BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking on the Commission's own motion to consider Alternative-fueled vehicle tariffs, Infrastructure and policies to support California's greenhouse gas emissions reduction goals.	Rulemaking 09-08-009

COMMENTS OF EV SERVICE PROVIDERS COALITION ON PROPOSED PHASE 2 DECISION

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SUMMARY OF RECOMMENDATIONS

The Commission should adopt the Proposed Decision, with the following clarifications and changes:

- Clarify that clearinghouse data will be made available to industry participants.
- The utilities should seek financial support for clearinghouse activities from public agencies, including the CEC and DOE.
- Clarify that the Commission will study the impact of demand charges on development of public charging stations, and adjust rates as necessary to encourage development of PEV infrastructure.
- In coordination with development of submetering protocols, the utilities should be required to develop procedures for subtractive billing.
- Eliminate distinction between residential and other rate classes for purposes of service line upgrade cost allocation.
- Clarify that utility education programs may reference environmental benefits of PEVs.
- In light of the fact that smart charging capabilities are either already accessible or will be in the near future, provide specific instruction on how smart charging issues will be integrated into the smart grid (and/or other relevant) proceedings.

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In accordance with Rule 14.3 of the California Public Utilities Commission ("Commission") Rules of Practice and Procedure, the EV Service Providers Coalition ("EVSP Coalition") submits comments on the Proposed Phase 2 Decision Establishing Policies to Overcome Barriers to Electric Vehicle Deployment and Complying with Public Utilities Code Section 740.2 ("Proposed Decision").[1] The EVSP Coalition supports the key recommendations in the PD, and offers below some suggestions regarding areas that may benefit from additional clarification or minor modification.

I. Introduction

The EVSP Coalition applauds the Commission for its efforts to prioritize and clearly define the most critical and time-sensitive issues in the development of the plug-in electric vehicle ("PEV") market in California. This step is crucial in order to create regulatory clarity and encourage further investment, innovation and PEV adoption consistent with Senate Bill 626 and Assembly Bill 32. On the whole, the proposed decision accurately reflects the state of the PEV market by recognizing that early market development (identified as 2011-2013) requires

[1] The EV Service Providers Coalition consists of Better Place, Inc., Coulomb Technologies, Inc. and ECOtality, Inc. Members of the EV Service Providers Coalition provide charging equipment and related services to California plug-in electric vehicle users.

both clearly defined boundaries between market participants, and rules that are sufficiently open to allow for market development and innovation to continue within the industry.

The Commission's roadmap is consistent with the Phase 1 decision to support a competitive market in PEV services and preserve consumer choice, while ensuring grid reliability and minimal costs to ratepayers in supporting early PEV adoption. Clear rules and competition in the early market are absolutely critical to driving the type of investment and innovation required to encourage consumers and fleets to embrace PEVs as an alternative to gasoline cars. The President has set a goal of putting 1 million PEVs on the road by 2015, and reducing oil imports by a third by 2025. The Proposed Decision is a critical first step that will help position California to be a leader in PEV adoption while ensuring our electricity grid is prepared for and can benefit from the development of a PEV market.

In the comments below, the EVSP Coalition outlines some suggestions for clarification in the Proposed Decision, and encourages the Commission to lay out more specifically how load management of PEVs and smart charging services are expected to be addressed in the parallel smart grid proceeding.

II. Utility Notification

The EVSP Coalition strongly supports the Commission's goal of developing a statewide data clearinghouse that could evolve into a national system.[2] Provided privacy concerns are adequately addressed, aggregated information regarding the location and degree of concentration of PEVs will help utilities and third party infrastructure providers plan for infrastructure and deployment of EVSE and to maintain grid reliability. The Commission should clarify that consumer data that is provided to the data clearinghouse or the utilities, consistent with all applicable privacy laws, should also be made available to industry participants, such as third

[2] PD at 9-10.

party infrastructure providers, for the purpose of infrastructure planning and deployment efforts. For example, aggregated data identifying clustering in certain areas will allow for greater efficiency of deployment of public charging infrastructure. In addition to tracking the temporary or permanent relocation of consumer purchased PEVs, the clearinghouse should also include fleet purchases, as fleet charging will also impact grid reliability.

Because utilities have the primary responsibility to plan and pre-empt adverse impacts on the grid, we support the Commission's directive for the utilities to take the lead in developing the clearinghouse to prepare the grid for PEV impacts. With respect to sources of funding to develop and maintain the data clearinghouse, the EVSP Coalition recommends that the Commission look beyond the utilities, auto manufacturers and third party providers as sources of funding. The California Energy Commission or the Department of Energy Clean Cities Program may also provide funding to this effort due to the public benefit being created as a result for the state's EV infrastructure initiatives.

III. PEV Rate Design

The Commission is correct in its overall assessment that new rates are not warranted at this time, and that PEV-related rates should be revisited once the early market develops (i.e. in 2013-2014). The California PEV pilots currently underway will inform whether current rates are sufficient and what rate mechanisms might be most effective at guiding end-user behavior.

With respect to the Proposed Decision's specific recommendations on rate design, the EVSP Coalition agrees that at this stage of the market, EVSPs should not be placed on new special rates. This will preserve a level playing field in both the residential and non-residential settings. Under the approach adopted in the Proposed Decision, TOU rates will serve as the foundation for cost-recovery and price signals for load management. It is very important,

however, that EVSPs not be required to directly pass through TOU rates or otherwise be subject to customer pricing requirements dictated by the Commission. The Proposed Decision correctly recognizes that TOU rates will provide the appropriate incentives to EVSPs and customers, and will reflect the costs to the electricity grid.[3] The Proposed Decision establishes that PEV load should be treated as any other new load. The EVSP Coalition supports this approach. In particular, the Commission should not allow the utilities to include new demand charges (whether residential or non-residential), since they could adversely affect PEV adoption.

To ensure implementation of the policy determinations in its Phase 2 decision, the Commission should explicitly clarify that under any existing tariff rules and rate schedules, third party EVSPs will have access as retail customers to PEV rates and that such service may not additionally restrict, prescribe or limit EVSP services beyond the meter. We encourage the Commission to instruct the utilities to conform existing tariff schedules to its decision, including clarifying that any additional obligations or restrictions designed for other customers under Rule 18 do not apply to EVSPs.

Prior to revisiting PEV rates in the 2013-2014 timeframe, one issue the Commission should study and consider in a separate proceeding is the impact of current demand charges in commercial electricity tariffs on the deployment of publicly available charging infrastructure. This issue is important, given the desire for both cost-recovery and clear off-peak price signals, and the need to encourage deployment of public infrastructure to support PEV adoption. As part of the EV Project, Ecotality is currently collecting data on the deployment of DC fast charging and the impact that relevant commercial rate structures, which trigger demand charges, are having at those locations.

[3] PD at 19-20.

IV. PEV Submetering Protocol

Given the objectives of providing for consumer choice in metering options and enabling cost-effective alternatives that have the greatest potential to minimize barriers to PEV adoption, the Commission is correct in creating a near-term timeline and directing utilities to develop a submetering protocol that will make it possible to utilize embedded, revenue-grade metering in the EVSE or on-board the vehicle.[4] The EVSP Coalition specifically supports requiring the utilities to file proposed submetering protocols on or before October 31, 2011. The Commission should establish this deadline as a firm requirement and avoid any further delay, since any long-term uncertainty regarding the viability of submetering or the specific technology implications of the submetering protocol would create challenges for infrastructure deployment.

The EVSP Coalition is concerned that while supporting timely development of a submetering protocol, the Commission appears to be ambivalent regarding the role of subtractive billing for PEVs. The Proposed Decision recognizes that "the purpose of the PEV submeter protocol is to certify devices that measure PEV subload used for utility billing, i.e. revenue quality data" and at the same time concludes that "the PEV submeter protocol does not need to address subtractive billing."[5] At a practical level, these two statements are inconsistent. If the purpose of the submeter protocol is to enable billing-grade submetering for PEVs, which enables both direct PEV load management and services, then subtractive billing must be likewise required to ensure the benefits of submetering can be enabled. It would be counterproductive to embark on technical and metering definition of a submetering protocol absent any clear guidance that this functionality will be supported by utilities for billing and load management purposes.

[4] PD at 38-41.
[5] PD at 39.

We request that the Commission clearly define a timetable and pathway for the utilities to enable subtractive billing that is aligned with the development of the submetering protocol.

V. Cost Recovery Policy for Electric Infrastructure Upgrades

Recognizing that identifying and tracking the cause of system upgrades will be challenging, the Proposed Decision concludes that:

> …at least in the near term, PEV charging load should be treated like other load, and that upgrade costs related to PEV load should be treated pursuant to existing rules. In particular we find that new PEV load should be treated as permanent load, and therefore, customers should be afforded a standard allowance to cover the costs of required facility upgrades.[6]

The EVSP Coalition strongly agrees with the Commission's conclusion that for purposes of cost recovery, EV-related upgrades should be treated like every other load and standard allowances should apply. This policy should be applied consistently. Many PEVs will be charged outside the residence. In most urban areas, charging outside the home will likely be significant. Studies have indicated that 80% of EV owners want to charge more than once a day.[7] Public infrastructure is critical to address range anxiety. Policies should address residential, public and commercial charging in order to achieve the overall goal of encouraging the deployment of electric vehicles.

In addition, the Commission provides that where service line upgrades exceed the cost of the allowance, interim cost service treatment will be adopted for service upgrade costs that exceed the residential allowance.[8] Importantly, the Commission recognizes that high installation and service costs can be a barrier to EV adoption. For charging infrastructure, the highest priority is to enable easy, low-cost home charging. Again, it is critical that this policy be applied

[6] PD at 49.
[7] E.D. Tate and Peter J Savagian, "CO_2 Benefits of Electrification" SAE International (2009).
[8] PD at 50.

consistently to all classes of customers installing EVSE.[9] EVSE installation processes and the associated costs are potential hurdles for the widespread adoption of grid-connected vehicles. In order for these vehicles to be practical, customers must have convenient access to charging, at a reasonable rate.

VI. PEV-Related Cost Tracking and Load Research

The Proposed Decision recognizes the need for both PEV cost tracking and load research.[10] Some data already exists for the residential and public infrastructure that has been deployed in the market to date. The costs for such infrastructure, including service upgrades, vary significantly in each installation.[11] Programs such as the EV Project, ChargePoint America, Ready Set Charge, and projects funded under AB 118 through the California Energy Commission, are all collecting installation cost data. This data, combined with the load research required by the Commission, will serve to inform the Commission of the nature of impacts, costs and potential system benefits from PEV charging.

The EVSP Coalition supports the effort to have utilities track cost and conduct load research. This is in line with the Commission's underlying premise throughout this Phase 2 decision that we must study and learn the trends, driving patterns and effects of early EV adoption. Many of the longer term policy decisions will be based on load and behavioral data. Research authorized under the Phase 2 decision will contribute to the studies of national trends that the Department of Energy and Idaho National Labs are collecting.

[9] The PD at 50 declines to adopt a uniform policy on allowances for non-residential customers.
[10] PD at 51.
[11] See, e.g., Draft report of the National Petroleum Council Future Transportation Fuels Study, provided by the Electricity Subgroup

VII. Education and Outreach

The Proposed Decision outlines principles to guide utility education and outreach, and addresses cost recovery for these efforts.[12] The EVSP Coalition acknowledges that in the early market, education and outreach by the utilities is critical to consumer awareness, understanding and adoption of electric vehicles. The important work being done by San Diego Gas & Electric Company ("SDG&E"), especially in the area of Multi-Dwelling Unit education and outreach, is a template for other organizations to adopt to effectively communicate challenges and opportunities with PEVs. We are confident that the utilities will continue to support this effort, and nothing in this proposed decision should inhibit that agenda.

As discussed in the Proposed Decision the EVSP Coalition and other parties have noted the importance of ensuring that the utilities cannot provide preferential marketing for any type of EVSE or EV service to customers in their education program. The recommended guidelines appropriately recognize and address this concern.[13]

Recognizing that acknowledging the environmental benefits associated with PEVs is unavoidable and appropriate in any outreach program, the EVSP Coalition suggests that the Commission modify the language of principle (c) to clarify this:

> The utilities' customer education and outreach programs should focus primarily on safety, reliability, and cost reductions for utility electricity and gas systems. However, the utilities' programs may include information regarding the societal and environmental benefits of PEV adoption.

VIII. PEV Smart Charging Programs and Allowing for Demand Response

The Commission takes a "wait and see" position on smart charging, noting that there should be a demonstrated need for and feasibility of incentive-based smart charging programs before ordering such programs. The Commission recognizes that "smart charging" can enable a

[12] PD at 54-56.
[13] PD at 55.

suite of services, including demand response, load shaping, remote utility operation, HAN interaction, Vehicle To Grid, renewable generation integration, ancillary service and more. The Commission is correct in concluding that TOU rates are the foundation for load management, and that any additional technology-enabled services should be considered once early market behavior is understood.

Recognizing that this point may be reached sooner rather than later, it would be helpful if the Commission could provide some guidance now to parties interested in advancing smart charging technologies. The EVSP Coalition represents companies that have already developed the EVSE hardware and software to network and manage charging infrastructure, provide billing systems and enable services for driver and grid applications. To ensure that these additional capabilities are employed for the benefit of the grid and ratepayers in a timely manner, and in coordination with other smart grid functions, the Commission should provide more specific instruction regarding (1) how and when the issue of "smart charging" might be addressed in the parallel smart grid proceeding, and (2) how that might align with the timeline of PEV deployment expected in the near-term (i.e. 2011-2013).

Specifically, the Proposed Decision provides for the General Rate Case application time frame of 2012-2014 as the appropriate forum to consider utility requests for pilot programs for PEV demand response. This is a good start, but the Commission could also clarify how and when smart charging will be dealt with in the scope of the parallel Smart Grid Proceeding. The EVSP Coalition recommends that the Commission consider smart charging programs or incentives for PEVs no later than the end of 2012.

In addition, it would be appropriate, based on the outcome of this proceeding, for the Commission to outline key guiding principles for PEV load management that will inform any

PEV or smart charging-related decisions in the Smart Grid Proceeding. Such principles should include:

- If managed appropriately, wide-scale adoption of electric vehicles has the potential to provide a new asset for California's electricity grid that can enable demand response, load management, energy storage and other services to enable cost-effective renewables integration into the grid.
- For PEVs to achieve their enormous potential for GHG reduction, EV charging infrastructure must be networked and equipped with communication capabilities to allow for appropriate metering/billing of electricity to PEVs, to accommodate grid contingencies, to shift charging off peak when feasible and appropriate, and otherwise assist in managing loads to promote utilization of low-carbon energy and avoid the costs of upgrading or adding new generation to the grid.
- TOU pricing is the foundation for load management, and should clearly reward PEV load management that avoids charging on-peak.
- Aggregation, active charge management and any other ESVP services that enable load management of PEVs, and thereby create a grid benefit, should be integrated and eligible for any existing or new programs, incentives or market services that reward demand response, ancillary services, load curtailment or energy storage.

IX. Conclusion

With the minor clarifications recommended above, the EVSP Coalition recommends that the Commission adopt the Proposed Decision. We appreciate the careful thought and consideration of policy objectives reflected in the Proposed Decision, and look forward to working with the Commission to implement a successful PEV program.

Dated: April 5, 2011

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PROPOSED CHANGES TO FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDERING PARAGRAPHS

- After Finding of Fact 10, add a new Finding of Fact: "Prior to revisiting PEV rate design, the Commission intends to study the impact of demand charges on the deployment of publicly available charging infrastructure by commercial customers."
- Add to Finding of Fact 22: "…, and for a parallel effort to enable utility subtractive billing."
- Delete Finding of Fact 27.
- In Finding of Fact 28, replace "residential" with "customer"
- Replace Finding of Fact 34 with: "There is demonstrable near-term potential for smart charging applications that will be beneficial to the grid and integration of renewable resources, including demand response, load management, and energy storage."
- Add a new Conclusion of Law after current Conclusion of Law 9: "The Commission will study the impact of demand charges in existing commercial rates on the deployment of publicly available charging infrastructure and, if necessary, take steps to ensure that rate design does not inhibit development of public charging facilities."
- Add a new Conclusion of Law after current Conclusion of Law 21: "In coordination with the development of PEV submeter protocols, the utilities (with input from interested parties) will develop subtractive billing procedures."
- In Conclusion of Law 23, remove the word "residential" from the first sentence and delete the second sentence.
- In Ordering Paragraph 1, add after item (3), the following: "(4) seek funding for the costs related to development of the data clearinghouse from public sources, including the California Energy Commission and the U.S. Department of Energy;" Adjust numbering of current item (4) accordingly.
- Add a new Ordering Paragraph after Ordering Paragraph 2: "Each utility will conform its existing tariff schedules to reflect this decision. Rule 18 should state clearly that EVSPs will have access as retail customers to PEV rates, and will not place any additional conditions or restrictions on EVSPs."
- Add at the end of Ordering Paragraph 4: "In coordination with the development of PEV submeter protocols, the utilities (with input from interested parties) will develop and implement subtractive billing procedures."
- In Ordering Paragraph 5 remove the word "residential" from the first sentence, and eliminate the second sentence.
- In Ordering Paragraph 8, replace existing principle (c) with the following:

> The utilities' customer education and outreach programs should focus primarily on safety, reliability, and cost reductions for utility electricity and gas systems. However, the utilities' programs may include information regarding the societal and environmental benefits of PEV adoption.

PROOF OF SERVICE

I declare that:

I am employed in the County of Sacramento, State of California. I am over the age of eighteen years and am not a party to the within action. My business address is ELLISON, SCHNEIDER & HARRIS; 2600 Capitol Avenue, Suite 400; Sacramento, California 95816; telephone (916) 447-2166.

On April 5, 2011, I served the attached *Comments of EV Service Providers Coalition on Proposed Phase 2 Decision* by electronic mail or, if no e-mail address was provided, by United States mail at Sacramento, California, addressed to each person shown on the attached service list.

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on April 5, 2011, at Sacramento, California.

/s/
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