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Submitted electronic at: https://ww2.arb.ca.gov/applications/public-comments

Liane Randolph, Chair
California Air Resources Board
1001 I Street
Sacramento, CA 95814
CC: E-mail: cleancars@arb.ca.gov

Re: Comments on the Proposed Advanced Clean Cars II Regulations Proposed 15-day Regulation Amendments

Dear Chair Randolph:

Pursuant to the California Air Resources Board's (CARB's) Proposed Advanced Clean Cars II Regulations: 15-day Proposed Amendments (15-day),[1] Tesla respectfully submits the following comments. Tesla incorporates by reference its written comments in response to previous ACC II workshops, presentations, and comments periods.[2]

Tesla continues to support CARB and the state of California in defending the state's authority under §209 of the Clean Air Act and the state's vehicle greenhouse gas (GHG) emissions standards.[3] Tesla shares and appreciated the goals, direction, and leadership CARB has exhibited in its ACC II process and proposal. Indeed, Tesla is grateful to CARB staff for the ongoing engagement and technical conversations staff throughout the process. Tesla believes the pace of electric vehicle innovation, cost-reduction, and deployment coupled with the public health and welfare imperatives to address criteria air pollution and accelerating impacts of climate change support an increase in overall stringency of the ACC II proposal.[4] Accordingly, Tesla believes the proposal should be amended to achieve and overall stringency level of 100% ZEVs by 2030.

Per the comments below, Tesla supports CARB's efforts to accelerate the full electrification of the light-duty fleet. Further, Tesla seeks to ensure CARB adopts final rules and regulations that achieve the maximum technologically feasible and cost-effective greenhouse gas and criteria air pollutant emissions reductions that protect the health and welfare of all the state's residents and its environment.

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[1] California Air Resources Board, Proposed 15-day Changes (July 13, 2022).
[2] See, Tesla, Comments on the Proposed Advanced Clean Cars II Regulations (submitted May 31, 2022).
[3] See e.g., *Ohio , et al. v, Environmental Protection Agency*, Docket No. 22-1081 (D.C. Cir. filed May 12, 2022) (Challenging EPA's waiver authority)(Tesla intervening as part of the National Coalition for Alternative Transportation); See also, *Union of Concerned Scientists v. NHTSA*, Docket No. 19-1230 (Consolidated with 19-1239, 19-1241, 19-1242, 19-1243, 19-1245, 19-1246, 19-1249) (D.C. Circuit filed Nov. 15, 2019) (challenging EPA's CAA waiver withdrawal and protectively challenging NHTSA's EPCA preemption rule); *California, et al. v. EPA,* Docket No. 18-1114 (consolidated) (D.C. Circuit, Oct. 25, 2019); Tesla, Comments to EPA on Reinstating California Waiver (July 6, 2021); Tesla, Comments on NHTSA Preemption Regulations (June 11, 2021).
[4] See e.g., Dimanchev, et al., The 4Ds of Energy Transition: Decarbonization, Decentralization, Decreasing Use and Digitalization, Chapter 8:Electric Vehicle Adoption Dynamics on the Road to Deep Decarbonization (July 15, 2022) (Peer reviewed study finding that achieving a ZEV share consistent with 1.5°C pathways would require a combination of a relatively early ban by around 2030).

1. Proposed Attachment H-1, Section 1962.4(d)(2) & Proposed Attachment K-2, Section 1962.7 – Battery Durability Requirement Enforcement Flexibility Is an Improvement

As per prior comments, Tesla questions the legal authority and record basis to implement BEV durability requirements found at proposed §1962.4(d)(2), as well as CARB's reasoning. Indeed, CARB has supported the durability standard by citing one public opinion survey publication that makes no mention of battery durability.[5] Imposing durability requirements on BEVs provides no emissions reduction benefit. BEVs do not emit tailpipe (or evaporative) criteria pollutants and changes in battery durability and retained range do not alter this fact. The proposed requirements will cause greater tailpipe emissions by harming the rate of electric vehicle uptake through imposition of substantial new costs and designs with reserved battery capacity. Tesla respectfully submits that any speculative benefit from consumer assurance provisions such as durability requirements must be balanced against increase up-front costs on BEVs, which are likely to slow consumer uptake and thereby increase emissions.

Tesla appreciates CARB staff's diligence in addressing BEV manufacturers' concerns with the onerous nature of past proposals. The 15-day amendment to reduce the durability standard, as proposed at §1962.4(d)(2)(A), and amend the enforcement regime, found at proposed §1962.7(e)(2)(D)(5), provide a reasonable rebalancing that should, in comparison to past proposals, reduce compliance costs, allow manufacturers to assess and characterize long-term battery durability without fear of significant regulatory penalty, and ensure that BEVs will remain effective over their lifetime.

Additionally, Tesla looks forward to working closely with CARB staff as to how best further define and delineate the enforcement testing regime, including determining the vehicle selection criteria for BEVs that assures testing sample groups reasonably reflect the appropriate use scenarios of vehicles within any motor vehicle class.

2. Proposed Attachment G-2, Section 1962.3 – Changes to Electric Vehicle Charging Requirements Are Still Needed to Eliminate Unnecessary Requirements and Reduce Vehicle Cost.

At the June 9th board meeting several board members raised concerns about the proposed provision mandating charging adapters and cords. While staff was not directed to revise these regulations, the Board should revisit this mandate.

In particular, the proposal would require Tesla to either alter the charging inlet manufactured as part of a Tesla vehicle or provide every Tesla customer with a CCS1 adapter. As provided in Tesla's past comments, these requirements will inequitably add costs to Tesla vehicles, result in thousands of unutilized CCS1 adapters, not facilitate a meaningful increase in vehicle charging access, and penalize Tesla as a technology leader and innovator. Tesla again encourages the Board to amend the proposal so that it permits manufacturers to allow purchasers to opt-out of adapters at the point of sale or offer adapters as an accessory. In the alternative, the Board could remove the requirement and revisit the issue prior to MY 2026.

Similarly, the Board should allow customers to opt-out of receiving a charging cord at the point of sale or allow manufacturers to offer a charging cord as an accessory. The value of mobile charging cords to customers will diminish over time as electric vehicle charging infrastructure becomes more ubiquitous at public locations and workplaces, and EV owners install charging stations at their homes. Giving customers the choice of purchasing an adapter and mobile charging cord at the point of sale will reduce the purchase price of a vehicle for owners that choose to opt-out and will reduce electronic waste in the form of unused adapters and cords.

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[5] See, Initial Statement of Reasons at 22, fn 149; at 23 fn. 161 (*citing* MacInnis, 2020, which does not include any questions or consumer references to battery durability issues.)

Finally, the 15-day proposal includes a revision to §1962.3 (c)(3)(B)2 that requires the charging cord to have "sufficient power to enable charging from a state of discharge to a full charge in less than 4 hours…" The plain language of that proposed section is clear that a charger cord's capability should be the lesser of 24 amps or a full charge in less than four hours. However, the summary description of the proposed change does not reference that the capabilities should be the lesser of 24 amps or 4 hours for a full charge.[6] Instead the description states "Staff is proposing to add language to make clear that the required charging cord must provide sufficient power to enable charging from a state of discharge to a full charge in less than 4 hours."[7] Clarification of the intent of the section and capabilities of the charging cord are needed. Tesla recommends clarifying that the intent of the change is that the cord should have an amperage rating at the lesser of 24 amps or the amps required to charge the car from a state of discharge to a full charge in less than 4 hours on Level 2. Otherwise, the description document could be interpreted to require a 100-kWh vehicle to have a charging cord (and onboard power electronics) that is capable of charging at 25 KW of alternating current in order to achieve a full state of charge in 4 hours.

3. Proposed Attachment H-1, Section 1962.4(g) – Changes to Conversion Equation for Historic ZEV and PHEV Credits Are Positive

Tesla supports the 15-day proposal for §1962.4(g)(2) that amends the conversion equation for banked BEV and PHEV credits carried over from the ACC I program. Altering the denominator to be 2.1 for both ZEV and PHEV credits recognizes that the previous proposal would have detrimentally increased the relative credit value of PHEVs compared to ZEVs. This change will properly eliminate any incentive for manufacturers to focus on near term delivery of PHEVs, at the expense of BEV deployment, with the less stringent requirements now present under ACC I.

4. Proposed Attachment H-1, Section 1962.4(e)(2) – Tesla Supports the Amendments to the Environmental Justice Credit Generation Program

Tesla shares the goals and benefits, if realized, of the Community and Used EV proposals found at §1962.4 (e)(2). Tesla encourages CARB to implement these environmental justice proposals without impacting the overall stringency of the program. Reducing the proposed stringency of the overall program lessens the mitigation of the very air pollution impacts in the communities that CARB seeks to address. In this regard, CARB should prevent such backsliding and raise the overall model year ZEV requirement commensurate with the amount of stringency reduction created by the implementation of the EJ credit flexibility programs.

Tesla supports the amendments made in the 15-day proposal. More specifically, providing additional credit value provided to sales of vehicles to financial assistance program participants found at §1962(e)(2)(B) is a positive amendment that will encourage greater manufacturer participation. As Tesla noted in its previous comments, the California Clean Vehicle Assistance Program (CVAP)[8] has been successful in delivering grants for over 3200 EV purchases.[9] Tesla signed on to be part of the program in July 2020. Since that time the program has made grants facilitating 2966 EV purchases with 2161 (73%) being Tesla vehicles.[10] Of these Tesla vehicles, sixty percent were sales to people with annual gross income below $45,000.[11]

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[6] See Attachment G-1, Proposed Modifications to Section 1962.3, Electric Vehicle Charging Requirements at 1.
[7] Id.
[8] California Clean Vehicle Assistance Program (CVAP).
[9] See CVAP, Program Data.
[10] Id.
[11] Id.

Additionally, Tesla believes that allowing manufacturers to have a cumulative historical credit cap over five years to be used in any amount during a single model year prior to 2031 would severely dampen near-term delivery of ZEVs. A cumulative cap further extends the lifetime of historic credits generated in past years and would reward manufacturers that have not adequately moved to deploy technologies in CA to meet the ACC I performance standards. However, the proposed changes to §1962.4 (g)(2)(C)2.a and 2.d. linking the cumulative cap allowance provision to participation in the environmental justice incentive is positive. The change both incentives greater participation and provides some potential increased near-term stringency by not allowing non-participants to pull forward as many of their historic credits at the expense of actual near-term ZEV deployment.

5. Proposed Attachment H-1, Section 1962.4 (a)(2) – Tesla Supports the Option for Manufacturers to Certify and Use Medium Duty ZEVs

Tesla supports the proposed amendment to §1962.4 (a)(2) allowing for manufacturers to choose whether to certify medium duty ZEVs under ACC II or the Advanced Clean Truck (ACT) program. This flexibility will encourage manufacturers to pull medium duty vehicles into the stringency of the ACC II program and accelerate the deployment rate of medium duty BEVs.

6. Proposed Attachment H-1, Section 1962.4(e) - Increase the Stringency of the Standard by Reducing the Use of Polluting PHEVs in Annual Compliance

As previously noted, Tesla supports the proposed amendments that will apply a 2.1 common factor for conversion of both ZEVs and PHEVs. This change ensures a more equitable recognition of credits already earned through early ZEV deployment. However, the Board should also revisit the expansive role PHEVs play in compliance and amend proposed §1962.4 (e)(1)(C) to reduce the annual PHEV allowance. Several factors weigh in favor of doing so.

First, Executive Order N-79-20 directs that "100 percent of in-state sales of new passenger cars and trucks will be zero-emission by 2035."[12] As proposed, ACC II does not meet this directive as proposed § 1962.4(e)(1)(C) allows up to 20% of the annual compliance to be met with PHEVs through MY 2035. PHEVs are not zero emission. As a recent study found, real world fuel consumption of PHEVs is three to five times higher than expected during vehicle certification approval.[13] This recent study was a follow to another study that showed in Europe PHEVs utilized their electric only function just 37% of the time in real life.[14] *In comparison to BEVs, the ACC II proposal actually exacerbates this issue by not extending the battery durability requirements to PHEVs, thus providing no assurances that qualifying PHEV electric only range will be maintained throughout a vehicle's lifetime.*[15]

Second, the use of PHEV is non-compliant under proposed §1962.4 which states:

> § 1962.4. Zero-Emission Vehicle Requirements for 2026 and Subsequent Model Year Passenger Cars and Light-Duty Trucks.

[12] Gov. Newsome, Executive Order N-79-20 (Sept. 23, 2020).
[13] ICCT, Real-World Usage of Plug-In Hybrid Vehicles in Europe: A 2022 Update on Fuel Consumption, Electric Driving, And Co2 Emissions (June 8, 2022).
[14] ICCT, Real-World Usage of Plug-In Hybrid Electric Vehicles: Fuel Consumption, Electric Driving, and CO2 Emissions (Sept. 27, 2020).
[15] Compare, Proposed § 1962.4(e)(1) (omitting battery durability requirements from PHEV qualifying criteria).

> (a) (1) Applicability. This section shall apply to manufacturers that produce and deliver for sale passenger cars and light-duty trucks in California in 2026 and subsequent model years . . .
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> (b) Zero Emission Vehicle Standard. The Executive Officer shall certify as zero emission vehicles (ZEV) under this regulation new 2026 and subsequent model year passenger cars and light-duty trucks that produce zero exhaust emissions of any criteria pollutant (or precursor pollutant) or greenhouse gas, excluding emissions from air conditioning systems, **under any possible operational modes or conditions**.[16]

Indeed, even CARB's presentations have indicated that PHEVs utilize modes and conditions under which such vehicles produce criteria pollutants and greenhouse gas emissions.[17]

Third, other jurisdictions addressing light-duty vehicle emissions are poised to move swiftly to address all tailpipe emissions – including those from PHEVs. In early June, the European Parliament passed 100% internal combustion engine (ICE) ban by 2035.[18] This proposal makes no exception for PHEVs. At the end of June, the European Commission also agreed to introduce a 100% CO2 emissions reduction target by 2035 for new cars and vans.[19] In comparison, the ACC 2 proposal would allow up to 20% of annual compliance in 2035 to be met via PHEVs. California should amend its proposal so as not to cede its global leadership in fully reducing light duty vehicle GHG emissions.

Accordingly, Tesla respectfully asks the Board to reconsider the role PHEVs this by lowering the annual percentage of PHEVs in proposed § 1962.4 (e) to 15% per year with a complete phaseout of PHEV compliance credit generation after MY 2032.

Conclusion

For the reasons set forth above, by making the additional revisions outlined in these comments the Board will increase ACC II's stringency, provide faster and greater deployment of ZEVs, address the compelling and extraordinary air quality conditions in California by reducing criteria and greenhouse gas air pollutants, and protect the public health and welfare of its residents.

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[16] Proposed § 1962.4(b) (emphasis added).

[17] See e.g., CARB, Advanced Clean Cars (ACC) II Workshop (Oct. 13, 2021) at 16-17 (addressing PHEV High Power Cold-Start Emissions and Evaporative Emissions: Puff Loss); See also, Bjornsson, et al., Objective functions for plug-in hybrid electric vehicle battery range optimization and possible effects on the vehicle fleet, Transportation Research: Part C (Jan. 2018)("a high share of viable PHEVs in the vehicle fleet does not necessarily result in a high share of electric driving."); EPA, Explaining Electric & Plug-In Hybrid Electric Vehicles ("PHEVs produce tailpipe emissions when gasoline is being used as a fuel source.")

[18] Reuters, EU lawmakers back ban on new fossil-fuel cars from 2035 (June 8, 2022).

[19] European Commission, Fit for 55 package: Council reaches general approaches relating to emissions reductions and their social impacts (June 29, 2022) (agreeing to introduce a 100% CO2 emissions reduction target by 2035 for new cars and vans).

Respectfully submitted,

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