

SCHEDULE 3 RESIDENTIAL DEMAND RESPONSE WATER HEATER PILOT

PURPOSE

The Residential Demand Response Water Heater Pilot is a demand response option for eligible residential Customers. The pilot is being conducted by the Bonneville Power Administration (BPA), Pacific Northwest National Laboratory (PNNL), and PGE. The objectives of the Residential Demand Response Water Heater Pilot are: (C)

- To quantify the energy consumption that can be shifted to different times from water heaters equipped with a communication interface that supports Direct Load Control Events;
- To create an effective program design for a water heater demand response program;
- To determine kW load that can be reduced at times of system peak demand;
- To create a business case that justifies a regional market transformation plan for demand response ready (smart) water heaters;
- To integrate and test different technologies, and
- To implement different demand response dispatch strategies.

DEFINITIONS

Customer Override – The ability for the Customer to suspend Direct Load Control for a period of 24 hours. (T)

Direct Load Control – the means for a utility to remotely control an appliance. In terms of this pilot, direct load control allows the Company to control when the water heater uses electricity to heat water.

Direct Load Control Event – a period in which the Company will provide Direct Load Control. (T)

Conventional Electric Resistance Water Heater – A water heater model ordered specifically for this pilot. It will be available to qualified plumbers through customary distribution channels. The water heater is the commercially manufactured PXNT-50 tank made and warranted by AO Smith. The model is shipped from AO Smith with a small change to interpret the commands provided by the project's communication provider. (T)

Heat Pump Water Heater – Recent models manufactured by AO Smith or GE Appliances. When a Customer expresses interest in participation, PGE must verify that the customer's water heater model is compatible with the pilot's communication provider.

SCHEDULE 3 (Continued)

AVAILABLE

In territory served by the Company and a location with strong radio reception from KINK radio at 101.9 MHz.

APPLICABLE

Subject to selection by the Company, eligible Residential Customers may elect to participate in the pilot. Customers must have installed a properly sized conventional electric resistance or heat pump water heaters prior to the beginning of the pilot, and have home Wi-Fi. The number of eligible Customer to participate in the pilot is limited by BPA to approximately 100 to 200 Customers. Customers will remain on Schedule 7 and will be eligible for the incentives described in this schedule.

ELIGIBILITY

Eligible Customers must be located within radio coverage of KINK radio. Customers must be willing to implement a small, PGE-provided, socket-based, communication device on the water heater. Customers must allow PGE and BPA to use the Customer's existing Wi-Fi network which will be used to collect data from the water heater. Direct Load Control Events will be implemented via FM radio signals. Participating Customers must live full time in the home, with the hot water heater, with no plans of moving or changing full time residency before July 31, 2018. The Customer must agree to participate in an initial survey and short weekly surveys after commencement of the pilot.

DIRECT LOAD CONTROL EVENT

During the pilot there will be no limitation on the hours of Direct Load Control Events; however the Customer can implement an override as indicated in the Special Conditions. During Direct Load Control Events the Customer may allow the Company or BPA to control the water heater for the duration of the event. Direct Load Control Events do not require notification.

SCHEDULE 3 (Continued)

ENROLLMENT

The Customer enrollment period may begin prior to the term of the pilot. Customers must enroll in the BPA pilot by August 31, 2017. The extended program is offered to already enrolled customers who choose to remain in the pilot through September 30, 2020. Customers with heat pump water heaters will be notified by mail or email and be provided with an opportunity to enroll in this schedule. Customers with Conventional Electric Resistance Water Heaters will have the opportunity to enroll through notification by a select, trained group of plumbers. PGE expects this notification to occur primarily while a Customer replaces a failed electric water heater. However, qualified Customers that contact PGE, or are informed by another method, may be allowed to participate if they bear the cost of replacing their existing water heater with a Conventional Electric Resistance Water Heater named above. Unless this pilot is otherwise terminated, participating Customers will be enrolled for the entire pilot term.

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INCENTIVE

Participating Customers will receive a \$50 sign-up incentive payment after PGE verifies one month of connectivity to the Customer's Wi-Fi network. A Customer that has participated, as defined in the special conditions, for 12 months will receive a \$100 participation incentive at the end of the pilot. Customers will receive an additional \$100 if they allow PGE to install a logging device on the water heater for the duration of the pilot. The number of logging devices is limited. Existing customers who choose to participate in the pilot will receive a \$150 incentive if they remain in the pilot until September 30, 2020. Incentives are paid to the Customer with a check or gift card. To receive participation payment, the Customer must not move, withdraw, or be removed from pilot during the 12 months.

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SCHEDULE 3 (Concluded)

SPECIAL CONDITIONS

1. The Customer may terminate service under this pilot voluntarily. The Customer will not receive a participation incentive if they withdraw or are removed from the pilot. The Customer must notify PGE if they choose to withdraw from the pilot.
2. PGE has the right to remove a Customer from the pilot at any time, for any reason.
3. If a Customer withdraws or is removed from the pilot, the Customer is not eligible for reenrollment during the pilot.
4. If the Customer moves from the enrolled residence during the term of the pilot, they are no longer eligible for the pilot.
5. 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 Direct Load Control Events.
6. The Company or BPA shall have the right to select the Direct Load Control Event schedule.
7. The Customer may activate a 24-hour suspension from the pilot by notifying the Company through a Customer specific log-in page on the PGE website. A Customer may be removed from the pilot if they implement the override option excessively; an example of excessive is override use for more than 100 days, or more than 15 days in any 30-day period.
8. To receive a participation incentive, the Customer must respond to weekly surveys regarding the pilot, administered by the Company.
9. Radio transmitters installed onto the water heater will remain the property of the Company before, during and after the conclusion of the pilot. The customer shall return the device in a pre-paid postage box provided by PGE.
10. The provisions of this schedule do not apply for any time that the Company interrupts the Customer's load for a system emergency or any other time that a Customer's service is interrupted by events outside the control of the Company.

TERM

The pilot is active until September 30, 2020.

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