

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to
Continue the Development of Rates
and Infrastructure for Vehicle
Electrification.

Rulemaking 18-12-006
(Filed December 13, 2018)

(NOT CONSOLIDATED)

Order Instituting Rulemaking to
Consider Alternative-Fueled Vehicle
Programs, Tariffs, and Policies.

Rulemaking 13-11-007

**COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE
TO THE ORDER INSTITUTING RULEMAKING TO CONTINUE THE
DEVELOPMENT OF RATES AND INFRASTRUCTURE FOR VEHICLE
ELECTRIFICATION AND CLOSING RULEMAKING 13-11-007**

Alex J. Morris
Vice President, Policy & Operations

Jin Noh
Policy Manager

CALIFORNIA ENERGY STORAGE ALLIANCE
2150 Allston Way, Suite 400
Berkeley, California 94704
Telephone: (510) 665-7811
Email: amorris@storagealliance.org

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OF THE STATE OF CALIFORNIA**

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In accordance with Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”), the California Energy Storage Alliance (“CESA”)¹ hereby submits

¹ 174 Power Global, 8minutenergy Renewables, Able Grid Energy Solutions, Advanced Microgrid Solutions, Alligant Scientific, LLC, AltaGas Services, Amber Kinetics, Ameresco, American Honda Motor Company, Inc., Avangrid Renewables, Axiom Exergy, Better Energies, Boston Energy Trading & Marketing, Brenmiller Energy, Bright Energy Storage Technologies, Brookfield Renewables, Carbon Solutions Group, Clean Energy Associates, ConEd Battery Development, Customized Energy Solutions, Dimension Renewable Energy, Doosan GridTech, Eagle Crest Energy Company, East Penn Manufacturing Company, EDF Renewable Energy, ElectrIQ Power, eMotorWerks, Inc., Enel X North America, Energport, Engie Storage, E.ON Climate & Renewables North America, esVolta, Fluence, Form Energy, GAF, General Electric Company, Greensmith Energy, Gridwiz Inc., Hecate Grid LLC, Ingersoll Rand, Innovation Core SEI, Inc. (A Sumitomo Electric Company), Johnson Controls, Lendlease Energy Development, LG Chem Power, Inc., Lockheed Martin Advanced Energy Storage LLC, LS Energy Solutions, LS Power Development, LLC, Magnum CAES, Mercedes-Benz Energy, NantEnergy, NEC Energy Solutions, Inc., NextEra Energy Resources, NEXTracker, NGK Insulators, Ltd., Nuvve, Pattern Energy, Pintail Power, Primus Power, Polyjoule, Quidnet Energy, Range Energy Storage Systems, Recurrent Energy, Renewable Energy Systems (RES), SNC-Lavalin, Southwest Generation, Sovereign Energy, Stem, STOREME, Inc., Sunrun, Swell Energy, Tenaska, Inc.,

these comments to the *Order Instituting Rulemaking to Continue the Development of Rates and Infrastructure for Vehicle Electrification and Closing Rulemaking 13-11-007* (“OIR”), issued by on December 13, 2018. CESA timely files these comments pursuant to the *Email Ruling Granting Extension of Time to File Comments* (“E-Mail Ruling”), issued by Administrative Law Judge (“ALJ”) Patrick Doherty on January 29, 2019 that granted the extension of the deadline for opening comments to February 11, 2019 and reply comments to February 26, 2019.

I. INTRODUCTION.

CESA supports the purpose of this OIR to serve as an umbrella proceeding for all transportation electrification (“TE”) investments, rates, and grid integration. A single proceeding to set the guidelines, principles, and best practices across all of these applications will ease stakeholder involvement, ensure consistency across the programs and policies of different investor-owned utilities (“IOUs”), and support more effective advancement toward the Commission’s broader TE goals, including the Governor’s Executive Order B-48-18 signed in January 2018. In particular, CESA supports the five near-term objectives outlined in the OIR.²

The new OIR was issued to succeed (and close) Rulemaking (“R.”) 13-11-007 to develop a comprehensive framework that guides TE programs, tariffs, and policies, and directs each of the IOUs to propose new rates that support transportation electrification, authorizes the Commission’s Energy Division to develop a report outlining TE program investments moving forward, and continues the Commission’s focus on advancing vehicle-grid integration (“VGI”). In particular, a

Tesla, True North Venture Partners, Viridity Energy, VRB Energy, WattTime, Wellhead Electric, and Yunicos. 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>).

² OIR, pp. 9-10.

key focus of the new OIR is to develop a new Transportation Electrification Framework (“TEF”) that will move the Commission away from review one-off TE program applications and more comprehensively and uniformly address rate designs, VGI issues, and program review.

While supportive of this umbrella framework for all TE-related issues, CESA offers a few areas of recommendation in scoping this new proceeding:

- Coordination issues between this proceeding and other Commission proceedings should be clarified.
- The Vehicle-Grid Integration Working Group should focus on key actions to be directed to other proceedings.
- The mechanisms and frameworks developed in this proceeding should lead to actions that direct pilots and procurements.
- The development of new rate designs should consider flexibility to allow other distributed energy resources to take service on these rates and should create a pathway for technology-neutral rate designs.
- The TEF should strive to balance customer experience objectives with smart grid integration objectives.

CESA appreciate this opportunity to actively participate in this proceeding and looks forward to working with the Commission on advancing the state’s TE goals.

II. COORDINATION ISSUES BETWEEN THIS PROCEEDING AND OTHER COMMISSION PROCEEDINGS SHOULD BE CLARIFIED.

There are a number of other Commission proceedings that touch on key TE issues and policies. As the fulcrum or umbrella to all TE-related issues, this proceeding should closely coordinate with other proceedings that appropriately dive into the deeper details or with other proceedings where transportation electrification is one of the options in the toolkit to manage grid reliability (*e.g.*, capacity, renewables integration) or achieve the state’s policy goals (*e.g.*, greenhouse gas [“GHG”] emissions reduction). The current OIR as written appears to focus on coordination and alignment roles of this proceeding for TE-specific activities but does not provide

guidance on how certain transportation electrification issues would be addressed that are applicable to multiple proceedings. There is a lack of clarity on what the appropriate venue is to address cross-cutting issues, where this proceeding may have the TE-focused expertise but would require technical or policy experts in other domains to fully address any cross-cutting issue. Clarity in this regard would be helpful to timely resolution of various TE-related issues.

CESA recommends that the Commission clarify the coordination role of this proceeding in the following way. First, R.18-12-006 should focus on all TE resource-specific issues. To the degree that a certain issue is predominantly an TE-related issue that does not have broader implications on other resource types, that issue should remain within the scope of this proceeding. Issues such as submetering and communication protocols, for example, are uniquely TE-related or VGI-focused issues that would not be appropriately or adequately addressed in any other proceeding.

Second, there may be certain issues that could be ‘started’ in R.18-12-006 to address TE-specific issues that are carried over and ‘finished’ in other proceedings. For example, CESA envisions that demand response (“DR”) participation policies and issues for TE-related assets could start in this proceeding, with the adoption of some guidelines on what the Commission envisions as being the role of EVs and EV chargers in providing grid integration services through DR participation, the assessment of how certain ‘conventional’ baseline approaches may or may not work for TE-related assets and how workable alternatives or modifications account for certain differentiating or unique factors of TE-related assets as compared to other traditional DR assets, etc. Once such TE-specific policies and issues are addressed in R.18-12-006, it may be appropriate at that time to direct coordinated action in the DR proceeding to have DR experts further develop/refine, adapt, adopt, and implement these policies and proposals in the DR proceedings

where they may also be able to be applied in a technology neutral approach under the framework of existing DR programs, where appropriate.

In the following table, CESA provides our preliminary recommendation for how specific roles, issues, and processes between R.18-12-006 and other proceedings could be clarified and defined. Many of the below issues are already being addressed in other proceedings to some degree, but the scoping and resolution of these issues may be supported by the coordination and guidance role of R.18-12-006.

	Other Proceeding Role	R.18-12-006 Role
Integrated Resource Planning (R.16-02-007)	Modeling of EV loads as flexible charging candidate resources for grid optimization to meet GHG goals based on inputs and assumptions vetted by R.18-12-006 stakeholders	Vetting of operational and technical assumptions of flexible charging candidate resources and various other inputs and assumptions
Integrated Distributed Energy Resource (“IDER”) (R.14-10-003)	Develop the compensation structures (e.g., rates, tariffs, incentives, market prices) to incentivize V1G and V2G dispatch for grid benefit and reliability based on value identified in R.18-12-006	Determine the value that could be provided from V1G and V2G capabilities to the distribution grid, stakeholders, utilities and customers
Rule 21 (R.17-07-007)	Adapt Rule 21 definitions and processes for V2G system	Assess which and how EV and other automotive standards can support Rule 21 interconnection processes for V2G systems
Demand Response (A.17-01-012, et al.)	Develop modifications to current baseline methodologies or identify alternative methodologies to enable DR participation from EVs and EVSEs based on assessments conducted in R.18-12-006	Identify gaps in current performance evaluation methodologies for EV-related DR and evaluate EV/EVSE participation in DR programs
Multiple-Use Application (“MUA”)³	Refine MUA rules as adopted in D.18-01-003 to V1G and V2G systems	Identify the unique value-stacking opportunities and barriers for V1G and V2G services

³ CESA recognizes that there is currently no MUA proceeding or no MUA issues scoped in other proceedings, such as the recently-closed Energy Storage rulemaking (R.15-03-011). To continue refinements of the MUA Framework and to potentially expand it to other DER types, CESA recommends that the Commission open an MUA-focused proceeding.

In addition, CESA finds that this proceeding is well-positioned to provide a single point of coordination between the Commission and the other state agencies, such as the California Energy Commission (“CEC”) and California Independent System Operator (“CAISO”). For example, to the degree reasonable, R.18-12-006 should provide some guidance or recommendations on how to refine and implement various VGI and TE-related market participation proposals in the Zero Net Energy (“ZNE”) home docket at the CEC and the Energy Storage and Distributed Energy Resources (“ESDER”) Initiative at the CAISO, respectively.

III. THE VEHICLE-GRID INTEGRATION WORKING GROUP SHOULD FOCUS ON KEY ACTIONS TO BE DIRECTED TO OTHER PROCEEDINGS.

CESA is encouraged by the frequent mentions of VGI, including the evaluation of the potential and value of vehicle batteries for DR and energy storage, the development of VGI pilot programs, and the development of communication protocols.⁴ CESA is particularly interested in the Commission’s VGI efforts and views the advancement of the state toward achieving the goals and overcoming the barriers laid out in the CEC’s VGI Roadmap as strategically important to smartly integrate the significant growth of EVs and EV-related infrastructure expected to meet the Governor Brown’s Executive Order B-48-18 goals. The mentions of VGI are encouraging as modeling done in the Integrated Resource Planning (“IRP”) proceeding (R.16-02-007) highlighted significant benefits of flexible EV charging in integrating major renewables buildout.⁵

However, it is unclear which VGI issues are scoped into the VGI Working Group, which CESA envisions as being a potential ‘workhorse’ to address a number of key VGI-related technical

⁴ OIR, pp. 14, 19.

⁵ *Attachment A: Proposed Reference System Plan*, published on September 18, 2017, p. 139.

<http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M195/K910/195910807.PDF>

and policy issues. To provide guidance for the scoping process of this proceeding and to allow the VGI Working Group to then work through key issues in more detail, a visioning and roadmap may be helpful for the realization of modulated one-way EV charging (“V1G”) and bidirectional vehicle-to-grid (“V2G”) to become grid-integrating assets. As noted in the OIR, the exemption to Rule 15 and Rule 16 will not be renewed past its current expiration date of June 30, 2019, unless otherwise determined,⁶ so CESA finds it important to develop the rules, programs/tariffs, and market participation models to enable the activation and utilization of the advanced capabilities of EVs and EVSEs, if customers would like to utilize them, not only in avoiding distribution upgrade costs but also in providing additional grid value in the form of capacity, ancillary services, renewables integration, etc.

In addition to creating a roadmap, CESA recommends the scope of the VGI Working Group be expanded to focus on some of the following issues that could fit within the roadmap for V1G and V2G resources and be refined and implemented in other proceedings and initiatives at the Commission, CAISO, CEC, or others:

- Dual DR participation and other MUA issues
- Expansion of Proxy Demand Resource-Load Shift Resource (“PDR-LSR”) eligibility to EVSEs⁷
- Streamlined Rule 21 interconnection processes for V2G resources⁸

⁶ OIR, pp. 15-16.

⁷ In ESDER Phase 3, the CAISO adopted a proposal that recognizes behind-the-meter (“BTM”) EVSE load curtailment. A new PDR-LSR product was also adopted for BTM energy storage, which could be expanded in the future to BTM EVSEs as well. See *Energy Storage and Distributed Energy Resources Phase 3: Draft Final Proposal*, published on July 11, 2018, pp.14-23. <http://www.caiso.com/Documents/RevisedDraftFinalProposal-EnergyStorage-DistributedEnergyResourcesPhase3.pdf>

⁸ CESA developed an issue brief and proposal on some of these issues for Working Group #3 in R.17-07-007. Specifically, the Issue #23 proposal considers Rule 21 applicability and changes to accommodate V2G interconnections. More work may be needed in this proceeding. See our issue brief and proposal [here](#).

- Distribution service tariffs and/or programs to avoid or defer distribution capital investments⁹

As previously noted, many of these issues may already be scoped in other proceedings and initiatives to be addressed for a broader range of DERs, but this proceeding may be well-positioned to address any resource-specific issues related to EVs and EVSEs.

IV. THE MECHANISMS AND FRAMEWORKS DEVELOPED IN THIS PROCEEDING SHOULD LEAD TO ACTIONS THAT DIRECT PILOTS AND PROCUREMENTS.

CESA is concerned that this proceeding is overly focused on frameworks and mechanisms and thus recommends that the proceeding be modified to also include some ‘forcing functions’ that direct action. In particular, with the VGI Working Group focused on new and innovative concepts (*e.g.*, grid service tariffs, interconnection processes), R.18-12-006 should direct pilots and procurements that turn concepts into actions that can be measured, evaluated, and later adopted on a wide-scale basis if found successful. At the same time, the Commission should be cautious of staying within the perpetual cycle of pilots, such as with the sub-metering pilot, and look to quickly learn and scale new concepts. For certain concepts, there may be a path to immediately scale to commercial procurements. CESA recommends that the VGI Working Group be one of the forcing functions to move concepts to action so that proposals developed in those discussions are tested and implemented. There may be other sub-groups that form as part of this proceeding that could identify actions as well on other issues (*e.g.*, rate designs).

⁹ Some of these ideas may be developed in the IDER proceeding in response to the *Administrative Law Judge’s Ruling Directing Proposals for Distributed Energy Resources Tariffs*, issued on November 16, 2018. <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M241/K155/241155615.PDF>

V. **THE DEVELOPMENT OF NEW RATE DESIGNS SHOULD CONSIDER FLEXIBILITY TO ALLOW OTHER DISTRIBUTED ENERGY RESOURCES TO TAKE SERVICES ON THESE RATES AND SHOULD CREATE A PATHWAY FOR TECHNOLOGY-NEUTRAL RATE DESIGNS.**

With the enactment of Senate bill (“SB”) 1000, this proceeding is appropriately tasked with developing EV rate design issues. CESA is supportive of the inclusion of EV-specific rate design issues in the scope here and understands that EV loads face economic barriers to deployment if rates are overly reliant on demand charges, which can constitute significant portions of customer bills,¹⁰ or in some cases, if rates are overly complex. Work is in progress on developing some new rates, such as with the recent Application (A.18-11-003) from Pacific Gas and Electric Company (“PG&E”) that proposed demand-based subscription plans in lieu of demand charges. CESA joined other parties in a Petition for Rulemaking (“PFR”) to develop real-time pricing tariffs as well, which could enhance the value proposition for EV and EV charger deployments.¹¹ Such innovative rates are helpful in supporting the economic viability of certain EV use cases, in providing support to the grid, and in offering customers with choice to select the best rate for them if the rates are made available on an optional basis.

While supportive of rate designs intended to accelerate transportation electrification, CESA believes that EV-specific rates should chart a path toward technology neutrality, where appropriate, and enable different distributed energy resources (“DERs”) to be able to take service on any EV-specific rates developed and adopted in this proceeding. In the early stages of transportation electrification, CESA understands that EV-specific rates may be beneficial in

¹⁰ Fitzgerald, Garrett and Chris Nelder, *EVGo Fleet and Tariff Analysis: Phase 1 California*, Rocky Mountain Institute, p. 17. https://www.rmi.org/wp-content/uploads/2017/04/eLab_EVgo_Fleet_and_Tariff_Analysis_2017.pdf

¹¹ *Petition of the California Solar & Storage Association, California Energy Storage Alliance, Enel X, Engie Services, OhmConnect, Inc., Solar Energy Industries Association, and Stem, Inc. to Adopt, Amend, or Repeal a Regulation Pursuant to Public Utilities Code Section 1708.5*, P.18-11-004, filed on November 6, 2018.

encouraging and incentivizing EV and EV charger deployments. But with different DERs, such as solar and energy storage, being installed in coordination with or co-located with EV infrastructure, there should be some longer-term consideration of designing rates that provide uniform price signals for customers to manage all their loads, including for their building and EV loads. This multi-DER, technology-neutral path should thus be mapped out as part of the discussions around any EV-specific rate proposal. Finally, any development efforts for EV-specific rates should consider the different EV use cases and evaluate different vehicle classes such as light, medium and heavy duty while adhering to broader rate design principles of cost causation.

VI. THE TRANSPORTATION ELECTRIFICATION FRAMEWORK SHOULD STRIVE TO BALANCE CUSTOMER EXPERIENCE OBJECTIVES WITH SMART GRID INTEGRATION OBJECTIVES.

CESA supports the five near-term objectives of the TEF but also recommends that the OIR include “supporting customer experience and choice” as an additional objective that should guide the drafting of the Commission staff proposal. Where reasonable, customer optionality and choice should be pursued when creating opportunities for EVs and EV chargers to provide additional and value-add grid services, establishing new innovative rates, and providing EV and EVSE deployment and installation opportunities. Customer choice and optionality not only supports a competitive market, but it also ensures that the state continues to focus on its important objective to accelerate deployments. As Southern California Edison Company (“SCE”) aptly put it:¹²

“2030 is just over 11 years away. The average passenger car life is 11.4 years. From this day forward, every time an internal-combustion engine (“ICE”) vehicle is purchased and an EV is not, there is a missed opportunity to reduce emissions from the transportation sector.”

¹² *Prepared Testimony in Support of Southern California Edison Company’s Application for Approval of its Charge Ready 2 Infrastructure and Market Education Programs*, A.18-06-015, filed on June 26, 2015, p. 18.

CESA agrees and believes that there is urgency to accelerate the current trajectory of EV deployments. Efforts should continue to decrease barriers for EVs and EVSEs participate in markets and provide grid services, but such grid integration opportunities should be pursued on a customer opt-in basis and with consideration of supporting EV customers with low-cost electricity where possible, as deployment also remains an important objective in the state's decarbonization goals. Ideally, with the appropriate incentives through rates, tariffs, and/or contracts, customers will be encouraged to support the grid, thereby helping to achieve the smart grid integration objectives.

VII. CONCLUSION.

CESA appreciates the opportunity to submit these comments on the OIR and looks forward to collaborating with the Commission and stakeholders in this new proceeding.

Respectfully submitted,



Alex J. Morris
Vice President, Policy & Operations
CALIFORNIA ENERGY STORAGE ALLIANCE
2150 Allston Way, Suite 400
Berkeley, California 94704
Telephone: (510) 665-7811
Email: amorris@storagealliance.org

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