BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Regulatory Issues Relating to Electric Vehicles	Docket UE-101521

STATEMENT OF ISSUES SUBMITTED BY ECOTALITY, INC.

Pursuant to the "Notice of Open Meeting and Opportunity to Submit Statements of Issues" provided by commission staff on September 27, 2010, ECOtality Inc. hereby submits the following statement of issues for consideration and discussion for Docket UE-101521 – Regulatory Issues Relating to Electric Vehicles.

I. Introduction

ECOtality shares a unique position to provide the voice of the emerging electric vehicle service provider (EVSP) industry in regulatory policy making discussions concerning the integration of electric vehicles in electric transmission and distribution grid and the development of the electric vehicle infrastructure to support them. Developing a large market for Plug-in Electric Vehicles (PEVs) that utilize electricity from an increasingly clean electricity grid can substantially reduce oil dependence and greenhouse gas emissions. Electric vehicle infrastructure that is widely available enables PEVs to be used with confidence throughout a region. A robust self-sustaining EVSP industry that installs and maintains electric vehicle infrastructure is essential to the market development of PEVs. The extent of the success of the EVSP industry in the EV marketplace is largely dependent on its ability to operate in a competitively neutral environment that allows equal access and consumer choice and recognizes the benefits that electric transportation brings to the environment and the electric grid. Any barriers that would negatively impact and disadvantage EVSPs from business development opportunities must be avoided in whatever approach the Commission adopts pertaining to metering, cost allocation and rate structures.

ECOtality, through the Blink network, is committed to providing smart charging infrastructure technology that will be an asset to the electric transmission and distribution grid – providing a solution for load management, providing the opportunity to dispatch load to utilize

renewable generation and opening the door for innovative data gathering methodologies and services to support EV consumers and a sophisticated clean energy grid.

II. Electric Vehicle Service Providers Should Not Be Considered Public Utilities To Promote Competition, Job Growth and Innovation in the EV Charging Services Market

Washington has much to gain from establishing a framework that encourages a competitive EV services market, which will, in turn, leverage private capital to deploy charging infrastructure, and in which consumers can ultimately choose the most attractive charging services option for their needs. EVSPs play an important role in furthering the economic and competitive nature of the EV industry, not only providing charging solutions for load management to our customers, including utilities, but also by providing EV consumers additional business services that will make EV adoption attractive and widespread. EVSPs can serve the marketplace by providing familiar EV charging-related services for consumers across multiple utility boundaries.

III. The Commission Should Clarify That the Sale of EV Services Does Not Constitute The Resale of Electricity

Given the nascent state of the industry and the diverse nature of services likely to be provided by EVSPs, it is very important that the Commission confirm that EVSPs are not reselling electricity. The Commission need not (and obviously cannot) make a factual determination that any or all EVSPs are selling electricity in order to reach the legal conclusion that they should not be defined as public utilities. It will be important to 1) acknowledge that it is not clear at this point whether any EVSP would, in fact, "sell" electricity and 2) note that it appears that many EVSPs will *purchase* electricity at retail for the purpose of charging EV batteries and not sell electricity at all. ECOtality will be providing access to electricity, smart charging capabilities, increased grid efficiency and business services such as offering reservation systems, network membership, information and financial services, web portal, and smart phone charging applications. In addition, EVSPs like ECOtality partner with a variety of

establishments from restaurants to movie theaters, to parking lot operators which host charging stations. Therefore, there may be thousands of charger hosts that "buy" electricity and then provide or "sell" it for charging. This diffuse and competitive service does not fit with the monopoly franchise model that is characteristic of current regulated utilities.

The California Public Utilities Commission determined in D. 91-07-018 that the sale of compressed natural gas for use as a vehicle fuel did not involve the use of a "gas plant," defined as facilities "owned, controlled, operated, or managed in connection with or to facilitate the production, generation, transmission, delivery, underground storage or furnishing of gas…for light, heat or power."[1] On May 21, 2010, the CPUC noted in its proposed decision that in the case of electricity used for charging batteries, the consumption of electricity during charging is both physically and temporally separated from the operation of the vehicle, making the function of an EV service provider fundamentally different from that of a utility delivering electricity for "light, heat or power":

> Charging a vehicle battery is more akin to moving electricity from place to place; the act of charging does not "power" anything. Only at a later time when the vehicle is engaged does the battery's stored electricity fuel the car. Moreover, even at that later time we find the electricity is "fuel" not "power" as explained above and for reasons similar to D.91-07-018.[2]

On August 2, 2010, the California Public Utilities Commission (CPUC) concluded in its final decision that EVSPs are not public utilities. Concluding that EVSPs are not public utilities serves the very important public policy position to encourage rapid deployment of electric vehicles and charging infrastructure while creating a competitive environment for a nascent industry. The proposed decision aptly concluded that a regulatory approach is not appropriate or necessary in the case of providers of transportation fuels, given the diversity of market participants, low barriers to entry, and the number of competitive alternatives.[3]

During the CPUC 09-08-009 proceeding, some stakeholders expressed a concern that investor-owned utility sales of electricity to electric vehicle service providers could be deemed a "sale for resale" by Federal Energy Regulatory Commission (FERC) and, thus, fall under the exclusive jurisdiction of FERC. The CPUC found these concerns to be "misplaced" in its final

[1] CPUC D. 91-07-018 at 57-58.
[2] CPUC Proposed Decision 09-08-009 at 17.
[3] Id. At 21.

D. 09-08-009. The CPUC noted that under the Federal Power Act, "sale of electric energy at wholesale in interstate commerce" is subject to the jurisdiction of FERC. "[S]ale of electric energy at wholesale" is defined as "a sale of electric energy to any person for resale."[4] In Section 4.2 of the final decision, the CPUC concluded that selling electric vehicle charging services does not make an entity an electric utility and that a seller of electric vehicle charging services that purchases electricity from an investor-owned utility is an end-user that purchases the electricity at retail. Thus, the sale of electricity by an investor-owned utility to an electric vehicle service provider is a retail sale of electricity, not a wholesale sale or a "sale for resale." As a result, the sale falls under the exclusive jurisdiction of the CPUC, not under the jurisdiction of FERC.[5]

IV. The Commission Should Create a Regulatory Environment That Recognizes the Benefits EV Charging Provides to the Grid And Allows These Benefits to Accrue to EVSPs and EV Owners

ECOtality believes that creating a regulatory environment allowing competition and innovation in smart EV charging technology will facilitate a dynamic marketplace. EVSPs and EV owners will play an integral role to encourage the benefits EV charging will provide to the grid. Through smart charging technology and responsible charging behavior EVSPs and EV owners will do their part to manage grid load and optimize energy usage. ECOtality encourages the Commission to recognize these efforts by EVSPs and EV owners by accruing to them benefits resulting from their contributions to the grid.

V. The Commission is Encouraged to Provide Flexibility in Metering To Support a Competitive Market, Enable Customer Choice and Achieve Innovation in EV Services

Sub-metering is an important step to ensuring that independent providers can participate in the market. Direct metering (either via dual or submetering arrangement) allows for billing and service flexibility that will better fit technology and evolution of the EV services market.

[4] 16 U.S.C. § 824(d).
[5] CPUC D. 09-08-009 at 30.

Within these two metering arrangements, submetering has been identified as the least expensive option and the least likely to become a stranded cost versus that of a dual of second meter. Allowing utility billing from non-utility owned meters allows flexibility to adapt to future market conditions, including meters located in EVSE which incorporate smart communication functions.

VI. Embedded Metering for EV Metering Services Enables Efficient Future Smart Charging Technology Integration and Market Access

To move "outside of the box" it is important to separate the idea of a "demarcation point" between responsibilities from the physical aspect of the C12 glassed meter. Some metering arrangements better encourage future technology changes and market developments than others. Embedded metering is such an arrangement. It is important to note that embedded metering is not submetering because while embedded meters will typically be used for submetering, they may also be used as utility service meters. Embedded meters will greatly expand the ability to measure electricity consumption and will be essential to the EV market because they provide an opportunity for separation of the consumer from the rate payer. It is likely that several different consumers may use the same EVSE and as a result a smarter meter is demanded to know the application and who is using the electricity. Embedded meters are smaller and are not installed in a "stand alone" capacity. These meters provide an opportunity to move toward a more intelligent way of using energy.

Embedded metering offers a host of benefits including conservation, cost savings and flexibility to adapt to forthcoming changes in electricity access/use and energy management. Embedded meters are: 1) Efficient, 2) Inexpensive, 3) Convenient, 4) Smarter, 5) Provide Flexibility for Rate Differentiation, and 6) Host Innovative Features. This metering allows timely interval capture and addressable communications that best enables efficient future smart charging technology integration and market access. It is able to measure the energy directed to (or from) the electric vehicle (EV) separately from all the electrical energy transfer to/from other loads and supplies within the premise behind the primary facility meter. This arrangement would be the most attractive to EV customers who contract for an EV-specific rate separate from their home rate, which provides incentive for deferred off-peak charging. This also provides a convenient method for tracking and generating consumption tax revenue that may be levied on

electric transportation in the future. ECOtality is currently incorporating such metering in all EVSE it manufactures. This meter can either communicate with the home AMI meter or ECOtality can backhaul required data via the Internet and feed such data to the utility. The additional cost for this meter adds less than 3% to the installed cost of the EVSE.

The competitive services market that this creates would foster innovation, drive standards for interoperability, promote robust EV industry development and a job pipeline. Although this scenario may call for some degree of process integration between EVSPs and utilities, it should prove to be the most flexible and cost-optimized arrangement for the industry as it moves toward more sophisticated data gathering methods and smart grid integration.

VII. The Commission Should Discuss and Determine the Utility-Customer Boundary in Regards to Submeters and EVSE

To maximize flexibility and cost effectiveness, the Commission should support meter ownership by whichever entity owns and operates the EVSE (the consumer, charging host, EVSP, etc). While it is typical for the utility to own the meter, it is not clear that utility ownership of an EVSE meter or submeter is necessary or desirable for PEVs. It is important to also be mindful of the cost effectiveness to the EVSE owner. Some factors the Commission should take into consideration in delineating the utility-customer boundary in regards to submeters and EVSE include safety, equipment ownership, customer service, customer privacy and competition in the marketplace which drives cost savings to consumers. ECOtality identifies the essential aspects of each below.

Safety

ECOtality, as a third party EVSP is committed to ensuring that all of our work and equipment meet appropriate safety standards and that our metering equipment is installed in conformance with all codes, with appropriate instructions and service related information conveyed to the customer. ECOtality encourages that metering equipment meet applicable safety standards to ensure that the rapid proliferation of EVSE devices expected does not pose a risk or hazard to the public.

Equipment Ownership

Utility ownership of submeters introduces additional costs rather than reducing cost. The utility owned meter will require a meter socket and installation (including a utility trip to the residence). A customer owned meter in the EVSE is manufactured with the EVSE and includes tamper devices and security to prevent energy diversion. This is the least expensive way to meter transportation energy. Additionally, utility ownership of EVSE presents the possibility of stifling the technological development of the product. Many standards for communication with the vehicle and the home are still under development. These standards will open up an array of services for transportation and home energy. A focus only on utility needs for EVSE resulting in utility ownership of the EVSE will preclude the development and monetization of these services, to the ultimate harm of the consumer.

Customer Service

Moving toward submetering and embedded metering gives customers flexibility in rate options and opens an opportunity to create a competitive market for metering services. This may take more time and additional resources in the near term, but will provide an infrastructure model that can facilitate adaptation to new technology and market developments. Customers, for example, will be able to specifically isolate EV recharging, compare this with equivalent gasoline refueling cost and carbon impacts, and more fully understand the net benefit that their EV use produces. In the future, with bidirectional submetering, the EV may be further enabled as a supplier of energy to offset critical peak loads, and ultimately allow the customer to participate in financially attractive ancillary services markets.

Customer Privacy

ECOtality is committed to preserving customer privacy for all EV charging transactions. While this data is collectively valuable when aggregated, for optimizing EVSE public network expansion and anticipating potential load clusters, the customer must not be exposed to tracking or hacking as a result of their charging network participation. All authentication and access control systems must be robust and verifiable. Special tariffs

for transportation energy will create a voluntary identification of EV purchasers. Any attempt to force identification will be viewed very negatively by vehicle purchasers and potentially divert interest in becoming an EV owner.

Competitive Markets

Lastly, the Commission needs to ensure competition in the marketplace when developing policies and procedures in regards to metering and EVSE. Customers must be allowed the opportunity to freely choose their metering arrangement and EVSE provider in the notification process upon purchase of an electric vehicle. EVSPs specialize in providing the charging technology and related services that work in concert to address utility needs and enhance the customer experience. A competitive environment and independent access to a customer base will be essential to the vitality of EVSP operations in the EV marketplace.

The availability of services to EVSE users through EVSPs provides the opportunity to reduce EVSE cost significantly by bringing additional value to the use of EVSE. Similar to cell phone plans that provide free phones, EVSPs can and will provide low cost EVSE if it is not stifled through utility ownership and control of EVSE. Any possibility of creating a monopolistic environment impacts the choice of the consumer. Competition is the most effective way to reduce cost of EVSE. As utilities develop their Time of Use rate structures and seek commission approvals, competitive third party service providers must be allowed to activate and manage these rates on behalf of EV customers, whom they also must educate, inform, and motivate for the most effective response to these variable rates. As the markets for ancillary services develop, participation in these markets by aggregated EVs should be encouraged, and again this is best performed by independent third parties that are directly communicating with the ISO market signals and administering control strategies for power modulation at the EVSE/charger interface. Barriers to this capability must be aggressively identified and eliminated.

VIII. Utility Role Issues Should be Prioritized by the Commission To Facilitate PEV Adoption

To facilitate early PEV market adoption, the Commission should prioritize ensuring utilities make metering options and information accessible to customers. The Commission should also consider how utilities could make the necessary back-office system upgrades to their billing systems to support submetering and embedded metering which will lead to optimal service for the EV customer and provide crucial investment for the future to facilitate a seamless transition with future smart grid and vehicle to grid technology efforts.

Utilities should be directed to offer alternatives to their commercial rates that have significant changes to the Demand Charge terms, as this is a potentially chilling factor to widespread commercial recharging station investment and operation. The inherent social benefit of electric transportation must be recognized as the priority factor.

IX. The Commission Should Approach Cost Allocation and Rate Design Policy With Competitive Neutrality Allowing Room for EVSP Competition

ECOtality encourages the Commission to identify issues pertaining to a variety of rate and tariff issues that need to be addressed as a result of integrating EVs in to the utility grid. The approach should take into consideration the perspective of an EVSP and the role of customer choice in an emerging EV marketplace. An important issue for the Commission to consider must be impacts to the viability of market competition by EVSPs resulting from the allocation of infrastructure costs as well as rate design. The outcome must be a cost allocation and cost recovery through rate design that does not give any player in the EV service market an unfair advantage over another – especially an emerging industry such as EVSPs.

X. Customer Choice Must Be Taken Into Consideration In The Development of Cost Allocation and Rate Structures

The experience of the customer should be a primary element of consideration in the development of cost allocation and rate structures. The customer should be able to interface with

the electric grid for critical EV services in the manner that best suits them – either directly owning the EVSE, leasing the equipment, or procuring a bundled service offer from a third party provider (either unregulated utility service provider or a non-utility third party provider). Any policy effort to directly or indirectly limit a customer's options for EV infrastructure services (ie private or public recharging, demand response participation, ancillary services market support, etc) risks forcing customers to installing a product that they may not want, to avoid a higher infrastructure cost associated with a competitive product. Placing the customer in this position does nothing to inspire true choice and competition at the early stage of EV infrastructure services and will inhibit widespread penetration of electric vehicles. Recovery of infrastructure costs for regulated electricity, however the Commission chooses to approach it, must be competitively neutral and not affect customer choice. Rate structures that include the recovered cost in the same way must be permitted to be flexible to provide EV customer attractive rates to incentivize responsible charging behavior whether in a residential or commercial location.

XI. EVSP Market Development Should Not Be Impeded By Disproportionate Infrastructure Costs or Limited Rate Structures

EVSPs such as ECOtality will require a competitively neutral and regulatory free environment to be able to fully develop into a sophisticated business operation to serve its customer base and to reach the critical mass that is needed to provide sustainable charge infrastructure at public and commercial locations. Any disproportionate infrastructure costs and limiting rate structures for potential EVSP customers will negatively impact the ability of an EVSP to build its service portfolio and customer base. As a result, this will limit the extent to which EVSPs develop as players in the EV charging infrastructure market – restricting vehicle deployment, innovation in charging products and services and job creation.

XII. ECOtality Encourages the Commission to recognize the inherent benefits of Smart Grid Connected EVSE

The Commission should recognize the inherent benefits of using the variable and near-real-time control of battery/charging/discharging capabilities of the "Smart Grid Connected" EVSE. As such, rate structures should encourage participation in Demand Response programs

that are operated by the ISO and regulated utilities. The Commission's consideration should also incorporate the technology innovations offered by EVSPs, including (1) EVSP internet connectivity to implement demand response actions, (2) EVSP capability to utilize its charging data base to selectively interrupt charging such that there is little of no impact on the EV owner, and (3) EVSP capability to utilize its charging data base to mitigate localized distribution clustering overloads in a "smart" manner, avoiding the significant cost for utilities to upgrade distribution hardware and the rate impact of adding such costs to rate base.

XIII. The Commission Should Consider The Impact to EVSP Business Models When Developing Rate Structures In Commercial Charging. For example, DC Fast Charging Should Not Trigger Demand Charges Which Would Be a Disincentive for Commercial Charging

The sustainability of EVSPs is critical to the development of a mature commercial charge infrastructure in support of widespread EV adoption. Any rate structures being developed that would impact commercial Level 2 or DC Fast Charging must take into consideration the impact on EVSP business models. Further, ECOtality believes that a healthy and vibrant EVSP marketplace, including a network of commercial and public charging in addition to residential charging, offers significant benefits to ratepayers, including (1) carbon reduction and the corresponding societal benefits, (2) demand response services to ensure commercial charging never contributes to peak demand, and (3) kWh sales contribution to fixed and non-bypassable costs. These benefits should be considered and monetized, and applied as offsets to these purpose-specific rates.

Rate structures should be developed in a holistic manner and integrated in a smart charging infrastructure environment (including recognition of EVSP capability to provide demand response independent of utility smart grid communications systems) that incorporates attractive commercial and public charging opportunities to enhance the breadth of the EV charging services industry. Of particular concern are the potential for a strong adoption-chilling effect that high Demand Charge structures can bring to commercial charging, and consideration by the Commission should be given to segregated energy metering and alternative Demand

Charge methods that will include demand response and not inhibit deployment of commercial charging stations.

C**onclusion**

ECOtality appreciates the opportunity to provide this Statement of Issues for Docket UE-101521 – Regulatory Issues Relating to Electric Vehicles and encourages the Commission to develop policy that will facilitate a competitively neutral EV marketplace (including recognition of the technological innovation through EVSPs) based upon principles of competition, equal access and consumer choice.

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Respectfully submitted,

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