

ORDER NO. 18 381

ENTERED OCT 11 2018

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

UM 1708(3)

In the Matter of

PORTLAND GENERAL ELECTRIC  
COMPANY,


Application for Reauthorization to Defer  
Expenses Associated with Two Residential  
Demand Response Pilots.

ORDER

DISPOSITION: STAFF'S RECOMMENDATION ADOPTED WITH CLARIFICATION

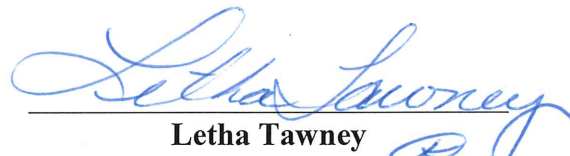
This order memorializes our decision, made and effective at our October 9, 2018 Regular Public Meeting, to adopt Staff's recommendation in this matter with a clarification that conditions 2 and 3 in the Staff Report relate to Schedule 135, PGE's Demand Response Cost Recovery Mechanism. The Staff Report with the recommendation is attached as Appendix A.

Made, entered, and effective OCT 11 2018.

  
**Megan W. Decker**  
Chair

  
**Stephen M. Bloom**  
Commissioner



  
**Letha Tawney**  
Commissioner

A party may request rehearing or reconsideration of this order under ORS 756.561. A request for rehearing or reconsideration must be filed with the Commission within 60 days of the date of service of this order. The request must comply with the requirements in OAR 860-001-0720. A copy of the request must also be served on each party to the proceedings as provided in OAR 860-001-0180(2). A party may appeal this order by filing a petition for review with the Circuit Court for Marion County in compliance with ORS 183.484.

PUBLIC UTILITY COMMISSION OF OREGON  
STAFF REPORT

PUBLIC MEETING DATE: October 9, 2018

REGULAR X CONSENT \_\_\_\_\_ EFFECTIVE DATE October 9, 2018

DATE: September 25, 2018

TO: Public Utility Commission

FROM: Mitchell Moore and Thomas Familia

THROUGH: Jason Eisdorfer, John Crider and JP Batmale

SUBJECT: PORTLAND GENERAL ELECTRIC:  
(Docket No. UM 1708(3)) Requests Reauthorization for Deferred  
Accounting Related to Two Residential Demand Response Pilots.

## STAFF RECOMMENDATION:

Staff recommends that the Commission approve Portland General Electric's (PGE or Company) application for reauthorization of deferred accounting for costs related to two Residential Demand Response Pilots (Pilots) for the twelve month period from June 23, 2018 to June 22, 2019, subject to the conditions as outlined in this report's conclusion.

## DISCUSSION:

Issue

Whether the Commission should approve PGE's request for reauthorization of deferred accounting for costs related to two Residential Demand Response Pilots. Whether PGE should be allowed to amortize the deferred costs through an automatic adjustment clause (Schedule 135, Demand Response Recovery Mechanism).

Applicable Law

PGE submitted its filing pursuant to ORS 757.259 and OAR 860-027-0300 and Commission Order No. 15-203. ORS 757.259 authorizes the Commission to allow utilities to defer expenses or revenues for later amortization into rates to appropriately match ratepayer costs and benefits or to minimize the need for rate changes. OAR 860-027-0300 specifies several requirements related to deferred accounting applications as well requests to amortize the deferred amounts. The Commission

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previously approved PGE's original request for deferral of the incremental costs associated with these two pilots in its Order No. 15-203, and this was reauthorized in Order No. 16-292, and subsequently in Order No. 17-244.

### Analysis

#### *Background*

After research, PGE identified and implemented two residential demand response pilots that the Company believes will best inform development of future demand response (DR) programs to be utilized as dispatchable resources during system peak loads as well as ease the integration of renewable energy sources. PGE began operating the two pilots in the third quarter of 2015. The goal of the pilots through 2020 is to implement at least 77 megawatts of demand response in the winter months and 69 MW in the summer months, while working to reach demand response high case targets of 162 MW (summer) and 191 MW (winter).<sup>1</sup>

The first pilot is the Pricing and Behavioral Response Pilot, known as FLEX. It builds on lessons learned from a residential critical peak pricing (CPP) pilot that was effective from November 2011 through October 2013. The first stage of this pilot, referred to as FLEX 1.0, concluded earlier in 2018. In this behavioral-based pilot customers save on their daily energy costs through shifting energy use to off-peak times in response to notifications (email, text, voicemail) from PGE. The pilot requires no technology to be installed on-site.

This pilot enrolled 14,000 customers and tested 12 pricing and behavior-based program design options through randomized control trials since launching three years ago. In July of 2018, Staff received a comprehensive evaluation by Cadmus of the FLEX 1.0 demand response pilot.

In this application for deferred accounting, PGE seeks to recover costs of expanding the pricing pilot to more than 100,000 residential customer participants by the end of 2019 through the implementation of FLEX 2.0.<sup>2</sup>

The second residential DR pilot in this deferral filing is the Direct Load Control Thermostat (DLCT) pilot. This pilot tests enabling thermostat technology to achieve automated load control among residential customers. PGE contracted with Nest as part

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<sup>1</sup> Order No. 17-386, p. 9.

<sup>2</sup> Offerings will include opt-in PTR and Opt-in TOU and PTR Hybrid offerings. Additionally, PGE will also launch the BDR Public Alert Strategy wherein residential customers will be informed of peak events and encouraged to enroll in the PTR program.

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of the DLCT pilot to launch Rush Hour Rewards in November 2015. PGE expanded upon this with a second element of the DLCT pilot, Bring Your Own Thermostat (BYOT). This second element launched in August of 2017 and expanded on Rush Hour Rewards.

There are approximately 7,500 PGE households currently enrolled in the Rush Hour Rewards and the BYOT elements of the DLCT pilot. In July of 2018, Staff received a comprehensive evaluation by Cadmus of the DLCT pilot.

This application for deferred accounting seeks to defer costs of the previously implemented components of the DLCT and those of a new third element to the DLCT pilot, the Direct Installation Expansion. The Direct Installation Expansion will work to complement the other two previously established elements through installation of enabling thermostats targeting homes with ducted heat pumps and electric furnaces. The Direct Install Expansion is expected to launch in September 2018. PGE is targeting 8,000 customer participants for the Direct Thermostat Expansion by April 2019.

#### *Lessons Learned from FLEX 1.0*

FLEX 1.0 covered two winter seasons (2016-2017 and 2017-2018) and two summer seasons (2016 and 2017). Cadmus was involved in all stages of the Pricing Pilot: research design, peak demand impact analysis, staff interviews, and customer surveys.

This pricing and behavioral response pilot created customer treatments that featured opt-in and opt-out participation. Opt-in customers were required to actively assert participation in the treatment group. Opt-out customers were automatically enrolled in the treatment and given the opportunity to elect to leave the pilot. Both opt-in and opt-out options featured a multitude of various treatments mixing different time of use pricing options (TOU) and behavioral demand response (BDR) activities to test effectiveness, responsiveness and customer satisfaction.

As an overview there were three different types of FLEX approaches tested on both Opt-in and Opt-out customers:

- PTR rate programs: these offered rebates to customers who use less electricity during critical peak events.
- TOU tariffs: these segmented each billing month into smaller hourly windows with a separate pricing level related to production costs.
- BDR participants: these participants only received encouragement to reduce consumption FLEX events alerts, and post-Flex event feedback. BDR participants received no incentivizes to lessen their electricity usage during FLEX events.

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*PTR Rate Programs*

PGE called an average of seven FLEX events per season with an average duration of three hours.<sup>3</sup> PGE provided customers with energy information and tips on how they could save during peak times via a number of channels (e.g., email, text, and web). Each customer's demand was compared to baseline usage to determine the amount of hourly kilowatt (kW) reduction.<sup>4</sup>

The results were mixed. Opt-in PTR customers produced demand savings during FLEX events ranging from 17 - 21 percent in summer and 7 - 12 percent in winter. Opt-out PTR produced demand savings of 7 percent in summer and 5 percent in winter. The Cadmus evaluation also found that within the range of rebates offered by PGE, \$0.80/kWh to \$2.25/kWh, there was not a statistically significant difference in energy savings among customers. However, larger rebates did have a measureable positive impact on customer satisfaction.<sup>5</sup>

*TOU tariffs*

For a detailed visual of the three TOU rate structures implemented see Table 1 below as provided in the Cadmus evaluation.<sup>6</sup>

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<sup>3</sup> See In the Matter of Portland General Electric Demand Response Pilots Expenses Deferral, UM 1708, PGE's REVISE Cadmus Evaluation of Residential Pricing Pilot, p. 25 (July 10, 2018).

<sup>4</sup> See In the Matter of Portland General Electric Demand Response Pilots Expenses Deferral, UM 1708, PGE's Direct Testimony and Exhibits of Joseph Keller and Robert Macfarlan, PGE/100, Keller-Macfarlane/16 (May 5, 2015).

<sup>5</sup> See In the Matter of Portland General Electric Demand Response Pilots Expenses Deferral, UM 1708, PGE's REVISED Cadmus Evaluation of Residential Pricing Pilot, p. 6 (July 10, 2018).

<sup>6</sup> Ibid, p. 18.

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Table 1. Flex Pilot Summer and Winter TOU Rate Schedules

Summer	TOU1	TOU2	TOU3
Off Peak	7.5¢/kWh 10:00 pm–6:00 am	8.3¢/kWh 8:00 pm–3:00 pm	6.9¢/kWh 10:00 pm–11:00 am
Mid Peak			11.9¢/kWh 11:00 am–3:00 pm 8:00 pm–10:00 pm
On Peak	13.6¢/kWh 6:00 am–10:00 pm	17.6¢/kWh 3:00 pm–8:00 pm	18.0¢/kWh 3:00 pm–8:00 pm
Winter	TOU1	TOU2	TOU3
Off Peak	8.0¢/kWh 10:00 pm–6:00 am	8.8¢/kWh 8:00 pm–7:00 am; 11:00 am–3:00 pm	7.4¢/kWh 10:00 pm–7:00 am
Mid Peak			12.4¢/kWh 11:00 am–3:00 pm; 8:00 pm–10:00 pm
On Peak	14.1¢/kWh 6:00 am–10:00 pm	18.1¢/kWh 7:00 am–11:00 am; 3:00 pm–8:00 pm	18.5¢/kWh 7:00 am–11:00 am; 3:00 pm–8:00 pm

\*TOU rates in effect as of August 1, 2016.

TOU1 customers did not produce demand savings in summer or winter with statistical significance. The Cadmus evaluation suggests that the longer length of the on-peak timespan provided customers difficulty in effectively shifting electricity use to the off-peak period. In summer, TOU2 and TOU3 customers achieved savings during on-peak periods of eight percent and five percent respectively. None of the three TOU treatments achieved statistically significant savings during the winter.<sup>7</sup> In the hybrid treatments of TOU and PTR, TOU pricing did not enhance savings from PTR but the combination did increase customer satisfaction versus TOU only.

*BDR participants,*

BDR participants achieved savings of 2.3 percent in the summer and 1.2 percent in winter.<sup>8</sup> BDR customers did report relatively lower customer satisfaction; 51 percent of BDR customers in winter and 57 percent in summer rated the treatment a 6 or higher on a 10-point scale.<sup>9</sup>

<sup>7</sup> Ibid, p. 39.

<sup>8</sup> Ibid, p. 74.

<sup>9</sup> Ibid, p. 8.

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*Next Steps for Pricing and Behavioral Response Pilot: FLEX 2.0*

Moving into the second stage of FLEX, known as FLEX 2.0, the budget will increase appreciably due to the much larger participant goal. Whereas FLEX 1.0 enrolled 14,000 customers over 2016-2018 lifespan, PGE's expects to have more than 100,000 residential customers enrolled in FLEX 2.0 by the end of 2019.<sup>10</sup> In relation to FLEX 1.0 2017 actual costs, FLEX 2.0 costs are estimated to be at an increase of 134 percent in 2018 and at an increase of 328 percent in 2019. For a detailed view of the pricing pilot budget, see the table below.

Pilot Expanded View	2015 Actuals	2016 Actuals	2017 Actuals	2018 Estimate	2019 Estimate
FLEX Pricing 1.0	\$392,588	\$748,847	\$624,865	\$285,220	\$0
FLEX Pricing 1.0 Extention				\$375,000	\$50,000
Flex 2.0				\$1,464,500	\$2,673,925
Total	\$392,588	\$748,847	\$624,865	\$2,124,720	\$2,723,925

FLEX 2.0 will include the following elements from FLEX 1.0 based on the Cadmus findings and recommendations:

- Opt-in PTR: Customers receive notifications from PGE asking them to shift energy during peak-time events. As a reward, the customer receives an on-bill credit based on the difference between actual versus expected usage.
- Opt-in TOU and PTR Hybrid: In addition to the PTR component, customers receive an on-bill credit by shifting usage to off-peak times when rates are lower.
- Opt-out BDR Public Alert Strategy: Customers receive non-incentivized notifications from PGE to shift energy during peak-time events. At the same time, this customer base is informed of, and encouraged to enroll in, the two elements outlined above.

While Staff appreciates the aggressive growth planned for FLEX 2.0 to meet IRP goals, Staff has some concerns about pilot design choices in light of the large budget increases. For example, PGE indicates that FLEX 2.0 will likely include options built around three TOU treatments that failed to achieve statistically significant winter savings in FLEX 1.0.<sup>11</sup> In the evaluation of FLEX 1.0 submitted in conjunction of PGE's most recent supplemental application filing, Cadmus recommends PGE offer more education to TOU participants on how to save energy or shift loads from peak to off-peak

<sup>10</sup> September 12, 2018 Workshop.

<sup>11</sup> See In the Matter of Portland General Electric Demand Response Pilots Expenses Deferral, UM 1708, PGE's REVISE Cadmus Evaluation of Residential Pricing Pilot, p. 8 (July 10, 2018).

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periods.<sup>12</sup> Staff agrees with this recommendation and would like to better understand how PGE will improve its customer education.

Additionally, Cadmus notes that PGE did not test the impacts of pairing technology with TOU pricing in FLEX 1.0. TOU1 customers had a difficult time shifting their loads from daytime on-peak periods to nighttime off-peak periods. As other pricing programs suggest the potential of information/feedback mechanisms and enabling technology to shift load (for example in-home displays and programmable controllable thermostats),<sup>13</sup> PGE should consider testing the related load impacts in the context of TOU pricing. Staff suggests PGE present an initial program or several program designs to Staff that explores pairing enabling technology with TOU pricing.

In their evaluation Cadmus recommends PGE analyze whether the opt-in or opt-out PTR design proved more cost-effective in FLEX 1.0. Staff agrees with PGE's proposed approach in its FLEX 2.0 to incentivize only opt-in offerings. In response to a Staff information request, PGE noted that in the first half of 2019, as part of its Test Bed pilot, approximately 20,000 customers in a targeted geographical area will be enrolled in an opt-out PTR offering. PGE will take the findings from the Test Bed targeted pilot offering to help inform a potential opt-out offering on a larger scale. Staff requests informal progress updates from the company on the path forward for incentivized opt-out offerings.

*Direct Load Control Pilot:*

Direct Load Control (DLC) programs are designed to reduce load during extreme events (e.g., high production costs, system reliability, etc.) by interacting with select technologies, like air conditioning cycling, heat pumps, or thermostats. Participants receive credits for decreasing (shedding) load when an event is initiated by the utility. Some DLC programs provide the utility with direct control over shedding customer loads (i.e., air conditioning cycling or setback programs). Other programs allow the participants to choose how they will shed load (i.e., interruptible or load curtailment programs). Penalties are usually assessed for non-performance. During an event, customer demand must be compared to baseline usage to determine the amount of hourly kW reduction.

For a pilot such as the DLCT implemented by PGE, the baseline calculation is performed at the individual participant level and at the aggregate program level. Only customers with programmable controllable thermostats (PCTs) are eligible for this pilot.

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<sup>12</sup> Ibid, p. 39.

<sup>13</sup> Quantifying the Impacts of Consumer Behavioral Study Experiments and Pilots: Protocols and Guidelines. LBNL, Berkeley, CA and EPRI, Palo Alto, CA: 2013. LBNL-6301E.



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PGE calls a minimum of six events per season to meet requirements of the Public Utility Commission of Oregon (PUC)<sup>14</sup> and may call up to 10 events. Events last for three consecutive hours and occur on weekday afternoons when seasonal weather increases peak demand.<sup>15</sup>

PGE intends to call no more than ten events per season for the life of the DLCT pilot, using the same criteria for calling an event as used in the Pricing Pilot. For the first two phases of this pilot, Rush Hour Rewards and BYOT that are ongoing, PGE pays customers \$25 for enrolling in the pilot plus \$25 per season (winter and summer) if the customer participates in at least 50 percent of the events called in the season.<sup>16</sup> There are approximately 7,500 PGE households currently enrolled across the two existing elements of the DLCT pilot.<sup>17</sup>

Per this deferral filing, the Direct Installation Expansion will have launched in September 2018. This element of the pilot will target the installation of enabling thermostats to homes with ducted heat pumps and electric furnaces. To note, through partnership of PGE and the Energy Trust of Oregon (Energy Trust), Energy Trust has committed to coordinating and providing their incentives toward the purchase and installation costs of the thermostat technology used by the DLCT pilot. Customers with heat pumps will be eligible to participate in both summer and winter seasons and will incur no out-of-pocket expenses for the costs of the thermostat, installation, or provisioning thereof. As customers with central air customers can only contribute to PGE's demand response savings in the summer, these customers will not be eligible for winter season incentives and will accordingly incur out-of-pocket expenses of roughly \$150 to cover the full purchase and installation cost of the thermostat provided. Direct Install Expansion participants will not be eligible for any other thermostat-related incentives offered by PGE or the Energy Trust.

PGE's goal is to install up to 8,000 thermostats in residential homes by April 30, 2019.<sup>18</sup> As the DLCT Pilot launched nearly three years ago with a current customer base of

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<sup>14</sup> Order No. 15-203 at 3.

<sup>15</sup> See In the Matter of Portland General Electric Demand Response Pilots Expenses Deferral, Docket No. UM 1708 (2), Application for Reauthorization to Defer Expenses Associated with Two Residential Demand Response Pilots, p. 11 (June 2, 2017).

<sup>16</sup> See In the Matter of Portland General Electric Demand Response Pilots Expenses Deferral, Docket No. UM 1708, PGE's Direct Testimony and Exhibits of Joseph Keller and Robert Macfarlane, PGE/100, Keller-Macfarlane/23-25 (May 5, 2015).

<sup>17</sup> See In the Matter of Portland General Electric Demand Response Pilots Expenses Deferral, Docket No. UM 1708 (3), Application for Reauthorization to Defer Expenses Associated with Two Residential Demand Response Pilots, p. 2 (May 4, 2018).

<sup>18</sup> PGE response from an information request from Commission Staff.

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7,500 participants, PGE is targeting nearly twice the rate of customer participation for the Direct Thermostat Installation Expansion within the timespan of September 2018 - April 2019. In relation to the Rush Hour Rewards and BYOT 2017 actual costs, the Direct Installation costs are estimated to be at an increase of 198 percent in 2018 and at an increase of 195 percent in 2019. For a detailed view of the DLCT pilot budget, see the table below.

Pilot Expanded View	2015 Actuals	2016 Actuals	2017 Actuals	2018 Estimate	2019 Estimate
DLCT Pilot: Rush Hour Rewards	\$29,076	\$332,337	\$319,756	\$667,896	\$1,098,679
DLCT Pilot: BYOT			\$81,426	\$259,975	\$395,954
DLCT Pilot: Direct Installation Expansion				\$1,194,000	\$1,184,000
Total:	\$29,076	\$332,337	\$401,182	\$2,121,871	\$2,678,633

As participant incentives under this expansion are structured to cover the cost and installation of the thermostat, the design of the Direct Installation Expansion does not allow for participants to be eligible for any other thermostat-related incentives offered by PGE or the Energy Trust.<sup>19</sup> For example, participants will be required to participate in at least 50 percent of the events called by season but will not receive a \$25 incentive for participation. As the Direct Installation Expansion incentive structure differs from the seasonal incentive structure employed in both the Rush Hour Rewards and BYOT phases of the DLCT pilot, are there adjustments to the design that can be made in the initial stages of the Direct Install Expansion in the event that 2018-19 winter results are not favorable? Further, Staff needs to better understand the proposed direct install incentive structure given the proposed growth of the pilot. Specifically, Staff wants to explore with PGE over the next year: 1) Implications of removing seasonal incentive on participant behavior and resultant demand shift; 2) Customer satisfaction issues that may follow the "claw back" of costs of the Company-provided thermostat that would occur if the customer subsequently ceases participating in the Direct Installation Expansion; and 3) alternatives to PGE's proposed method of the "claw back" of the costs of company-provided thermostats installed in a customer home for the Direct Installation Expansion.

#### *Cost-Effectiveness*

Lastly, as part of an overarching issue touching both pilots, Staff appreciates PGE's exploration of cost effectiveness in the filings for the FLEX 2.0 and DLCT pilots. As constructed, the cost effectiveness tests have served as a helpful guides to turn the two pilots into more mature programs. Per Staff direction several years ago, PGE has been utilizing the California Public Utility Commission's Demand Response Cost-Effectiveness Protocol in their cost-effectiveness analysis.

<sup>19</sup> PGE response to Staff Information Request.

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Staff notes that the use of this cost-effectiveness test continues to be acceptable for these pilots. While there are elements within the test that Staff would like to work with PGE to fine tune, Staff believes this methodology works for now. However, as demand response pilots and programs continue to grow in size and importance as a resource, Staff believes it is important for the Commission to develop its own set of protocols and guidance around demand response for all utilities. Staff would like the Commission to open an investigation into demand response cost-effectiveness, cost-effectiveness exceptions, the application of these tests at the demand response program and portfolio levels, and also explore the treatment of shared costs for demand response programs.

*Proposed Accounting:*

PGE proposes to continue recording the deferred costs as a regulatory asset in FERC account 182.3, with a credit to FERC Account 456, Other Revenue.

*Estimated Deferrals in Authorization Period:*

Cost per Pilot (\$000)							Notes
Pilot	2015 Actuals	2016 Actuals	2017 Actuals	2018 Estimate	2019 Estimate	Estimated Totals	
Flex Pricing	\$392,588	\$748,847	\$624,865	\$2,124,720	\$2,723,925	\$6,614,945	Update Schedule 6 in Q1, 2019
DLCT	\$29,076	\$332,337	\$401,182	\$2,121,871	\$2,678,633	\$5,563,099	Expand for PGE-installed thermostats
Totals	\$421,664	\$1,081,184	\$1,026,047	\$4,246,591	\$5,402,558	\$12,178,044	

*PGE request for recovery of deferred costs pursuant to existing Automatic Adjustment Mechanism (Schedule 135).*

In addition to asking the Commission to authorize the deferral of costs associated with the pilots discussed above, PGE "also requests, as of this reauthorization, that this deferral be subject to an automatic adjustment clause so that cost recovery can transfer to PGE Schedule 135, Demand Response Cost Recovery Mechanism"<sup>20</sup> Schedule 135 was authorized in 2011 in a Joint Order issued in Docket Nos. UM 1514 and UE 229 regarding the deferral and recovery of costs PGE's automated demand response (ADR) Pilot Programs. Schedule 135 is updated annually and has two components. First, it includes rates based on the forecasted costs of the demand response programs over a 12-month period. Second, it includes amortization of the deferred variance between

<sup>20</sup> PGE Reauthorization Application for Deferral of Expenses Associated with Two Residential Demand Response Pilots, p. 1.

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forecasted costs and actual costs for the previous 12-month period. Accordingly, to recover costs of the two pilot programs at issue in this deferral application under Schedule 135, PGE would update the tariff based on the forecasted costs for the two pilots over a 12-month period and also defer the variance between forecasted and actual costs. During the annual update of the tariff, PGE would adjust the rates to take into account an updated forecast of costs and to amortize the deferred variance between forecasted and actual costs for the previous 12-month period.

Staff supports PGE's proposal to seek recovery of the costs of the pilot programs in Schedule 135, subject to the conditions as outlined in this report's conclusion. In order to recover the costs subject to Schedule 135, PGE will make an advice filing annually to update the rates charged under the Schedule to include the forecasted and deferred costs of the pilot programs. Staff's support of PGE's proposal, or the Commission's approval, does not mean PGE is guaranteed cost recovery of the pilot program costs. PGE must still show the costs are prudent and the rates are just and reasonable when it makes its annual advice filing. By approving PGE's request to allow recovery through Schedule 135, the Commission is approving PGE's proposal to seek recovery through the automatic adjustment clause as opposed to by another means such as through a general rate case or by simply deferring all costs of the program for later amortization. Staff does not believe it is necessary for the Commission to approve PGE's request in order for PGE to seek cost recovery through Schedule 135 at the appropriate time. However, a Commission decision at this point will be helpful to settle the expectations of the Company, Staff, and stakeholders and will facilitate the process Staff proposes for review of the costs.

*Information Related to Future Amortization:*

- Earnings Review – ORS 757.259(5) exempts amounts collected through an automatic adjustment clause from being subject to an earnings test.
- Prudence Review – No less than 90 days prior to filing to adjust tariff rates, PGE will submit two combined reports on the pilots, which will provide third-party evaluations, cost summaries, estimated curtailments, and results of customer satisfaction surveys.
- Sharing – Staff anticipates that there will be no sharing between PGE and its customers for this deferral.
- Rate Spread/Design – Rate spread/rate design will be determined during the proceeding to authorize amortization of the pilots' deferred costs.

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- 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 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.

### Conclusion

While this application for deferred accounting sees substantial estimated costs in 2018 and 2019, the costs appear appropriate given the increased complexity of the pilots and the forecasted participant growth. The DR Pilots are important to the development of future demand response programs and that granting reauthorization of the deferral will minimize frequency of rate changes and appropriately match the costs borne, and benefits received, by PGE customers.

Staff concludes that the Company's application for reauthorization of deferred accounting for costs related to two Residential Demand Response Pilots is consistent with ORS 757.259 and should be approved, subject to the following conditions:

PGE must:

1. At least annually, and not less than 90 days prior to the filing to adjust schedule 135 tariff rates, submit program costs (including forecasted program costs) to Staff for review of prudence.
2. No less than 90 days prior to filing to adjust tariff rates, hold at least one workshop to present pilot costs, findings, and any design updates.
3. No less than 90 days prior to filing to adjust tariff rates, submit two combined reports on the pilots, which will provide third-party evaluations, cost summaries, estimated curtailments, and results of customer satisfaction surveys.
4. Offer more education to TOU participants on how to save energy and shift loads from on-peak to off-peak periods in FLEX 2.0.
5. Test the load impacts of enabling technology with TOU pricing. PGE should present an initial program or several program designs to Commission Staff by January 15, 2019.
6. Provide progress updates on the Company's path forward for incentivized opt-out offerings.

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7. Meet with Staff by November 15, 2018, to explore possible adjustments to the incentive structure of the Direct Load Control Thermostat direct install expansion in the case that 2018-19 winter results are not as favorable as the seasonal incentive structure employed in the Rush Hour Rewards and BYOT phases.
8. Collaborate with Staff to address the conditions above.

**PROPOSED COMMISSION MOTION:**

Approve PGE's request for reauthorization of deferred accounting for costs related two Residential Demand Response Pilots for the twelve month period from June 23, 2018, to June 22, 2019, subject to the conditions outlined in this report's conclusion.

Approve PGE's request to seek cost recovery of deferred amounts through an automatic adjustment clause, Schedule 135, Demand Response Recovery Mechanism.

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