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**CESA's Zero Emission Vehicle Resilience Workshop Comments**

*Additional submitted attachment is included below.*

August 6, 2020

Email to: [docket@energy.ca.gov](mailto:docket@energy.ca.gov)

Docket Number: 20-IEPR-02

Subject: CESA's Zero Emission Vehicle Resilience Workshop Comments

**Re: Comments of the California Energy Storage Alliance (CESA) following the Workshop on Zero Emission Vehicle Resilience and Three Revolutions in Transportation held July 15 and July 16, 2020**

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The California Energy Storage Alliance (CESA) appreciates the opportunity to comment on the Workshop on Zero Emission Vehicle Resilience and Three Revolutions in Transportation. CESA is pleased to see that the California Energy Commission (CEC) will assess Zero Emission Vehicles (ZEVs) as part of the 2020 IEPR Update. ZEVs can help increase grid resiliency, support a clean and affordable energy future in California, and maintain operational flexibility and grid reliability. CESA is a 501(c)(6) organization representing over 90 member companies across the energy storage industry, including for companies who provide electric vehicle (EV) and electric vehicle supply equipment (EVSE) as distributed energy resource (DER) assets. We are also involved in the California Public Utilities Commission (CPUC) Microgrids proceeding (R.19-09-009) as well as a number of other storage-related proceedings and initiatives.

Given the growing need for resiliency due to climate change risks and Public Safety Power Shutoff (PSPS) events, CESA is strongly supportive of a joint-agency focus to consider the roles and needs of ZEVs during de-energization events. As the state advances its transportation electrification goals, CESA recommends that the CEC view and position ZEVs in two ways in light of the prospect of de-energization events: (1) strategic investments to reinforce key corridors to support ZEVs as Transportation Vehicles; and ZEVs as DERs that can directly enhance electric resiliency for homes and facilities.

**Resilient Charging for ZEVs as Transportation Vehicles**

- **Clean backup power/storage resources for ZEVs are needed for transportation during de-energization events:** As was shown in multiple presentations, including those by AC Transit, CTA, and Blue Lake Rancheria, there are concerns about being able to recharge ZEVs during PSPS or other de-energization or emergency events. For public transportation agencies, this is leading to the purchase of fossil-fuel backup generators to ensure reliability of essential transportation services. For consumers purchasing light-duty EVs, concerns over access to charging for necessary transportation during emergencies might delay the adoption of ZEVs. These concerns are serious hinderances to the decarbonization of the transportation sector in California. CESA encourages state agencies to consider the role of emissions-free backup resources, such as solar and/or storage, in providing clean power for ZEVs during de-energization events. Both Envision Solar and

FreeWire Technologies, for example, displayed how existing technologies can help power ZEVs during de-energization events. Additionally, these technologies not only can provide power for vehicles, but also other resources during emergencies. The multi-use functionality of these resources makes them valuable during emergency events that disrupt the grid. Statewide programs such as the Self-Generation Incentive Program (SGIP) can be leveraged to support these co-investments, but broader examination of co-investment opportunities should be considered to reinforce ratepayer investments in EV charging infrastructure for critical-facility fleets and in key driving corridors.

### **Needs for ZEVs as Power Resources**

- **Bidirectional power flow ZEVs and ZEV chargers are capable of providing mobile backup storage during emergency events:** Many presentations at the workshop showed that ZEVs are not only transportation vehicles, but also have the potential to function as grid-interactive resources, including for de-energization events or other emergencies that require backup power. The use of EVs for backup power has been proven in Japan for year. Even in California, during last year's PSPS events, some EV owners that did not need to leave their houses were able to use their EVs as a power resource to keep electricity in their houses.<sup>1</sup> To emphasize the significant resiliency potential of ZEVs as DERs, many EVs today have energy capacities typically ranging from 80 kWh and 200 kWh; by comparison, widely-available stationary storage systems typically have energy capacities between 6 kWh and 14 kWh, depending on the technology. There is significant untapped potential of ZEVs as resilient DER resources.
- **Interconnection pathways are needed to enable the broad use of ZEVs as DERs and during de-energization events:** To make ZEVs as DERs more broadly accessible and reliable, vehicle-to-grid and vehicle-to-load resources need an approved interconnection pathway via Rule 21. While stationary energy storage systems used in homes and buildings must be equipped with island-capable inverters that are UL and Rule 21 compliant prevent energy from these systems flowing to the grid, such bidirectional ZEVs currently do not have adopted standards that could be used to comply with Rule 21 requirements. Through interconnection, ZEVs will not only have a pathway to provide resiliency but also to provide grid services during normal-day conditions that improves the cost-effectiveness of these investments. For the CEC's reference, CESA led a technical sub-group effort in R.17-07-007 and R.18-12-006 at the CPUC that catalogued the existing gaps in standards and identified potential pathways to enable interconnection. In the interim, the joint-agencies should consider low-cost technological solutions, such as a service disconnect at the meter (or socket) that will allow ZEVs to safely and reliable provide backup power to homes and buildings.

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<sup>1</sup> <https://www.npr.org/2019/11/08/777752175/with-blackouts-californias-electric-car-owners-are-finding-new-ways-to-charge-up>

**Conclusion**

CESA appreciates the opportunity to provide these comments on the CEC workshop. We look forward to collaborating with the CEC and other stakeholders in this proceeding.

Sincerely,

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