **Q. Please elaborate.**

2 A. Increased penetration of variable renewable resources can present flexibility challenges due
3 to both the variability and unpredictability of resource availability. These factors increase the
4 need for resources that can respond and ramp up and down quickly within the hour. The
5 BPSC and ARC energy storage microgrids will be dispatched in real-time to help mitigate
6 subhourly fluctuations and forecast errors associated with renewable generation. At a more
7 local level, renewable resources variability can present challenges in distribution system
8 voltage management and potentially impact power quality creating issues such as voltage
9 flickering. The energy storage microgrids will also provide volt-ampere reactive support to
10 the distribution system for improved voltage management and power factor management (i.e.,
11 Volt-VAR Control).

12 **Q. Does PGE expect the energy storage microgrids to provide other services to the grid in**
13 **addition to supporting renewable resource integration?**

14 A. Yes, PGE also expects the energy storage microgrids to provide the following services:

- 15 • Frequency Response: represents the online energy resource initial response to
16 maintain interconnection frequency within predefined bounds by arresting
17 frequency deviations and supporting frequency until it can be restored to the
18 scheduled value;
- 19 • Spinning Reserve: capacity that is on-line but unloaded and can respond within
20 10-minutes in the event of contingencies;
- 21 • Generation Capacity: the ability to contribute to meeting PGE's capacity needs,
22 as identified in PGE's 2019 Integrated Resource Plan (Docket No. LC 73), by

1 being available during periods in which the system is capacity constrained due to
2 high load levels and/or low generation availability;

- 3 • Distribution Upgrade Deferral: the ability to provide services for a specific portion
4 of the distribution system, thus delaying the need to upgrade the distribution
5 system to accommodate load growth or regulate voltage; and
- 6 • Power Reliability Benefits: the ability to reduce or eliminate power outages to
7 utility customers.

8 As part of the energy storage microgrids' anticipated learnings, PGE will evaluate how
9 effectively each of these benefits can be realized and how to accurately quantify the results.

10 **Q. How will PGE operate the BPSC and ARC energy storage microgrids at the project site**
11 **level?**

12 A. At the project site level, the BPSC and ARC microgrid pilots will utilize a microgrid controller
13 to manage the on-site resources. This includes the BESS, the solar PV generator, the diesel
14 generators, the utility feed, and the building management system. Under normal conditions,
15 the microgrid controller will receive PGE dispatch commands for the BESS and make local
16 decisions on when to charge and discharge the BESS based on factors such as local solar
17 generation, the building load, and the use cases currently in effect (e.g., normal operation or
18 emergency/grid outage conditions). In the event of a grid outage, the microgrid controller will
19 island the localized grid and manage the available systems to provide Outage Mitigation
20 benefits to the microgrid.

1 **Q. Please describe how PGE will operate the BPSC and the ARC energy storage microgrids**
2 **under normal conditions.**

3 A. Under normal conditions, the BPSC and the ARC energy storage microgrids are
4 interconnected to the distribution system and will operate as a part of that system. During this
5 time the energy storage system will be dispatched to mitigate subhourly fluctuations and
6 forecast errors associated with renewable generation and to provide energy, capacity, and
7 ancillary services to the grid, as described above.

8 **Q. How will PGE operate the BPSC and the ARC energy storage microgrids under grid**
9 **outage conditions?**

10 A. In the event of a grid outage, the microgrid will island from the utility and the energy storage
11 device will be used to serve the microgrid's loads. When islanded, each microgrid will use the
12 energy storage system, onsite solar PV and the standby generator to maintain electrical service
13 to the facilities. When service is restored to the grid, the microgrid will revert to the standard
14 connection (normal condition) with PGE's distribution system.

IV. Energy Storage Microgrids Costs and Revenue Requirement

1 **Q. What is PGE's current forecast for the 2020 revenue requirement associated with the**
2 **BPSC and the ARC energy storage microgrids?**

3 A. PGE currently forecasts the 2020 annualized revenue requirement to be approximately \$0.4
4 million.⁷ This amount is net of avoided power costs and includes fixed costs, O&M, income
5 taxes, property taxes, and other fees and costs associated with the energy storage projects.

6 **Q. Does PGE plan to provide updates to the estimates provided in this filing?**

7 A. Yes. PGE has included both known amounts and estimates in this filing. Updates to the
8 estimates will be provided throughout the proceeding as actual costs become available. Then-
9 current actual costs and revised forecasted costs will be included in the Schedule 122
10 compliance filing.

⁷ Per the stipulation adopted by Commission Order No. 18-290 in UM 1856, the asset life is assumed to be 10 years.

V. Conclusion

1 **Q. Please summarize PGE's request.**

2 A. PGE requests recovery of the 2020 revenue requirement associated with the BPSC and the
3 ARC energy storage microgrids through PGE's Schedule 122, pursuant to ORS 757.210 and
4 469A.120(3). Specifically, we are requesting recovery of the fixed costs, O&M, income taxes,
5 property taxes, and other fees and costs associated with the energy storage projects, including
6 any Schedule 125 eligible, NVPC. Renewable variable resources integration requires a
7 flexible resource portfolio and energy storage is an emerging technology that can provide this
8 flexibility, both on a system-wide basis and a local or distributed basis. In support of
9 renewable resource integration, the BPSC and ARC energy storage microgrids can be
10 dispatched in real-time to help mitigate sub-hourly fluctuations and forecast errors associated
11 with renewable generation as well as to provide volt-ampere reactive support to the
12 distribution system for improved voltage management and power factor management (i.e.,
13 Volt-VAR Control).

VI. Qualifications

1 **Q. Mr. Murtaugh, please describe your qualifications.**

2 A. I received a Bachelor of Science degree from the University of Nevada in Electrical
3 Engineering in December 2002. I have also received advanced training and coursework from
4 a variety of schools and companies. I obtained my Professional Engineer license in the State
5 of Oregon in December 2007.

6 In 2012, I accepted my current position as a Manager of Transmission and Distribution
7 Planning at PGE. Previously I worked as a Lead Planning Engineer with PGE. Prior to
8 working for PGE, I worked in Transmission Operations with Sierra Pacific Power Company
9 in Reno, Nevada.

10 **Q. Mr. Cristea, please describe your qualifications.**

11 A. I received a Bachelor of Arts degree in Regulatory Economics from the University of Calgary,
12 Alberta, Canada. I began at PGE in 2016 as a regulatory analyst and was promoted to senior
13 regulatory analyst in January 2019. I have worked on PGE's last two general rate cases (UE
14 319 and UE 335), PGE's last two PCAM filings (UE 346 and UE 362), and PGE's last Annual
15 Updated Tariff (UE 358). Previously, I worked as an Operations Coordinator for Enterprise
16 Holdings in Calgary, Canada, overseeing the operations of approximately 50 car-rental
17 offices. Prior to that, I owned and managed a construction business in France.

18 **Q. Does this conclude your testimony?**

19 A. Yes.

List of Exhibits

<u>PGE Exhibit</u>	<u>Description</u>
101	2020 Energy Storage Microgrids Revenue Requirement

PGE Exhibit 101
2020 Results
Dollars in (000s)

	2020
Operating Revenues	
Sales to Consumers (Rev. Req.)	446
Sales for Resale	-
Other Operating Revenues	-
Total Operating Revenues	446
Operation & Maintenance	
Net Variable Power Cost	(43)
Operations O&M	61
Support O&M	3
Total Operation & Maintenance	21
Depreciation & Amortization	214
Other Taxes / Franchise Fee	41
Income Taxes	34
Total Oper. Expenses & Taxes	311
Utility Operating Income	135
Rate of Return	7.300%
Return on Equity	9.500%
* 2020 Rates per approved UE 33S	
Rate Base	
Plant in Service	2,041
Accumulated Depreciation	(214)
Accumulated Def. Income Taxes	9
Accumulated Def. Inv. Tax Credit	-
Net Utility Plant	1,836
Misc Deferred Debits	-
Operating Materials & Fuel	-
Misc. Deferred Credits	-
Working Cash	12
Total Rate Base	1,848
Income Tax Calculations	
Book Revenues	446
Book Expenses	277
Interest Rate Base @ Weighted Cost of Debt	47
Production Deduction	-
Permanent Sch M Differences	(4)
Temporary Sch M Differences	(106)
State Taxable Income	231
State Income Tax	18
Federal Taxable Income	214
Fed Income Tax	45
Deferred Taxes	(29)
Excess ADIT Reversal (ARAM)	-
Federal Tax Credits	-
Total Income Tax	34

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I. Introduction

1 **Q. Please state your name and position with Portland General Electric (“PGE”).**

2 A. My name is Andrew Speer. I am a Regulatory Consultant for PGE.

3 My qualifications are included at the end of this testimony.

4 **Q. What is the purpose of your testimony?**

5 A. The purpose of my testimony is to discuss the proposed changes requested for Schedule 122,
6 Renewable Resource Automatic Adjustment Cause (RAC), which will accommodate the
7 timing of a renewable resource on-online date and the filing date for a RAC.

II. Schedule 122 Modifications

1 **Q. Are you proposing any changes to the Schedule 122 tariff?**

2 A. Yes.

3 **Q. What is the purpose of the tariff changes?**

4 A. The purpose of the change is two-fold. The first change addresses filing dates and timing
5 differences associated with Schedule 122 and Schedule 125 – Annual Power Cost Update
6 (AUT). Updating Schedule 122 fixes a timing issue regarding the on-line date of a resource
7 and the timing and alignment for when the RAC is filed and subsequently when PGE files an
8 AUT to recover the net variable power costs (NVPC) for a resource or contract via Schedule
9 125. Second, the Commission decision in UM 1909 via Order No. 18-423 creates a timing
10 issue given that the Commission no longer allows the deferral of capital costs. As such, the
11 tariff edits allow for the inclusion of Schedule 122 qualifying costs into prices
12 contemporaneous with the actual online date of the facility or facilities, eliminating the need
13 to defer any costs for later inclusion.

14 **Q. Please identify the issues with the current Schedule 122 language?**

15 A. The current Schedule 122 tariff language sets out the timing requirements for filing the RAC;
16 however, the tariff language posed an issue regarding the timing for the AUT and was not
17 clear on the timing for when a RAC filing would occur, following a resource going into
18 operation. The current language also assumes all costs can be deferred if the timing of a
19 project does not align with a January 1 price change.

20 **Q. Do any of the proposed changes impact RAC pricing methodology or impact how PGE**
21 **recovers RAC related costs?**

22 A. No. The edits included do not propose any changes to pricing methodology.

1 **Q. How will PGE provide benefits to net variable power costs if the RAC does not align**
2 **with the AUT?**

3 A. The net variable power cost benefits will be included in the RAC until such time as they can
4 be included in the next AUT.

5 **Q. Have you included any exhibits to your testimony?**

6 A. Yes. PGE Exhibit 201 contains the Schedule 122 proposed redline edits as discussed above
7 with updated prices.

8 **Q. Does this conclude your testimony?**

9 A. Yes.

III. Qualification

1 **Q. Mr. Speer, please describe your qualifications.**

2 A. I received my Bachelor and Master of Science degrees in Economics from Portland State
3 University in 2007 and 2009. I have been employed at PGE since 2018, working as a
4 Regulatory Consultant in the Rates and Regulatory Affairs department. Prior to joining PGE,
5 I worked as a senior rates analyst at NW Natural, working on cost of service and rate design;
6 and prior to that, I worked at the Bonneville Power Administration, working as an economist
7 in the Residential Exchange Program, enterprise risk management, and long-term energy sales
8 and purchases workgroups.

List of Exhibits

<u>PGE Exhibit</u>	<u>Description</u>
201	Schedule 122 – Renewable Resources Automatic Adjustment Clause Tariff

Portland General Electric Company
P.U.C. Oregon No. E-18

Fifteenth Revision of Sheet No. 122-1
Canceling Fourteenth Revision of Sheet No. 122-1

SCHEDULE 122 RENEWABLE RESOURCES AUTOMATIC ADJUSTMENT CLAUSE

PURPOSE

This Schedule recovers the revenue requirements of qualifying Company-owned or contracted new renewable energy resource and energy storage projects associated with renewable energy resources (including associated transmission) not otherwise included in rates. Additional new renewable and energy storage projects associated with renewable energy resources may be incorporated into this schedule as they are placed in service. This adjustment schedule is implemented as an automatic adjustment clause as provided for under ORS 757.210 and Section 13 of the Oregon Renewable Energy Act (OREA).

AVAILABLE

In all territory served by the Company.

APPLICABLE

To all bills for Electricity Service except Schedules 76, 485, 489, 490, 491, 492, 495 and 576. This schedule is not applicable to direct access customers after December 31, 2010.

ADJUSTMENT RATE

The Adjustment Rate, applicable for service on and after the effective date of this schedule are:

<u>Schedule</u>	<u>Adjustment Rate</u>	
7	0.00 30	¢ per kWh
15	0.00 20	¢ per kWh
32	0.00 30	¢ per kWh
38	0.00 20	¢ per kWh
47	0.00 30	¢ per kWh
49	0.00 30	¢ per kWh
75		
Secondary	0.00 20	¢ per kWh
Primary	0.00 20	¢ per kWh
Subtransmission	0.00 20	¢ per kWh
83	0.00 30	¢ per kWh
85		
Secondary	0.00 30	¢ per kWh
Primary	0.00 20	¢ per kWh

Advice No. 19-36
Issued December 10, 2019
James F. Lobdell, Senior Vice President

Effective for service
on and after August 1, 2020

Portland General Electric Company
P.U.C. Oregon No. E-18

Fifteenth Revision of Sheet No. 122-2
Canceling Fourteenth Revision of Sheet No. 122-2

SCHEDULE 122 (Continued)

ADJUSTMENT RATE (Continued)

	<u>Schedule</u>	<u>Adjustment Rate</u>
89		
	Secondary	0.00 <u>20</u> ¢ per kWh
	Primary	0.00 <u>20</u> ¢ per kWh
	Subtransmission	0.00 <u>20</u> ¢ per kWh
90		0.00 <u>20</u> ¢ per kWh
91		0.00 <u>20</u> ¢ per kWh
92		0.00 <u>20</u> ¢ per kWh
95		0.00 <u>20</u> ¢ per kWh

ANNUAL REVENUE REQUIREMENTS

The Annual Revenue Requirements of a qualifying project will include the fixed costs of the renewable or energy storage resource and associated transmission (including return on and return of the capital costs), operation and maintenance costs, income taxes, property taxes, and other fees and costs that are applicable to the renewable or energy storage resource or associated transmission. Until the dispatch benefits are included in the Annual Power Cost Update Schedule 125, the net revenue requirements of each project (fixed costs less market value of the energy produced by the renewable or energy storage resource plus any power costs such as fuel, integration and wheeling costs) will be ~~deferred and incorporated the following January 1 into~~included in the Schedule 122 rates. ~~This balancing account will accrue interest at the Commission-authorized rate for deferred accounts.~~ Each year following the resource's on-line date by April 1, the Company will file an update to the revenue requirements of resources included in this schedule to recognize projected changes for the following calendar year. If the timing of an AUT doesn't align with the resource, the net variable power cost impacts associated with the resource will be included in the revenue requirement. The NVPC impacts associated with the resource will be included in the AUT at the next opportunity.

DEFERRAL-MECHANISMBALANCING ACCOUNT

For each calendar year that the Company anticipates that a new renewable or energy storage resource will commence operation, the Company may file a deferral request the earlier of the resource online date or April 1. The deferral amount will be for the fixed revenue requirements of the resource less net dispatch benefits. For purposes of determining dispatch benefits, the forward curves used to set rates for the year under the Annual Power Cost Update will be used. The deferral will be amortized over the next calendar year in Schedule 122 unless otherwise approved by the Oregon Public Utility Commission (OPUC). The balancing account will accrue interest at the Commission-authorized rate for deferred accounts, and T~~the~~ amortization of the deferred amount will not be subject to the provisions of ORS 757.259(5).

Portland General Electric Company
P.U.C. Oregon No. E-18

Fourth Revision of Sheet No. 122-3
Canceling Third Revision of Sheet No. 122-3

SCHEDULE 122 (Continued)

TIME AND MANNER OF FILING

For each calendar year that the Company is required to update the Annual Revenue Requirements or proposes to include a new resource under this schedule, the Company will file by no later than April 1, the following:

1. Revised rates under this schedule and a transmittal letter that summarizes the proposed revenue requirements and charges for both the new resource(s) and the updated revenue requirements and charges for applicable resources previously approved for recovery under this schedule. In addition, the filing will include revised income taxes and associated ratios to calculate "taxes authorized to be collected in rates" under ORS 757.268.
2. Within the Company's Annual Power Cost Update (Schedule 125) filing, the Company will include for the following year the expected generation of resources included in this schedule and the power costs of these resources.
3. Work papers that support the calculation of revenue requirements for all applicable resources and demonstrate how the proposed prices are calculated.

By December 1 At least 30 days ahead of the effective date of the price change in this schedule, the Company will file the updated rates that are in compliance with the Commission's findings in the proceeding reviewing the April 1 filing Company's initial filing.

SPECIAL CONDITIONS

1. Costs recovered through this schedule will be allocated to each schedule using the applicable schedule's forecasted energy on the basis of an equal percent of generation revenue applied on a cents per kWh basis to each applicable rate schedule.
2. Each renewable resource project (and associated transmission) included in this adjustment schedule must be separately identified and be a new resource defined as "renewable" in the OREA.
3. The costs for projects included under this schedule will be updated annually as provided above, and will continue to be recovered under Schedule 122 until such time as the costs are included in base rates or the project is no longer in service.
4. The in-service date for the new renewable or energy storage resource project or each separately identifiable project segment will be verified by an attestation from the Company stating that the specific renewable or energy storage resource project, or project segment, has met requirements for being commercially operational and is in service.

SCHEDULE 122 (Concluded)

SPECIAL CONDITIONS (Continued)

5. If the actual costs of an eligible resource cannot be verified by the final round of testimony in the proceeding reviewing the ~~April 1~~ filing, the Company will include in its ~~December 1~~ compliance filing an update to reflect then-current actual resource costs, or forecasted costs where appropriate. If the updated costs are lower than the projected costs in the record of the proceeding, the update will contain sufficient information to support a reduction in the proposed adjustment charges before the January 1 effective date. If updated costs are higher than the projected costs in the record or if actual costs cannot be verified until after ~~December 1~~ the compliance filing, the Company may file for deferred accounting under the OREA to allow an opportunity for recovery of the cost differences between the projected costs in the record and the prudently incurred actual costs. For purposes of Schedule 126 (Annual Power Cost Variance Mechanism), actual NVPC will be adjusted to remove the impact of any power produced by a new renewable or energy storage resource qualifying for treatment under this schedule but not otherwise included in rates. The following adjustments will be made:
 - a) Actual NVPC will be increased by the value of any renewable or energy storage resource energy. The value of such energy will be determined by employing the forward curves used to set rates for the year under the Annual Power Cost Update. Actual NVPC will be reduced by applicable fuel costs and supply integration costs for the resource.
 - b) Actual NVPC will also be increased or decreased as appropriate for any other credits or charges specifically identifiable with the new renewable or energy storage resource.
6. For Schedule 122 filings made on and after April 2009, the Commission may condition approval of a proposed change in Schedule 122 charges on PGE making a filing under ORS 757.210 within six months after the Commission order approving the proposed change. Through this filing, the Company will roll into the generation component of its rates all of the costs, or a portion thereof identified by the Commission, that are being collected through the then existing Schedule 122 charges. The Commission's order for conditional approval must be based upon: (1) a finding that the costs, or a portion thereof, specified by the Commission have been collected through Schedule 122 for a reasonable period of years, as determined by the Commission; or (2) for good cause, as determined by the Commission.