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Roseville Electric Comments on October 5 CEC IRP Transportation Electrification Workshop

Additional submitted attachment is included below.

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November 1, 2016

Commissioner Janea A. Scott
California Energy Commission
1516 9th St
Sacramento, CA 95814

Re: Roseville Electric Comments on the October 5, 2016 Public Workshop on Incorporating Transportation Electrification in Publicly Owned Utilities Integrated Resource Planning

Roseville Electric appreciates the opportunity to provide comments to the California Energy Commission (CEC) on its October 5, 2016 "Incorporating Transportation Electrification in Publicly Owned Utilities Integrated Resource Planning" workshop (workshop). During the workshop, presenters from various organizations discussed their experiences, costs, challenges, and other issues pertaining to transportation electrification.[1] Among the issues raised were the cost burden shift to utilities due to transportation electrification, the importance of outside funding, and the need to develop a set of best practices and further data.

A Publicly Owned Utility (POU) established in 1912, Roseville Electric is located in Northern California and serves over 58,000 customers, with an annual electricity load of over 1.1 million MWh. Roseville Electric appreciates the workshop discussion facilitated by CEC staff, and supports the CEC's efforts in meeting California's goal of reducing greenhouse gas (GHG) emissions 40 percent below 1990 levels by 2030. Roseville Electric summarizes its recommendations relating to the transportation electrification workshop as follows:

- Collaborate with the California Air Resources Board (CARB) to develop methodologies for quantifying and verifying GHG emissions reductions via transportation electrification;
- Consider all relevant factors in order to realize the full environmental and grid value of transportation electrification when developing the above methodologies; and
- Leverage existing methodologies, studies, and funding opportunities to accelerate transportation electrification.

1. **The CEC should work with other regulatory agencies to develop consistent, interagency methodologies to quantify and verify GHG emissions reductions via transportation electrification in order to best meet California's GHG goals.**

[1] Transportation electrification is defined in Public Utilities (PU) Code 237.5 as "the use of electricity from external sources of electrical power, including the electrical grid, for all or part of vehicles, vessels, trains, boats, or other equipment that are mobile sources of air pollution and greenhouse gases and the related programs and charging and propulsion infrastructure investments to enable and encourage this use of electricity."

Transportation electrification is not merely necessary in meeting California's GHG goals;[2] the Legislature declared that doing so at minimal cost is a principal goal in utilities' resource planning.[3] Collaboration, coordination, and consistency between regulatory agencies such as CEC and CARB is necessary for utilities to effectively implement transportation electrification measures and meet their share of California's GHG goals. Otherwise, utilities will face multiple- potentially conflicting or inconsistent- regulatory goals and reporting requirements, both increasing a utility's compliance burden and diminishing its ability to achieve the state's GHG goals. As SMUD pointed out it its workshop presentation, policy consistency is essential to maximize utility effectiveness in achieving state goals; additionally, accounting for the GHG emissions burden shift from the transportation sector to the electricity sector is necessary to minimize ratepayer costs.

SB 350 obligates certain POUs to provide an integrated resource plan (IRP)- including a section on transportation electrification- to the CEC on a regular basis.[4] SB 350 also obligates CARB to identify and remove barriers to transportation electrification- specifically the increase in GHG emissions, and associated GHG allowance cost burden, in the electric sector from transportation electrification.[5] Understanding the magnitude of this shift, the resulting GHG emissions reductions, and the cost burden provides essential context for planning and the reporting that utilities provide to the CEC.

However, in the latest draft of its proposed regulations for post 2020 cap and trade regulation, CARB does not address this barrier or even propose a timeline to do so, merely stating that it is "important to ensure any method used to calculate any allocation for increased electrification is as accurate and verifiable as the methods used to allocate for industrial sectors for product-based allocation."[6] The CEC has staff with the expertise to develop such methodologies; they regularly perform load forecasts and other sophisticated data analysis. Alternatively, as discussed in the third section, the CEC can focus its various funding sources and/or coordinate with other agencies to provide grants for developing such methodologies. In either case, CEC leadership is key to developing a methodology to quantify and verify GHG emissions reductions via transportation electrification, not only to make reporting in that section of the IRP meaningful, but also to enable CARB and utilities to meet the mandates of SB 350.

2. When developing a methodology to quantify the environmental and grid benefits transportation electrification, the CEC should consider and incorporate all relevant factors in order to maximize such benefits.

[2] Public Utilities (PU) Code 740.12(a)(1)(D)
[3] 701.1. (a) (1) The Legislature finds and declares that, in addition to other ratepayer protection objectives, a principal goal of electric and natural gas utilities' resource planning and investment shall be to minimize the cost to society of the reliable energy services that are provided by natural gas and electricity, and to improve the environment and to encourage the diversity of… widespread transportation electrification.
[4] PU Code Section 9621.
[5] Health and Safety Code, Section 44258.5 (b): The state board shall identify and adopt appropriate policies, rules, or regulations to remove regulatory disincentives preventing retail sellers and local publicly owned electric utilities from facilitating the achievement of greenhouse gas emission reductions in other sectors through increased investments in transportation electrification. Policies to be considered shall include, but are not limited to, an allocation of greenhouse gas emissions allowances to retail sellers and local publicly owned electric utilities, or other regulatory mechanisms, to account for increased greenhouse gas emissions in the electric sector from transportation electrification.
[6] Staff Report: Initial Statement of Reasons, California Air Resources Board, August 2, 2016; page 43.

At an aggregated, macro level, quantifying the additional load and associated GHG emissions from transportation electrification is relatively straightforward. In practice, verifying and allocating the GHG allowances associated with reduced GHG emissions from transportation electrification will be complex. However, developing a methodology to quantify and verify transportation electrification is necessary- not only to minimize a utility's cost (as several utilities mentioned during the workshop, their EV programs are liabilities) and maximize GHG emissions reductions, but also to meet SB 350's goals of having an increasing number of convenient, affordable electric vehicles (EVs) contribute to grid management and renewable energy integration.[7] Therefore, Roseville Electric respectfully submits the following issues as a starting point for the CEC's consideration, to further development of methodologies to verify and quantify load from transportation electrification.

Ideally, a utility would be able to identify when an EV is charging via sub or separate metering paired with advanced metering infrastructure (AMI). This would allow quantification and verification of the following: determination of which utility should be credited with GHG allowances; measurement of the net kWh load; and verification of the GHG emissions associated with the utility's generation mix at the time of load, netted against the emissions of comparable conventional vehicles, to determine the net amount of GHG emissions avoided and therefore the amount of GHG allowances that should be credited.

However, not all utilities will have AMI by 2020, and guidelines should be developed for utilities which will have limited to no AMI. Even among those which plan to have AMI by 2020, such as Roseville Electric, it is unclear that AMI alone could identify EV load. A ratepayer may plug their vehicle into a wall outlet, for example, or decline to cooperate with the utility in quantifying and verifying data.

The privacy and security of the granular, individualized data associated with EVs should be protected. While developing the investor owned utilities' voluntary Low Carbon Fuel Standard (LCFS) programs for residential ratepayers, identifying EV owners was an issue, as the DMV was unable to divulge individuals' information directly to investor owned utilities. Additionally, Roseville Electric is concerned that the cost and resources required to secure and process such volumes of data in the future may represent a significant regulatory burden.

Merely identifying the residences of EV-owning ratepayers will be insufficient for accurate quantification and verification of load. The performance characteristics of an EV, driving habits of the ratepayer, and driving conditions will affect the amount of GHG emissions offset. In particular, partial EVs- such as the more common hybrid vehicles today- will pose an additional quantification and verification challenge. Additionally, ratepayers may charge their EVs at work or during travel, which may be outside the EDU territory in which their domicile is located; they may also move between EDU service territories, potentially leading to inaccurate allocation of GHG allowances from transportation electrification during the period in which utility records are outdated.

In the future, EVs may provide ancillary services, storage, demand response, and demand side management. These services will likely provide additional value, including GHG emissions reductions, and

[7] PU Code 740.12.(a)(1)(G) Deploying electric vehicles should assist in grid management, integrating generation from eligible renewable energy resources, and reducing fuel costs for vehicle drivers who charge in a manner consistent with electrical grid conditions. PU Code 740.12.(a)(1)(H) Deploying electric vehicle charging infrastructure should facilitate increased sales of electric vehicles by making charging easily accessible and should provide the opportunity to access electricity as a fuel that is cleaner and less costly than gasoline or other fossil fuels in public and private locations.

must be quantified and verified accordingly in order to meet SB 350's goals of minimizing utility costs, maximizing GHG reductions, and providing grid benefits from transportation electrification.

Finally, education and outreach efforts will be important to educate EV owners about the benefits of transportation electrification and ensure maximum participation and accountability.

These are a few of the factors the CEC may wish to consider. At minimum, these issues highlight the need for a conceptual framework to create a robust, carefully considered set of guidelines in quantifying, verifying, and reporting the additional load and GHG allowance cost burden to utilities from transportation electrification.

3. **The CEC should leverage existing methodologies, studies, and funding opportunities to accelerate the adaptation of, and unlock the full GHG reduction potential of EVs**

A. Existing methodologies and studies

Currently, there is a regulatory methodology and ongoing discussion at other agencies relating to transportation electrification. The LCFS group within CARB has developed reporting guidelines for electricity used as a transportation fuel, under Section 95481(a)(3)(D) of the LCFS regulations. For residential EVs, the regulations essentially require either metering or an estimate based on the number of non-metered vehicles multiplied by the "best available data" for daily average EV electricity use and the number of days in the compliance period. Specifically, as explained in a recent notice, CARB uses Department of Motor Vehicle (DMV) and Clean Vehicle Rebate Project (CVRP) data to estimate LCFS credits for non-metered residential electric vehicle charging.

Additionally, the California Public Utilities Commission (CPUC) has recently issued Decision (D.) 16-01-045 on January 28, 2016, for Application (A.) 14-04-014 and Rulemaking (R.) 13-11-007 on Vehicle-to-Grid Integration (VGI). Pertinent sections may include 3, which lists the decision's guiding principles; 5.7.12, Education and Outreach; 5.7.13, Bidirectional Power Flow; and 5.7.15, Electricity from Direct Access Providers. CPUC staff have also published a VGI paper in 2014, discussing how and where the resource is defined on page 24, in addition to metering and telemetry as well as communication standards on page 31.

B. Existing funding opportunities

The CEC has several existing funding sources, such as the Electric Program Investment Charge and the Alternative and Renewable Fuel and Vehicle Technology Program, which may address transportation electrification barriers and knowledge gaps (such as the apparent lack of best practices) faced by utilities. As mentioned in the first section, even if the CEC declines to allocate staff towards developing methodologies to quantify and verify GHG emissions reductions via transportation electrification, it may refocus its existing funding opportunities to do so. Additionally, such funding would ideally be coordinated with other agencies, such as the California Public Utilities Commission (CPUC) and CARB, to minimize duplicative efforts.

Conclusion

In summary, Roseville Electric recommends the CEC collaborate with CARB to develop consistent interagency methodologies for quantifying and verifying GHG emissions reductions via transportation electrification, in order to minimize barriers to transportation electrification adoptation; unlock the full environmental and economic potential of transportation electrification by considering all relevant factors; and leverage existing methodologies, studies, and funding opportunities to accelerate transportation electrification. It is the perfect opportunity for CEC leadership in working with other agencies and utilities towards meeting California's 2030 GHG goals. Roseville Electric appreciates the opportunity to submit comments, and looks forward to working with CARB staff in developing solutions to these issues.

Respectfully Submitted,

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