

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

UM 1461

In the Matter of

PUBLIC UTILITY COMMISSION OF
OREGON

Investigation of matters related to Electric
Vehicle Charging.

ORDER

DISPOSITION: GUIDELINES ADOPTED; UTILITIES ORDERED TO
MAKE REVISED TARIFF FILINGS

I. PROCEDURAL HISTORY

At our December 8, 2009, Public Meeting, we opened this docket at our Staff's request to investigate matters related to the charging infrastructure for plug-in hybrid vehicles and electric vehicles (collectively referred to as EVs).¹ Specifically, we intended this docket to address general matters related to the emergence and development of the EV charging market and industry, including the role of electric utilities with regard to owning and operating EV service equipment (EVSE) and acting as EV service providers (EVSP). The Citizens' Utility Board of Oregon (CUB) noticed its intervention in the investigation, and the following parties were authorized over the course of the docket to intervene as parties: the Oregon Department of Energy (ODOE); ECOtality, Inc.; Smart Grid of Oregon (SGO); Grid Mobility LLC; Mitsubishi Motors R&D of America; the Oregon Department of Environmental Quality (DEQ); Nissan North America, Inc.; CleanFuture; the Northwest Energy Coalition (NVEC); Portland General Electric Company (PGE); PacifiCorp, dba Pacific Power (Pacific Power); and Idaho Power Company (Idaho Power).

On June 22, 2010, Staff and interested parties participated in a public workshop to discuss the scope of the investigation. Staff subsequently prepared a "straw proposal," published on July 22, 2010, that was intended to facilitate and focus further discussion in the docket. On August 6, 2010, a second public workshop was held. Staff and parties submitted opening comments on August 27, 2010.

¹ See Staff Report for December 8, 2009 Public Meeting, Item No. 4.

On September 9, 2010, we presided over a technical workshop with Staff and the parties. Following this workshop, the presiding Administrative Law Judge (ALJ) suspended the procedural schedule to allow us time to consider the issues identified by the parties' opening comments, and to issue a bench request seeking comment on additional issues. On November 15, 2010, the ALJ issued a bench request on our behalf, directing Staff and the parties to provide more information and answer questions regarding specific issues.

On December 9, 2010, a prehearing conference was held to establish a procedural schedule to continue the docket. On February 10, 2011, Staff and parties responded to the bench request, as well as to the opening comments that had been submitted on August 27, 2010. Another public workshop was held on March 2, 2011. Closing comments were submitted by the parties on April 1, 2011.

II. DISCUSSION

Before we discuss the issues identified in our bench request, we address the scope of this docket. During the various rounds of comments, Staff and the parties discussed a wide variety of EV-related issues, including overarching goals for the development of the EV market in Oregon.

We reiterate that we opened this docket to evaluate the state of the nascent plug-in EV market and determine what, if any, regulatory guidance the market needed to guide its development. We deemed it important to initially address what role, if any, investor-owned utilities should play in owning and operating charging stations and promoting EVs in other ways, and the nature of cost recovery for any activities by the utilities. We also determined that there were issues to address at the outset of EV market development in the following areas of concern:

1. The jurisdictional status of non-utility EVSPs;
2. Rate design for EV charging;
3. The allocation of costs for distribution system upgrades;
4. Whether changes to the Integrated Resource Planning (IRP) guidelines to address flexible resources are needed; and
5. Whether new planning and reporting guidelines are needed.

Although we appreciate the thoughtful discussion among Staff and the parties regarding goals for the development of the EV market, we find it too early to declare overarching goals. We will continue to assess the market as it develops and address issues as they arise.

A. Ownership and Operation of EVSE

1. *Non-Utility EVSPs*

a. *Parties' Positions*

Concerns were raised very early in these proceedings about a lack of regulatory certainty regarding the jurisdictional status of non-utility sales of EV charging services including the provision of electricity to the public. Staff initially identified four legal issues: (1) is a provider of EV charging services a “public utility” under Oregon law; (2) is an EVSP is an “electric service supplier” (ESS) under Oregon law; (3) are there legal constraints on electricity sales by an EVSP’s sales of electricity to an EV owner, and (4) is the sale of electricity by a public utility to an EVSP subject to regulation by the Federal Energy Regulatory Commission (FERC)?²

First, Staff contends an EVSP would be neither a public utility nor an ESS under Oregon law. Staff states that ORS 757.005 broadly defines a “public utility” as an entity that “owns, operates, manages or controls all or part of any plant or equipment” in the state of Oregon “for the production, transmission, delivery or furnishing of * * * power, directly or indirectly to or for the public.”³ Staff notes, however, that ORS 757.005(1)(b)(G) exempts from that definition any entity providing electricity as motor fuel, provided the entity does not also furnish any utility service. Staff argues that a non-utility EVSP that owns and operates equipment solely to provide charging services to EVs is not a utility under the ORS 757.005(1)(b)(G) exception.

ECotality, Inc., CUB, and Idaho Power agree that EVSPs are not public utilities under Oregon law. PGE notes that a determination about the legal status of any entity depends on the specific facts, but agrees that EVSPs will usually not be defined as public utilities under ORS 757.005(1)(b)(G). Pacific Power expresses concern, however, that it is arguable that when an EVSP sells “electric charging services,” and not just electricity, that the ORS 757.005(1)(b)(G) exception may not apply.

Second, Staff contends that a non-utility EVSP is not an ESS subject to regulation under ORS 757.600 to 757.689, because an ESS is defined by its provision of “ancillary services.”⁴ If an EVSP does not provide ancillary services, or use a utility distribution system to provide power to EVs, the EVSP is not an ESS, Staff reasons. ECotality, Inc. and PGE agree with Staff’s analysis. CUB agrees as well, observing that the statutory list of ancillary services does not contemplate EV charging services as an ancillary service.

² Staff Opening Comments, p. 4.

³ ORS 757.005(1)(a).

⁴ See Order No. 08-388 (Docket DR 40). ORS 757.600(2) defines the term, “Ancillary Services,” as services “necessary or incidental to the transmission and delivery of electricity from generating facilities to retail electricity consumers, including but not limited to scheduling, load shaping, reactive power, voltage control and energy balancing services.”

Third, with regard to other legal constraints on non-utility EVSPs, Staff states that the territorial allocation statutes⁵ do not apply to EVSPs because of the exception found in ORS 757.005(1)(b)(G). Staff expresses concern, however, that each electric utility has a retail tariff that prohibits a customer from “reselling” electricity provided by the utility. Although it is arguable that this prohibition would not apply to the resale of electricity under ORS 757.005(1)(b)(G), Staff recommends that the utilities revise the tariffs to explicitly allow a customer to resell electricity as motor fuel. PGE agrees, indicating that the current wording of the company’s retail tariff likely prohibits an EVSP from buying electricity and reselling it to charge an EV.⁶

Finally, Staff does not believe that FERC would exert jurisdiction over the sale of electricity by a utility to an EVSP for resale to an EV owner. Staff notes that this issue was raised in a proceeding regarding EVs before the California Public Utility Commission (CPUC) due to the grant to FERC, pursuant to 16 U.S.C. § 824, *et seq.*, of exclusive authority over interstate sales of electricity for resale by public utilities (i.e., wholesale sales).⁷ Staff reports that the CPUC concluded that an EVSP buys electricity from a utility as an end-user, making the transaction a retail sale that is not subject to FERC jurisdiction.⁸ Staff adds that the EVSP’s sale of charging services to an EV owner could be considered as “a sale of something other than ‘electricity.’”⁹ Staff suggests it could be argued that EVSPs sell “alternative fuel,” or value-added electrical charging services.¹⁰

Idaho Power makes a case, however, that a transaction that involves the sale of electric power from a public utility to an EVSP that immediately resells the power as charging services to an EV owner is arguably a wholesale transaction subject to regulation by FERC. Idaho Power observes that the Federal Power Act defines the “sale of electric energy at wholesale” as a “sale of electric energy to any person for resale,”¹¹ whereas a retail sale involves the sale of electricity to end user that consumes the energy.¹² Idaho Power argues that an EV charging station will not consume the electricity purchased from a utility, but will rather sell it to another customer for actual consumption. ECOTality, Inc., counters that the sale of electricity by a utility to an EVSP can be structured to be a retail sale, not a wholesale sale, by avoiding a reference to the sale of kWh.

⁵ The territorial allocation statutes at ORS 758.400 to ORS 758.475 generally prohibit any person from providing a utility service in a territory that has been allocated to another “person.”

⁶ PGE Opening Comments, p. 11.

⁷ 16 U.S.C. §824 (a)-(b); *Transmission Agency of Northern California v. Sierra Pacific Power Co.*, 295 F.3d 918, 928 (9th Cir. 2002) (“16 U.S.C. §§ 824-824m delegates to the Federal Energy Commission ‘exclusive authority to regulate the transmission and sale at wholesale of electric energy in interstate commerce’”) (quoting *New England Power Co. v. New Hampshire*, 455 U.S. 331, 340 (1982)).

⁸ Staff Opening Comments, p. 7, citing to CPUC Final Decision on Rulemaking R0908009 (Jul 29, 2010).

⁹ *Id.* at 7.

¹⁰ *Id.* at 7-8.

¹¹ Idaho Power Opening Comments, p. 4, citing 16 U.S.C. § 824(d).

¹² *Id.* citing Rules Concerning Certification of the Electric Reliability Organization, 114 FERC P 61104 at **18 (Feb 03, 2006).

b. *Resolution*

For the reasons above, we conclude that ORS 757.005(1)(b)(G) expressly exempts a non-utility EVSP that provides charging services to EVs from being defined as a public utility. Regardless of how charging services are defined, we find that when electricity is furnished as part of the charging services provided by an EVSP and that electricity is used as motor fuel only, the exception to ORS 757.005 applies. We further conclude that an EVSP exempted under ORS 757.005 is not subject to other regulatory requirements imposed on utilities in ORS Chapters 757 and 758, including the territorial allocation laws.

We also conclude that a non-utility EVSP is not an ESS to the extent that it does not own generating facilities. As we determined in Order No. 08-388, a person is not an ESS unless it “offers to sell electricity services available *pursuant to direct access* to more than one retail electricity consumer.”¹³ We noted in Order No. 08-388 that, “[d]irect access’ is defined as ‘the ability of a retail electricity consumer to purchase electricity *and* certain ancillary services * * * directly from an entity other than the distribution utility.’”¹⁴ An EVSP that purchases electricity rather than generates electricity from a generating facility cannot provide ancillary services and is, therefore, not an ESS.

To the extent a utility’s retail electric tariff may be interpreted to prohibit the sale of electricity by a charging station that purchases electricity from the utility, we direct the utility to submit an advice filing, within sixty days of the entry of this order, with a revised tariff that permits a customer to re-sell electricity as motor fuel, consistent with ORS 757.005(1)(b)(G). If a utility does not interpret its retail electric tariff to prohibit the sale of electricity by a charging station that purchases electricity from the utility, we direct the utility to file a letter explaining why no revisions are needed to the tariff.

We do not make any conclusions at this time regarding whether the FERC may exert jurisdiction over an EVSP. The plug-in EV market is nascent, and EVSP business models are just beginning to develop. While we acknowledge the benefits of jurisdictional certainty for all potential EV market players, we find we cannot prognosticate about the course of EV market development, nor about how FERC may or may not exercise jurisdiction over future market players. We advise parties to raise their concerns directly to FERC.

2. *Utility Ownership and Operation of EVSE Without Rate Recovery*

Most parties addressed the proper role of utilities in the provision of EVSE. The comments focused on the question whether utility ownership and operation of publicly available EVSE in any form—even without regulated rate recovery—would permit the full development of a competitive marketplace for EV charging services.

¹³ Order No. 08-388 at 12, citing ORS 757.600(6) (emphasis in original) (Docket DR 40) (Jul 31, 2008).

¹⁴ *Id.*

a. Parties' Positions

Staff originally proposed a guideline that would allow public utilities to own and operate publicly available EVSE, but would preclude rate recovery for any utility investment, including, but not limited to, investment for the design, installation, operation, and maintenance of publicly available EVSE stations. Staff envisioned that utility ownership and operation of the EVSE would be conducted as an unregulated, competitive “below-the-line” venture by the utility or by an unregulated and competitively priced affiliate company of the utility. Staff took no position regarding which arrangement is preferred.

ECotality, Inc., argues that only utility affiliates should own and operate EVSE stations. ECotality, Inc., cautions that unregulated utility ownership of EVSE stations on a below-the-line basis may create latent competition that discourages the private market. ECotality, Inc., argues that utilities may have a marketing advantage to the extent that preexisting relationships exist between municipality officials and utility representatives.¹⁵ CUB also recommends that utilities own and operate EVSE stations through affiliate companies as a means to ensure financial separation. ODOE opines that utility affiliate ownership of EVSE stations may be ideal, but recommends adopting a flexible approach to ownership and operation of EVSE stations by utilities. NWEC similarly prefers utility affiliate ownership, but is hesitant to recommend that an exception never be made for certain circumstances such as pilot station development, technological testing, or investment in underserved areas.

Pacific Power argues that there should be no predeterminations regarding whether utilities will own and operate EVSE stations, and the scope or nature of any utility ownership or operation of EVSE.¹⁶ Pacific Power urges the Commission to be flexible at this early stage of market development. PGE and Idaho Power similarly recommend flexibility, urging the Commission to not overly restrict the form and nature of utility investment at this time.

b. Resolution

At this early stage of development for the plug-in EV industry, we deem it paramount to allow all market players, including the electric utilities, to have flexibility to respond to emerging market demands. We do not find that allowing utilities to potentially participate in the EVSE market will necessarily impede the vibrancy of the whole market. Electric utilities should be allowed to invest in EVSE and operate EV charging stations as a non-regulated, non-rate based venture. A utility may decide how to structure its ownership and operation of EVSE and charging stations, whether below-the-line as a non-regulated utility investment, or as a utility investment.

¹⁵ ECotality, Inc., Closing Comments, p. 2.

¹⁶ Pacific Power Response to Bench Request, p. 2.

Our rules provide a Code of Conduct (*see* OAR 860-038-0560) that applies equally to utility investments structured below-the-line or undertaken by a utility affiliate and addresses the fair treatment of competitors and the prevention of cross-subsidization between competitive operations and regulated operations.

We advise a utility to thoroughly and carefully consider how to structure the ownership and operation of EVSE. We are concerned that legal questions related to this decision were not fully explored in these proceedings. For example, whether a utility can provide electricity without any rate regulation, even as part of EV charging services on a below-the-line basis, needs to be thoroughly analyzed. A utility providing EVSE on a below-the-line basis would also need to be careful to avoid violation of territorial allocation laws. We address issues related to rate recovery of any EVSE investment immediately below.

3. *Utility Investment and Operation of EVSE With Rate Recovery*

At the September 10, 2010, workshop, we heard conflicting opinions on whether a utility should be able to recover in rates the costs of publicly available EVSE stations. To gather more information on the issue, we asked the following questions in the bench request:

If the Commission permits utilities to own publicly available EVSE stations, what standards of review should the Commission use to determine when recovery of utility investment in publicly available EVSE stations is warranted? What are the implications, if any, of the used and useful standard (ORS 757.355) for utility investment in charging stations?¹⁷

a. Parties' Positions

At the outset, Staff notes that the Commission may allow rate recovery for utility investment in EVSE. Staff states that providing electricity for the purpose of charging an EV is a utility service, but it is a service that non-utilities may also provide under the exemption stated in ORS 757.005(1)(b)(G), as discussed above.¹⁸ Staff explains, "if EV charging were not a utility service, then the legislature would not have needed to create the ORS 757.005(1)(b)(G) carve-out."¹⁹ Staff therefore concludes that ORS 757.355, which precludes recovery of investment not used to provide utility service, does not apply.

Although there is general agreement that rate recovery is allowed for EVSE, there are varying positions regarding whether the Commission should permit such recovery, and under what circumstances. Staff recommends the Commission set a very high bar for rate recovery of utility investments in EVSE. Staff asserts that rate-based charging stations should not unfairly compete with independent charging stations, nor should

¹⁷ Commission Bench Request, p. 1 (Nov 15, 2010)

¹⁸ Staff Response to Bench Request, p. 10.

¹⁹ *Id.*

utility owned charging shift costs from EV owners to all ratepayers. Staff proposes that the Commission permit rate recovery of utility investments in EVSE only when the following criteria are met:

1. The utility's cost (investment and operating) in charging stations must meet the same net benefit test as other utility investments.²⁰

Staff indicates that utility EVSE costs should be evaluated within the Commission's traditional regulatory measures of service quality, the fairness and reasonableness of rates, and the prevention of undue cost shifting. Staff observes that the net benefit analysis will vary depending upon whether a utility seeks to recover costs from the EV class alone, or from all ratepayers. In order to justify general rate recovery, Staff states that a utility would have to demonstrate net benefits provided to all ratepayers. Staff explains, "[f]or example, the utility might show that investments in public charging will help implement demand response or achieve better utilization of existing fixed assets."²¹

would also need to show that the benefits could only be provided by the utility and not another party—e.g., a utility affiliate or a third party EVSP.

2. Charging infrastructure is essential at the location to facilitate plug-in EV adoption in the area.

Staff suggests that the Commission should consider factors such as: (a) whether the proposed location is on an important travel corridor that requires adequate charging; (b) the proposed location would fill a gap on a corridor that could not be adequately served by private charging stations; and (c) utility service at the proposed location would enable private charging stations to competitively serve other locations on the corridor.

3. There is no likelihood that a third party EVSP or utility affiliate could provide the same services at the location or a nearby location.

Staff suggests that solicitation of third party bids should always precede utility investment.

4. The utility has a separate EV rate class.

²⁰ Staff Closing Comments, p. 4.

²¹ Staff Response to Bench Request, p. 9-10.

Regardless of the circumstances, CUB takes the position that EVSE investment should not be included in a utility's rate base.

All three utilities argue that regulatory flexibility with regard to the development of the plug-in EV market should allow for the possibility that circumstances might warrant utility investment in EVSE that is rate-based. Analogizing to municipal street lighting systems provided for the public benefit with costs therefore rate based, Pacific Power recommends that the Commission not preclude a utility from bringing forth a proposal to rate base prudently-incurred EVSE investment. PGE similarly urges the Commission to not preclude or limit utility ownership of EVSE, but instead evaluate specific utility proposals to the extent they are made.²² Idaho Power observes that the company generally agrees with Staff's proposed guidelines, but points to Pacific Power's example of municipality street lights as a reason why that it may not be necessary to establish a separate rate class. Idaho Power observes that since "the potential models for utility ownership of EV charging infrastructure are all hypothetical at this time * * * the Commission should wait until a specific factual scenario arises before making a definitive finding."²³

ECotality, Inc., argues that utilities do not necessarily have an inherent advantage working with local governments to site EV charging stations in public rights-of-way, and points out that ECotality, Inc., is actually working now with several local governments. ECotality, Inc., also observes that the "streetlight" analogy falls short because municipalities do not use streetlights to generate revenue. ECotality, Inc., also observes that utilities are obligated to provide electrical service, not equipment. ECotality, Inc., offers the following advice:

While flexibility is a virtue in an emerging market with many unknowns, third parties nonetheless need some degree of certainty that utilities won't be allowed to crowd out the rapid evolution of a cost effective, innovator-led market for the charging infrastructure space. Stated alternatively, the foundational rules of the market must be sound and predictable. Allowing utilities to profess lack of serious interest in being EVSPs on the one hand but granting them that future capacity on the other purposefully alienates those innovators who have made the commitment and allocated the resources to build robust Oregon wide charging station infrastructure right now. Accordingly, this is the Commission's best early market opportunity to provide guidance in a clear manner that protects the competitiveness of this fledgling industry.²⁴

²² Docket No. UM 1461, PGE Final Comments, p. 3.

²³ Idaho Power Closing Comments p.5

²⁴ ECotality, Inc., Closing Comments, p. 3.

b. Resolution

We agree with Staff and parties that the used and useful test under to ORS 757.355 does not preclude rate recovery for utilities providing plug-in EV charging services, and conclude that utilities may legally recover EVSE installation and operation costs in rates. Utility requests for rate recovery for EVSE investment will be very closely scrutinized, however. We will use Staff's recommended criteria to analyze any future utility proposals to rate base EVSE investment, but also reserve the right to consider additional criteria, as appropriate.

We expect a utility that requests rate recovery for EVSE investment to make a *compelling* case that the utility's ownership and operation of the EVSE is beneficial to ratepayers—not just the public generally. Utilities suggest that prudence be the primary measure used to determine whether EVSE investment should be recoverable in rates. We respond that prudence, in the context of EVSE investment, requires a showing of net benefits to customers. We find, therefore, that Staff's first criterion is fundamental to the analysis. We note, however, that a showing that utility EVSE investment has net benefits to customers may be dependent on a showing of Staff's other criteria, such as the necessity of installing and operating charging infrastructure at the particular location to facilitate plug-in EV adoption in the greater area, and the lack of a third party EVSP or utility affiliate to provide the same services at the location or a nearby location.

B. Rate Design

At the start of these proceedings, some parties favored use of a separate plug-in EV rate with sub-metering, while others urged adoption of seasonal, time-of-use (TOU) rates. In our bench request, we asked the following:

The Commission asks parties to further discuss both approaches—a seasonal/time-of-use-rate schedule with separate or sub-metering for EV charging versus a time-of-use rate for the entire home or business with an EV charging station. The Commission also encourages parties to think more broadly about the issue to consider alternatives other than time-of-use rates that could be used by utilities and other to encourage off-peak charging. For example, Staff has considered whether a discounted rate class should be created for EV charging in exchange for service being interruptible during on-peak periods. The Commission asks parties to comment on the merits or disadvantages of this approach. Should any approach used to encourage off-peak charging of electrical vehicles be initially implemented as a pilot program? The Commission also asks parties to comment about the role of customer education with regard to EV charging during the off-peak.²⁵

²⁵ Bench Request, p. 2.

1. *Parties' Positions*

a. *Staff*

In opening comments, Staff recommended that utilities be required to create a separate EV rate schedule that would be mandatory for all EV charging customers. Staff favored creating a separate EV rate in order to encourage off-peak charging for the vehicles, and to provide utilities and the Commission with data on charging patterns.²⁶ Staff also noted that "if a separate EV rate is not in place during the early adoption phase, it will only get harder over time to require appropriate cost-based EV rates."²⁷

Staff recommended spreading the costs associated with metering and billing for a separate EV rate schedule across all ratepayers. Although assigning these costs to the EV class would be more consistent with traditional cost causation principles, Staff argued that off-peak charging will improve utilities' load profiles and create benefits for all ratepayers. Staff also worried that the one-time costs associated with creating a new rate class would likely be too large, relative to the small number of early adopters for plug-in EVs.

In response to the Commission's bench request, Staff acknowledged that a TOU rate for an EV customer's entire premise would retain the benefits of promoting off-peak charging. Staff identified five plug-in EV rate policies for the Commission's consideration:

1. The status quo, with voluntary whole premise TOU rates and no EV-specific rate;
2. Mandatory whole-house TOU rates for customers whose utility currently has a TOU rate, with the status quo for EV customers with no currently offered TOU rate;
3. Mandatory separately metered TOU-EV rates for all customers;
4. A choice of separately metered EV rates versus whole premise TOU rates for all EV customers; or
5. Allowing only residential EV customers the choice, with all non-residential EV customers on a mandatory separately metered EV rate.

Staff further modified its proposal, however, in response to concerns raised by other parties about Staff's original recommendation. Staff now recommends that residential and small commercial (below 30 kW) EV customers be allowed to choose between a separate rate for EV charging and a whole premise TOU rate. Staff still recommends that a separate EV rate schedule with a three time period structure be created and be the only option for large customers.

²⁶ Staff Response to Bench Request, p 17.

²⁷ *Id.* at 18.

b. CUB

CUB takes the position that separate metering is largely unnecessary for residential EVs and ill-advised because meter installation would discourage adoption of plug-in EVs. CUB also observes that separate metering is superfluous for data collection purposes since the vehicles and charging stations could be utilized for this purpose. CUB recommends that there be a wide range of charging rate options for plug-in EV owners, including TOU and voluntary service interruptible rates. CUB indicates that the available rate structures should be revenue-neutral in aggregate, but have enough variation across time periods to provide incentives to try the TOU or voluntary interruptible rates.

CUB also encourages the Commission and the utilities to contemplate smart charging systems that match EV charging and excess wind and hydro capacity. CUB recommends the Commission require the three utilities to report within six months of closure of this docket on steps necessary to implement smart charging in their Oregon service territories.

c. ODOE

ODOE expresses concern that mandating specific rate designs at the beginning stages of market development may create barriers to adoption of the technology. ODOE urges the Commission to make EV and whole premise TOU rates available on a voluntary basis.

d. ECotality, Inc.,

ECotality, Inc., contends a separate EV rate should be created that would be voluntary for residential customers but mandatory for all non-residential customers. ECotality, Inc., argues that this approach, “best balances the policy objective of consumer choice while addressing cost-shifting concerns that would otherwise exist from daytime non-residential charging as well as create the broadest consistence of EVSE by keeping the rate structures identical.”²⁸ ECotality, Inc., explains the separate EV rate should be mandatory for all non-residential customers due to concerns about the potential impact of demand charges on EVSE installations. Otherwise, ECotality, Inc., notes that small commercial customers such as gas stations or convenience stores may install DC fast-charging stations and have high traffic, causing the hosts to exceed their monthly peak limits, thereby incurring high demand and high capacity, rendering the charging stations uneconomic. At the very least, ECotality, Inc., asks that a separate EV rate be available, if not mandatory.

ECotality, Inc., asserts that any issues related to separate metering will lessen as the advantages of embedded meters become clearer. ECotality, Inc., agrees with Staff’s recommendation that the Commission open a second investigation into sub-metering. ECotality, Inc., suggests that submetering pilot studies or voluntary joint collaborations with utilities would be appropriate. ECotality, Inc., also agrees with CUB’s suggestion that a pilot study examining smart charging and wind integration be undertaken.

²⁸ ECotality, Inc., Closing Comments, p. 4.

e. NWEC and SGO

Although NWEC favors separate metering for EV customers, NWEC worries that cost and logistical issues associated with a separate meter mandate might pose significant barriers to EV adoption, particularly in the residential setting. For this reason, NWEC does not support a requirement for separate or sub-metering, at least at this time. NWEC instead recommends that all EV charging customers be able to choose among existing flat rates, a whole premise TOU rate, or a separately metered EV TOU rate. NWEC recommends that EV charging customers be assigned, as a default, a TOU rate, thereby encouraging off-peak charging, but allowing customers to opt-out.

SGO also supports customer choice. SGO is confident that EV consumers will gradually choose TOU rates for charging needs, but asserts that it is important not to be overly prescriptive in the early stages of EV adoption.

f. PGE

PGE opposes the creation of a separately metered EV rate, arguing that a separate rate would impose additional costs and administrative issues that would encourage customers to bypass notification to the utilities. PGE also worries that potential savings would initially be mitigated by costs associated with metering. Hypothetically, PGE illustrates that a residential plug-in EV driver that drives 1,000 miles per month would pay about \$17.50 for the month on an EV TOU as opposed to \$25 a month at the regular retail rate of 250 kWh, but that such savings do not account for metering costs. PGE observes that a separate meter would require a separate customer account that requires a basic monthly charge.

PGE agrees with CUB that there should be collaboration among the parties to investigate the ability to use EV and EV charging stations for data collection and metering. PGE recommends that a research project be undertaken that would compare on-board information to metered data to investigate the validity of on-board data collection.

g. Pacific Power

Pacific Power contends that plug-in EVs should not be treated differently than other electrical appliances from a rate design perspective. Pacific Power asserts that no compelling argument has been made that power delivered to a level 2 or higher EV charging station must be separately metered. Pacific Power takes the position that a customer should choose, rather than be forced, to install a separate meter. Pacific Power worries that mandatory end use rates may conflict with existing rules and laws, such as ORS 757.601(2) which provides that residential customers must be allowed to have rate options.²⁹

²⁹ Pacific Power Closing Comments, p. 4, fn. 2.

h. Idaho Power

Idaho Power also opposes the creation of a separate EV rate class because there are too few customers to justify a new rate schedule, and too little data to properly design a rate schedule that reflects the actual costs to serve EV customers. Idaho Power argues that creation of a separate rate now would essentially be experimental, and would likely require significant redesign later. Idaho Power cautions that poorly designed rates can have negative effects on the market.

Idaho Power asserts Staff's argument that all customers should pay for the costs to create a separate EV class because the EV class is too small to bear the start-up costs on its own is evidence that it is premature to develop a separate EV class. Idaho Power also points out that while EVs may eventually provide system-wide benefits, they will not do so initially, at the time all customers are paying to create a separate EV class, thereby making costs and benefits asynchronous contrary to rate policy.

2. Resolution

Plug-in EVs are already available on the market, but market penetration of the cars will likely be measured. As previously noted, the industry is nascent, with development of the market inevitable, but in a manner and a scope that are not necessarily predictable at this time. We agree with Staff and other parties that it would be beneficial to establish rate mechanisms upfront to guide development in a manner that minimizes impact to the grid, provides cogent data about usage patterns, and sends accurate price signals to consumers. At the same time, however, we hesitate to exert undue influence too early on an embryonic market that may develop in ways we do not yet envision.

We also recognize that we do not yet have the means to identify the first adopters of plug-in EVs other than by self-identification. For this reason, EV-specific rates would be effectively offered on a voluntary basis, as consumers would need to report an EV load in order to be classified by the utility in the EV class. The voluntary nature of EV-specific rates likely would further reduce an initial EV customer base that is already too small to sustain the administrative costs that would be associated with creating and managing a separate rate class. Although we could spread the administrative costs of creating a separate EV rate class across all ratepayers, we acknowledge that it would be better to wait to do so in order to better match the net costs of creating and managing a separate EV rate class with the net benefits to the electric system from a vibrant EV market.

For these reasons, we conclude it is inappropriate, at least at this stage of the EV market development, to require mandatory EV-specific rates. Instead, we direct the utilities to provide all EV customers, regardless of rate class, with the following rate choices: (1) any existing applicable flat rate; (2) a whole premise TOU rate (to the extent a utility already offers this rate); and (3) an EV TOU rate that mimics a utility's whole premise TOU (to the extent a utility already offers this rate) but applies only to a plug-in EV by submeter. We direct each utility to submit an advice filing, within sixty days of the entry of this order, with the utility's revised electric tariff that provides this choice of rates to EV consumers, detailing the EV TOU rate. We expect the costs associated with creating

and managing an EV TOU rate that mimics a utility's whole premise TOU rate to be relatively minimal and spreadable to all ratepayers. We encourage the utilities to provide information to EV customers about the benefits of a TOU rates for EV use.

C. Distribution System Upgrades Guideline

Staff originally proposed that the “[e]xisting policies governing cost allocation for distribution upgrades or reconfigurations, including but not limited to line extensions and new connections, shall apply to new infrastructure requirements for publicly available EVSE service.”³⁰ In our bench request, we asked parties to answer three questions related to Staff's original proposal:

1. Will it be possible to assign responsibility for a utility's need to make significant distribution system upgrades to one or a limited number of “last to the system” EV customers?
2. If so, should the last to the system EV customer(s) be burdened with the full cost of the distribution system upgrade?
3. If not, what are reasonable rate alternatives to assigning full cost responsibility to the last to the system EV customer(s)?”

1. Parties' Positions

All three electric utilities have existing line extension policies. Under these policies, a customer that requests a line extension is provided with a cost allowance. Costs within the allowance amount are treated as an operation expense by the utility. Costs above the allowance are charged directly to the customer. Staff takes the final position that the utilities' existing policies governing cost allocation for line extensions should be applied in the context of plug-in EV charging loads. All parties agree with this position.

Staff and all other parties concur that the need to upgrade local distribution facilities results from the cumulative effect of numerous new loads, and that it is impractical and unfair to assign upgrade costs to any one load, even if the “last to the system” customer, such as a large plug-in EV charging load, could be identified. CUB, for example, states that rate recovery for all distribution upgrades, whether due to the installation of a hot tub or an EV charger should be handled in the same way same—i.e., as a monthly distribution charge on each customer's bill and a per-kWh charge, both of which varies by rate class.

Staff and other parties add that electric system load additions due to plug-in EV charging may not necessitate significant distribution upgrades should off-peak charging be successfully encouraged and EVSE facilities are strategically located.

³⁰ Staff Opening Comments, p. 9.

2. *Resolution*

We agree with Staff and all of the other parties in this docket that there is no discernible reason, at least at this time, to treat EV charging load differently than any other load with regard to distribution system upgrades. Moreover, we acknowledge that EV charging load may not necessitate system upgrades at any time should the load be effectively managed. Consequently, we adopt Staff's recommendation that utilities' existing line extension policies continue to apply, without modification, to all loads, including plug-in EV load.

D. **Integrated Resource Planning Flexible Resources Guidelines**

The current Integrated Resource Planning (IRP) guidelines are silent regarding flexible capacity. In opening comments, Staff proposed an IRP guideline to fill this need.

1. *Parties' Positions*

Staff's proposed IRP guideline has three parts, as follows:

1. **Forecast the Demand for Flexible Capacity:** The electric utilities shall forecast the balancing reserves needed at different time intervals (e.g. ramping needed within 5 minutes) to respond to variation in load and intermittent renewable generation over the 20-year planning period;
2. **Forecast the Supply of Flexible Capacity:** The electric utilities shall forecast the balancing reserves available at different time intervals (e.g. ramping available within 5 minutes) from existing generating resources over the 20-year planning period; and
3. **Evaluate Flexible Resources on a Consistent and Comparable Basis:** In planning to fill any gap between the demand and supply of flexible capacity, the electric utilities shall evaluate all resource options, including the use of EVs, on a consistent and comparable basis.

Staff asserts that the proposed IRP guideline is consistent with the language and content of the existing IRP guidelines, and addresses an issue that is relevant for resource and planning both now and in the future. Staff states, "[f]lexibility is an increasingly important consideration in the integration of higher percentages of variable renewable generation resources."³¹ Staff further comments that "EVs, as the first 'smart appliance', represent an opportunity to capture the power of demand response flexibility as a compliment to other flexibility strategies coming from generation and storage technologies."³² Although Staff realizes that EVs will not be ready to provide flexible

³¹ Staff Response to Bench Request, p. 25.

³² *Id.*

capacity any time soon due to measured market penetration and technical challenges, Staff argues that it appropriate to begin planning for the future and that a 20-year planning horizon is consistent with current IRP practice.

ECOtality, Inc., agrees, observing that as IRPs involve long-range planning, they should include developing technologies, or events may eclipse planning. ODOE recommends supports Staff's proposed IRP guideline. Neither NWECC nor CUB object to Staff's proposed IRP guideline, although CUB notes a possible practical limitation to EVs functioning as a flexible capacity resource should the manufacturers of EVs or EV batteries be reluctant to allow third parties access to EV battery storage capacity, thereby limiting flexible capacity availability from EVs.

All three utilities oppose adoption of Staff's proposed IRP guideline, arguing that the guideline is prematurely too prescriptive about planning for a resource that is still unknown and uncertain. Pacific Power complains about the administrative burden on a utility versus the analytical value of studies that would be undertaken pursuant to Staff's proposed guideline. Similarly, Idaho Power argues that given the significant uncertainties about whether and when EVs might provide flexible capacity, the Commission should direct utilities to consider, but not model such resources. PGE takes the position that adoption of Staff's proposed guideline is premature, and would impose long range speculative assumptions and create significant administrative burden.

All three utilities recommend further discussion and study in some other forum before adopting an IRP guideline related to flexible resource planning. Pacific Power urges the Commission to further study flexible capacity resources in a manner that accounts for each utility's planning and modeling framework, whether as part of an evolving investigation or through the public IRP processes. Pacific Power also notes that to the extent that these new guidelines are intended to inform the development of demand response programs more generally, the Commission should open an investigation to reevaluate all IRP guidelines related to demand response programs, rather than adopting certain new guidelines in an EV-specific proceeding. As already discussed, PGE suggests the Commission develop a pilot program to collect information to be used to late guide policy. PGE observes, however, that the company is increasing non-controllable variable generation in the form of wind and losing access to controllable flexible generation in the form of hydro. PGE acknowledges, therefore, that this situation makes the assessment of flexible generation an important component of PGE's IRP planning on a going forward basis. Consequently, PGE indicates that the first two parts of Staff's proposed guideline may have value. PGE argues, however, that it is unreasonable to link flexible capacity to EVs at this time, since EVs may be at least a decade away from commercial viability.

2. Resolution

At the outset, we conclude there is no need for further discussion on this issue. All three utilities submitted several rounds of comments regarding Staff's proposed guideline, including responses to our bench request. Although all three

utilities stated a preference to delay action on this matter, we find no procedural or legal obstacles that would prevent adoption of the proposed guideline now.

We acknowledge that it will take time until plug-in EVs are prevalent enough to provide flexible capacity, but, as PGE indicates, assessing flexible capacity is increasingly relevant now, and effective planning requires an expansive outlook. Staff's proposed IRP guideline relates primarily to planning for flexible capacity, with a reference to the need to begin evaluating, at the industry's developmental start, the ability for plug-in EVs to eventually provide flexibility capacity. We find both efforts appropriate to undertake at this time. While EV data is limited at this time, we agree with Staff that resource planning is always done on the basis of the best information available, and that not including EVs in current planning for the future assumes failure of the market.

Consequently, we adopt Staff's proposed IRP guideline. We direct each electric utility to address the new IRP guideline in its next IRP filing.

E. Additional Guidelines

In our bench request, we asked parties to consider whether there was a need for additional planning or reporting requirements to monitor the EV and EVSE markets. We also encouraged Staff and the parties to propose and discuss additional guidelines.

1. Parties' Positions

Staff does not recommend, at least at this time, the imposition of additional reporting requirements at this time. Rather, Staff contends that the utilities should report on EV issues in their respective IRPs. Staff also envisions that EV issues may eventually be addressed in smart grid plans, but indicates that such reporting will be addressed in another proceeding, docket UM 1460. Staff adds that its ability to serve data requests in an IRP docket or, as necessary, a rate case, provides sufficient opportunity to gather information on specific issues that may arise in the future. Pacific Power agrees.

CUB was the only party to recommend separate reporting requirements. CUB recommends that each utility submit quarterly reports with information about the number of registered EVs in the utility's service territory, the number of customers on each available rate plan, and analysis, to the extent possible, of average electricity consumption of each registered EV versus the owner's household usage. Additionally, CUB recommends that each utility report annually about EV consumption and charging patterns, system impacts, and the use of EVs as a load-balancing resource.

All three utilities opposed CUB's additional reporting requirements. Pacific Power responded that reporting by the EV Project by the Idaho National Laboratory on EV adoption, charging station use and EV owners' charging habits would be sufficient in the near-term. Pacific Power asserted that CUB's proposed reporting requirements would be burdensome and not easily utilized.

CUB also recommends an additional reporting guideline. CUB proposed that the Commission mandate each utility provide, within six months of the closing of this docket, a comprehensive analysis of what would be required under the utility's distribution system to allow EVs to be charged as a variable load that offsets intermittent wind. Other parties recommended further study of the market, discussion of pilot EV programs, and efforts to collect data or track federal programs, but did not suggest specific guidelines.

2. Resolution

We conclude that, at this time, the reporting and discovery associated with the new IRP guideline adopted above will be sufficient to monitor the EV markets. We are persuaded that Staff and parties will have appropriate opportunities to request information and ask questions during future IRP proceedings. To the extent EV related issues arise in general rate revision cases, Staff and parties will also have additional opportunities for investigation.

We will watch the EV market closely as it develops, and revisit these issues or address new issues as necessary and appropriate. We are open to proposals from Staff and any other party regarding EV pilot programs or other developmental programs, but we do not have sufficient information at this time to direct the utilities to participate.

III. ORDER

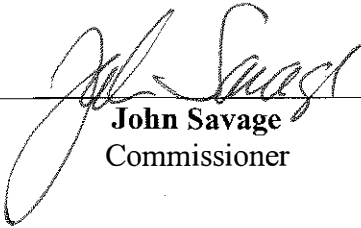
IT IS ORDERED that:

1. Within sixty days of the date of entry of this order, each electric utility will file a revised electric tariff by advice filing that:
 - a. explicitly permits a customer to re-sell electricity as motor fuel, consistent with ORS 757.005(1)(b)(G);
 - b. Provides all EV customers, regardless of rate class, with the following rate choices: (1) any existing applicable flat rate; (2) a whole premise TOU rate (to the extent a utility already offers this rate); and (3) an EV TOU rate that mimics a utility's whole premise TOU (to the extent a utility already offers this rate) but applies only to a plug-in EV by submeter.


If a utility determines it is not necessary to revise its electric tariff to explicitly permit a customer to resale electricity as motor fuel, consistent with ORS 757.005(1)(b)(G), we direct the utility to explain why in the advice letter.

- 2. We direct each electric utility to fully address the new Integrated Resource Planning guideline adopted herein in the utility's next Integrated Resource Planning proceeding.


Made, entered, and effective JAN 19 2012



John Savage
Commissioner



Susan K. Ackerman
Commissioner



Stephen M. Bloom
Commissioner



A party may request rehearing or reconsideration of this order under ORS 756.561. A request for rehearing or reconsideration must be filed with the Commission within 60 days of the date of service of this order. The request must comply with the requirements in OAR 860-001-0720. A copy of the request must also be served on each party to the proceedings as provided in OAR 860-001-0180(2). A party may appeal this order by filing a petition for review with the Court of Appeals in compliance with ORS 183.480 through 183.484.