November 05, 2021

ELECTRONIC MAIL TO: cleancar@arb.gov

Re: Rivian Comments on the California Air Resources Board Advanced Clean Cars II October 13, 2021 Workshop

Rivian appreciates the opportunity to comment on the Advanced Clean Cars II ("ACC2") October 13 workshop ("the workshop"). Rivian is an independent U.S. company dedicated to the mission of keeping the world adventurous forever through the introduction of a lineup of all electric adventure vehicles™. Our R1T truck is currently available for sale and our R1S SUV will be available later this year. With features like an electric motor at each wheel, over 300 miles of range on a single charge, 0-60mph times of 3 seconds and the ability to tow up to 11,000 pounds (R1T), these all-electric vehicles open a new class of zero emission vehicles to the consumer. In addition to the R1 vehicles, Rivian will be delivering 100,000 all-electric last-mile delivery vans for Amazon. These all-electric delivery vans will be produced at the same Normal, Illinois, assembly plant as the R1T and R1S beginning this year.

Rivian has an interest in this rulemaking, not only in terms Rivian's mission to "Keep the World Adventurous Forever," but also as Rivian will be manufacturing vehicles subject to the proposed applicable standards. Additionally, the R1T, R1S and last-mile delivery vehicles currently may earn compliance credits toward the existing California light-duty Zero Emission Vehicle ("ZEV") requirements. Accordingly, Rivian respectfully submits these comments supporting the goals laid out in the workshop and the Governor's Executive Order N-79-20. As a member of The Zero Emission Transportation Association ("ZETA"), Rivian also supports advocating for 100% of new vehicles sold by 2030 to be

electric vehicles. [1] This goal, as expressed by ZETA, is five years ahead of the 2035 goal discussed in the workshop.

Rivian looks forward to working with CARB in supporting ACC2 and making the world a better place by transitioning to a zero-emission future.

2030 Goal

Rivian believes the goal of 100% light-duty ZEV sales by 2035 could be accelerated. To the extent these comments attempt to improve ZEV sales after 2030, said comments should not be viewed as implying that the goal of 100% new light-duty ZEV sales by 2030 is not a proper or achievable goal.

ZEV Assurance Measures

Rivian understands the goal of ACC2 is a full transition to new ZEV sales, essentially displacing gasoline-miles-driven with electric-miles-driven. The workshop covered how vehicle durability, affordability, and customer acceptance might affect the goals of ACC2. While Rivian agrees with the goal of fully transitioning new light-duty vehicle sales to ZEV, we caution that some of the assurance measures discussed in the workshop could have unintended consequences that increase the cost of new ZEVs or otherwise delay the goal of displacing gasoline-miles-driven. In particular, the 80% state of health ("SOH") durability requirements may lead to inflated vehicle costs in the near term as manufacturers attempt to meet this standard while still delivering on consumer demands for longer range vehicles and the access to a vehicle's full state of charge ("SOC").

For battery chemistries presently anticipated for use in model year 2026, there exists a tradeoff between initial range capabilities and degradation rate. At the same time, range anxiety remains a perceived obstacle to electric vehicle adoption. To the extent that the proposed durability standards do not take absolute range into consideration, Rivian is concerned about an unintended disincentive for the production of the long-range capable electric vehicles needed to win over consumers who are hesitant about

[1] The Zero Emission Transportation Association, "The Zero Emission Transportation Association (ZETA) is the first industry-backed coalition of its kind advocating for 100% of vehicles sold by 2030 to be electric vehicles (EVs)", - ZETA (zeta2030.org)

electrification, require longer driving ranges, or need features like hauling/towing that lead to longer ranges when unloaded. Instead of basing durability standards solely on SOH, Rivian recommends considering absolute range capability. A less stringent SOH standard, especially for long-range electric vehicles, could enable manufacturers to deliver on consumer needs without the unintended cost consequences of an even larger "reserve" SOC that might otherwise not be needed for longer range vehicles. To ensure SOH requirements are still capturing the spirit of CARB's proposal and that ZEVs retain value over time, the SOH warranty details and warranty performance metrics should be transparent to the customer. Rivian looks forward to working with CARB to address possible unintended negative consequences of ZEV assurance measure details.

Transparency

Rivian believes that transparency, especially regarding battery health, is paramount to the development of a fair and viable used electric vehicle market. We strongly support CARB's efforts to empower consumers with information and believe that the opportunity for buyers to assess value and tradeoffs for themselves is critical to a well-functioning ZEV market. Rivian also believes that providing clear battery warranty performance metrics is key to assuring new electric vehicle customers that their vehicles will perform as promised. Rivian is committed to delivering battery health transparency to the customer and appreciates CARB's leadership in solidifying battery transparency as an industry standard.

EJ Credits

Rivian supports CARB's efforts to ensure dissemination of electric vehicles and their associated emissions reduction benefits into EJ priority communities through creative incentive programs. We encourage CARB to continue pursuing avenues to increase equity in decarbonization, improve criteria emissions reductions, and even reduce noise pollution in EJ communties.

Treatment of PHEVs (Plug-In Hybrid Electric Vehicles)

Rivian appreciates that PHEVs initially offered value in transitioning consumers toward electrification. We question whether an equal ZEV credit value for some PHEVs and longer-range Battery Electric Vehicles (BEV) under this proposal is warranted. Given a PHEV's tailpipe emissions, their degradation of criteria emissions performance with age, and the current availability of BEVs in nearly every vehicle segment, incentivizing PHEVs four years into the future is not necessary and is directionally inconsistent with emissions

reduction goals. We recommend that PHEVs should not be eligible for ZEV credits by 2026 model year ("MY"), particularly since PHEVs can be operated entirely on gasoline. At most, PHEVs should be credited proportionally to the minimum BEV range. As an example, a 100-mile range US06 capable PHEV would be worth 0.5 ZEV credits through 2028 MY. We recommend that PHEVs should not be eligible for ZEV credits equal to BEVs beginning with 2026 MY.

SOH Metric Calculations

Rivian looks forward to the draft ACC2 language to fully digest the implications of the proposed standards. We are especially interested in the method of SOH calculations and the extent to which a consumer-facing metric may differ from the agency facing metric, as lab/label differentiated standards have been utilized in fuel economy and range applications. The alignment of SOH calculation methods with other draft standards, such as SAE (Society of Automotive Engineers) and GTR (Global Technical Regulations), is also of interest to Rivian.

Conclusion

Thank you for your time and consideration. Rivian supports CARB's goals as expressed in the October ACC2 workshop. Rivian looks forward to working with CARB in crafting ZEV assurance measures and ensuring the benefits of a full transition to ZEV are fully and equitably realized. Rivian is committed to a cleaner environment for all and is happy to discuss the above comments or any other questions.

Sincerely,

Chris Nevers,
Senior Director, Public Policy
cnevers@rivian.com
(248) 794 5002