

August 27, 2010

VIA ELECTRONIC FILING AND OVERNIGHT DELIVERY

Oregon Public Utility Commission 550 Capitol Street NE, Ste 215 Salem, OR 97301-2551

Attn: Filing Center

RE: UM 1461 – Opening Comments of Pacific Power

PacifiCorp d/b/a Pacific Power ("Company") encloses for filing its Opening Comments of Pacific Power in the above-referenced proceeding. As indicated on the attached certificate of service, a copy of this filing is being served to all parties on the service list.

Please contact Joelle Steward, Regulatory Manager, at (503) 813-5542, for questions on this matter.

Sincerely,

Andrea L. Kelly Use President, Regulation

Enclosure

cc: Service List - UM 1461

CERTIFICATE OF SERVICE

I hereby certify that I served a true and correct copy of the foregoing document in Docket No. UM-1461 on the following named person(s) below by e-mail and first-class mail addressed to said person(s) at his or her last-known address(es) indicated below:

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Ariel Son

Coordinator, Administrative Services

BEFORE THE PUBLIC UTILITY COMMISSION **OF OREGON**

UM 1461

In the Matter of

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PUBLIC UTILITY COMMISSION OF **OREGON**

Opening Comments of Pacific Power

Investigation of matters related to electric vehicle charging.

- PacifiCorp d/b/a Pacific Power ("Pacific Power" or "Company") submits the 2 following Opening Comments in the above-referenced docket in response to the straw 3 proposal issued by Commission Staff on July 22, 2010. The straw proposal identified
- 4 proposed policies and guidelines related to the development and implementation of electric
- vehicle¹ ("EV") charging rates and infrastructure². As further described below, Pacific 5
- 6 Power's responses to the questions raised by the straw proposal are in the order in which they
- 7 were presented. Pacific Power respectfully requests that the Commission not perceive the
- 8 absence of comments on any particular issue or other matter as a conclusive indication of
- Pacific Power's lack of interest with respect thereto.³ Pacific Power acknowledges the 9

¹ Pacific Power defines "electric vehicle" to mean a ground vehicle manufactured or modified to use electricity and propelled by a motor powered by electrical energy from rechargeable batteries or other source onboard the vehicle, or from an external source in, on, or above the roadway; specific examples include plug-in hybrid electric vehicles and battery-only electric vehicles.

² Pacific Power defines "infrastructure" to mean line extensions, transformers, structures, machinery, controls, software, and other equipment necessary to support the safe electricity charging of an electric vehicle.

³Based on Staff's clarification of the scope of the proceeding noted at the August 13, 2010 workshop, the Company's comments are limited to on-road EVs (i.e., Nissan Leaf, Chevrolet Volt, etc). However, consideration of other EV programs such as off-road equipment (e.g., forklifts, airport ground support equipment, cold ironing), medium- and heavy-duty vehicles (e.g., hybrid transit buses, utility trouble-trucks, delivery trucks), and even rail (e.g., high speed rail, light rail) should not be overlooked.

1 ongoing nature of the issues addressed herein and reserves the right to modify or present 2 additional comments at a future time, as permitted.

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A. BACKGROUND

4 At this time, the primary role of the Commission and the electric utilities is to identify 5 barriers to the ECOtality/eTec EV Project ("EV Project") involving electric service or 6 electric policies (including regulatory policies) that could compromise or hinder the EV 7 Project and, if so, to determine how to address those barriers. It is not the Company's role to 8 pursue policies that would result in shifting of costs that should be borne by EV users to 9 other utility customers, even though such policies might provide incentives for EV penetration. To ensure that reliable cost of service data is available to properly allocate and 10 develop electric rates applicable to EV charging, it is critical in the early stages of the 12 deployment of this new technology to identify and capture reasonable opportunities for 13 information collection regarding the amount and time of electric usage by this technology. 14 Pacific Power has prepared these Opening Comments with these interests in mind. 15 The EV Project has paved the way for unprecedented rates of adoption of EVs in 16 Oregon. The Nissan Leaf and Chevrolet Volt, both partners in the EV Project, are expected to 17 begin to appear in the communities of Portland, Salem, Corvallis and Eugene in 2010 under 18 the umbrella of the EV Project. While the majority of the EV Project's sales projections are 19 for vehicles that will be sold in the Portland area, the projections also include estimates for 20 Corvallis/Albany, Bend and Medford. Additionally, interest has spread from the communities identified in the EV Project to other parts of the state. Electric vehicle charging

⁴ In assessing the impact of EV policies, it is important to recognize that EV end use is unique in one critical aspect from other electric end uses. EV end use will result in a shift of carbon dioxide ("CO2") risk from the transportation sector to the electric utility sector of the economy. Depending upon the ultimate structure of the greenhouse gas emissions reduction regime, that risk shift could also shift CO2 reduction costs to electric customers.

stations have already been installed in the Pacific Power communities of Albany, Lincoln City, Coos Bay and Bend.

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Initial usage data will provide important guidance with respect to cumulative impacts in Pacific Power service territory. In the short term, the number of vehicles and charging stations are not expected to have major impacts on total load; each level 2 charger is similar to the capacity impact of a new clothes dryer coming online. Pacific Power will assess and identify unusual impacts on the Company's system as the number of electric vehicles increase. At this early stage, Pacific Power would look to the EV Project to compile charging station usage and charging behavior data. Operators of charging stations that received federal stimulus funding as part of the EV Project, are obligated to participate in data collection. Data collection is expected to begin in the fourth quarter of 2010 – once charging stations have been installed – and will continue to be collected and submitted to the Idaho National Laboratory quarterly through the third quarter of 2012. With regard to EV owners with home chargers, Pacific Power will solicit similar usage and charging behavior data from auto manufacturers and other utilities that have collected the data. The Company will also be considering policies that encourage EV owners and public charging station operators to install metering capable of registering the time and amount of EV charging separately from other electric usage.

⁵ Pacific Power understands that some drivers of the Nissan LEAF (and, where available, the Chevrolet Volt) who qualify to participate in the EV Project will also be provided with a residential charger at no cost, and most if not all of the costs of installation will be paid for by the EV Project. Moreover, residential charging data will be collected by eTec from these installations (i.e., akin to data collection from EV public charging stations), submitted to the Idaho National Laboratory, and shared in some form with the local electric utility.

I. Goals and Objectives

- 1. Enable the development of both privately owned and publicly available "Electric Vehicle Service Equipment" (EVSE) infrastructure in a way that is flexible and keeps all options open to different "electric vehicle" (EV) charging business models as the market matures.
- 2. Manage the impact of EV charging on utility load profiles and infrastructure by encouraging charging at off peak periods, and anticipate the potential for EV's to provide ancillary services.
- 3. Ensure no undue shifting of Electric Vehicle related costs onto non participating ratepayers.

Pacific Power Response:

Pacific Power supports the proposed goals and objectives in the straw proposal. In particular, the flexibility identified in the first goal is crucial since the deployment of EVs and the supporting infrastructure is at a very early stage. This flexibility will allow the market to develop naturally. While the Company is not currently proposing edits to the goals and objectives, the Company offers the following with regard to Goal No. 2. Anticipating "the potential for EVs to provide ancillary services" is a reasonable goal; however, there could be different interpretations by parties about what that potential entails. The Company understands that the ability of EVs to provide ancillary services is still in the research and development stages. Moreover, the potential penetration and load impacts of EVs on the utility's systems is still uncertain, particularly for Pacific Power's service area, since many of the estimates have studied only a fraction of the Company's service area in Oregon.

Therefore, the Company cautions placing too much emphasis on this potential at this time, until a better understanding of the market develops. As with any new technology, the

1 Company will monitor the potential impact and incorporate it in the Company's future 2 integrated resource plans ("IRP") as appropriate. 3 II. Legal Issues 4 1. What federal or state laws apply when an entity buys power from a public utility 5 and sells or provides EVSE charging services to the public? 6 a. In answering question (1), discuss whether such an entity would be a 7 "public utility" under ORS 757.005 subject to PUC regulation when it 8 buys power, for the purpose of providing or selling EVSE charging 9 service, either: (i) from a public utility at the PUC-regulated rate or (ii) 10 on the wholesale market. For question (1)(a)(i), discuss any federal or state laws that may apply when an EVSE service provider buys power 11 from a public utility at the PUC-approved retail rate and sells it at a 12 13 different price for the purpose of EV charging. 14 b. In answering question (1), discuss whether an entity that sells or provides 15 power as described in question (1)(a) would be an "Electric Service Supplier" (ESS). In responding to this question, consider the implications, 16 17 if any, of Commission Order 08-388. 18 2. If there are laws that apply to an EVSE service provider who buys power and 19 sells or provides EVSE charging services to the public, could the EVSE service 20 provider avoid the application of any applicable laws by adopting pricing models such as: 21 22 a. Memberships where the EV driver pays a flat monthly fee; 23 b. Implementing a convenience charge where the driver pays a flat fee for 24 the EVSE charging service regardless of kWh's used; 25 c. Offering other services such as having an attendant; d. Offering free EVSE charging service with validation by a local business; 26 27 e. Other? 28 29 **Pacific Power Response:** 30 As a general matter, the Commission and EVSE owners are best positioned to make 31 legal determinations to facilitate the implementation of EVSE in Pacific Power's service 32 territory and in this state. In this context, Pacific Power provides the following observations.

2 EVSE owner/operator is the end user availing itself of the generation, transmission and distribution system of the public utility. Accordingly, EVSE owners/operators pay pursuant 3 4 to whatever retail rate is offered to them or, in instances where there is choice, whatever rate 5 they have elected. It can be argued that when an EVSE operator makes a sale to the public, 6 the operator is selling electric charging service and not electricity. Thus, ORS 7 757.005(1)(b)(G) is subject to an interpretation that the Commission currently has no authority delegated from the legislature to regulate the price charged for such a service.⁷ 8 9 Other state and federal laws, however, may apply to the provision of electricity for 10 use in motor vehicles, including Oregon's service territory allocation statutes, Oregon's safety statutes and the Federal Power Act.⁸ In this context, Pacific Power encourages the 11 Commission and EVSE owners to work to develop a sound legal basis for the development 12 of public charging stations for EV use in Oregon. This effort may involve consultation with 13 14 the legislature to ensure that there is a clear legislative and regulatory structure to ensure the 15 long-term development of public charging stations, consistent with consumer protection, 16 safety and other important objectives.

A public utility provides electricity service to EVSE owners/operators, since the

 $^{^{6}}$ "Electricity service" means electricity distribution, transmission, generation or generation-related services. ORS 757.600(15).

⁷ An individual EV owner charging at home would not likely be considered an electric service supplier under Oregon law, since they would not sell "electricity services" available pursuant to direct access to more than one retail electricity consumer. ORS 757.600(16).

⁸ If an EVSE's service for EV charging is deemed a sale for resale, then the price/rate for such service is subject to exclusive FERC jurisdiction. In this context, amendments to the Company's Oregon tariff may be necessary. Alternatively, if the service does not constitute a sale for resale, the Commission could regulate the price/rate if the legislature delegates the Commission the authority to do so. Such a delegation would be a matter of state policy. The Company is not advocating a position on that policy at this time but is concerned about EV usage being served on embedded cost rates that are not time differentiated.

III. Regulatory Policies and Guidelines

A. Policies related to developing public charging infrastructure

1. Rate Schedules for Publicly Available EVSE Stations: Public utilities shall propose a rate schedule solely applicable to publicly available EVSE stations. This rate schedule shall reflect differences in the utility's cost of serving EV charging loads by time of day, day of week, and month of year. The rate schedule shall include an option that allows EV charging customers to opt for a mix of power that includes a higher percentage of low or zero carbon generation at a rate that reflects cost of service.

Pacific Power Response:

At this time, the Company does not support separate rate schedules, mandatory timeof-use pricing, or mandatory separate metering for all EV charging, but, as discussed below, the Company does believe there is a system benefit to installing sufficient numbers of separate meters to obtain a reliable random sample of usage data.

Consistent with goal No. 2 in the straw proposal, time-of-use rate options should be made available to customers that would *encourage* them to charge in the off-peak period. Edison Electric Institute ("EEI") and the National Association of Regulatory Utility Commissioners ("NARUC") and the EV industry should collaborate to educate EV owners and EV dealers on the value of this option. Current Oregon portfolio time-of-use options are available to customers today and could be enhanced to accommodate EV charging (public or private) in the future.

It is premature at this early stage of EV development to predetermine that charging loads will be significant, dramatically different than other loads or worthy of different regulatory treatment. Differentiating regulatory treatment for particular end uses can be problematic in that encouraging or discouraging one use over another can position the utility in a policing role and pit customers against one another. The Company should gather what

- 1 information it can as the EV market develops, but should not presuppose outcomes until the
- 2 Company has better data.

- The Company offers the following additional thoughts:
- On road EV use is currently in its infancy, and until charging unit design, customer
 behavior and utilization are better understood, mandatory requirements at this stage
 are premature.
 - Voluntary time-of-use rates for EV charging should be available, and customer selection of such rates encouraged. A mandatory time-of-use rate can require the utility to police its customers and to apply sanctions if customers fail to comply.
 Prior to the consideration of mandatory time-of-use rates, these issues would need to be addressed.
 - As previously noted, if one goal is to avoid other customers subsidizing EV charging, reliable information regarding time and amount of EV charging is essential to designing rates. If reliable and applicable data is unavailable from sources such as the EV Project or EV manufacturers, a sufficient number of separate meters to achieve a reliable random sample would benefit the system. Since this data is a benefit to the system by facilitating appropriate rate design, the cost of procuring such data could reasonably be considered a system cost.
 - Lastly, all customers currently have the option to participate in the Company's voluntary renewable resource options under the Blue Sky programs. The ability to participate in these programs should adequately address a charging station owner's interest for low or zero carbon generation, if so desired. Developing a separate option for EV charging stations, or any specific end use, could be complex to administer and

- confusing for customers. Surely, there may be overlap between EV purchasers and customers who would like to charge those vehicles through our Blue Sky program, which the Company is confident it can facilitate with current offerings.

 The Company recommends the following changes to the proposed policy:

 Rate Schedules for Publicly Available EVSE Stations: Public utilities shall
 - Rate Schedules for Publicly Available EVSE Stations: Public utilities shall develop educational materials targeted to EVSE Station owners that provide information on the value of the utility's time of use options as well as its voluntary renewable energy options. propose a rate schedule solely applicable to publicly available EVSE stations. This rate schedule shall reflect differences in the utility's cost of serving EV charging loads by time of day, day of week, and month of year. The rate schedule shall include an option that allows EV charging customers to opt for a mix of power that includes a higher percentage of low or zero carbon generation at a rate that reflects cost of service.
 - 2. Cost of Distribution Upgrades or Reconfigurations: Existing policies stated in public utility rate schedules governing cost allocation for distribution upgrades or reconfigurations, including but not limited to line extensions and new connections (e.g. "PGE Rule I"), shall apply to new infrastructure requirements for publicly available EVSE service. All distribution system expansions or reconfigurations needed to serve publicly available EVSE service load shall be treated in the same manner as any other distribution system expansion or reconfiguration. Reasonable costs associated with the implementation of separate rate schedules for EV charging, including separate metering, billing, data collection or other EV related administration costs, shall be recovered from all the utility's customers.

Pacific Power Response:

Pacific Power generally supports the proposed policy, which follows the existing policies and rate schedules including, but not limited to, line extension and new connections as already defined within Pacific Power's current Oregon tariff. The Company can accommodate all expansions, reconfigurations or system upgrades through the current tariffs when new or existing customers apply for upgrades or new service. Due to present inability to determine load placement, customer penetration, and environmental impact with this enduse customer segment, the Company reserves the right to propose to adjust tariffs as data

1 supports or validates impacts to customer base or electrical network. Presently, the data to 2 support the number of EVs is minimal and encouraging off-peak charging with time-of-use 3 rates should reduce impacts to electrical infrastructure. 4 3. Utility Ability to Dispatch EV Charging: Public utilities shall also propose a 5 separate tariff or an option within the tariff developed under III.A(1) that gives the public utility the ability to actively control the charging rate during peak load 6 7 periods. Such control may include the right of the public utility to reduce or 8 interrupt power flow for EV charging. 9 **Pacific Power Response:** 10 As previously noted, the Company supports the availability of voluntary time-of-use 11 rates for EV charging. The Company is considering policies and actions that will encourage 12 EV users and public charging stations to elect such rates. For example, the point of sale of 13 the EV is one opportunity for encouraging the EV owner to sign up for time-of-use rates. 14 The Company is encouraging the EEI and the NARUC to coordinate with EV manufacturers 15 and sellers regarding this messaging. 16 Pacific Power is not taking a position regarding mandatory time-of-use rates, 17 mandatory real-time rates or marginal cost pricing for EV charging at this time. 18 4. **Information on emissions to customers:** Public utilities shall provide all publicly 19 available EVSE customers with information on the typical generation resource 20 mix and CO2 emissions rates using the same time differentiation used in the EV 21 charging rate schedule described in III.A(1). 22 **Pacific Power Response:** 23 Consistent with the Company's response to III.A.1. above on rate schedules, the 24 Company does not support the development of a separate generation resource mix and CO₂

emissions for EV charging. The Company currently provides fuel mix disclosures for all rate

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options under OAR 860-038-0300.

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5. **Utility Ownership and Operation of EVSE Stations:** Public utilities may install and operate publicly available EVSE stations. Costs, including but not limited to the design, installation, operation or maintenance of publicly available EVSE stations shall not be recovered in rates. Power supply to any utility owned publicly available EVSE station shall be charged at the same PUC approved rate as would apply if the publicly available EVSE station were independently owned.

Pacific Power Response:

Pacific Power does not support the pre-determination of rate treatment in policy No. 5 and believes it is inconsistent with goal No. 1 in the straw proposal, which recognizes that flexibility is needed at this early stage of market development for EV infrastructure. Pacific Power owns and maintains street lighting systems for many communities around the state of Oregon. In this context, communities have made informal inquiries to Pacific Power about the installation and maintenance of publicly available EV charging stations. Concerns about the installation and maintenance of a new technology may generate interest from smaller communities until there is greater market acceptance and familiarity with EV charging technologies. Such circumstances, and others, may or may not justify inclusion of EVSE costs in rates, but the Commission should not preclude a utility from bringing forth a proposal.⁹

Additionally, a utility may have a role in responding to concerns about damaged or nonfunctioning public charging EVSE stations. It is reasonable to assume Pacific Power may be contacted about issues involving EVSE and from time-to-time asked by local emergency response officials to deenergize or physically remove nonfunctioning or damaged EVSE. It is also reasonable to assume Pacific Power will need to provide some amount of customer service support and/or training on the proper installation, operation, and maintenance of EVSE. Pacific Power interprets the proposed policy as not being so narrowly construed as to

⁹ In addition, the Company believes that this policy is not intended to apply to a utility's decision regarding the adoption of EVs for its fleet and requests that the Commission confirm this to be the case.

1 prohibit cost recovery for these types of activities just because owners or users of public 2 charging EVSE stations are likely take advantage of them. 3 В. Policies related to private charging 4 **Pacific Power Response:** 5 Pacific Power's comments related to policies for public charging above are relevant 6 for the policies related to private charging. 7 C. EV's as a provider of Ancillary Services Staff has identified the following Integrated Resource Planning guidelines to address the 8 9 potential for EV's to provide ancillary services for the integration of renewable 10 generation. 11 1. Forecast the Demand for Flexible Capacity: The electric utilities shall forecast 12 the balancing reserves needed at different time intervals (e.g. ramping needed 13 within 5 minutes) to respond to variation in load and intermittent renewable 14 generation over the 20 year planning period. 15 2. Forecast the Supply of Flexible Capacity: The electric utilities shall forecast the balancing reserves available at different time intervals (e.g. ramping available 16 17 within 5 minutes) from existing generating resources over the 20 year planning 18 period. 19 3. Evaluate Flexible Resources on a Consistent and Comparable Basis: In 20 planning to fill any gap between the demand and supply of flexible capacity, the 21 electric utilities shall evaluate all resource options, including the use of EV's, on 22 a consistent and comparable basis. 23 **Pacific Power Response:** 24 As previously discussed, because the technology to use EVs to provide ancillary 25

As previously discussed, because the technology to use EVs to provide ancillary services is still in its infancy, it is premature to adopt new specific IRP guidelines to address its potential. In the case of staff's proposed IRP guideline 3, Pacific Power notes that there are significant IRP modeling issues that need to be addressed to adequately characterize EVs as a consistent and comparable resource. For example, the role of a smart grid infrastructure and related costs likely need to be considered to fully capture the economics of EV ancillary service integration. As the technology matures, the Company will incorporate the potential

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- 1 into its IRP in a manner consistent with the appropriate modeling and based on feedback
- 2 from the public process. The public process and acknowledgement process effectively
- 3 guards against a significant resource potential being overlooked. Accordingly, these
- 4 guidelines are not necessary at this time. Moreover, the Company recommends that in the
- 5 event that the Commission wanted to pursue new IRP guidelines, that new proposed
- 6 guidelines be addressed in an IRP proceeding in order to ensure that interested parties have
- 7 an opportunity to address new IRP related requirements.

DATED: August 27, 2010.

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