

**PUBLIC UTILITY COMMISSION OF OREGON
STAFF REPORT**

PUBLIC MEETING DATE: September 5, 2023

REGULAR _____ **CONSENT** X **EFFECTIVE DATE** _____ **N/A**

DATE: July 31, 2023

TO: Public Utility Commission

FROM: Kathy Zarate

THROUGH: Bryan Conway and Marc Hellman **SIGNED**

SUBJECT: PORTLAND GENERAL ELECTRIC:
(Docket No. UM 1827(6))
Requests authorization to defer costs associated with the PGE demand response Water Heater Pilot

STAFF RECOMMENDATION:

Staff recommends the Commission approve Portland General Electric's (PGE, or Company) request for reauthorization to defer costs associated with its Demand Response Water Heater Pilot for the period beginning April 18, 2023, through December 31, 2023.

DISCUSSION:

Issue

Whether the Commission should reauthorize PGE's request to defer for later ratemaking treatment the costs associated with its Demand Response Water Heater Pilot (Pilot).

Applicable Law

PGE submitted its deferral application on April 17, 2023, 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.

PGE requests this reauthorization be effective April 18, 2023, through December 31, 2023. Beginning January 1, 2024, PGE will submit annual reauthorizations on a calendar year basis to align this pilot with its other demand response pilots, such as Docket No. UM 2234. The reauthorization will continue to support the use of an automatic adjustment clause rate schedule, which will provide for changes in prices reflecting incremental costs associated with the Pilot.

Analysis

Background

This filing was submitted on April 17, 2023, and is a reauthorization request. The original deferral filing was submitted to the Commission on April 18, 2017, and was approved by the Commission on June 28, 2017. The purpose of the Pilot is to retrofit existing water heaters in multifamily residences (MFRs) with demand response technology in order to help inform an effective design for a water heater demand response program. Program objectives include quantifying energy consumption that could be shifted to different times, determining appropriate incentive levels for customers, integrating and testing different technologies, and implementing different demand response dispatch strategies.

PGE's 2016 Integrated Resource Plan (IRP) discussed various types of demand response, 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 as it provides system benefits by reducing peak demand.

The Pilot targets MFR housing because of its high concentration of electric water heaters. The Pilot, in addition to installing demand response-enabled technology on existing water heaters, may provide a monetary incentive to MFR property managers to replace aging water heaters with smart water heaters.

As of December 2022, the Pilot has installed 13,433 water heater retrofit switches and 39 CTA-2045-enabled new Smart Water Heater communication devices across 32 property management companies representing 112 distinct sites.¹ The Pilot has two types of retrofit switches in the field: Wi-Fi-connected and cellular signal-connected. Evaluation data has identified that cell-enabled switches have a higher connectivity rate² (79 percent season average) than Wi-Fi-connected switches (50 percent season

¹ Since then, due to degradation and defects in the devices, PGE has removed 2,018 Wi-Fi switches and all 39 CTAs.

² Connectivity rate is the percentage of time that a water heater is connected online and is reachable by the DRMS.

average). The Wi-Fi-connected switches are showing constant signal degradation. The Pilot is evaluating the most cost-effective approach to handling the connectivity problem for Wi-Fi-connected switches. Due to these issues, PGE stopped retrofitting water heaters with Wi-Fi-connected devices in October 2019.

Staff understands from discussions with the Company this is due to the fact Wi-Fi-connected switches require occasional maintenance (such as router rebooting), without which, they are prone to signal degradation. Due to these issues, PGE stopped retrofitting water heaters with Wi-Fi-connected devices in October 2019.

Anticipating the planned code change to make CTA-2045-enabled water heater the baseline, the Pilot planned to transition away from all retrofits in 2021; however, the effective date of the CTA-2045 code continued to be delayed, and the Pilot extended cellular retrofits through 2022. The code is now anticipated to come into effect in July 2023. With the continual delays in transitioning to CTA-2045, the Pilot has entered maintenance mode with the existing fleet of wi-fi and cellular signal connected switches and preparing for pilot redesign CTA-2045 enabled water heaters. PGE intends to transition the Pilot to CTA-2045 enabled water heaters and communication devices, and to discontinue the install of retrofit water heaters with cellular signal connected switches and plans to engage OPUC Staff on redesign.

The deferred amounts will be recovered in a manner approved by the Commission and consistent with the terms of Schedule 4 and Schedule 135.

Description of Expense

Expenses for this deferral include: the cost of implementing the communication interface; managing defaults or repairs; managing new participant enrollment; software licensing; data plan subscription; customer and property manager incentives; and PGE marketing.

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.

Additionally, PGE seeks reauthorization to defer the expenses associated with its Demand Response Water Heater Pilot. Without reauthorization, this deferral will expire on April 18, 2023. The continuation of the deferral will minimize the frequency of rate changes and match appropriately the costs borne by, and benefits received by customers. The reauthorization will continue to support the use of an automatic adjustment clause rate schedule, which will provide for changes in prices reflecting incremental costs associated with the Pilot.

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 407.4, Regulatory Credits.

Estimate of Amounts

PGE estimates the incremental costs of the Pilot to be approximately \$1.3 million through the end of 2023, as shown in Table 1 below.

**Table 1
Pilot Cost by Year (\$)**

2017 (4 mo.) Actuals	2018 Actuals	2019 Actuals	2020 Actuals	2021 Actuals	2022 Actual	2023 Forecast	Total
60,583	1,073,623	2,999,211	1,687,512	2,039,560	1,661,068	1,336,433	10,857,990

Information Related to Future Amortization

- Earnings review – An earnings review is generally required prior to amortization of deferrals, pursuant to ORS 757.259(5). However, given the types of costs being deferred for a pilot conservation program, an earnings review will not be performed.
- Prudence Review – A prudence review should be performed by the Commission Staff as part of their review of this deferral’s annual reauthorization filing or application to update Schedule 135.
- Sharing – There is no sharing under the filed mechanisms.
- Rate Spread/Design – The deferred costs for this Pilot as recovered through Schedule 135 will be allocated to each schedule using the applicable schedule’s forecasted energy based on an equal percent of generation revenue applied on a cent per kWh basis to each applicable rate schedule or in a manner approved by the Commission.³
- Three Percent Test (ORS 757.259(6)) – The amortization of the Pilot’s deferred costs will be subject to the three percent test in accordance with ORS 757.259(6) and (8), which limits aggregated deferral amortizations during a 12-month period

³ Special Condition of Schedule 135.

to no more than three percent of the utility's gross revenues for the preceding year.

Conclusion

The proposed multifamily residential Demand Response Pilot is testing a path to cost-effectiveness for necessary demand side resource and associated communication infrastructure. The pilot is expected to produce benefits to ratepayers while advancing PGE's long-term demand response capabilities. Staff recommends approval of the request for reauthorization of incremental program costs.

The Company has reviewed a draft of this memo and agrees with Staff's recommendation to approve the application.

PROPOSED COMMISSION MOTION:

Approve PGE's request for reauthorization to defer costs associated with its Demand Response Water Heater Pilot for the period beginning April 18, 2023, and ending December 31, 2023.