ITEM NO. RA3

PUBLIC UTILITY COMMISSION OF OREGON
STAFF REPORT
PUBLIC MEETING DATE: August 24, 2021

REGULAR X CONSENT ____ EFFECTIVE DATE August 25, 2021

DATE: August 16, 2021

TO: Public Utility Commission

FROM: Eric Shierman

THROUGH: Bryan Conway, JP Batmale, and Sarah Hall **SIGNED**

SUBJECT: PACIFIC POWER:
(Docket No. ADV 1288/Advice No. 21-016)
New Residential Charging Pilot (Schedule 117), New Nonresidential Charging Pilot (Schedule 118), and Extension of the Outreach and Education Pilot.

STAFF RECOMMENDATION:

Staff recommends the Public Utility Commission of Oregon (Commission) approve Pacific Power's (Company) filing, Advice No. 21-016, which creates Schedule 117 for residential charging and Schedule 118 for nonresidential charging, and extends and amends the Company's Transportation Electrification Outreach and Education Pilot Program.

DISCUSSION:

Issue

Whether the Commission should approve Pacific Power's Advice No. 21-016, which creates Schedule 117 for residential charging and Schedule 118 for nonresidential charging, and extends and amends the Company's Transportation Electrification Outreach and Education Pilot Program.

Applicable Rule

Under ORS 757.357(3), the Commission shall direct each electric company to file applications for programs that would accelerate transportation electrification (TE). Under

ORS 757.357(4), the Commission shall consider whether the program's investments and other expenditures:

1. Are within the service territory of the electric company;
2. Are prudent as determined by the commission;
3. Are reasonably expected to be used and useful as determined by the commission;
4. Are reasonably expected to enable the electric company to support the electric company's electrical system;
5. Are reasonably expected to improve the electric company's electrical system efficiency and operational flexibility, including the ability of the electric company to integrate variable generating resources; and
6. Are reasonably expected to stimulate innovation, competition and customer choice in electric vehicle charging and related infrastructure and services.

Under OAR 860-087-0030, a Company must file an application with the Commission for each program that seeks to accelerate TE. OAR 860-087-0030(1) details what the Company must include in its Program application. Broadly, these requirements include:

(a) A description of the program;
(b) Data used to support the description;
(c) A description of program coordination;
(d) A description of the electric company's long-term strategy to accelerate transportation electrification in its service territory in an effective and efficient manner and how the proposed program fits within the long-term strategy;
(e) A description of program costs;
(f) A description of the expected program benefits;
(g) A description of how the electric company will evaluate the program; and
(h) A description of how the program addresses the considerations of Oregon Laws 2016, 028, section 20(4)(a)-(f).

Executive Order 20-04 establishes Governor Brown's new greenhouse gas emissions goals for the State of Oregon and directs state agencies to identify and prioritize actions to meet those goals. Section 5.4(B) of the Executive Order directs the Public Utility Commission to "[e]ncourage electric companies to support transportation electrification infrastructure that: supports GHG reductions, helps achieve the transportation electrification goals set forth in Senate Bill 1044 (2019), and is reasonably expected to result in long-term benefit to customers."

Analysis

In this memo, Staff will describe the filing's background and major elements, and review the proposal with respect to the six statutory considerations for TE programs. Staff will review the merits of extending Pacific Power's prior outreach and education pilot, and ChargePoint's recommendations. Staff will also discuss the value of a portfolio view of TE investment before making a recommendation for approval.

Background
On December 27, 2016, Pacific Power first filed a transportation electrification (TE) outreach and education program for Commission approval. With Order No. 18-075, the Commission approved it as a pilot. The Company is seeking an extension of that original pilot with added measures.

Pacific Power reached out to Staff and stakeholders about the Company's plans to propose new TE pilots in summer 2020. Pacific Power met with Staff on August 12, 2020, and the Company held a public workshop on October 15, 2020. After the workshop, the Company asked for feedback. Staff suggested that a three-year time period for these pilots would be sufficient to collect adequate data. The Company originally proposed six years. With some modifications that incorporated Staff's input, Pacific Power's current proposal is congruent with what was discussed last year with Staff and stakeholders.

Program Details
Advice No. 21-016 contains three pilot programs:

- The Residential Charging Pilot (Schedule 117) offers a rebate to residential customers for installing qualified electric vehicle service equipment (EVSE) in their home.
- The Nonresidential Charging Pilot (Schedule 118) offers a rebate to nonresidential customers for installing qualified EVSE at a place of business.
- The Company's third pilot proposes to extend Pacific Power's previously approved Outreach and Education Pilot for three years while adding some new measures.

All three pilots are budgeted to run for three years. The budget for the Residential Charging Pilot Program is $2,615,444; Nonresidential Charging Pilot Program: $2,039,300; and Outreach and Education Pilot Program: $2,178,750.

This proposal would be a significant increase in TE spending for Pacific Power. These pilots' combined budget will be 47 percent larger than the first three pilots the Commission approved in 2018. The new Outreach and Education Pilot will spend

97 percent more than the previous pilot. Administrative costs make up 11 percent of the proposed total budget for the new pilots and 10 percent of the new Outreach and Education Pilot budget. Staff's calculations are included as Table 2 in Appendix A to this memo.

The stated purpose of the Residential Charging Pilot (Schedule 117) is to improve the access to and economic viability of home charging for residential customers. This pilot will pay a standard incentive of $500 capped at 75 percent of the project cost and a higher incentive of $1,000 for income-eligible participants up to the total project cost for the installation of qualified EVSE. The two factors for qualifying equipment are that the devices are: Level 2 (a charging speed of around 7 kW); and networked—capable of collecting data and robustly communicating with demand response (DR) controls. Pacific Power expects 3,500 residential customers to participate before this pilot ends in three years. Participating customers will be required to enroll in a time of use (TOU) rate for one year. Income eligible customers will be able to opt-out of the TOU rate requirement.[1] Though no concerns have been raised in this docket, consumer advocates in other states have expressed concern that mandatory TOU rates for low-income customers could result in higher utility bills.[2]

The stated purpose of the Nonresidential Charging Pilot (Schedule 118) is to improve the access to and economic viability of charging for nonresidential customers. This pilot will pay an incentive of $1,000 per port capped at 75 percent of the project cost. Multi-unit dwellings would receive an incentive of up to $3,000 per port, capped at 75 percent of total project cost for the installation of Level 2, networked EVSE. Pacific Power expects 975 ports to be installed by nonresidential customers that participate before this pilot ends in three years. Small nonresidential customers will be required to enroll in Schedule 29 or Schedule 210 for one year.[3] Schedule 29 offers customers an alternative to traditional demand charges by billing a higher rate for their first block of energy kWh and a lower rate for all additional kWh. Schedule 210 offers a TOU rate.

The Outreach and Education Pilot has several objectives beyond increasing customer awareness of electric vehicles (EVs) on Pacific Power's system. Additional objectives include: increasing customer knowledge of TE benefits; encouraging customers to participate in TE programs and incentives; and developing a best practice toolkit for marketing campaigns for different customer demographics. The Company would also like to study participant TE awareness before and after campaign and event

[1] *See* Docket No. ADV 1288, Pacific Power, Exhibit 1, June 30, 2021, p 6-35.
[2] Trabish, Herman. *An emerging push for time-of-use rates sparks new debates about customer and grid impacts* Utility Dive, January 28, 2019, p 7.
[3] *See* Docket No. ADV 1288, Pacific Power, Exhibit 3, June 30, 2021, p 6-24.

engagement, and determine how outreach campaigns can improve and maximize TE efforts for future programs. This pilot includes ten measures that Pacific Power groups into three categories. The Company calls technical assistance, communications, online tools, and in-dealer engagement "Decision Making Support." Pacific Power calls ride and drive events, EV showcases, and event participation "High-Quality EV Experiences." The third category, which the Company calls "Planning and Studies", includes EV-ready new construction, EV market potential planning, and fleet potential studies. Pacific Power has been running most of these measures since 2018.[4]

However, four of the ten measures that Pacific Power is seeking to include in the pilot are new to this filing, three of which fall into the "Planning and Studies" category:

1. High-Quality EV Experiences: conduct tours of the Forth EV Showcase;
2. Planning and Studies: promote EV-ready building codes, and fund an initial incentive program to ensure new construction can support EVSE infrastructure;
3. Planning and Studies: design and plan strategies for customer grid-integrated EV adoption; and
4. Planning and Studies: use a vendor to evaluate fleet electrification, including heavy-duty EVs.[5]

The details of Pacific Power's residential and nonresidential rebate pilots are consistent with similar programs the Commission has approved for PGE in Docket No. ADV 1151 and Docket No. ADV 1155. The primary difference is the approach to grid integration. PGE uses demand response (DR) for residential customers participating in its residential EV rebate programs. Pacific Power takes a more proactive approach in mitigating EV grid impacts by seeking to have residential customers on TOU rates with DR enabled devices, albeit without an actual DR program. While the utilities' approach to grid integration is different, the utilities' respective pilots offer a relatively uniform offering of EVSE rebates for most electric company customers in Oregon.

The Six Statutory Factors for Consideration
ORS 757.357(4) identifies six factors that the Commission shall consider when approving a transportation electrification program and determining cost recovery. Staff evaluates them for all three pilot proposals together as a portfolio.

The first consideration is whether the investments or other expenditures are within the service territory of the electric company. Pacific Power is offering these pilot programs only to customers in the Company's service territory.

[4] *See* Docket No. ADV 1288, Pacific Power, Exhibit 5, June 30, 2021, p 2-5.
[5] *See* Docket No. ADV 1288, Pacific Power, OPUC Information Request 8, July 23, 2021, p 2-7.

The second consideration is whether the investments or other expenditures are prudent as determined by the Commission. Staff believes that Pacific Power's anticipated learnings and the cost-share structure of the pilots will result in a prudent investment. Power's pilots offer valuable learnings, specifically:

- By getting more customers signed up for TOU rates, these pilots will offer learnings about the effectiveness of the Company's TOU rates in changing customer behavior;
- By learning if the proposed incentives are the right size to move mainstream consumers toward purchasing electric vehicles;
- By collecting real-world data on charging load shapes; and
- By learning how to better outreach to rural Oregonians.

Additionally, with the exception of low-income customers, program participants will be required to cover some of the cost of the pilots, mitigating the risk that participants will vest little of their own money in EVSE installation. Additionally, the pilots are cost and time-limited at specified budgets and for three year timeframes.

The third consideration is whether the investments or other expenditures are reasonably expected to be used and useful as determined by the Commission. Program participants will likely prefer charging at home or at their place of business, because the ability to recharge an EV battery at Level 2 speeds overnight generally offers a lower cost than refueling at high speed public charging stations. It can also be more convenient than public Level 2 sites.[6] Staff believes that this is reasonably expected to result in participation in the pilots, and use of the charging infrastructure installed by the participant.

The fourth consideration is whether the investments or other expenditures are reasonably expected to enable the electric company to support the electric company's electrical system. Pacific Power's modeling indicates that, if the cost of these investments are excluded, customers who qualify for this program are expected to bring in more revenue than the marginal cost to serve the load. The data collected from these pilots may also enable the Company to improve the net margin between the incremental revenue EV owners pay, and the marginal cost to serve their new load.

The fifth consideration is whether the investments or other expenditures are reasonably expected to improve the electric company's electrical system efficiency and operational flexibility, including the ability of the electric company to integrate variable generating resources. Pacific Power is using these pilots to promote not only EV adoption, but TOU

[6] Ulrich, Lawrence. *'Charger Desert' in Big Cities Keeps Electric Cars From Mainstream* New York Times, April 16, 2020, p 4.

rate participation. Staff believes that this synergy will lead to increased efficiency and operational flexibility, and that the usage data will provide valuable learnings.

The sixth consideration is whether the investments or other expenditures are reasonably expected to stimulate innovation, competition, and customer choice in electric vehicle charging and related infrastructure and services. Pacific Power's vetting of a list of eligible EVSE products is intended to do two things: steer customers to robustly grid-connected devices, and offer a similar list of eligible products as PGE. The Commission has already approved PGE's role in establishing an eligibility list. To compete, an EVSE manufacturer merely needs to be grid-connected in an open, standardized way, so that proprietary standards alone do not risk making an EVSE site obsolete. Staff finds Pacific Power's eligibility criteria reasonable.

Staff notes that this consideration is of concern to ChargePoint, a stakeholder that provided comments in this docket. These are discussed below in "Stakeholder Positions."

Extension of the Outreach and Education Pilot
Pacific Power is seeking to renew the Outreach and Education Pilot Program beyond what the Commission had previously authorized. This raises the question as to why the previous budget and timeline were insufficient to gather the needed learnings to make an assessment of whether the pilot should be graduated to a program. In IR 9, Staff posed this question to Pacific Power. The Company replied that the previous three-year pilot needs additional time for assessment, because:

1. The COVID pandemic delayed the planned outreach.
2. More focus is needed on rural outreach.
3. HB 2165 and the Oregon Department of Transportation's Transportation Electrification Infrastructure Needs Analysis both call for more effort in rural Oregon.
4. Outreach and Education will operate as a critical promotion of the residential and nonresidential rebate pilots.

Staff finds Pacific Power's argument persuasive. COVID-19 removed a third of the previous pilot's data-gathering time, compromising the pilot's performance and evaluation of original objectives. The Company is now poised to operate this pilot with a greater rural focus to promote the rebate pilots, which will require new aspects of outreach and education to be learned. An additional three years appears warranted.

Pacific Power intends to focus new effort promoting EV adoption among its rural customers, a market the Company has found challenging. Getting these pilots

operational before the release of the all-electric model of the Ford F-150 pickup truck gives the Company an opportunity to reach this market.

Stakeholder Positions and Demand Response
ChargePoint filed comments, generally supporting Pacific Power's proposed TE pilot programs and offering three recommendations:

1. ChargePoint recommends removing any program requirement for chargers to run on the Open Charge Point Protocol (OCPP) platform, as an OCPP requirement is inappropriate, unnecessary, and will diminish customer choice.
2. ChargePoint recommends that any future technical standards developed for these pilot programs be reviewed and approved by the Commission with an opportunity for stakeholder input.
3. ChargePoint recommends modifying the requirements of the Residential and Nonresidential Charging Pilots to give participants a choice to be enrolled in either a TOU rate or demand response program for at least one year.[7] Currently the pilots offer no demand response option.

Staff appreciates ChargePoint's comments. Staff agrees that stifling competition among manufacturers is a valid point for ChargePoint to raise as the market continues to mature and grow. Staff believes that the TE Plan dockets are the better place to raise specific problems about a particular product's eligibility status or general changes in eligibility criteria. The TE Plans offer both sufficient time for public review of technological questions and an inclusive format for a wider number of stakeholders to weigh in on ChargePoint's recommendations. For Pacific Power, that Docket Number is UM 2056, and their next plan is slated to be filed in June of 2022. If Pacific Power's pilots are allowed to move forward, the eligibility of EVSE can be amended during the course of the pilot's three-year length, beginning with TE Plan in June 2022.

Staff supports ChargePoint's recommendation that Pacific Power offer a DR option. Staff believes that the Company's customers would benefit from a choice. Staff intends to work with Pacific Power to expand the Company's DR options to include EVs. The fact that the Company is making DR-enabled EVSE a requirement to participate in these pilots is a hopeful sign that Pacific Power is mindful of keeping this option open. The data the Company will be collecting in this pilot can help inform a future DR program design with a baseline knowledge of charging behavior.

Given that the Company does not currently have a DR program that is designed to integrate with EV charging, Staff is reluctant to delay the launch of these pilots until the Company is ready to deploy an EV DR program. Instead, Staff would like Pacific Power

[7] *See* Docket No. ADV 1288, ChargePoint, Comments, August 6, 2021, p 1.

to provide a concrete update to stakeholders on the path forward for integrating EV charging with DR before filing their TE Plan in June 2022.

Cost-Effectiveness and Portfolio View

In its filing, Pacific Power estimates the expected cost-effectiveness of these three pilots using the Company's planning assumptions. The result of a cost-effectiveness test is not a requirement for approval of TE programs, and therefore was not a factor in Staff's recommendation. However, Staff is noting this as an active topic in UM 2165, an investigation into a TE investment analysis framework. Pacific Power uses the California Standard Practice Manual to conduct a Ratepayer Impact Measure (RIM), which divides the rate impact benefit to ratepayers by the program's cost. The Company also applies a Total Resource Cost Test (TRC), which divides the combined rate impact benefit to ratepayers and the financial benefit to program participants by the program's cost. Finally, the Company uses a Societal Cost Test (SCT) that takes the TRC and adds the net social impact.

A methodological choice the Company makes underestimates the value of two pilots while overestimating one. In the program application, Pacific Power presents a benefit / cost ratio (BCR) only for the Company's residential pilot. Pacific Power explains that the Company could not produce results for the other two programs because, "The residential program captures all the assumed incremental electric vehicle (EV) adoption in the calculation of benefits."[8] If all new EV adoption in Pacific Power's service territory were attributed to the residential pilot, no remaining benefit exists to be divided by the costs of the nonresidential or outreach and education pilots. The BCR of the other two pilots would each necessarily be zero. If this attribution is wrong, the effect is to overestimate the BCR of the residential pilot while underestimating the BCR of the other two pilots.

In UM 2165, Staff is looking into portfolio-level analysis as a means of overcoming the difficulty of attributing a utility's impact on EV adoption at the program level. In ADV 1288's discovery, Pacific Power offers a portfolio view of cost-effectiveness by dividing the benefits of incremental EV adoption by the sum of all three pilots' costs.[9] This portfolio view is displayed on the bottom row of Table 1.

[8] *See* Docket No. ADV 1288, Pacific Power, OPUC Information Request 7, July 23, 2021, p 1.
[9] *See* Docket No. ADV 1288, Pacific Power, OPUC 5_TE Res_cost_effectiveness results.xlxs, July 23, 2021.

Table 1: Individual Program BCR vs. Portfolio BCR

Program	**RIM**	**TRC**	**SCT**
Residential	1.03	0.94	0.38
Nonresidential	0.00	0.00	0.00
Outreach and Education	0.00	0.00	0.00
Portfolio View	**0.65**	**0.85**	**0.35**

While the results of the portfolio view are lower than the residential results Pacific Power presents in the Company's program application, the results are much higher than the consequent results of the other two pilots. Again, these results are not a material factor in Staff's recommendation. We include this discussion in the Public Meeting Memo to highlight the insight a portfolio view can offer.

Conclusion

Staff recommends the Commission approve Advice No. 21-016 because these pilots meet the requirements of Division 87. Staff believes that extending and adding to the Company's approved outreach and education pilot is appropriate for full assessment of this pilot. Commission approval of this program is expected to result in new EV adoption by Pacific Power's rural customers.

Staff would like to see Pacific Power offer DR programs for EVs in addition to TOU rates. We recommend the Company provide a concrete update to stakeholders for integrating EV charging with DR before filing a new TE Plan in June 2022.

PROPOSED COMMISSION MOTION:

Staff recommends the Commission approve Pacific Power's filing, Advice No. 21-016, which creates Schedule 117 for residential charging and Schedule 118 for nonresidential charging, and extends and amends the Company's Outreach and Education Pilot.

Appendix A

Staff Calculations of Administrative Costs

Table 2: Administrative Costs as a Percentage of Total Costs

Program	**Admin Costs**	**Total Costs**	**Percentage**
Residential	$225,000	$2,615,444	9%
Nonresidential	$300,000	$2,039,300	15%
Outreach and Education	$225,000	$2,178,750	10%
Total	$750,000	$6,833,494	11%