

**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  
(Filed August 20, 2009)

**COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE ON  
PROPOSED DECISION AUTHORIZING SHORT-TERM EXTENSION  
OF LIMITED PROVISIONS REGARDING ELECTRIC  
TARIFF RULES 15 AND 16**

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June 17, 2013

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In accordance with the provisions of Rule 4.3 of the Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”), the California Energy Storage Alliance (“CESA”)<sup>1</sup> hereby submits these comments *On the Proposed Decision Authorizing Short-Term Extension Of Limited Provisions Regarding Electric Tariff Rules 15 And 16*, issued by Assigned Commissioner Carla J. Peterman on May 28, 2013.

**I. INTRODUCTION.**

CESA supports the Proposed Decision, and commends the Proposed Decision’s well-justified determination to extend the policy of “allowances” for light-duty hybrid and battery plug-in electric vehicle (“PEV”) charger installations to be treated as “Common Treatment for

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<sup>1</sup> The California Energy Storage Alliance consists of A123 Systems, AES Energy Storage, Alton Energy, American Vanadium, AU Optronics, Beacon Power, Bright Energy Storage, CALMAC, Chevron Energy Solutions, Christenson Electric Inc., Clean Energy Systems Inc., CODA Energy, Deeya Energy, Demand Energy, DN Tanks, East Penn Manufacturing Co., Energy Cache, EnerVault, FAFCO Thermal Storage Systems, Flextronics, Foresight Renewable Systems, Greensmith Energy Management Systems, Growing Energy Labs, Gridtential Energy, Halotechnics, Hecate Energy LLC, Hydrogenics, Ice Energy, Innovation Core SEI, Invenenergy, KYOCERA Solar, LG Chem, LightSail Energy, NextEra Energy Resources, Panasonic, Parker Hannifin, PDE Total Energy Solutions, PowerTree Services, Primus Power, RedFlow Technologies, RES Americas, Saft America, Samsung SDI, Sharp Labs of America, Silent Power, SolarCity, Stem, Sovereign Energy Storage LLC, Sumitomo Corporation of America, TAS Energy, UniEnergy Technologies, and Xtreme Power. The views expressed in these Comments are those of CESA, and do not necessarily reflect the views of all of the individual CESA member companies. <http://storagealliance.org>

"Excess PV Charging" costs for local electric distribution line upgrade costs through June 30, 2016. Unfortunately, the extension of the existing exemption from line upgrade costs otherwise applicable under Rule 15 and Rule 16 is also subject to a proposed individual residential customer charger installation cap of 7 kW.<sup>2</sup> The Proposed Decision represents a very positive step forward for the Commission's policy of encouraging deployment of light duty hybrid and battery PEVs, but it can also be greatly improved in several key ways recommended in Comments filed by PowerTree Services, Inc. (a CESA member company), and supported by CESA in these comments, before it is approved by the Commission.

With rapidly accelerating advances in the both PEV technology and the size and shape of the PEV market the 7 kW cap is much too low, and should be raised to at least 18 kW per port to reflect clear PEV market trends. Either Rule 15 and Rule 16 or utility tariffs currently in effect<sup>3</sup> should be modified to include the full cost of PEV charger installation. CESA strongly advocates that the Commission should address the rapidly transforming market for grid-tied energy storage systems integrated with PEV chargers to mitigate potential negative electric system impacts of PEV usage by managing the relatively high current levels needed,<sup>4</sup> while minimizing the extent of electric distribution line extension-related upgrades required.

Increasing the 7 kW cap to at least 18 kW per port, covering the entire cost of installation, and addressing integration of grid-tied energy storage systems will all contribute to achieving the balance between expanding the market by promoting PEV adoption and ratepayer

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<sup>2</sup> CESA acknowledges and appreciates the fact that that the Proposed Decision directs the Commission's Energy Division to revisit the merits of the 7 kW cap at a workshop to be scheduled within 18-months of the effective date of the Commission's final decision. CESA supports PowerTree's view, as an active PEV market participant, that the 7 kW cap is not justified by any record evidence or Commission policy, is virtually certain to have a dampening effect on the near-term growth of the market for PEVs in California.

<sup>3</sup> This could include, for example, EV, as well as NEM and VNEM tariffs.

<sup>4</sup> CESA expresses no preference, but notes that this proceeding remains open. Alternatives could include the open Energy Storage Rulemaking (R.10-12-007) or continuation thereof or a subsequent energy storage rulemaking. See *Assigned Commissioners Ruling Proposing Storage Procurement Targets and Noticing All-Party Meeting*, issued June 10, 2013, p. 23.

cost containment that the Commission is appropriately seeking to strike with the Proposed Decision. CESA thus requests that its recommendations discussed in these comments be reflected in a final decision by the Commission that includes CESA's Proposed Findings of Fact, Conclusions of Law, and Ordering Paragraphs that are incorporated herein and attached to these comments as Appendix A.

**II. THE COMMISSION SHOULD ADDRESS INTEGRATION OF GRID-TIED ENERGY STORAGE SYSTEMS WITH PEVS TO MITIGATE NEGATIVE ELECTRIC SYSTEM IMPACTS OF INCREASED RESIDENTIAL PEV CHARGING.**

Increased PEV deployment will inevitably have significant impacts on demand curves for residential units with PEV chargers, because the current generated by a PEV charger is larger than a typical single family household and because charging is, by its nature, intermittent. Upgrade needs can be reduced through reduction in charging peaks produced by PEVs' intermittent power consumption. This provides a significant opportunity for utilization of grid-tied energy storage located past the site of otherwise-required system upgrades - including energy storage located at the site of the PEV charger. Properly designed energy storage systems can charge from the grid at a steady rate - or any predetermined rate that best fits peak/off-peak prices and/or system needs - and appropriately discharge energy into charging PEVs up to their full rate of charge. If appropriately designed and implemented, a PEV charger-integrated energy storage system can meet the Commission's twin goals of expanding PEV deployment and minimizing distribution system upgrade costs. It can further address systemwide goals of shifting energy consumption to off-peak - which would allow for lower-cost and lower-emissions PEV charging regimes. Finally, it can allow for improved PEV charging performance by consuming energy within specified utility-defined limits (*i.e.* at least 18 kW per port), and later discharging energy at rates ideal for faster PEV charging (*i.e.* 20+ kW per port); this allows for

mitigating system upgrades while enabling increased PEV performance and related increased PEV deployment.

The benefits of grid-tied energy storage integration are heightened when considering the market demographics of PEV charging in California. A large percentage of Californians likely to purchase PEVs live in multi-unit dwellings (“MUDs”). MUDs typically have installed electric service capabilities designed for consumption levels that do not include PEV charging capability. Because many PEV may be charging at once, the unpredictable intermittent charging patterns of MUDs with multiple PEVs on-site can have potentially high peaks and high variability. Integrated energy storage benefits would be multiplied in these installation scenarios, both in reducing upgrade costs and in prioritizing utility-desired energy use patterns (*i.e.* off-peak consumption).

Given all of these considerations, the Commission should encourage integration of customer-sited energy storage to mitigate the potential negative local distribution circuit impacts and related upgrade costs of PEV chargers.

### **III. CONCLUSION.**

CESA appreciates the opportunity to provide these comments for the Commission’s consideration and recommends that the changes to the Proposed Decision discussed herein and attached to these comments as Appendix A be adopted by the Commission.

Respectfully submitted,



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## APPENDIX A

### **PROPOSED FINDINGS OF FACT, CONCLUSION OF LAW, AND ORDERING PARAGRAPHS**

CESA supports the issuance of the Proposed Decision, with certain modifications discussed in its comments. PowerTree thus proposes the following changes be made in the Findings of Fact, Conclusions of Law, and Ordering Paragraphs of the Proposed Decision set forth below.<sup>5</sup>

#### **PROPOSED FINDINGS OF FACT:**

9. [p. 20] Potentially excessive cost impacts on ratepayers are possible from including, at least in the near-term, high level AC charging within the Common Treatment for Excess PEV Charging Costs and, as a result, a distinct policy for residential PEV installations [**at least 18 kW per port in capacity**] is needed, which include the more sophisticated charging systems.

#### **PROPOSED CONCLUSIONS OF LAW:**

4. [p. 21] Because of the possible excess cost impacts on ratepayers, it is reasonable to only apply the cost allocation policy to distribution upgrades for PEV charging installations for residential customers associated with charging installations [**at least 18 kW per port in capacity**].

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<sup>5</sup> Note use of the following conventions:

- A page citation to the Proposed Decision is provided in brackets for each Finding, Conclusion of Law, or Ordering Paragraph for which a modification is proposed.
- Changed language is indicated by **bold brackets**.