

Docket No. UM 1810  
Exhibit PAC/100  
Witness: Eli M. Morris

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**PACIFICORP**

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**Direct Testimony of Eli M. Morris**

**April 2017**

**TESTIMONY OF ELI M. MORRIS**

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**ATTACHED EXHIBIT**

EXHIBIT PAC/101 – Letters of Stakeholder Support

1 **Q. Please state your name, business address, and present position with PacifiCorp**  
2 **d/b/a Pacific Power (PacifiCorp or the Company).**

3 A. My name is Eli M. Morris. My business address is 825 N.E. Multnomah Street, Suite  
4 1500, Portland, Oregon 97232. My title is Program Manager, Customer Solutions.

### 5 **QUALIFICATIONS**

6 **Q. Briefly describe your education and professional experience.**

7 A. I received a Bachelor of Arts in Physics from Carleton College in Northfield,  
8 Minnesota. I have worked in Demand-Side Management (DSM) and Customer  
9 Solutions at PacifiCorp for five years, focusing on program planning and  
10 incorporation of programs into other Company planning efforts, including load  
11 forecasting and integrated resource planning. Before joining PacifiCorp, I worked at  
12 the Cadmus Group (formerly Quantec, LLC) consulting for utilities on DSM program  
13 planning and evaluation.

14 **Q. Have you testified in previous regulatory proceedings?**

15 A. No.

### 16 **PURPOSE AND SUMMARY OF TESTIMONY**

17 **Q. What is the purpose of your testimony in this proceeding?**

18 A. My testimony presents and describes the supplemental application and proposed pilot  
19 programs in the context of the Company's Transportation Electrification Strategy.  
20 The Company is requesting approval of three pilot programs designed to test the  
21 effectiveness of utility market intervention strategies and gather data to inform future  
22 system and program planning.

23 My testimony will address:

- 1 • New material included in the supplemental application;
- 2 • Pacific Power’s transportation electrification strategy;
- 3 • Market baseline assumptions and pilot program evaluation; and
- 4 • Overview of the proposed Public Charging Pilot, the proposed Outreach  
5 and Education Pilot, and the proposed Demonstration and Development  
6 Pilot.

7 **Q. Why is Pacific Power filing a supplemented application and what supplemental**  
8 **information has been added?**

9 A. In accordance with Senate Bill 1547, Pacific Power filed our initial pilot program  
10 applications on December 27, 2017. In February, Public Utility Commission of  
11 Oregon (Commission) staff requested additional information to expedite the review  
12 process. In response to this request, the initial applications were consolidated and  
13 supplemented to include:

- 14 • Information on greenhouse gas emissions from the transportation sector;
- 15 • An overview of the electric transportation market;
- 16 • A more robust discussion of market barriers to increased transportation  
17 electrification; and
- 18 • Additional detail on program objectives, elements, and timelines.

19 **Q. Have the proposed pilot programs changed from what was presented in the**  
20 **initial applications?**

21 A. No. Program concepts and total budgets have not changed from the December  
22 application. However, in the proposed Outreach and Education pilot, the program  
23 element previously referred to as “Education and Awareness” is split into two distinct

1 elements: Customer Communications and Self-Service Tools. This modification was  
2 made to more clearly delineate direct communications with customers and tools  
3 deployed for customer use.

4 **Q. What is the Company requesting in its application?**

5 A. The Company requests the Commission approve Pacific Power's three transportation  
6 electrification pilot programs. In addition, the Company requests the Commission  
7 approve concurrent recovery of the pilot program costs through the Company's  
8 existing Schedule 95 – Pilot Program Cost Adjustment.

9 **Q. Please describe the testimony of other Company witnesses in this case.**

10 A. Robert M. Meredith, Manager of Pricing and Cost of Service provides testimony,  
11 which supports the manner in which the Company proposes to price electric vehicle  
12 charging service from Company-operated stations along with presenting an  
13 illustrative tariff for this service.

#### 14 **TRANSPORTATION ELECTRIFICATION STRATEGY**

15 **Q. What is PacifiCorp's Transportation Electrification Strategy?**

16 A. PacifiCorp's Transportation Electrification Strategy (TES) can be summarized in two  
17 words: flexibility and responsiveness. PacifiCorp's TES envisions starting with pilot  
18 programs that allow the Company to test market assumptions, gather data and  
19 respond to changing market conditions. In establishing its TES, PacifiCorp was  
20 guided by the following set of principles:

- 21 • Work with stakeholders on program development to incorporate the wide  
22 range of perspectives, experiences, and ideas.
- 23 • Lead by example.

- 1 • Understand Oregon customers' specific market barriers to adopting electric
- 2 transportation.
- 3 • Use electric transportation to support a modern and efficient electrical system.
- 4 • Partner with customers to deploy vehicle charging solutions.
- 5 • Simplify the plug-in electric vehicle charging experience.
- 6 • Support underserved communities.
- 7 • Leverage funding and lessons learned from strategic partnerships to inform
- 8 future planning.
- 9 • Coordinate with related state programs.
- 10 • Phase-in investments and keep an eye on the future.

11 I envision a future where PacifiCorp is partnering with customers, state agencies, and  
12 other market actors to ensure that transportation electrification is accessible, well-  
13 understood, and supports a modern and efficient electrical grid. The pilot programs  
14 proposed in this application are an initial step in this direction to educate customers  
15 on electric transportation options and benefits, stimulate electric vehicle supply  
16 equipment (EVSE) development, and gather data to inform future planning and the  
17 long-term role for PacifiCorp in the transportation electrification market. If  
18 successful, we may expand these programs after the initial pilot period, but will not  
19 necessarily wait until after the pilot period to propose additional programs as  
20 opportunities become available.

21 **Q. How did the Transportation Electrification Strategy inform the design of**  
22 **PacifiCorp's proposed pilot programs?**

23 A. The proposed pilot programs are designed to be flexible and responsive to changes in

1 the market and customer needs. To ensure alignment with the TES, PacifiCorp relied  
2 on its guiding principles, beginning with understanding barriers to adoption for  
3 customers in its Oregon service territory. To date, transportation electrification has  
4 not occurred in PacifiCorp's service area at the same rate as for the state of Oregon as  
5 a whole, likely due to the dispersed and rural nature of PacifiCorp's service territory,  
6 relatively lower income, and a lack of private investment in visible and available  
7 public EVSE.

8 In these areas, there may be a "chicken and egg" problem. Consumers do not  
9 adopt plug-in electric vehicles because of a lack of exposure to the technology and  
10 range anxiety from a lack of publicly-accessible EVSE, and public EVSE is not  
11 developed because the number of plug-in electric vehicles (PEVs) is insufficient to  
12 make ownership profitable. PacifiCorp designed a set of pilot programs to address  
13 this issue from both sides: educate customers on technology, benefits, and how to  
14 determine whether PEVs and EVSE will meet their needs, and stimulate development  
15 of EVSE that can support increased adoption of PEVs. Specific pilot program  
16 components were developed to align with the other guiding principles, including  
17 partnering with customers, coordinating with stakeholders and related state programs,  
18 and phasing in investments while looking toward the future.

19 **MARKET BASELINE ASSUMPTIONS AND PILOT PROGRAM EVALUATION**

20 **Q. What market baseline assumptions did PacifiCorp use in designing its proposed**  
21 **pilot programs?**

22 A. I developed market baseline assumptions in response to the following questions:

- 1           • What is the current state of transportation electrification in PacifiCorp's  
2           Oregon service area?
- 3           • What additional transportation electrification is likely to occur in the absence  
4           of PacifiCorp programs?

5           To answer the first question, I analyzed available data on current PEV adoption  
6           levels and publicly-available direct current fast chargers (DCFCs) in PacifiCorp's  
7           Oregon service area. For EVSE, I focused on publicly-available DCFCs, as visible  
8           and available DCFCs are likely to have a larger impact on PEV adoption than Level 2  
9           EVSE, given considerably faster charging times.

10          To answer the second question, I relied on summary results from a 2016  
11          PacifiCorp customer satisfaction survey, supplemented with other Oregon and  
12          national studies on consumer likelihood to adopt PEVs. At this time there is limited  
13          information on the likelihood of additional DCFC development in the Company's  
14          Oregon service area.

15      **Q. How did PacifiCorp develop the market baseline assumptions?**

16      A. Current PEV adoption levels in PacifiCorp's Oregon service area were developed  
17      from ZIP-code level registration data provided by the Oregon Department of  
18      Environmental Quality (DEQ). I created a forecast of PEV adoption over the next 10  
19      years based on the historical adoption trend since 2010, which will naturally capture  
20      general market advancements. Many factors can affect PEV adoption, including the  
21      future of federal tax incentives, the rate of battery technology and cost improvements,  
22      the price of gasoline and the rate of development of accessible public EVSE. Given  
23      the large uncertainty around the future of each of these factors, the Company opted to



1 project future adoption rates based on historical trends rather than attempting to  
2 forecast individual market factors and their impact on PEV adoption.

3 I developed market baseline assumptions for the current state of publicly-  
4 available DCFCs in Pacific Power's Oregon service area from data from the U.S.  
5 Department of Energy's Alternative Fuel Data Center (AFDC) Alternative Fueling  
6 Station Locator.<sup>1</sup> The AFDC database is a publicly-available source with data  
7 imported directly from several major charging service providers, or submitted by  
8 other parties. The National Renewable Energy Laboratory validates all data and  
9 reviews existing stations on an ongoing basis to ensure they are still operational.

10 I did not attempt to project the rate at which additional EVSE may be  
11 deployed in PacifiCorp's service area in the absence of the proposed pilot programs.  
12 The majority of public DCFCs are currently located in major metropolitan areas and  
13 along Alternative Fuel Corridors<sup>2</sup> and I expect this trend to continue in the absence of  
14 the Company's proposed pilot programs. For example, Volkswagen's Electrify  
15 America has already indicated that these are the priorities for the first round of  
16 investment under the Clean Air Act Civil Settlement.<sup>3</sup>

17 **Q. Did PacifiCorp consider any alternative market baseline assumptions?**

18 A. Yes, however, while projections of PEV adoption exist, they are typically national or  
19 global, highly variable depending on underlying assumptions for cost and technology  
20 improvements and do not reflect the specific factors affecting adoption in

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<sup>1</sup> U.S. Department of Energy, *Alternative Fueling Station Locator*, <http://www.afdc.energy.gov/locator/stations/> (last visited Feb. 24, 2017).

<sup>2</sup> U.S. Department of Transportation, *Alternative Fuel Corridors*, [https://www.fhwa.dot.gov/environment/alternative\\_fuel\\_corridors/](https://www.fhwa.dot.gov/environment/alternative_fuel_corridors/) (last visited Feb. 24, 2017).

<sup>3</sup> Electrify America, *Our Plan*, <https://www.electrifyamerica.com/our-plan> (last visited Mar. 31, 2017).

1 PacifiCorp's Oregon service area, such as population density, income, and access to  
2 EVSE. For the purpose of creating market baseline assumptions specific to  
3 PacifiCorp's Oregon service area, I determined the data sources and methods  
4 described above were most appropriate. I plan to track these data sources over time  
5 to determine the extent to which market baselines are shifting.

6 **Q. How does the Company propose to evaluate its proposed pilot programs?**

7 A. PacifiCorp proposes to employ a third-party evaluator to assess the effectiveness of  
8 the pilot programs based on the objectives described in the supplemental application.  
9 The third-party evaluator will use data from a variety of sources to assess participant  
10 satisfaction, program cost-effectiveness, and the extent to which the pilot programs  
11 accelerated transportation electrification. Data sources will include:

- 12 • PacifiCorp website analytics, and user surveys;
- 13 • Responses to questions in annual PacifiCorp annual customer service surveys;
- 14 • Surveys of ride-and-drive and community event attendees;
- 15 • Surveys of technical assistance and Demonstration and Development  
16 recipients;
- 17 • Utilization data from Public Charging Pilot and Demonstration and  
18 Development Pilot EVSE; and
- 19 • Updated PEV and EVSE adoption information from the Oregon DEQ and  
20 AFDC, respectively.

21 The results of these efforts will be summarized in a report, provided to the  
22 Commission in 2019, which will include recommendations on whether pilots should  
23 be expanded, extended, or terminated.

1 **Q. How will the market baseline be used in the Company's evaluation of its**  
2 **proposed pilot programs?**

3 A. The Company will track DEQ PEV registrations and AFDC public DCFCs to assess  
4 changes in adoption in the service area during the pilot period. Changes in adoption  
5 levels may be directly attributed to the Company's efforts, but may also be influenced  
6 by other factors, such as improvements in technology and costs, gasoline prices, and  
7 the efforts of others working to promote transportation electrification in Oregon, such  
8 as Drive Oregon. Through its program evaluation efforts, PacifiCorp will investigate  
9 the extent to which the pilot programs increased adoptions of PEVs and publicly-  
10 available EVSE.

11 Some of the Company's efforts are not expected to increase adoption  
12 immediately. For example, the proposed Outreach and Education program is largely  
13 focused on improving customer awareness of electric transportation options and  
14 benefits. The Company will track customer likelihood of considering a PEV relative  
15 to the market baseline, however, improved awareness likely will not impact a  
16 customer's vehicle decisions until the next time he or she would have acquired a new  
17 vehicle anyway, which may be in several years. While changes in adoption levels  
18 relative to the current and projected baseline will be informative for future program  
19 and system planning changes in the market baseline during the pilot period will not be  
20 a key indicator of pilot program success.

21 **Q. How will the evaluation determine whether the pilot programs were successful?**

22 A. Evaluation efforts will assess the performance of the pilot programs against the  
23 objectives described for each program in the supplemental application. These

1 objectives include improving customer awareness and perceptions of PEV and EVSE  
2 options and benefits, increasing the availability of reliable, visible public EVSE and  
3 gathering data and experience that can inform future system and program planning  
4 and testing. The evaluation will also attempt to determine to what extent the pilot  
5 programs accelerated transportation electrification. However, given the pilot  
6 timeframe and the typical vehicle purchase cycle, increased levels of adoption  
7 resulting from the pilot programs may not occur until after the pilot period.

8 **Q. Will the Company's evaluation of its proposed pilot programs include an**  
9 **evaluation of the cost effectiveness of the proposed pilot programs?**

10 A. Yes, the Company will engage a third-party evaluator to assess the cost-effectiveness  
11 of the pilot programs during the pilot period, where possible. For the Outreach and  
12 Education program, it may be difficult to directly tie program spending to increased  
13 adoption of PEVs or EVSE. The Company will look to the third-party evaluator to  
14 determine whether a direct link to increased adoption can be drawn, and if so, to what  
15 extent.

16 **Q. Did the Company assess the cost-effectiveness of the proposed pilot programs in**  
17 **the supplemental application?**

18 A. No. Given the uncertainty around the impact the pilot programs may have on the  
19 transportation electrification market, the Company did not attempt to quantify pilot  
20 program benefits at this time. The pilot programs will gather data to use in assessing  
21 cost-effectiveness of investments as part of the program evaluation.

1 **Q. How does the Company propose to evaluate the cost-effectiveness of the**  
2 **proposed pilot programs?**

3 A. From the standard DSM tests, the Company proposes to use the Ratepayer Impact  
4 Measure (RIM) test from the *California Standard Practice Manual: Economic*  
5 *Demand-Side Programs and Projects* to assess the cost-effectiveness of the proposed  
6 pilot programs. The RIM test is an appropriate test for assessing the cost-  
7 effectiveness of load-building programs. Although not all transportation  
8 electrification programs are load-building, the proposed pilot programs likely fall into  
9 this category because they are designed to increase the adoption of electricity as a  
10 transportation fuel compared to what would likely have occurred in the absence of the  
11 program. In contrast, a program promoting efficient EVSE in place of standard  
12 EVSE may be considered energy efficiency, as it focuses on improving equipment  
13 efficiency and saving electricity compared to what would have otherwise occurred.  
14 Cost-effectiveness for such a program could be assessed using established procedures  
15 for energy efficiency programs in Oregon.

16 **Q. Did the Company consider alternative methods for evaluating cost effectiveness?**

17 A. Yes, the Company evaluated all of the five standard DSM cost-effectiveness tests  
18 described in the California Standard Practice Manual:

- 19 • The Participant Cost Test (PCT) assesses the costs and benefits to program  
20 participants;
- 21 • The RIM test assesses the program's impact on all customers' rates;
- 22 • The Total Resource Cost (TRC) Test assesses the costs of DSM as a resource  
23 option as compared to supply-side alternatives;

- 1           • The Societal Cost Test (SCT) is a variant of the TRC that includes
- 2           externalities, for example environmental benefits and national security; and
- 3           • The Program Administrator Cost Test (PACT, also known as the Utility Cost
- 4           Test, or UCT) assesses DSM as a resource considering only the costs borne by
- 5           the program administrator.

6   **Q.    Why is the RIM test the most reasonable of the standard DSM tests for**  
7   **evaluating cost-effectiveness of transportation electrification pilot programs?**

8   A.    The TRC, SCT, and PACT are designed to assess DSM programs as resource options.  
9    For example, the Commission uses the TRC test when assessing the cost-  
10   effectiveness of energy efficiency programs because these programs avoid costs  
11   associated with generating or purchasing and delivering electricity. However, these  
12   tests are not as meaningful for assessing programs that *increase* load, as stated in the  
13   Standard Practice Manual: “[f]or load building programs, only the RIM tests are  
14   expected to be applied. The Total Resource Cost and Program Administrator Cost  
15   tests are intended to identify cost-effectiveness relative to other resource options. It is  
16   inappropriate to consider increased load as an alternative to other supply options.”

17           While the Company plans to educate customers on the costs and benefits of  
18   transportation electrification, the PACT also has limitations in assessing the cost-  
19   effectiveness of these programs, as it only considers benefits to program participants,  
20   not all customers.

21           For these reasons, of the established tests for assessing cost-effectiveness of  
22   DSM programs, the RIM test is the most appropriate test for utility transportation  
23   electrification programs that are expected to build load. Under this framework,

1 program benefits include increased retail revenue, payments from drivers for use of  
2 Company-owned equipment, Clean Fuels Program credits generated and monetized  
3 from Company-owned equipment and tax credits realized from Company-owned  
4 equipment. Program costs include costs to serve new load (including any required  
5 upgrades to the distribution system) and any costs borne by Pacific Power in  
6 implementing the program, including incentives to participants, capital expenditures,  
7 operations and maintenance, and administrative costs.

8 It is important to draw a distinction between transportation electrification  
9 programs and programs that focus on PEVs and/or EVSE. For example, a program  
10 designed to encourage customers to purchase EVSE that is more energy-efficient than  
11 baseline equipment should be considered energy efficiency and subject to standard  
12 procedures for assessing cost-effectiveness of energy efficiency in a given  
13 jurisdiction. Similarly, a program to control charging patterns of existing EVSE  
14 should be considered a load management program and assessed accordingly.

#### 15 **STAKEHOLDER ENGAGEMENT AND STATE PROGRAM COORDINATION**

16 **Q. Did PacifiCorp engage in a stakeholder process as part of the development of its  
17 proposed pilot programs?**

18 A. Yes, Pacific Power engaged in a robust stakeholder process through public input  
19 workshops, meetings with individual entities and requests for feedback on initial  
20 program plans.

21 **Q. How did PacifiCorp incorporate the results of the stakeholder process into the  
22 design of the proposed pilot programs?**

23 A. The stakeholder process identified the following themes:

- 1           • Lack of awareness of electric transportation options and benefits is a major  
2           barrier to widespread adoption.
- 3           • Transportation electrification represents an opportunity to help low-income  
4           customers, but the barriers to adoption in these communities are not well-  
5           understood.
- 6           • Current levels of PEV and EVSE adoption are unlikely to adversely affect the  
7           electrical grid, but the importance of off-peak charging will grow over time.
- 8           • Utility efforts should stimulate innovation, competition, and customer choice.
- 9           • Standard non-residential rate schedules make the business case for DCFC  
10          operation challenging. At current utilization levels, utilities should look for  
11          creative solutions to tying DCFC rates to energy consumption rather than peak  
12          demand.
- 13          • Utilities should propose programs in phases, testing program concepts and  
14          benefits on a small scale before proposing large investments.
- 15          • Program participants should have some “skin in the game” to ensure they are  
16          invested in maintaining charging equipment.
- 17          • Because of the mobile nature of vehicles, utilities should focus incentives on  
18          EVSE, which is tethered to the utility service area.

19          The Company used this stakeholder input to develop its TES, initial pilot programs,  
20          and Public DC Fast Charger Optional Transitional Rate.

21      **Q.     What programs did PacifiCorp evaluate for potential coordination**  
22      **opportunities?**

23      A.     The proposed pilot programs are designed to complement other efforts to accelerate



1 transportation electrification in Oregon, including:

- 2 • Oregon's Zero Emission Vehicle Mandate;
- 3 • Oregon's Clean Fuels Program;
- 4 • State tax credits for residential and business vehicle charging equipment and  
5 alternative fuel fleet vehicles (currently scheduled to expire at the end of  
6 2017);
- 7 • The Oregon Department of Transportation's efforts to increase the availability  
8 of EVSE along the state's highways;
- 9 • Portland General Electric Company's proposed transportation electrification  
10 programs;
- 11 • Drive Oregon's efforts, including the development of the EV Showcase;
- 12 • Local communities' climate and/or transportation action plans;
- 13 • Potential future involvement by the Northwest Energy Efficiency Alliance, the  
14 Energy Trust of Oregon, or other organizations; and
- 15 • Outreach and education efforts and EVSE development that may stem from  
16 the Volkswagen Clean Air Act Partial Settlement.

17 PacifiCorp is also actively engaged in the Washington Utilities and  
18 Transportation Commission's process to establish policies around utility  
19 transportation electrification programs, will file its initial transportation electrification  
20 programs with the California Public Utilities Commission this summer, and has  
21 proposed a transportation electrification program to the Utah Public Service  
22 Commission. Over time, there may be opportunities to coordinate program offerings  
23 across PacifiCorp's multi-state service area.

1 **Q. After evaluating these programs, did PacifiCorp identify opportunities for**  
2 **coordination?**

3 A. Yes. Through the proposed Outreach and Education program, we will look for  
4 opportunities to co-develop and co-brand educational materials with Drive Oregon,  
5 Clean Cities Coalitions, or other organization working in this space to provide  
6 credible and consistent information to customers. The program will also make  
7 customers aware of available benefits from other programs, including tax credits and  
8 Clean Fuels Program credits, which may help offset the upfront or ongoing costs of  
9 transportation electrification. When considering potential sites for Company-owned  
10 public charging infrastructure, the Company plans to engage the Oregon Department  
11 of Transportation to understand which areas are most underserved by existing  
12 DCFCs.

13 **Q. Will PacifiCorp continue to monitor state programs for coordination**  
14 **opportunities?**

15 A. Yes.

16 **Q. Has PacifiCorp received stakeholder support for its proposed pilot programs?**

17 A. Yes, we have received support from entities across our Oregon service territory. I  
18 have included letters of support from the following entities as Exhibit PAC/101:

- 19
- City of Albany

20

  - City of Corvallis

21

  - City of Dallas

22

  - City of Independence

23

  - City of Portland, Bureau of Planning and Sustainability

- 1 • City of Sutherlin
- 2 • Hacienda Community Development Corporation
- 3 • Klamath Falls Downtown Association
- 4 • OReGONbike LLC
- 5 • Rogue Valley Clean Cities (representing 10 cities in Jackson County)
- 6 • Sunset Empire Transportation District

### **PUBLIC CHARGING PILOT**

8 **Q. Please describe the Company’s proposed public charging pilot.**

9 A. Through the proposed pilot, Pacific Power will install, own, and operate public fast  
10 charging “pods”<sup>4</sup> within its Oregon service area. These pods will fill gaps in the  
11 existing network of public DCFCs in the Company’s service area, where private  
12 investment has been slow to develop to date.

13 **Q. How many public charging pods does the Company propose to own as part of**  
14 **this pilot?**

15 A. The Company proposes to own up to seven fast charging pods through this pilot.

16 **Q. Did the Company consider owning more public charging pods as part of this**  
17 **pilot?**

18 A. Yes, the Company considered larger levels of investment, but understood stakeholder  
19 interest in a phased approach to test this ownership model and potential impacts on  
20 the competitive market before proposing a larger investment. The seven pods  
21 considered in the pilot will allow the Company to deploy EVSE in areas that are not  
22 well-served by other market actors while the market continues to develop.

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<sup>4</sup> A typical pod configuration is expected to consist of four dual-standard DCFCs and one Level 2 charger.

1 Volkswagen's Electrify America, for one, will be making a considerable investment  
2 in public DCFCs, but has already indicated that the first 30 months of that investment  
3 will be focused on major metropolitan areas and long-range corridors.<sup>5</sup> If, after the  
4 pilot period, the Company's Oregon service area continues to be underserved by  
5 public EVSE, there may be a larger role for the Company in deploying public EVSE.

6 **Q. Where does the Company propose to locate these public charging pods?**

7 A. All pods will be located within the Company's Oregon service area. To maximize  
8 access, visibility, and convenience for drivers, the Company will look for  
9 opportunities to site charging pods in the public right-of-way, preferably curbside. If  
10 enough suitable locations in the public right-of-way cannot be identified, the  
11 Company will assess the suitability of its own property, followed by opportunities to  
12 locate charging pods on non-residential customer property.

13 **Q. How will the Company determine what type of equipment and services to  
14 procure as part of this pilot?**

15 A. The Company will issue a Request For Proposals (RFP) to providers of vehicle  
16 charging equipment, network services, installation, and maintenance. To streamline  
17 program administration, the Company prefers to select a single vendor offering a  
18 turnkey solution, but will also consider bidders offering individual components.

19 **Q. Who will operate and maintain the public charging pods?**

20 A. Vendors selected through the RFP process will operate and maintain the equipment.

21 **Q. Does the Company intend to charge the users of the public charging pods?**

22 A. Yes.

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<sup>5</sup> Electrify America, *Our Plan*, <https://www.electrifyamerica.com/our-plan> (last visited Mar. 31, 2017).

1 **Q. How will the Company determine the appropriate rate to charge users of the**  
2 **public charging pods?**

3 A. Before the go-live date of the first charging pod, the Company will make an advice  
4 filing with the Commission to establish station pricing. The rates will consider the  
5 prices for public charging services offered by other entities in its Oregon service area  
6 to propose rates that:

- 7 • Stimulate competition during the period when pods will be in operation;
- 8 • Encourage off-peak charging;
- 9 • Encourage efficient use of the equipment (i.e., parking space turnover);
- 10 • Are comparable to typical rates for public charging services charged by other  
11 entities in the Company's Oregon service territory; and
- 12 • Recognize the difference in cost and value of DCFCs and Level 2 EVSE.

13 **Q. Does the Company intend to file a tariff setting forth rates for public charging**  
14 **offered by the Company?**

15 A. Yes. Please refer to Mr. Meredith's direct testimony for an illustrative tariff and  
16 additional details regarding how the Company proposes to charge for this service.

17 **Q. Will all of the public charging stations in this pilot program charge users the**  
18 **same rate? If not, please explain how the Company proposes to differentiate**  
19 **rates at different locations.**

20 A. Yes, the rates in the tariff will apply to all stations. Local taxes and fees may apply.

21 **Q. What are the potential benefits of public charging within PacifiCorp's service**  
22 **territory?**

23 A. Driver payments for station use and any available tax credits will be considered

1 benefits in cost-effectiveness analysis. Additionally, the intent of these stations is to  
2 promote additional adoption and/or use of PEVs. The new revenue from these  
3 vehicles charging at locations in the Company's service area other than at Company-  
4 owned charging pods will also be a benefit to the Company's customers.

5 **Q. Will these potential benefits accrue to the Company's customers?**

6 A. Yes.

7 **OUTREACH AND EDUCATION PILOT**

8 **Q. Please describe the Company's proposed Outreach and Education pilot.**

9 A. The proposed Outreach and Education pilot is designed to increase awareness of  
10 electric transportation options and help the Company's customers make informed  
11 decisions about the adoption and operation of plug-in electric vehicles and EVSE.  
12 The pilot program will test the effectiveness of different outreach tactics on  
13 accelerating transportation electrification, through four distinct program components:

14 1. **Customer communications:** Pacific Power will develop direct customer  
15 communications and paid advertising to educate customers on PEV options  
16 and benefits. Messaging will help build awareness, promote off-peak  
17 charging, and direct customers to additional Outreach and Education pilot  
18 elements and other proposed pilot programs.

19 2. **Self-service resources and tools:** Pacific Power will expand its electric  
20 transportation online resources and contract for additional online tools  
21 accessible to all customers. Educational resources will allow customers to  
22 access customized information about electric transportation technologies,  
23 costs, benefits, incentives, and additional resources.

1           3. **Technical assistance:** Pacific Power will sponsor customized technical  
2           assistance for non-residential customers considering EVSE projects in its  
3           Oregon service area. Through a competitive bidding process, the Company  
4           will develop a network of qualified consultants to perform on-site EVSE  
5           feasibility assessments for interested non-residential customers.

6           4. **Community events:** Pacific Power will fund an estimated eight ride-and-  
7           drive events in its communities and make funding available to sponsor  
8           additional events in the service area promoting electric transportation that can  
9           increase awareness of electric transportation.

10   **Q.   Why is it important for the Company to perform electric transportation**  
11   **education and outreach to its customers?**

12   A.   Today, very few of PacifiCorp's customers indicate a willingness to even *consider* a  
13   PEV in the next five years. This is likely due to a lack of awareness about the true  
14   cost of ownership, vehicle options, and features and uncertainty about how and where  
15   to charge. For widespread transportation electrification to occur, consumers require  
16   access to accurate, objective information from a trusted source to determine whether  
17   PEVs are right for them. Given existing customer relationships, communication  
18   channels and excellent customer service ratings, PacifiCorp is optimally situated to  
19   play this role. The Company's outreach and education efforts will not only help build  
20   the market generally, but will also inform customers about other pilot program,  
21   increasing their effectiveness.

**DEMONSTRATION AND DEVELOPMENT PILOT**

1  
2 **Q. Please describe the Company's proposed demonstration and development pilot.**

3 A. Through the Demonstration and Development pilot program, the Company will  
4 award competitive grant funding to non-residential customers to encourage  
5 development of creative, customer-driven electric transportation projects in its  
6 Oregon service area. These grants are designed to help non-residential customers  
7 overcome upfront cost barriers to EVSE development and empower customers to  
8 develop projects that can address additional market barriers, such as lack of  
9 awareness, lack of public EVSE and limited access for low-income customers and  
10 other underserved communities. Grant recipients will be required to share project  
11 cost information and EVSE utilization data with Pacific Power, which will help the  
12 Company better understand transportation electrification projects in different market  
13 segments and potential impacts to the electrical system to inform future planning.

14 On a quarterly basis, the Company will invite customers across its dispersed  
15 Oregon service area to bring transportation electrification projects forward for grant  
16 funding. Pacific Power grants will be available specifically for the EVSE costs  
17 associated with a project, which can include make-ready, hardware, installation and  
18 upfront software purchase costs. Pacific Power will engage a third-party grant  
19 manager to review and score projects based on established criteria. Pacific Power  
20 will work closely with the grant manager to ensure that applicant evaluation tools and  
21 practices align with program objectives.

22 **Q. Does the Company have experience with similar program designs?**

23 A. Yes, the design of the proposed pilot program is similar to the grant funding process



1 under the Company's Blue Sky program. Since 2006, the Blue Sky funding process  
2 has helped bring nearly 100 community-driven renewable energy projects online in  
3 over thirty Pacific Power communities, on behalf of participating Blue Sky program  
4 customers.

5 **Q. Can you provide examples of potential demonstration and development projects**  
6 **the Company expects to see as part of this pilot?**

7 A. Yes, the pilot project Pacific Power participated in with Hacienda Community  
8 Development Corporation, Drive Oregon and the City of Portland is a prime example  
9 of the type of projects envisioned for this pilot. The project brought together multiple  
10 partners to test a new model for increasing access to electric transportation in low  
11 income communities.

12 **Q. How will the Company evaluate and select proposed projects?**

13 A. Following successful practices of Pacific Power's Blue Sky funding awards, the  
14 Company will engage an independent, third-party grant manager, selected through a  
15 competitive request for proposals process, to review and score projects based on  
16 established criteria, including: project feasibility and expected utilization, customer  
17 and Company funding commitments, and opportunities to test advanced technologies.  
18 Pacific Power will work closely with the grant manager to ensure that applicant  
19 evaluation tools and practices align with program objectives.

20 **Q. Did the Company consider alternative methods for evaluating and selecting**  
21 **projects?**

22 A. Yes, the Company considered performing in-house application evaluation, but  
23 determined that the third-party evaluation process utilized for Blue Sky grant funding

1 would be appropriate in this pilot as well. Because Company representatives may  
2 have existing relationships with some or all applicants, an independent third-party  
3 evaluator will increase objectivity of the selection process and ensure that funding  
4 awards adhere to the established evaluation criteria. The Company also considered  
5 limiting program eligibility to non-profit organizations and government entities, but  
6 determined it was premature to limit participation before gaining experience with the  
7 types of customers who were likely to participate in the pilot. Program experience  
8 will allow the Company to determine whether non-profit organizations face different  
9 barriers to EVSE development, such as an inability to monetize available tax credits.  
10 Rather, non-profits and government entities will be given priority in the application  
11 evaluation process to encourage community-driven projects and decrease the  
12 likelihood of program funding going to businesses with sufficient resources to  
13 implement these projects.

14 **Q. How does the Company intend to weight the evaluation criteria?**

15 A. The Company will work with the selected third-party grant manager to develop criteria  
16 weighting that reflects the objectives and priorities of the program for the initial funding  
17 solicitation. For example, gathering project data is a primary objective, whereas  
18 employing local labor, while encouraged, is not a primary program objective. After  
19 one or two funding cycles, we expect to have a large enough pool of applications to  
20 determine whether the weighting should be adjusted to stimulate projects that further  
21 the program objectives.

1 **Q. Does the Company propose soliciting feedback from stakeholders or the**  
2 **Commission before awarding grants?**

3 A. No, the Company will not solicit input from stakeholders or the Commission on  
4 specific grant awards, but welcomes input from stakeholders during this proceeding  
5 on the proposed evaluation criteria. Once the evaluation criteria are established, the  
6 Company will utilize these to screen applications and award grants. The Company  
7 will report on grant awards in 2019 as part of its 2017-2019 progress report to the  
8 Commission and in its 2020 Transportation Electrification Pilot Report.

9 **Q. Please explain why grants are limited to only upfront costs of EVSE.**

10 A. As discussed previously in this testimony, the Company's stakeholder input process  
11 identified concerns with utilities providing funding for vehicles, due to their mobile  
12 nature. Additionally, given the 3-year timeframe of the proposed pilot, the Company  
13 did not want to commit to funding ongoing expenses beyond the pilot period. For  
14 these reasons, pilot funding is limited to offsetting upfront EVSE costs. In addition to  
15 enabling projects that may have occurred in the absence of Company funding,  
16 funding for EVSE may allow grant recipients to repurpose funds that would have  
17 been designated for EVSE for vehicles, ongoing expenses or awareness-building.

18 **Q. How are other market actors likely to engage with this pilot program?**

19 A. As the Company is not prescribing specific types of transportation electrification  
20 project or technology, grant applicants will be able to engage with various market  
21 actors to identify projects, technology and services that best meet their needs. The  
22 Company is hopeful that transportation electrification market actors will help build

1 awareness for the pilot as they engage with non-residential customers interested in  
2 transportation electrification projects.

3 **Q. What are the likely benefits of this pilot program to PacifiCorp's customers?**

4 A. Pacific Power and its customers will benefit from the pilot through new retail revenue  
5 associated with funded projects, increased awareness of and access to EVSE and from  
6 new data on market barriers and vehicle charging patterns that can be used for future  
7 program and system planning. Program participants will receive a direct benefit in  
8 the form of grant funds to offset upfront project costs.

9 **COST RECOVERY**

10 **Q. How does the Company propose to recover the costs of these pilot programs?**

11 A. The Company proposes to recover the operating costs of the pilot programs through  
12 Schedule 95 – Pilot Program Cost Adjustment. Pacific Power estimates that the  
13 Public Charging Pilot will result in an average 0.03 percent rate impact over the pilot  
14 period; the Outreach and Education Pilot will result in an average 0.03 percent rate  
15 impact over the pilot period; and the Demonstration and Development Pilot will result  
16 in an average 0.04 percent rate impact over the pilot period. Collectively, the pilot  
17 programs will result in an average 0.1 percent rate impact over the pilot period.

18 **Q. Is the proposed cost recovery consistent with other pilot programs the Company  
19 operates?**

20 A. Yes. The cost recovery methodology proposed here is the same as that which the  
21 Commission has approved for the Company's irrigation load control program.<sup>6</sup> The

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<sup>6</sup> PacifiCorp d/b/a Pacific Power Oregon Tariff Advice No. 16-04 (Mar. 4, 2016) and Tariff Advice No. 16-07 (Apr. 21, 2016).

1 Company has proposed a measured approach to investment in these pilot programs to  
2 test program design, market barriers, and the ability to accelerate transportation  
3 electrification. The proposed cost recovery method will allow the Company to  
4 recover the costs associated with these modest investments and allow for a pass-  
5 through of benefits from the pilot program, such as revenue from public charging  
6 equipment or other locations.

7 **Q. How does the Company propose to show that pilot program costs are prudently**  
8 **incurred?**

9 A. The Company proposes an annual report to the Commission on the status of the pilot  
10 programs. As part of this annual report, the Commission and stakeholders will have  
11 the opportunity to review the pilot program costs.

## 12 CONCLUSION

13 **Q. What is your recommendation regarding the Company's supplemental**  
14 **application and proposed pilot programs?**

15 A. I recommend approval of the Company's proposed pilot programs, as outlined in the  
16 Company's supplemental application and supported by my testimony and that of Mr.  
17 Meredith. Approval of these programs will be an initial step to ensure that  
18 transportation electrification is accessible, well-understood, and supports a modern  
19 and efficient electrical grid. In addition, I recommend the Commission approve  
20 concurrent recovery of the pilot program costs through the Company's existing  
21 Schedule 95 –Pilot Program Cost Adjustment.

22 **Q. Does this conclude your direct testimony?**

23 A. Yes.