**BEFORE THE PUBLIC UTILITY COMMISSION**
**OF THE STATE OF OREGON**

**UM 1461**

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| In the Matter of | ) | |
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| PUBLIC UTILITY COMMISSION OF OREGON | ) | OPENING COMMENTS OF PORTLAND GENERAL ELECTRIC COMPANY |
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| | ) | |
| Investigation of Matters Related to Electric Vehicle Charging | ) | |
| | ) | |

PGE appreciates the opportunity to comment on Staff's straw proposal[1] concerning electric vehicle (EV) charging rates and infrastructure. The Staff straw proposal is designed to elicit comments that relate to the appropriate roles for electric utilities in the development of EV charging infrastructure and rate structures for electricity used for EV charging. While preliminary discussions have focused on the EV passenger vehicle, we note that policies emerging from this docket will also apply to EV delivery vehicles, light and heavy duty trucks and other vehicles.

We support the deployment of EVs and recognize that PGE has a role in assuring that the utility system infrastructure accommodates EV charging. Today, we are still learning about EVs and associated charging requirements as well as possible uses to support "smart grid" and other system applications. We expect to rely on the information and analysis that knowledgeable individuals and groups throughout the state and the country gain as the EV deployment expands. This information will provide the foundation for advanced policies supporting EVs in Oregon. Fortunately, as this is an emerging technology and PGE's system can accommodate EVs without difficulty,

[1] Issued July 22, 2010

neither PGE nor the Commission has to take immediate "emergency" actions today to support EV deployment. However, we must continue to learn and use available information in formulating EV policies going forward.

The core point of these comments is that Commission policies affecting utility roles in EV charging services, and utility infrastructure changes resulting from EV deployment, must be flexible, keep options open, and allow utilities' to respond to emerging needs and opportunities. The challenge for utilities and the Commission is to not let policies become too prescriptive too quickly so that EV deployment requirements impede creative improvements and business models. PGE believes the Commission has a significant task to assure responsive and responsible policies and practices emerge over time so EV technology benefits all customers. An open and on-going dialog that is clear about utilities' roles in EV deployment is among the most productive activities that can occur now.

PGE recommends that the Commission also engage in discussions with consumer-owned utilities in the state (and potentially utilities in other jurisdictions as well) about topics raised in the Staff's straw proposal. While such utilities are not subject to Commission rate regulation, it is imperative that EV drivers have a seamless experience throughout Oregon (and the Northwest), regardless of the serving utility providing electricity for EV charging. It is quite possible that driving and charging activities on a typical day of an EV owner/customer of an investor-owned utility could easily be with several different investor- and consumer-owned utilities. Separate procedures, pricing plans, and regulatory approaches are not conducive to the acceleration of transportation electrification. Central to our comments are the themes that

at this early stage in the roll-out of EVs and supporting infrastructure: 1) there are no significant barriers caused by utility or utility regulation in Oregon that prevent rapid EV adoption; and 2) maintaining flexibility in Commission policies regarding EVs is key to successful deployment.

**I. Context and Other Efforts**

In addition to this Commission investigation, there are several other agencies and local governments involved in policy development related to greenhouse gas reduction and the electrification of transportation, among them the Department of Environmental Quality (DEQ) Low Carbon Fuel Standards Committee (LCFSC), the Governor's Alternative Fuel Vehicle Infrastructure Working Group, the City of Portland and Multnomah County Climate Action Plan. PGE encourages the Commission to coordinate its regulatory efforts with these and other policy efforts as EV markets develop.

The UM 1461 docket is under consideration at the same time the ECOtality EV Project is being rolled out as a pilot project to assess the impacts and requirements for EV charging. This EV project, which uses $100+ million from the U.S. Department of Energy to deploy over 15,000 charging stations in the US (1200 publicly available charging stations in Oregon), will gather data on driving and charging habits of over 900 participating Oregon EV owners. The lessons learned from the EV Project aim to streamline roll-out of EVs throughout the country. The EV Project is expected to provide important data and evaluations to guide policy makers as well and infrastructure providers like utilities. We note that Oregon is one of only six states and the District of Columbia chosen to participate in intial stages of the project, so we will get early first hand information that will apply specifically to Oregon consumers.

The environmental goal for EVs is to reduce greenhouse gases and CO2 emissions from the tailpipes of vehicles. In Oregon, 38% of the annual CO2 output comes from transportation. In addition to the UM 1461 inquiry, the DEQ has been directed by the 2009 legislature to adopt standards and requirements to reduce greenhouse gas emissions in Oregon. Since tailpipe emissions constitute a significant portion of total greenhouse gas emissions, the DEQ may develop a low carbon fuel standard for gasoline, diesel, and fuels used as substitutes for gasoline or diesel, including electricity. The extent to which the EVs reduce total emissions will depend in part on the carbon intensity of generating the electricity which powers the EV.

A variety of challenges exist for planners of EV deployment. Projecting adoption rates when determining the timing of the installation of new charging stations is just one of the many challenges for planners of EV deployment. Governor Kulongoski's Alternative Fuels Vehicle Infrastructure Working Group identified a number of perception, production, distribution and infrastructure barriers to the widespread adoption of EVs. They include barriers with consumers, EV production limits, battery costs, limited vehicle choice, impacts on electricity systems, lack of business models for recharging infrastructure, challenges for existing auto dealerships' business models, available mechanics, available charging infrastructure, charging cost, time to charge, and insurance. In addition, the mix of hybrid/plug-in hybrid and all-battery EVs will be watched closely in assessing impacts of EV charging. A plug-in hybrid passenger vehicle (PHEV) has a small capacity load impact (equivalent to a hair dryer) compared to EV (battery-only) Level 2 charging which is equivalent to an air conditioner's load impact.

Over the long-run, EV charging certainly could have a material impact on peak capacity requirements if left unmanaged. In the short run, however, PGE does not anticipate significant infrastructure or grid impacts from the adoption of EVs.[2] Upgrades to utility distribution infrastructure may be required in small areas of PGE's service territory with particularly high adoption rates, but these upgrades should stay within the usual system changes to accommodate changing customer electricity requirements. Notwithstanding the current lack of hard data, PGE's 2009 Integrated Resource Plan discusses and incorporates an estimate of the range of load impacts from EVs. The high case, which is a 10% penetration rate, results in 50 aMW of load by 2020. This equates to a slow incremental increase and allows PGE to begin to plan for the impact of EV charging on future generation supply requirements.

**II. Recommended OPUC Policy Direction**

At the first UM 1461 issues workshop, Staff posed a threshold question: Are there obstacles that the PUC has authority to address, relative to the successful deployment of EV charging infrastructure and widespread EV adoption? The Staff's Straw Proposal summarizes several areas that parties to this investigation identified as important policy directives. The Straw Proposal policies address two broad utility roles where Commission oversight may be warranted: 1) oversight of utility interaction with public and private charging stations in Oregon with respect to utility investment and operations; and 2) rates and price signals to influence the timing of EV charging such as during off-peak times. In addition, the straw proposal recognizes somewhat indirectly the important role for the utility in customer outreach and education to help make EVs a

[2] Research indicates that the existing electric grid in the Northwest could handle a large penetration rate of plug in vehicles. Hadley, Stanton W. and Tsvetkova, Alexandra. Potential Impacts of Plug In Hybrid Electric Vehicles on Regional Power Generation, Oak Ridge National Laboratory, January 2008, p. 55.

viable alternative and provide benefits to all customers. To this end, Commission policies should explicitly keep the regulatory framework for EV charging simple, flexible, and adjustable on an incremental basis as new needs emerge. With the final EV Project / ECOtality study report in 2013, we will have more data to further inform development of policies and guidelines. [3] In the meantime, rigid EV charging requirements and policies may have the unintended result of slowing EV deployment.

During the workshop, Staff suggested that policies and guidelines developed in UM 1461 must cover the landscape for about eight years. We respectfully disagree. PGE is concerned that EV charging policies that anticipate EV use and deployment many years into the future could be significantly out of step with the EV marketplace as it develops. We think that a simple and flexible regulatory framework will allow creative solutions to EV infrastructure development. Much is changing and too little is known at the moment for us to develop a detailed regulatory structure at this point in time. As our EV experience and knowledge base grows we anticipate that much better information will be available to determine the appropriate regulatory framework within the next two or three years.[4]

As we noted above, PGE is actively learning about the emerging EV market, customer preferences and habits, EV charging impact on load, power quality and other aspects of EV charging. We are collaborating with EV manufacturers, ECOtality, and charging station manufacturers in this learning process. To this end, we have three pilot

[3] ECOtality plans to have the EV Project data collection completed by December 31, 2012 and final report issued by March 31, 2013.

[4] An August 2009 EEI report details 19 utilities' pilots projects or other focused efforts on EVs. EEI, Industry Wide Plug In Electric Vehicle Market Readiness Initiatives. Recent regulatory initiatives have been approved by the Hawaii and Michigan Commissions, authorizing pilots by Hawaiian Electric (Transmittal 10-05, effective October 1, 2010) and Detroit Edison (MPSC Case No. U-16406) respectively.

charging stations that we own and we are working in partnership with a variety of PGE customers who own or are installing charging stations for use by the public. We have worked to proactively identify EV users in our service territory, and are collecting load research data from meters (reprogrammed smart meters) so that we can learn more. We are also using EVs in our fleet. We plan to participate in pilot vehicle to grid technology to learn more about battery potential as a resource to the grid. The Commission has been supportive of PGE's effort to support EV deployment through these research and development efforts.

With regard to the specifics of the Staff straw proposal, we offer the following comments.

## III. Staff Straw Proposal

### A. Section I: Goals and Objectives

*1. Goal 1*

PGE agrees that Commission goals and objectives that enable EV deployment should be flexible and keep all EV supply equipment (EVSE) options open. As the industry is still in a fledgling stage, there are many unknowns. Flexibility is the best approach. However, we note that at least one option appears to be foreclosed under the straw proposal--utility ownership and operation of public and private EVSE stations with prudently incurred costs borne by all utility customers.

The policy framework should allow the utilities to participate in EV charging stations when the participation is an appropriate role for the utility and its customer base. The straw proposal on public charging stations is explicit that costs to install, design, operate and maintain public charging stations not be recovered in rates. PGE encourages

an approach which does not presumptively close utility participation in public charging stations ownership and/or operations with prudent costs borne by all utility customers.

*2. Goal 2*

PGE supports the goal of managing the impact of EV charging on utility load profiles and infrastructure by encouraging off-peak charging. Fortunately, PGE's current Time Of Use rates (TOU) are sufficient to encourage charging during off peak times. Under currently available rate designs, off peak TOU occurs from 10pm to 6am every day and 6am to 10pm Sundays and specified holidays. These times will work well with most assumed residential charging patterns to effect the system benefits of this goal. New TOU rates for EV charging are not necessary.

The goal to anticipate EVs providing ancillary services, while representing an opportunity for energy storage resources to support the grid, is premature. We do not see the need to address the potential for ancillary services now. The timeline for EVs providing ancillary services on a commercial basis is longer term and such ancillary services will be significant only after the successful widespread deployment of EVs. Addressing ancillary services in policy now is unnecessary and adds complexity that may confuse consumers. At this point, it is not clear whether vehicle manufacturers would even encourage or allow such an application.

*3. Goal 3*

While PGE agrees with the third goal of no undue cost shifting, this policy's context requires clarity. To PGE, "no undue cost shifting" means the Commission applies the policy of fair and equitable treatment of prudent utility costs in ratemaking, and the Commission does not single-out EV charging and related utility infrastructure

changes from the broader utility requirements to provide electricity service. For example, as explained in the Governor's Alternative Fuel Vehicle Infrastructure Working Group Report, if utilities are responsible for fueling infrastructure or choose to invest in owning or maintaining EV infrastructure, it is important that utilities have some assurance that the investment will not be treated as imprudent by regulators. In addition, utilities play an important role in educating customers and doing outreach. For the successful mass deployment of EVs, utilities must be able to creatively engage in shaping discussions with clear regulatory acknowledgement that reasonable costs expended are in customers' and the region's interest and those costs will not be disallowed.

B. Section II: Legal Issues

The Straw Proposal asks a series of questions about the legal and jurisdictional boundaries that the Commission's EV charging policies may need to address now and in the future. Staff does not set out any findings or conclusions in the straw proposal.

*1. Question 1 a. and b. Public Utility and Sale for Resale*

This area of inquiry contains two basic questions. First, does an EV charging station providing electricity to an EV become a regulated public utility and second, is the sale of electricity by a public utility to EV charging station customers a "sale for resale"?

In answering these questions, specific facts are important, therefore we cannot offer at this point a complete legal analysis of all situations or business models that may be selected by utilities or third party providers as EV deployment occurs. ORS 757.005 specifically describes exceptions for certain activities that otherwise would fall under the definition of a "public utility." These exceptions include supplying electricity (and other alternative fuels) to motor vehicles if the entity is specifically not otherwise providing

utility service. In most instances, selling electricity to a motor vehicle likely does not create a requirement for the charging station owner to be regulated as a public utility.[5]

The second area of inquiry is to the sale of electricity for "resale" by an EV charging station to an EV. PGE's retail electric tariff prohibits the sale of electricity for resale.[6] Again, specific facts are necessary to determine whether this prohibition applies; however, we generally think under our tariff that the sale of electricity by a charging station that purchased the electricity from PGE under a retail tariff is a sale for resale. This provision prohibiting resale has been in place for many years,[7]and there are a number of policy reasons for the resale prohibition based on obligations of a public utility to provide safe, reliable electricity supply system at reasonable costs.[8]

We believe a properly constructed exception to the sale for resale rule is possible. Such an exception would allow the utility to sell retail electricity to the charging station at regulated prices, while the sale (and provision) of electricity for EV charging delivered via the charging station would not be prohibited. Likely, such a "resale" to the end use EV would not be price-regulated by the OPUC as the reseller would be providing the

[5] We also note that the definition of "utility service" for purposes of the territorial allocation law, ORS 758.400 to 758.475, is different from a regulated "public utility" contained in ORS 757.005. It encompasses service provided by equipment through a connected and interrelated distribution system. Depending on the facts, an EVSE provider may or may not be barred from providing charging services in a territory already allocated to another person providing "utility service."

[6] "Electricity service will not be supplied for resale except on premises and through installations where a customer engaged in resale to tenants prior to November 5, 1973. . . . "Section E. Restrictions on Resale, Original Sheet F-2

[7] For example, PGE's tariff in 1944 stated: "Except as expressly provided by the foregoing schedules or by the terms of a written agreement between the Company and a Customer, no rate schedule or contract will apply to resale or redistribution of electric energy by the Customer in territory where the Company has or is willing to provide distribution facilities."

[8] Since the prohibition has been in place for so long, it is difficult to find specific written enumeration of the policies, but presumably these are similar to the purpose of the utility allocation law: "the elimination and future prevention of utility facilities is a matter of statewide concern; and in order to promote the efficient and economic use and development and the safety of operation of utility services while providing adequate and reasonable service thereby . . . ." ORS 758.405.

electricity as an alternative motor vehicle fuel and not be a public utility under ORS 757.005.

One challenge with such an approach is the potential that if the power is actually "resold" to the end use EV (as opposed to simply passed through at cost or perhaps included with the purchase of other services such as parking), the sale of power by the utility to the EVSE provider could constitute a wholesale sale of power subject to FERC rate setting jurisdiction.[9] PGE has market based rate authority under FERC, but whether it can or should make such sales requires further in-depth analysis. At this point, PGE would be willing to modify language in its tariff to provide that an owner of a charging station may resell electricity provided to it at retail by PGE. However, depending on the facts and certain business models that may be employed, additional significant legal issues may remain.

We note that the straw proposal outlines a number of possible models a competitive EV charging service may chose to use that potentially would not be considered sales for resale. For example, building rental/lease rates may include electricity costs, or an entity may charge for parking, rather than charging. PGE cannot provide definitive legal advice or opinions to EVSE providers as to whether these business models would avoid application of various federal or state laws, however, these approaches may well be among what is chosen for a number of charging options and arrangements within a competitive model.

[9] FERC's authority under the Federal Power Act includes the exclusive jurisdiction to regulate the rates, terms and conditions of sales for resale of electric energy in interstate commerce by public utilities. 16 U.S.C. §§ 824, 824d, 824e (2006). Issues to further explore, depending on the facts, would be whether a particular business model actually included a "resale of electricity" whether the reseller was a "public utility" and whether such a sale was in "interstate commerce." Since EV's could presumably come from Washington into Oregon and charge, it is possible that such activities could be deemed interstate commerce.

Staff also asks whether an entity that sells or provides power via EVSE infrastructure is an Electric Service Supplier (ESS). PGE does not believe that would be the case. Again, depending on the facts and business model employed, PGE does not anticipate that EVSE providers would sell ancillary services to EVs. If this is the case, then such sellers would not be defined as ESSs. *See* Commission Order 08-388 at 14; OAR 860-038-0005; ORS 757.600.

C. Section III: Regulatory Policies and Guidelines

Currently, few if any, utility-imposed barriers exist that will impede the adoption of EVs and associated charging equipment. In the current "pilot" phase most EV charging stations will be deployed through the ECOtality pilot or independently by organizations and businesses that desire to offer EV charging either with or without charge or possibly as a bundled service. Nevertheless, the Commission's policies can support prudent utility investments in EVSE infrastructure. Direct utility investment in charging infrastructure may be a useful tool in the future as we learn what supporting infrastructure is necessary and cost-effective for EV charging. For example, we need to understand the importance to EV owners and operators of access to charging equipment located in right of ways. Public policy may well support some degree of utility investment in infrastructure where other models for infrastructure deployment are too complex, costly or risky, or are otherwise unsuccessful.

Again, PGE encourages a flexible approach and that the Commission keep options open. If PGE were to invest in owning or maintaining public charging infrastructure and related distribution upgrades in a regulated business model, we would

need assurances that PGE's prudently expended costs would be recoverable in rates from utility customers.

*1. Policies Related to Developing Public Charging Infrastructure*

i. Rate Schedules for Publicly Available EVSE Stations

PGE does not support developing rates based on a specific end use such as public EV charging.[10] Publicly accessible EV charging facilities located in parking lots and public garages should not be required to have a separately metered service with separate rate schedules. Standard commercial and residential rate schedules are designed and allow for a variety of end-uses to be served through a single meter, and this model can continue. This helps avoid unwarranted price discrimination, rate schedule shifting and customer confusion.

Existing TOU rates provide incentives for off-peak EV charging. In addition to the TOU rate, customers have an option to purchase renewable energy credits (RECs) through the renewable portfolio options to add an additional environmental attribute to the electricity purchases.[11] No new rates are needed for publicly available EVSE stations.[12].

We recognize that as EV deployment expands, utility service requirements to reflect EV charging station attributes, such as location or ownership, may warrant changes to utility policies such as line extension policies or rate structures to achieve fair and equitable cost allocations. However, at the present time, mandatory separate

[10] Public EV charging stations can provide two key services: 1) Opportunity charging to help extend the range of an EV (including quick charging); and 2) routine charging for EVs that do not have access to personal parking garages or private charging sites.

[11] For purposes of the renewable portfolio option, renewable resources include wind generation, solar, biomass, low impact hydro, and geothermal energy sources used to produce electric power.

[12] Or for private charging pending the ECOtality report.

metering and TOU pricing for EVSE may well complicate and slow down the deployment of EVs. They are likely to be viewed as impediments to EV deployment.

ii. Cost of Distribution Upgrades or Reconfigurations for Charging Infrastructure

PGE agrees with treating distribution system expansion or reconfiguration for public charging stations in the same manner as any other distribution system expansion or reconfiguration. This includes applying existing policies on cost allocation for distribution upgrades or reconfiguration to new infrastructure requirements for public charging stations as well as recovering reasonable associated costs from all utility customers.

iii. Utility Ability to Dispatch EV Charging

Actively controlling the flow of electricity (the charging rate) to a customer's EV at a public charging station may put an unexpected the burden on the utility and the EV owner to fully understand exactly what service is being supplied. PGE is not prepared today to dispatch public charging as it would be both too costly and complex and likely to reduce EV users confidence in the ability to charge and operate their car as needed. While the concept of controlling charging makes sense in the long-term, right now the challenge is to support the basic requirements of EV owners for charging. We expect that early adopters' satisfaction with EVs will greatly influence the rapidity of deployment; thus, PGE supports EV charging policies that deliver a superior customer experience (including certainty of charging) for EVs today.

Also, new mass-produced EVs have capabilities to manage charging times built into the EV's on-board systems. These on-board "smart charging" features will likely expand in capability and could be an efficient way to control EV charging impacts on the

utility grid in the future. Establishing policies or standards for dispatch requirements for public charging is premature, and may yet be easily accomplished at a later time.

iv. Information on Emissions to Publicly Available Charging Customers

With regard to reports on emissions, PGE recommends the approach taken by the DEQ LCFSC. The LCFSC uses the annual reported emissions from an average generation mix. Because PGE does not generate 100% of our requirements and purchases power on the market to meet customers' energy needs, determining the mix of generation and CO2 emissions rates by time of day, day of week and on a month of year basis is not feasible, practical or necessary. Load varies and market purchases vary, on an hour and sub-hour basis.

v. Utility Ownership and Operation of Publicly Available EVSE Stations

Staff's Straw Proposal provides Commission policies that will allow utilities to install and operate EVSEs, but not allow costs of utility-owned, publicly available EVSEs to be recovered in utility rates. Also, the straw proposal states that power supplied to any utility-owned, publicly available EVSE must be supplied under an OPUC-approved rate available to any other EVSE. We address each policy separately.

With respect to the straw proposal's prohibition against utilities placing EVSE costs in utility rates, the straw proposal is inconsistent with the stated goal and objective to support EVs with flexible policies and options. The Staff's proposed policy implies that a utility that enters into the EV charging station business should do so only as an independent competitive EVSE or through an affiliate. As discussed above, there may be, however, circumstances where utility ownership of charging stations "above the line" is a prudent undertaking and investment for the public's benefit. As a practical matter,

we believe it is simply too early to know whether utilities are a necessary participant in some public charging station applications. For example, charging stations located in the public right of way may be necessary and a utility may well be the logical entity to provide the service. Other utility-ownership circumstances include placing quick- charge stations at public locations that help provide a safety net for EV charging, but where EVSE utilization is low at least initially. Similarly, a municipality may provide "in the right of way" EV charging through an arrangement with a utility modeled after to streetlighting services. The utility could own the charging equipment and incorporate costs into the applicable rate for the service to the municipal customer.

We recommend that the Commission allow for utility ownership of EVSE and allow prudent costs to be recovered in rates. The policy can be clear that the Commission retains its oversight to determine what costs are recoverable in rates and appropriate pricing for the sale of electricity from the EV charging stations. This will allow for further discussion between the Commission and utilities if utility support for public charging in some circumstances is determined to be in the public interest.

PGE supports non-discriminatory pricing with respect to the proposed policy requirement that utility-owned EVSEs cannot be charged electricity rates different than the OPUC-approved rates applicable other non-utility owned EVSEs.

Overall, we suggest that utility ownership and operation of EVSEs in some situations should be encouraged or required as a part of the services a public utility provides. Commission policies that preclude utility involvement in EVSE as a regulated service may create barriers to EVs.

*2. Policies Related to Private Charging*

PGE's previous comments regarding the Straw Proposal's Public Charging Policies (See Section III, C) generally apply to this section. We briefly summarize our previous comments here, but do not repeat all the discussion. In addition our comments in this section clarify the differences between public and private charging relative to Commission policies described in the Straw Proposal.

i. Rate Schedules for Private EV Charging

We support private EV charging policies that do not require a separately metered service with separate rate schedules. Private EV charging includes equipment located in a customer's residence to accommodate overnight charging of the resident's personal EV. Standard residential or commercial rate schedules for electricity allow for and accommodate a variety of end-uses and this model can continue. This helps avoid unwarranted price discrimination, rate schedule shifting, customer confusion and expense.

Whole house TOU is currently available and a good option for customers with EV charging. If a household is on a TOU rate, all consumption in the house is encouraged to move to off-peak, not just EV charging. Again, TOU rates are a useful option but are not necessary during this initial roll-out of EVs. Over time, technology may well alleviate the need for separate metering if the cars are "smart" and can automatically schedule charging to minimize costs or adverse system impacts. We believe utilities will have role to play in helping customer's understand the value of off-peak charging in addition to responding to TOU rate differentials.

ii. Costs of Distribution Upgrades or Re-configuration

Please see our comments with regard to public EV charging.

iii. Utility Ability to Dispatch EV Charging

Please see our comments with regard to public EV charging.

iv. Information on Emissions to Customers

Please see our comments with regard to public EV charging.

v. Additional Comment: Utility Ownership and Operation of Private Charging Stations

The Staff straw proposal does not address utility ownership and operation of private charging stations. The inference is that the stations will be privately owned and any utility cost to install, design, maintain, or operate the charging station will be borne by the private customer. The Staff straw proposal clearly addresses Commission policy with respect to the distribution system infrastructure requirements for private charging. However, one issue raised in the workshops is the situation where a private residential customer requires a charging station and the only place for the station is in the public right of way. For example, the customer has no garage and lives in a high density neighborhood. The city, as the right of way owner, could require as a precondition for use of the right of way, that the utility install, maintain and own the equipment. This is an issue that likely will benefit from further discussion, including learning about solutions from other jurisdictions.

*3. EVs as a Provider of Ancillary Services*

As we mentioned in the discussion of Goal 2, it is premature to develop policies or utility requirements that anticipate the potential of EVs to provide ancillary services. Nevertheless, PGE may become involved in pilot projects to collect data and thus learn about such ancillary service impacts on utility systems.

EVs providing electricity to the grid ("vehicle to grid" or V2G) is not likely to be a commercially available option for the first generation of electric vehicles. Vehicle manufacturers are reluctant to pursue vehicle to grid models, and EV manufacturers may limit vehicle warranties to disclaim any manufacturer responsibility if the consumer tampers with the battery. Notwithstanding advances in batteries and smart grid, vehicle to grid appears to be at least a decade away.

The new IRP guidelines stated in Staff's straw proposal would drive certain components of resource planning to a sub-hourly level (ancillary services), placing an undue burden on the planning process. The guidelines, while conceptually useful, are simply not feasible for the next several years. Usable data must be gathered and modeling capabilities must be constructed before they can be applied to the utility resource planning process. We do not believe that EV charging will emerge as a surprise to IRP planning, and that insufficient lead times exist for development and implementation of these guidelines.

## IV. Conclusion

PGE supports the Commission's investigation into electric utility roles and requirements related to the emerging EV market. The Staff's Straw Proposal properly recognizes that we have much to learn about EV deployment. The Straw Proposal clearly values flexibility and keeping options open now. PGE concurs that this flexibility is the key Commission policy needed today to support important Commission rules and policies in the future. These future policies will need to respond to real challenges in EV deployment and EV charging once we have learned from the maturation of EVs and their needed infrastructure.

DATED this 27th day of August, 2010.

Respectfully submitted,

/s/ J. Richard George

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August 27, 2010

***Via Electronic Filing and U.S. Mail***

Oregon Public Utility Commission
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PO Box 2148
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**Re: UM 1461 – INVESTIGATION INTO RATE STRUCTURES FOR ELECTIC VEHICLE CHARGING INFRASTRUCTURE**

Attention Filing Center:

Enclosed for filing in UM 1461 are an original and five copies of:

Opening Comments of Portland General Electric Company

This document is being filed by electronic mail with the Filing Center. An extra copy of the cover letter is enclosed. Please date stamp the extra copy and return to me in the envelope provided.

This document is being served upon the UM 1461 service list.

Thank you in advance for your assistance.

Sincerely,

J. Richard George
Assistant General Counsel

JRG:smc
Enclosures
cc: Service List-UM 1461

## CERTIFICATE OF SERVICE

I hereby certify that I have this day caused **PORTLAND GENERAL ELECTRIC COMPANY's OPENING COMMENTS** to be served by electronic mail to those parties whose email addresses appear on the attached service list, and by First Class US Mail, postage prepaid and properly addressed, to those parties on the attached service list who have not waived paper service from OPUC Docket No. UM 1461.

Dated at Portland, Oregon, this 27th day of August, 2010.

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UM 1461

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