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 R.13-11-007

OPENING COMMENTS OF THE GREEN POWER INSTITUTE AND COMMUNITY ENVIRONMENTAL COUNCIL ON DRAFT RESOLUTION E-4628 (ELECTRIC BUS PILOT)

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The Commission issued draft Resolution E-4628 to resolve PG&E Advice Letter 4292-E, filed on September 13, 2013. This advice letter seeks Commission approval of PG&E's proposed electric bus rate schedule pilot program. The Green Power Institute and the Community Environmental Council (GPI/CEC) respectfully submit these comments on Resolution E-4628.

The Green Power Institute is the renewable energy program of the Pacific Institute, a non-profit environmental and social advocacy group. Under the direction of Dr. Gregory Morris, the Green Power Institute performs research and provides advocacy on behalf of renewable energy systems and the contribution they make to reducing the environmental impacts of fossil-based energy systems. The Green Power Institute is located in Berkeley, California.

The Community Environmental Council (Council) is a member-supported environmental non-profit organization formed in Santa Barbara in 1970 and is the leading environmental organization in the Central Coast region of California. The Council is a member of the steering committee of the Plug in Central Coast (PCC), one of the EV Readiness regions funded by the Department of Energy and the California Energy Commission. The Council provided significant input into PCC's forthcoming EV Readiness Plan, and works frequently with local businesses, governments, and residents as they purchase EVs, build charging infrastructure, and develop EV friendly policies. The Council's state policy work is directly informed by experience with what has worked, or is likely to work, at the local level. The Council is almost unique in combining on-the-ground work on a number of energy and climate change-related issues with concurrent work on state and federal policy issues. The Council is also pioneering a number of on-the-ground activities to promote alternative transportation and EVs. In 2004, the Council shifted its primary focus to energy and transportation issues and is spearheading a regional effort to wean our communities from

fossil fuels, on a net basis, during the next two decades. More information on the Council and its energy programs may be found at www.cecsb.org.

Our major points are:

- The Green Power Institute (GPI) supports PG&E's proposed pilot program. However, we urge PG&E and the Commission to propose a set of desired outcomes from the pilot program. In order for the pilot to engender long-term implementation, agencies interested in electric buses must have more than three years without demand charges. For electric buses to be viable as a technology, as PG&E argues, transit agencies will need to be able to rely on rates without demand charges, or some other solution that keeps costs for EV charging at reasonable levels. Accordingly, we urge PG&E and the Commission to outline the preferred next steps that are necessary to give transit agencies the assurances they need to start planning for electric buses today.

- More broadly, we urge PG&E and the Commission to examine whether incentivizing off-peak charging of EVs remains good policy. CAISO data already shows that significant amounts of solar power are being curtailed in Southern California on certain days, resulting in significant negative pricing for solar power on wholesale markets. E3 has produced an interim report for a number of battery manufacturers involved in the Commission's energy storage proceeding that projects significantly larger curtailment and negative pricing of solar power as the state moves toward the 2020 RPS. If this projection is accurate, programs that incentivize on-peak EV charging at scale could be a cost-effective means for mitigating curtailment, as well as for providing carbon-free, grid-support services.

I. Discussion

a. GPI supports PG&E's pilot rate schedule

GPI supports PG&E's proposal because GPI agrees that electric vehicles (EVs) and electrification of transportation more generally is a very promising means for decarbonizing California's economy. We urge PG&E and the Commission, however, to provide additional guidance for next steps for agencies considering electric buses, beyond the pilot program, as discussed further below.

b. GPI recommends that the Commission include in the final resolution possible outcomes/next steps of the proposed pilot rate program in order to give longer-term assurances to transit agencies

Neither PG&E nor the Commission can know with certainty the full cost or rate impact of the proposed pilot rate schedule. The function of pilot programs is to test new ideas, and this is what PG&E's proposed pilot will do. That said, we know enough already to suggest that further guidance and additional programs will be required to further the stated aims of the pilot. For the proposed pilot to have much effect in the short and mid-term, transit agencies following these developments at the Commission will benefit from additional guidance by the Commission in the final resolution. It would, accordingly, behoove the Commission to include some possible next steps in the final resolution. Transit agencies cannot plan major changes based on a three-year pilot rate schedule provided to one transit agency. We also urge the Commission to prioritize a broader reconsideration of these issues and to state its intent to do so in the final resolution.

PG&E states in AL 4292-E (p. 2): "The purpose of this tariff deviation is to support the Commission's efforts in regard to vehicle electrification, which has been the subject of numerous activities in Rulemaking (R.) 09-08-009, the Commission's alternative-fueled

vehicle rulemaking."

The Commission's draft resolution also states:

> PG&E states that its proposal will help increase the numerous benefits associated with vehicle electrification identified in the ZEV Action Plan. By providing a clear, consistent price signal, this tariff can allow transit operators to test the use of electric buses without the cost uncertainty associated with tariffs that have demand charges. PG&E also noted that SJRTD provides air quality benefits in the Central Valley, where air quality concerns are of critical importance. The benefits to electric vehicle adoption described by PG&E, as well as the environmental and health benefits that accompany vehicle electrification, are consistent with the goals of the Governor's ZEV Action Plan. PG&E's proposal to provide favorable rate treatment to PEV buses is consistent with California's Zero-Emission Vehicle Action Plan.

The Commission agrees that further work is needed on rates for heavy duty electric vehicles. The draft resolution states (p. 5): "Given the need for long-term policies that address competing goals of assigning costs to users and encouraging PEV adoption, this rate treatment should be limited to three years while the Commission designs long-term policies through its Alternative-Fueled Vehicle proceeding."

We appreciate the Commission's appropriate focus on longer-term solutions and we note that the Commission also issued a ruling in R.13-11-007 on July 16 focusing on this issue. We again urge the Commission to include in the final resolution any additional information available at that point about possible long-term solutions, and the Commission's intent to prioritize this issue in R.13-11-007. We offer one suggestion in the next section, focusing on the already-happening negative pricing for solar power in SP-15, and the ability of EVs to mitigate this negative pricing situation.

c. GPI recommends that PG&E and the Commission reconsider longstanding support for time-shifting away from peak charging due to the advent of solar negative pricing in Southern California

Negative pricing for solar power in SP-15 has exceeded $100/MWh at times in 2014, due to the large surplus of solar power already on the grid at certain times. This means that power

producers literally have to pay third parties to take their power. $100/MWh is a very substantial price to pay for others to take power, particularly when we consider that positive wholesale prices don't exceed $100/MWh in the data below (Figure 1).

Figure 1. *CAISO market price information showing negative pricing for solar power in SP-15. (Source: E3 Interim Report on Valuing Energy Storage as Flexible Resource).*

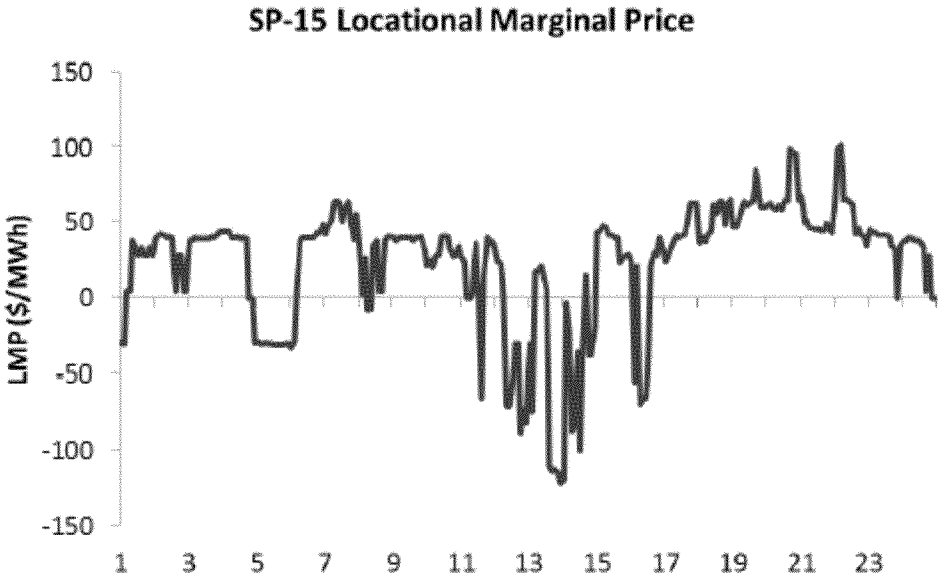

Figure 4: CAISO March 6, 2014 – SP-15 locational marginal price (LMP)

The E3 report describes the likely trajectory for overgeneration as California moves toward and beyond the 33% RPS by 2020, showing that the overgeneration and negative pricing issue will become steadily more serious, particularly as we move beyond 33% renewables. E3 also projects that California's IOUs are on track to achieve 40% renewables by 2020 due to far lower contract failure than has been the case historically. IOUs have been overprocuring, based on historical contract failure rates, but due to contract failure being lower than expected, IOUs are on a path to reach 40% renewables instead of 33%, as is required under current law. (Note: GPI does not agree with all of the report's conclusions.)

Accordingly, it seems that the Commission should start thinking seriously about how to incentivize on-peak charging as a cost-effective means for mitigating overgeneration and avoiding curtailment. The same E3 report calculates, in a 40% renewables scenario, that up to $300 million per year could be saved if alternatives to curtailment, like energy storage, are used instead of curtailment (Figure 2). If these calculations are at all accurate, IOUs will very likely benefit from substantial on-peak charging of various EVs, and also from on-peak charging of stationary storage facilities.

Figure 2. *Potential cost savings from alternatives to curtailment.*

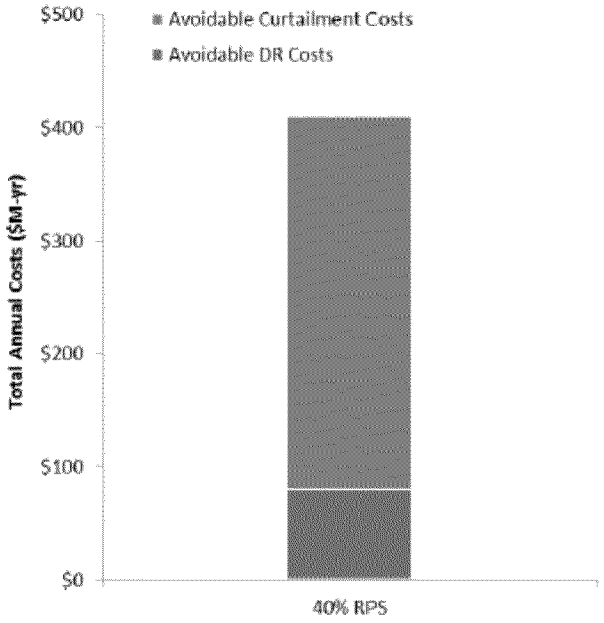

Figure 9: Relative value of avoided curtailment, avoided DR/CT dispatch and avoided procution costs with high curtailment value for a 40% RPS scenario

A single report is insufficient to change longstanding Commission policies and we are not advocating this outcome. Rather, we urge the Commission to quickly convene a new track or workshop in this proceeding and/or in concert with R.10-12-007 to consider the overgeneration issue and whether timing is right to change California's longstanding policy of incentivizing off-peak charging with TOU rates, etc.

II. Conclusion

For the reasons described above, GPI urges the Commission to approve PG&E's pilot program, to sketch possible next steps beyond the pilot in the final resolution, and to open a new track in this proceeding to consider whether incentivizing on-peak charging is now warranted due to the existence and likely future growth of high negative pricing for excess solar power during peak periods.

Dated: July 22, 2014, at Berkeley, California.

Respectfully Submitted,

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