FERMATA ENERGY

August 25, 2022

Honorable Chairman Liane M. Randolph and
Honorable Board Members California Air Resources Board
1001 I Street
P.O. Box 2815
Sacramento, CA 95812

Submitted via public comment docket

Re: SUPPORT Proposed Advanced Clean Cars II Regulations (accii2022)

Dear Chair Randolph and Honorable Board Members:

Fermata Energy is pleased to support the proposal for the Advanced Clean Cars II regulation. Fermata Energy operates Vehicle-to-Everything (V2X) bidirectional charging technologies that integrate EVs with buildings and the grid, turning EVs into valuable storage assets that reduce energy costs, stabilize the grid, increase energy resilience, and combat climate change. Fermata Energy enables utilities to more rapidly integrate renewable energy onto the grid, and Vehicle-to-Building (V2B) and Vehicle-to-Grid (V2G) revenue makes EVs more cost-effective. In short, Fermata Energy offers solutions to two major challenges we face today: the integration of clean, renewable energy, and the adoption of EVs.

In addition to developing the hardware and software required to perform V2X activities, Fermata Energy has spent nearly 10 years studying how V2X can unlock additional value streams from EVs, including those that are commercially viable today without regulatory intervention and how to best monetize these value streams. Fermata Energy has extensive experience with analyzing use cases, monetization mechanisms, and business models to maximize the benefits of V2X technologies. Vehicle Grid integration (VGI) encompasses both V1G (smart and managed charging solutions) and V2X (bidirectional power transfer to the grid, building, home, microgrid, or any other external load source). While V1G enables EVs to participate in off-peak charging programs and provide automated load management, V2X unlocks additional value streams and benefits for ratepayers and the grid by enabling the discharge of power stored onboard an EV. V2X unlocks the value of EVs to provide all of the services that that V1G does, in addition to backup power/resilience, demand charge management, demand response, system-wide peak shaving, and ancillary services, among others.

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Fermata Energy in our June 9 testimony and May 31 letter on the Advanced Clean Cars II proposal, requested that the Board resolution be modified to request a technology review every few years including on how CARB can advance bidirectional charging. We very much appreciate that the Board resolution has been modified to have a report back to the board every three years on market conditions, progress in advancing ZEV adoption and meeting emission reduction goals. However, Fermata Energy respectfully asks that the resolution be slightly modified to mention bidirectional charging and the need to accelerate it. Specifically, we request the following edits to the Board resolution

> *Be it further resolved that the Board directs the Executive Officer to monitor the implementation of the ACC II Regulations and to continue monitoring ZEV market conditions, and to report back to the Board starting in 2025 and no less frequently than triennially on the progress of the Regulations, compliance with them, and how the share of ZEVs and corresponding estimated GHG and criteria pollutant reductions compares to ACC II requirements and the assumptions in CARB's comprehensive strategic plans, including the Scoping Plan, State SIP Strategy, and Mobile Source Strategy, and to propose amendments to the Regulations as warranted to achieve reductions anticipated by the Regulations and to achieve other technology advancement and consumer goals including technology-neutral bidirectional charging, cybersecurity, and improving the consumer experience.*

California has historically been a leader in establishing policies that support these types of emerging technologies, and CARB has a unique opportunity to continue in this regard by being the national leader on accelerating V2X bidirectional charging. Fermata Energy's experience with V2X shows that it creates multiple win-win scenarios especially for low- and moderate-income EV drivers. If CARB were to provide incentives or regulations on V2X, as we are recommending, it could address the V2X "chicken-and-egg" dilemma facing vehicle manufacturers and V2X charging equipment providers and accelerate V2X by providing a positive value to consumers, including low- and moderate-income consumers. CARB action to accelerate V2X could help mitigate the emerging California generation shortage because with V2X, EVs become grid assets.[1] For example PG&E CEO Patti Poppe recently noted that EVs on the road in "PG&E's service area today have 6,700 MW of capacity," which equals "three Diablo Canyon nuclear power plants. It's on the road today, and we are not using it as a power source.

[1] Decommissioning of Diablo Canyon and lack of hydropower in drought years

We're only using it as a power draw."[2] CARB action on V2X also could help address the duck curve, evening ramp, and summertime "needle" peaks in the generation and distribution grids. CARB action to help commercialize V2X could create a low-cost, alternative to the zero-emission portable gensets required by CARB's recent Small Off-Road Engines (SORE) regulation. Finally, Fermata Energy encourages CARB to be technology neutral in any V2X recommendations for incentives or regulation in order to foster competition and encourage lower cost solutions. The California Legislature in SB 676 (enacted 2019) also called for technology neutrality regarding vehicle-grid integration. The importance of technology neutrality is explained in the August 25 letter to the Board by the CHAdeMO Association on the Advanced Clean Cars II proposal.

We urge you to adopt the Advanced Clean Cars and the modified Board resolution we requested above. If we can help CARB with any questions or provide further clarity on bidirectional charging, please let us know.

Respectfully submitted,
John Wheeler
/s/ John Wheeler
Chief Financial Officer
Fermata Energy

[2] https://www.latimes.com/environment/newsletter/2021-10-14/as-california-fires-burn-pge-ceo-promises-fixes-boiling-point