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Filer:	Bonnie Datta
Organization:	Veloce Energy
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VIA ELECTRONIC FILING

June 17, 2022

California Energy Commission
Re: Docket No. 22-OII-01
715 P Street
Sacramento, CA 95814

Re: Comments on Proposed Structure of Proceeding: Four topic areas

Veloce Energy files these comments on the "Order Instituting Informational Proceeding on Distributed Energy Resources (DER) in California's Energy Future" that California Energy Commission (Commission) staff presented at the public meeting on June 1, 2022. The comments address DERs in the context of EV charging infrastructure broadly and are not in response to any specific questions or discussions at the workshop.

Veloce Energy (Veloce) is a California-based provider of EV charging solutions, committed to accelerating the electrification of transportation through technology and business model innovation. Veloce's solution supports modular and flexible charging infrastructure, with the intent to accelerate deployment, drive cost efficiencies, and provide resiliency.

Veloce commends the Commission's effort to study the critical role of DERs in support of the state's clean energy future and review the current state as well as future scenarios, and support adoption via policy recommendations as well as R&D to address technology gaps.

1. DER today

From an existing policy and regulatory perspective, DERs today are viewed from a silo-ed perspective of disparate technologies that do not interact with each other. Consequently, market incentives are constructed in a similar manner, for example, the Self-Generation Incentive Program (SGIP) for energy storage. Considering the technology innovation taking place in the electrification ecosystem, the Commission needs to update its current approach about *which technologies qualify as truly DERs and how DERs should interact with each other* to support the state's high DER future goals.

Take for example the definition of EV charging infrastructure that the Commission follows for its incentive programs which remains in the traditional mold, i.e., "utility make-ready front-of-the meter (FTM) and charger+network software behind-the-meter (BTM)". This completely ignores the critical role that DERs such as battery energy storage systems (BESS) play in deploying charging infrastructure. DERs, whether they be microgrids, BESS, or on-site solar/wind co-sited

with BESS drive cost efficiencies and time to deploy **by reducing or eliminating unnecessary utility distribution system upgrades and service interconnection inefficiencies on both the customer side and utility side of the meter.**

Rate base driven earning mechanisms discourage the use of DERs and Non-wires Alternatives (NWA) as cost-effective solutions to legacy grid upgrade practices. These incentives to invest in grid upgrades not only cause delays in infrastructure deployment, but they are also burdening the ratepayer through increased electricity rates. These higher costs can be easily mitigated through existing and emerging DER technologies as well as innovative tariffs such as dynamic pricing.

For example, if a charging site needs 3MW of capacity to support the total connected load, and the service connection to that site can support only 2MW of load, the remaining 1 MW can be provided through BESS and/or a combination of BESS with on-site generation such as renewables. *Any concerns for safety and reliability are already being handled by current protection systems that are in place to safeguard equipment from power and voltage surges.*

While many utilities across the nation have utilized demand response (DR) and Time of Use (TOU) rates as means of load management, the use of DERs & NWAs as means to safely connect customer load that exceeds the total rated capacity of a customer connection is currently underutilized vis-à-vis charging infrastructure. The latter solution can avoid the need to upgrade an existing customer site with a new service connection, customer-side panel upgrade, or utility-side distribution system upgrade, as demonstrated by Pacific Gas & Electric (PG&E), where savings between $30,000 and $200,000 per project within its EV Charge Network Program were achieved at 20 sites.[1] Southern California Edison notes that "Type 2 ALM could have a potential for significant cost reduction and avoidance of major construction or upgrades by utilizing the existing capacity to the largest extent."[2] **Behind-the-meter stationary BESS co-located with EV chargers is an example of such ALM2 solutions.**

BESS perform as grid assets by managing and mitigating demand. We highlight in this connection, Electrify America's announcement that it has installed BESS at 140 DCFC stations across the US, including more than 90 in California. With more than 30MW of storage capacity, the BESS store power when the electricity costs are low and supplement power during peak usage periods, thereby minimizing impact on the grid.[3]

In addition to being a cost-effective grid upgrade solution and mitigating demand, BESS is also critical in ensuring system resiliency, especially as extreme weather events become increasingly frequent, resulting in power outages and blackouts, including through the public service power shuts off (PSPS) events throughout much of the State. The figure below illustrates nationwide trends in SAIDI and CAIDI, including major climate events such as wildfires and hurricanes, but not including PSPS.

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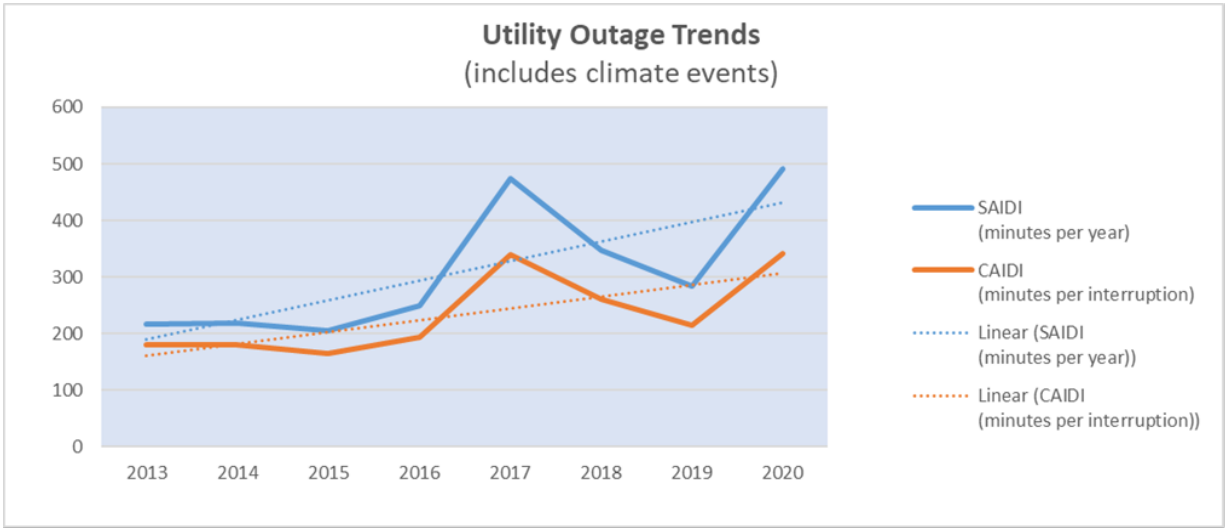
[1] In PG&E's January 29, 2021, ALM/EV EMS Workshop, Panel 2 Presentation, PG&E indicates that they have deployed Type 2 Advanced Load Management (ALM) at 20 Multi-Unit Dwelling and workplace host sites as of Q4 2020. Type 2 ALM refers to load management used to avoid additional distribution system upgrades.

[2] SCE, Presentation on Transportation Electrification, Charging Infrastructure Programs, Energy Management Systems, presented at EPRI IWC on March 20, 2019.

[3] Electrify America new release December 2, 2021- https://media.electrifyamerica.com/en-us/releases/164



Source: EIA

Veloce has raised similar points in its filing before the California Public Utilities Commission (CPUC) on the DER Action Plan 2.0.[4] We recommended that the Track Two focus is revised to read as, "CPUC actions to guide utility infrastructure planning and operations to maximize the value of DERs interconnected, and DERs *with the potential to interconnect* to the electric grid". It should also recognize and address the hurdles that prevent DERs from being interconnected to the grid, especially behind-the-meter.

2. DER future scenarios

It is an accepted fact that the grid needs modernization. Beyond replacing aged equipment, the imperative right now is twofold. First, the grid must be bidirectional to support the power flows from distributed generation, energy storage, vehicle to grid (V2G) etc. Second, it needs to be automated and digitized for remote monitoring, control, and optimization. If the goal of a high DER future is to be met, the urgency of making these upgrades increases rapidly.

For example, in June 2020, the Brattle Group[5] analyzed the effect on the grid of having 20 million EVs in 2030 and found:

- $75–125 billion of investment is needed across the electric power sector to serve 20 million EVs by 2030
- 20 million EVs will add 60–95 TWh of annual demand and 10–20 GW of peak load to the system and require 12–18 GW of renewable capacity and 1–2 million public chargers to serve EV demand
- Investments will be necessary across the supply chain, including $30–$50 billion for generation and storage, and

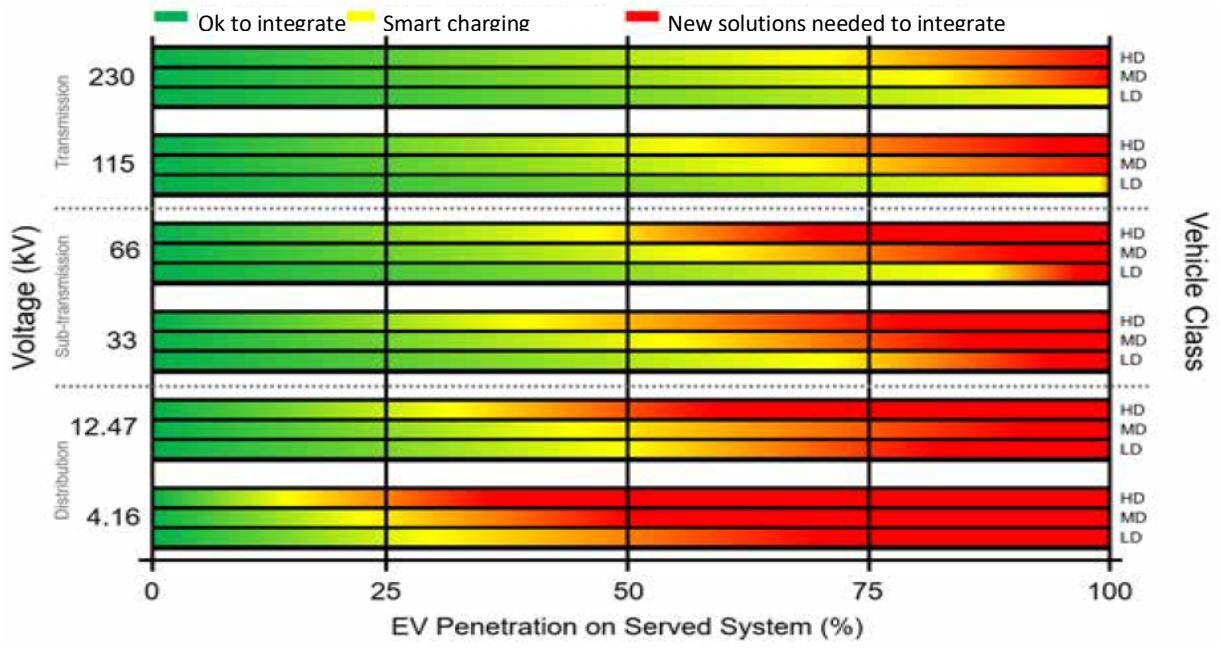
[4] Comments on Draft DER Action Plan2.0, October 8, 2021 (via email).

[5] Getting to 20 million EVs by 2030. The Brattle Group, June 2020.

- $15–$25 billion for T&D upgrades, and $30–$50 billion for EV chargers & customer-side infrastructure

The Brattle results assume charging is not managed and existing technologies continue to be deployed.

DOE has analyzed the effects of high levels of penetration of EVs on the grid and found, as shown in the figure below, that new solutions are needed to accommodate the EVs, especially on the low voltage network. These are needed at penetrations as low as 25% for HD vehicles.



Source: DOE

The Commission needs to consider how greater deployment of DERs can significantly lower the costs of supporting EVs and to meet the challenges identified by DOE. BESS is a highly promising and beneficial component of these new solutions, as are other DERs.

The Commission should review existing state policies with the intent to unlock potential values of DERs that are not being harnessed given existing statutory/regulatory constructs, and thereby incentivize customer adoption.

Veloce Energy appreciates the opportunity to submit these comments.

BONNIE DATTA
Advisor, Policy & Partnerships
Veloce Energy