

ITEM NO. CA8

PUBLIC UTILITY COMMISSION OF OREGON
STAFF REPORT
PUBLIC MEETING DATE: June 27, 2017

REGULAR _____ CONSENT X EFFECTIVE DATE June 28, 2017

DATE: June 1, 2017

TO: Public Utility Commission

FROM: Jason R. Salmi Klotz and Nolan Moser

THROUGH: Jason Eisdorfer and John Crider

SUBJECT: PORTLAND GENERAL ELECTRIC: (Docket No. UM 1827) PGE's Application for Deferred Accounting of Costs Associated with the PGE Demand Response Water Heater Pilot and related Advice Filing No.17-09, New Schedule 4 Multifamily Residential Demand Response Water Heater Pilot Rider.

STAFF RECOMMENDATION:

Staff recommends that the Commission approve Portland General Electric Company's (PGE or Company) request for an approval of program cost deferral of \$5.1 million through 2019 for the Company's new multifamily water heater demand response program (Phase 1). Further, Staff recommends that the Commission approve PGE's related Advice Filing No. 17-09, New Schedule 4 Multifamily Residential Demand Response Water Heater Pilot Rider.

DISCUSSION:

Issue

Whether to approve PGE's request to defer for later ratemaking treatment the costs associated with a new water heater demand response program for the 12-month period beginning April 18, 2017; and also whether to approve PGE's related Advice filing No. 17-09, New Schedule 4 Multifamily Water Heater Pilot Rider, with an effective date of July 1, 2017.

Applicable Rule or Law

PGE submitted its deferral application on April 18, 2017, pursuant to ORS 757.259 and OAR 860-027-0300. ORS 757.259 provides the Commission with authority to authorize the deferral of utility revenues and expenses for later inclusion in rates.

OAR 860-027-0300 is the Commission's rule governing the use of deferred accounting by energy and large telecommunications utilities.

ORS 757.210 concerns the use of an "automatic adjustment clause" (AAC) in a utility's rate schedule. If an ACC is permitted by the Commission, it provides for rate increases or decreases or both, without a prior hearing, reflecting, in relevant part, increases or decreases or both in incurred costs. An ACC is subject to Commission review at least once every two years.

Analysis

Background

In November 2016, PGE filed its proposed 2016 Integrated Resource Plan (IRP). The IRP is currently being processed in Docket No. LC 66. The IRP discussed various types of demand response programs, including those that utilize smart water heaters. Smart water heaters (installed with digital controls and the ability to readily attach communications equipment) are an important demand resource for PGE and present a wide array of use cases such as load shedding, load shifting and providing ancillary services.

The current proposal is for Phase 1 of the smart water heater program. The smart water heater program is different from a pilot in the respect that it is expected to continue to a Phase 2 roll-out. Thus, additional customers, capacity and capability are added to the smart water heater program as a growing demand response resource. Additionally, PGE has submitted through Advice No. 17-09 Schedule 4, a Multifamily Residential Demand Response Water Heater Phase 1 program. Customers participating in the program will remain on Schedule 7 while electing to participate in the Schedule 4 a Multifamily Residential Demand Response Water Heater Pilot Rider. Schedule 4 acts as a rider in conjunction with Schedule 7 thereby allowing participants to assent to terms of service while participating in the program. All other parts of service will remain as in Schedule 7.

The proposed program will target multifamily residential (MFR) housing because of its high concentration of electric water heaters. The pilot will: 1) retrofit existing water heaters with demand response enabled technology, and 2) provide a monetary

incentive to MFR property managers to replace aging water heaters with demand response capable water heaters (i.e., smart water heaters).

MFR demand response water heaters address a hard-to-reach segment of the residential market where few demand response technologies are currently feasible. Water heater demand response also supports PGE's mid-term demand-side management initiatives by allowing the researching of synergies between water heater demand response and smart thermostat programs. Further, water heaters represent a distributed resource, which supports PGE's long-term smart grid initiatives, as each water heater can be controlled to meet specific demand response needs. Finally, water heater demand response is a more flexible resource compared to other forms of demand response because it requires no notification, is a year-round resource, and has minimal customer comfort impact.

PGE will provide incentives to MFR property managers and tenants for the costs of retrofitting existing water heaters with demand response technology and replacing aging water heaters with demand response capable water heaters. By installing communication interfaces to receive a demand response signal, PGE can signal the water heater and shift load at peak times. When established, PGE envisions that curtailment could shift up to 4 MW during peak load times during this pilot. No advance notification of load shifting events will need to be provided to customers, and there will be no limit to the number of direct load control events, similar to the structure of the recently approved PGE/BPA demand response water heater pilot.¹

Description of Expense

PGE estimates that this pilot will achieve a net positive benefit based on a Total Resource Cost Test, which measures the net benefits of a program for all stakeholders involved. The primary benefit from this pilot is reduced need for capacity through reduced demand. PGE anticipates that each residential customer will be able to realize a 0.5 kW reduction in demand, and a 50 kWh reduction in energy annually.

PGE estimates that approximately 50 percent of costs from this pilot will consist of: implementing the communication interface; managing defaults or repairs; and managing new participant enrollment. PGE expects other costs from this pilot to include: software licensing; data plan subscription for communication; and PGE marketing.

Staff understand the roughly \$2.5M communication interface costs will be more broadly applicable as a demand response management system or DRMS which can be utilized by subsequent PGE demand response programs. This communication infrastructure investment is made possible through this program because of cost effective nature of

¹ Docket No. ADV 507, Advice No. 17-02.

the current program structure. The investment in DRMS is in addition to PGE's Advanced Meter Infrastructure and Customer Information System. Staff has engaged in discussion subsequent to PGE's initial filing with PGE on the details of the DRMS investment. PGE has provided a supplemental filing in this docket outlining DRMS investment details. Staff supports PGE's request to make the DRMS investment.

Although additional to other communication infrastructure, the DRMS will enable a more flexible and responsive demand response resource build-out and utilization that would not otherwise be feasible. This includes capabilities to operate demand response assets unobtrusively, such that participants will likely not notice any change in their electric or hot water services. Additionally, investment in the DRMS will enable future demand response capabilities, such as ancillary services from disparate demand side, customer owned, distributed energy resources. The DRMS and the overall program structure is highly scalable and is anticipated to provide net benefits to customers. Staff believes that the investments made here are necessary to move PGE from the pilot phase to full demand response resource development.

The Company has requested authorization to defer for later ratemaking treatment costs associated with its demand response water heater pilot. The automatic adjustment clause found in PGE's Schedule 135 entails deferring the incremental costs incurred for a Demand Response Water Heater Pilot for the summer of 2017 through 2019. As such, costs associated with this deferral will be amortized through PGE's Schedule 135, Demand Response Cost Recovery Mechanism.

PGE has proposed tariff sheets associated with Tariff P.U.C. No. 18 with an effective date of July 1, 2017.

Reason for Deferral

The use of deferred accounting for this pilot will minimize the frequency of rate changes and match appropriately the costs borne by and benefits received by customers.

Proposed Accounting

PGE proposes to record the deferred amount as a regulatory asset in FERC account 182.3, Other Regulatory Assets, with a credit to FERC account 456, Other Revenue. In the absence of a deferred accounting order from the Commission, PGE state that it would not proceed with the pilot at this time.

Estimate of Amounts

PGE estimates the incremental costs of the pilot will be approximately \$5.1 million through the end of 2019, as illustrated in the following table:

Year	2017	2018	2019	Total
Pilot Cost	\$769,125	\$1,794,625	\$2,563,750	\$5,127,500

Information Related to Future Amortization

- Earnings review – An earnings review is generally required prior to amortization of deferrals, pursuant to ORS 757.259(5). In accordance with ORS 757.259(5), because this is associated with the Schedule 135 automatic adjustment clause, an earnings review will not be performed.
- Prudence Review – A prudence review is required prior to amortization and should include the verification of the accounting methodology used to determine the final amortization balance. In addition, PGE will submit a pilot evaluation report that will provide detailed cost summaries, estimated kW shifting and the result of customer surveys.
- Sharing – There is no sharing under the filed mechanisms.
- Rate Spread/Design – The demand response pilot amortizations will be spread as specified in Schedule 135.
- Three Percent Test (ORS 757.259(6)) – The three percent test measures the annual overall average effect on customer rates resulting from deferral amortizations. The three percent test limits (exceptions at ORS 757.259(7) and (8)) the aggregated deferral amortizations during a 12-month period to no more than three percent of the utility's gross revenues for the preceding year. Because PGE is an electric utility, ORS 757.259(8) allows the Commission to consider up to a six percent limit. The limit for these deferrals will be determined at the time of amortization.

Conclusion

The proposed multifamily residential demand response pilot is a cost effective investment in a necessary demand side resource and associated long term communication infrastructure. The program is expected to produce net benefits to ratepayers while advancing PGE's demand response capabilities. Staff recommends approval of the request for program cost deferral and program development.

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PROPOSED COMMISSION MOTION:

Approve PGE's application to defer the costs associated with the proposed demand response program, for the 12-month period beginning April 18, 2017; and approve Schedule 4 a Multifamily Residential Demand Response Water Heater Pilot Rider effective July 1, 2017

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