



Portland General Electric
121 SW Salmon Street · Portland, Ore. 97204

May 29, 2020

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

RE: Advice No. 20-12 Updates to Schedule 13 Residential Testbed Pilot

Portland General Electric Company (PGE) submits this filing pursuant to Oregon Revised Statutes 757.205 and 757.210, and Oregon Administrative Rule 860-022-0025, for filing proposed tariff sheets associated with Tariff P.U.C. No. 18, with a requested effective date of **July 15, 2020**:

Twenty Fifth Revision of Sheet No. 1-1
Second Revision of Sheet No. 13-1
Second Revision of Sheet No. 13-2
Original Sheet No. 13-3
Original Sheet No. 13-4

PGE seeks to revise Schedule 13 Residential Testbed Pilot to accommodate a suite of small-scale direct load control demonstrations, to evolve the program beyond the behavioral demand response of Peak Time Rebates (PTR) to direct load control (DLC) activities. No incremental funding is sought, these demonstrations will be paid for with existing Testbed deferral budget and/or PGE research & development funds.

At the time of the Testbed proposal to the Commission in PGE Advice No. 18-04, PGE submitted for approval Schedule 13 to allow PGE to use an opt-out Peak Time Rebate mechanism as the primary, yet inclusive, program for the underlying research work within the Testbed. As the Testbed matures to accelerate PGE development of a demand response resource, PGE seeks to revise Schedule 13 to conduct demonstration work.

The Demand Response Testbed (a.k.a. Smart Grid Test Bed or "SGTB"), is a two-and-a-half-year pilot designed to accelerate PGE's development of demand response at least cost.¹

¹ See LC 66, Staff Final Comments, 5-12-2017, "With this in mind Staff recommends a series of actions that will assist with the demand response planning, accelerate the pilot to resource program. Lastly, to address the barriers and constraints raised by PGE in its Reply Comments, the slow pace of moving from pilot to program, and other challenges raised by PGE, Staff recommends PGE develop a Demand Response Testbed cycle, and drive market maturity."

To do this, the Testbed seeks to rapidly deploy and test more dynamic demand response or flexible load approaches. As stated in the SGTB proposal, PGE and the Demand Response Review Committee (DRRC) sought a progression of demand response engagement and technology offerings such that our customers would evolve along both engagement and technology adoption paths. As stated in the original proposal, PGE wanted our customers to “get it, love it, set it, forget it.”² This meant customers on PTR sought new technologies allowing them to capture the benefits of participating in demand response without the level of behavior change engagement necessary for participation in programs like PTR. Additionally, PGE and the DRRC envisioned the testing of new technologies in the Testbed such as smart thermostats, water heaters, battery storage, and smart EV charging to not only benefit PGE customers, but the region as well.³

To that end, PGE requests to revise Schedule 13 to allow the Company to pursue a suite of demonstration projects. These projects will be optional, unlike the opt-in PTR program, but much like PTR will provide an incentive commensurate with the value of grid services provided. PGE seeks to test a variety of technologies including different consumer appliances utilizing various communications platforms. Additionally, PGE seeks to test customer experience, costs and benefits, various controls, and the ability of consumer technologies such as appliances to provide flexible load services.

DLC activities initially proposed include:

- Heat pump water heater control research, testing customer-hosted Wi-Fi, cellular LTE, and radio frequency mesh network;
- Ductless mini split controls, in collaboration with the Energy Trust to better understand how energy efficiency and demand response can be “stacked”; and
- A “whole house” bring your own device pilot where customers may enroll and manage multiple appliances with one platform.

PGE will discuss proposed DLC activities with the DRRC prior to offering to customers.

Deploying these projects will build on the work of the Testbed project and will inform PGE development of a broader portfolio of flexible load resources.

Attachment A provides a redline courtesy of Schedule 13 changes.

To satisfy the requirements of OAR 860-022-0025, PGE responds as follows:

The changes do not increase, decrease, otherwise change existing rates, or impact revenues.

² OPUC Docket ADV 859, October 2018

³ OPUC Docket ADV 859, October 2018 See Appendix of work conduct at the Rocky Mountain E-Lab Accelerator where members of the DRRC outlined for the first time the concept of “get it, love and forget about it”, as well as the technology to be tested within the Testbed project.

Please direct questions or comments regarding this filing to Santiago Beltran Laborde at (503) 464-7902. Please direct all formal correspondence and requests to the following email address pge.opuc.filings@pgn.com

Sincerely,

\s\ Robert Macfarlane

Robert Macfarlane
Manager, Pricing and Tariffs

Enclosures

**SCHEDULE 13
RESIDENTIAL TESTBED PILOT**

(C)

PURPOSE

The Testbed Pilot is a first-of-its-kind research project meant to advance PGE's collective understanding and development of demand response to gain insight into how PGE could provide a demand-side resource in lieu of traditional supply-side resources. Eligible customers are those in the geographical area defined by the SGTB boundary located on PGE's webpage regarding the "Smart Grid Testbed".

(C)

The Testbed Pilot will achieve these goals through marketing and communications activities, an opt-out demand response program, and optional activities that seek to demonstrate ways that PGE may work with customers to perform flexible load services.

All eligible Testbed participants will be enrolled in an opt-out peak time rebate (PTR) in which customers may receive a rebate when they respond to PGE's notification of peak time events. Additional Optional Activities offered to Testbed participants may include, but are not limited to, water heater direct load control for flexible grid services, ductless heat pump controls for demand response, smart solar inverters for flexible grid services, and the direct load control of other residential appliances that may be able to reduce energy to provide demand response.

(C)

DEFINITIONS

Direct Load Control (DLC) - A remotely controllable switch that allows the utility to operate an appliance for the purposes of demand response and other flexible load services.

(N)

Direct Load Control Event – A period in which the Company will provide direct load control.

Event Notification – The Company may issue a notification of a PTR or DLC event to participating Customers. Participating Customers must choose at least one method for receipt of notification. Notification methods may include email, text, auto-dialer phone call, on thermostat display screen, or via mobile app notification. Notification may also be available on the Company's website. Prior event notification is not required for all optional activities.

(N)

Holiday – The following are holidays for purposes of the program: New Year's Day (January 1), Memorial Day (last Monday in May), Independence Day (July 4), Labor Day (first Monday in September), Thanksgiving Day (fourth Thursday in November), and Christmas Day (December 25). If a holiday falls on a Saturday, the preceding Friday will be designated the holiday. If a holiday falls on a Sunday, the following Monday will be designated the holiday.

Optional Activities – Any flexible load services demonstrations, research projects, or other activities governed under this tariff, whether or not explicitly mentioned within this schedule.

(N)

(N)

SCHEDULE 13 (Continued)

(T)

DEFINITIONS (Continued)

(C)

Peak Time Rebate (PTR) Program – customers choosing the PTR program are eligible to receive a rebate by reducing Energy use during Company-called events, relative to each Customer’s baseline Energy use, as determined by the Company.

(M)

(M)

Qualified Appliance – Appliances that are Company-approved to provide direct load control and listed on PGE’s webpage regarding the “Smart Grid Testbed”.

(N)

(N)

AVAILABLE

(M)

To Residential Customers within the PGE testbed geographic region, as defined on PGE’s webpage regarding the “Smart Grid Testbed”.

(C)

(C)

APPLICABLE

Eligible Residential (Schedule 7) Customers are automatically enrolled in the PTR portion of the Pilot, as described in the Enrollment section of this tariff. Customers within the geographic boundary of the Testbed may elect to participate in any Optional Activities for which they may have a qualified appliance or are otherwise qualified. Customers will remain on Schedule 7 and will be eligible for the incentive described in this schedule. Eligible Customers must have a Network Meter. See the Special Conditions section for additional eligibility criteria.

(C)

(C)

CHARGES AND CREDITS

Customers participating in this Pilot will continue to pay all fees and charges in Schedule 7.

(C)

Participants in PTR and/or an Optional Activity will receive the following credit for reducing Energy Usage during a PTR or DLC Event:

Credit 100.00 ¢ per kWh

Credits may be calculated based on actual savings or estimated based on engineering estimates.

To receive the Credit, the Participant must reduce Energy use or provide Flexible Load Services during a PTR or DLC event. Events will not be called on Holidays or weekends.

(C)(M)

SCHEDULE 13 (Continued)

PEAK TIME REBATE (PTR) EVENT

The PTR program has two event seasons: summer (the successive calendar months of June through September) and winter (successive calendar months of November through February). PGE will not call PTR events on weekends or Holidays. The Company will call PTR events only in event seasons. Prior to each season, the Company will remind the enrolled Customers that they are on the program, that they may participate in PTR events, and ways to be successful.

The Company initiates PTR events with an event notification to participating Customers the day prior to the PTR event. Participating Customers must choose at least one method for receipt of notification: email, text, or another available option. The Company will not call PTR events for more than two consecutive days. Reasons for calling events may include but are not limited to: Energy load forecasted to be in the top 1% of annual load hours, forecasted temperature above 90 or below 32, expected high generation heat rates and market power prices, and/or forecasted low or transitioning wind generation.

DIRECT LOAD CONTROL EVENT

Direct Load Control Events occur for any 5 minute increment of one hour to five hours. The Company may call multiple events per day but will not exceed five cumulative hours for the day. During Direct Load Control Events the Customer may allow the Company to control their enrolled appliance for the duration of the event. The Customer has the option not to participate in each event by opting out. The Company may initiate Direct Load Control Events with Event notification prior to the event, but Event notification is not required.

PTR ENROLLMENT

Eligible Customers within the PGE testbed geographic region will be automatically enrolled in PTR. Customers will be notified of the program, their enrollment and option to unenroll, by mail or email. In the program notification, PGE will also advise Customers how to be successful on the Pilot. The Customers will be enrolled prior to the term of the Pilot; eligible customers starting new service in the Testbed will be enrolled shortly after the start of service. Unless this Pilot is otherwise terminated, participating Customers will be enrolled for the entire pilot term.

OPTIONAL ACTIVITIES ENROLLMENT

Eligible Customers—those within the Testbed geographic region and with a qualified appliance or who are otherwise qualified have the option to enroll in additional demonstration or research projects. PGE will attempt to identify customers with qualified appliances or who are otherwise qualified to make them aware of the program. Customers may unenroll from the program at any time.

(M)

(M)

(N)

(N)

(C)(M)

(C)

(C)

(C)

(C)

(M)

(N)

(N)

SCHEDULE 13 (Concluded)

SPECIAL CONDITIONS

1. The Customer may unenroll from PTR at the next regularly scheduled meter reading. If a Customer unenrolls from PTR, the Customer is not eligible to re-enroll during the pilot period. (T)
(T)
2. Customers already enrolled in a demand response offering are not eligible to participate in PTR. This includes, Schedule 3, Schedule 4, Schedule 5, Schedule 6, Time of Use under Schedule 7, Schedule 215, Schedule 216, Schedule 217, and the DLC option of this tariff. In addition, Solar Payment Option or Schedule 203 Net Metering Service are not eligible for this Pilot. (T)
(T)
(C)
3. Incentives may be provided in an on-bill credit on the Customer's next monthly billing statement or by check at the next billing statement after the event season ends. (C)
(M)
4. The Company is not responsible for any direct, consequential, incidental, punitive, exemplary, or indirect damages to the participating Customer or third parties that result from performing direct load control on a participating appliance. (N)
5. The Company shall have the right to select the schedule and the percentage of the Customer's appliance(s) to cycle at any one time, up to 100%, at its sole discretion. (N)
6. Customers with interconnected energy storage are only eligible for PTR if the energy storage system is controlled by the Company and not the Customer. (C)(M)
7. The Company will defer and seek recovery of all pilot costs not otherwise included in customer prices. (T)

TERM

This Pilot concludes June 30, 2022.

(M)

(T)
(T)

(T)
(T)
(C)

(C)
(M)

(N)

(N)

(C)(M)

(T)

(M)

**PORTLAND GENERAL ELECTRIC COMPANY
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PGE Advice No. 20-12
Attachment A
Redline of Schedule 13

SCHEDULE 13
OPT-OUT RESIDENTIAL DEMAND RESPONSE TESTBED PILOT

PURPOSE

~~The Demand Response Testbed Pilot seeks to establish high program participation of demand response by eligible Residential Customers through~~The Testbed Pilot is a first-of-its-kind research project meant to advance PGE's collective understanding and development of demand response to gain insight into how PGE could provide a demand-side resource in lieu of traditional supply-side resources. Eligible customers are those in the geographical area defined by the SGTB boundary located on PGE's webpage regarding the "Smart Grid Testbed".

The Testbed Pilot will achieve these goals through marketing and communications activities, an opt-out demand response program, and optional activities that seek to demonstrate ways that PGE may work with customers to perform flexible load services.

~~All eligible Testbed participants will be enrolled in~~ an opt-out peak time rebate (PTR) in which customers may receive a rebate when they respond to PGE's notification of peak time events. Eligible customers are those who live in the geographical areas served by three specific substations. The Pilot will test approaches to move PTR opt-out customers to opt-in direct load control program offerings that are offered through other tariff Schedules. Additional Optional Activities offered to Testbed participants may include, but are not limited to, water heater direct load control for flexible grid services, ductless heat pump controls for demand response, smart solar inverters for flexible grid services, and the direct load control of other residential appliances that may be able to reduce energy to provide demand response.

DEFINITIONS

Direct Load Control (DLC) - A remotely controllable switch that allows the utility to operate an appliance for the purposes of demand response and other flexible load services.

Direct Load Control Event – A period in which the Company will provide direct load control.

Event Notification – The Company may issue a notification of a PTR or DLC event to participating Customers. Participating Customers must choose at least one method for receipt of notification. Notification methods may include email, text, auto-dialer phone call, on thermostat display screen, or via mobile app notification. Notification may also be available on the Company's website. Prior event notification is not required for all optional activities.

Holiday – the following are holidays for purposes of the program: New Year's Day (January 1), Memorial Day (last Monday in May), Independence Day (July 4), Labor Day (first Monday in September), Thanksgiving Day (fourth Thursday in November), and Christmas Day (December 25). -If a holiday falls on a Saturday, the preceding Friday will be designated the holiday. -If a holiday falls on a Sunday, the following Monday will be designated the holiday.

Optional Activities – Any flexible load services demonstrations, research projects, or other activities governed under this tariff, whether or not explicitly mentioned within this schedule.

Peak Time Rebate (PTR) Program – customers choosing the PTR program are eligible to receive a rebate by reducing Energy use during Company-called events, relative to each Customer's baseline Energy use, as determined by the Company.

Advice No. 20-12
Issued May 29, 2020
James F. Lobdell, Senior Vice President

**Effective for service
on and after July 15, 2020**

SCHEDULE 13 (Continued)

DEFINITIONS (Continued)

Qualified Appliance – Appliances that are Company-approved to provide direct load control and listed on PGE’s webpage regarding the “Smart Grid Testbed”.

AVAILABLE

To Residential Customers ~~served by~~within the ~~following~~ PGE ~~substations: Delaware (Portland), Island (Milwaukie), and Roseway (Hillsboro).~~testbed geographic region, as defined on PGE’s webpage regarding the “Smart Grid Testbed”.

APPLICABLE

Eligible Residential (Schedule 7) Customers are automatically enrolled in ~~this~~the PTR portion of the Pilot, as described in the Enrollment section of this tariff. Customers within the geographic boundary of the Testbed may elect to participate in any Optional Activities for which they may have a qualified appliance or are otherwise qualified. Customers will remain on Schedule 7 and will be eligible for the incentive described in this schedule. -Eligible Customers must have a Network Meter. -See the Special Conditions section for additional eligibility criteria.

CHARGES AND CREDITS

Customers participating in this Pilot will continue to pay all fees and charges in Schedule 7. ~~Energy Charges may also include the following PTR credit:~~

PTR Credit	100.00	¢ per kWh
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Participants in PTR and/or an Optional Activity will receive the following credit for reducing Energy Usage during a PTR or DLC Event:

Credit 100.00 ¢ per kWh

Credits may be calculated based on actual savings or estimated based on engineering estimates.

To receive the ~~PTR~~ Credit, the ~~Customer~~Participant must reduce Energy use or provide Flexible Load Services during a PTR or DLC event. ~~Such event will be a two to five consecutive hour window between the hours of 7:00 AM to 11:00 AM or 4:00 PM to 9:00 PM.~~ Events will not be called on Holidays or weekends.

SCHEDULE 13 (Continued)

PEAK TIME REBATE (PTR) EVENT

The PTR program has two event seasons: summer (the successive calendar months of June through September) and winter (successive calendar months of November through February). PGE will not call PTR events on weekends or Holidays. The Company will call PTR events only in event seasons. Prior to each season, the Company will remind the enrolled Customers that they are on the program, that they may participate in PTR events, and ways to be successful.

The Company initiates PTR events with an event notification to participating Customers the day prior to the PTR event. Participating Customers must choose at least one method for receipt of notification: email, text, or another available option. The Company will not call PTR events for more than two consecutive days. Reasons for calling events may include but are not limited to: Energy load forecasted to be in the top 1% of annual load hours, forecasted temperature above 90 or below 32, expected high generation heat rates and market power prices, and/or forecasted low or transitioning wind generation.

DIRECT LOAD CONTROL EVENT

Direct Load Control Events occur for any 5 minute increment of one hour to five hours. The Company may call multiple events per day but will not exceed five cumulative hours for the day. During Direct Load Control Events the Customer may allow the Company to control their enrolled appliance for the duration of the event. The Customer has the option not to participate in each event by opting out. The Company may initiate Direct Load Control Events with Event notification prior to the event, but Event notification is not required.

PTR ENROLLMENT

Eligible Customers ~~those served by the Delaware, Island and Roseway Substations~~ within the PGE testbed geographic region will be automatically enrolled ~~in PTR~~. Customers will be notified of the program, their enrollment and option to unenroll, by mail or email. In the program notification, PGE will also advise Customers how to be successful on the Pilot. The Customers will be enrolled prior to the term of the Pilot. ~~Service under this schedule will commence April 1, 2019 or shortly thereafter;~~ eligible customers starting new service in the Testbed will be enrolled shortly after the start of service. Unless this Pilot is otherwise terminated, participating Customers will be enrolled for the entire pilot term.

OPTIONAL ACTIVITIES ENROLLMENT

Eligible Customers—those within the Testbed geographic region and with a qualified appliance or who are otherwise qualified have the option to enroll in additional demonstration or research projects. PGE will attempt to identify customers with qualified appliances or who are otherwise qualified to make them aware of the program. Customers may unenroll from the program at any time.

SCHEDULE 13 (Concluded)

SPECIAL CONDITIONS

1. The Customer may unenroll from ~~the Pilot~~PTR at the next regularly scheduled meter reading. If a Customer unenrolls from ~~the Pilot~~PTR, the Customer is not eligible to re-enroll during the pilot period.
2. Customers already enrolled in a demand response offering are not eligible to participate in PTR. This includes, Schedule 3, Schedule 4, Schedule 5, Schedule 6, Time of Use under Schedule 7, Schedule 215, Schedule 216, Schedule 217-, and the DLC option of this tariff. In addition, Solar Payment Option or Schedule 203 Net Metering Service are not eligible for this Pilot.
3. ~~The PTR incentive~~Incentives may be provided in an on-bill credit on the Customer's next monthly billing statement or by check at the next billing statement after the event season ends.
4. The Company is not responsible for any direct, consequential, incidental, punitive, exemplary, or indirect damages to the participating Customer or third parties that result from performing direct load control on a participating appliance.
5. The Company shall have the right to select the schedule and the percentage of the Customer's appliance(s) to cycle at any one time, up to 100%, at its sole discretion.
- ~~4.6.~~ Customers with interconnected energy storage are only eligible for ~~this schedule~~PTR if the energy storage system is controlled by the Company and not the Customer.
- ~~7.~~ ~~5.~~ The Company will defer and seek recovery of all pilot costs not otherwise included in customer prices.

TERM

This Pilot concludes June 30, 2022.