



26 July 2024

Chair Randolph and Members of the Board  
California Air Resources Board  
1001 I Street  
Sacramento, California 95814

**RE: June 26, 2024 ACC II Amendments Workshop**

SUBMITTED VIA ELECTRONIC MAIL TO [cleancars@arb.ca.gov](mailto:cleancars@arb.ca.gov)

Mercedes-Benz Research and Development North America, Inc., and Mercedes-Benz USA, LLC, on behalf of the manufacturer of Mercedes-Benz vehicles, Mercedes-Benz AG (hereinafter collectively referred to as "Mercedes-Benz" for purposes of this submission) would like to thank the California Air Resources Board (CARB) for its deliberative approach to rulemaking and the opportunity to comment on its June 26 ACC II Amendments workshop. While our comments below set forth specific requests, in general we would ask CARB to align the ACC II requirements with EPA's regulations as much as possible to reduce overall compliance burdens, while nevertheless continuing to achieve ongoing environmental improvements.

Mercedes-Benz is guided by our "Ambition 2039", which includes goals for carbon neutrality by 2039, including carbon neutrality throughout our supply chain, and offers a complete set of desirable electrified product offerings to meet our customers' needs. Mercedes-Benz continues its push to increase sales of electric vehicles in the U.S. with a portfolio that spans key market segments. In fact, electric vehicle sales comprised 11% of overall passenger vehicle sales through Q2 2024.<sup>1</sup> The U.S. portfolio of fully electric Mercedes-Benz vehicles includes six fully electric models, two of which are assembled at our Tuscaloosa, Alabama manufacturing facility. Additionally, in February, Mercedes-Benz announced the North American launch of the all-new eSprinter, assembled in South Carolina. With this launch of our first all-electric vehicle in the Class 2b segment, U.S. fleet customers can now increase their sustainability efforts with an emission-free, battery-electric van bearing the Mercedes-Benz star. Additionally, the Mercedes-Benz High-Power Charging network supports Mercedes-Benz's target to go all electric through the development of a public charging network powered by 100% clean energy that is open to all vehicle brands. The Mercedes-Benz High-Power Charging network recently announced a partnership with Starbucks which would expand the Mercedes-Benz network by installing DC fast chargers at 100 Starbucks' stores with initial focus along the I-5 corridor.<sup>2</sup>

In the comments that follow, we address zero emission vehicle (ZEV) assurance measures, greenhouse gas (GHG) provisions for light-duty vehicles (LDVs), criteria emissions for both LDVs and medium-duty vehicles (MDVs), and the MDV/MDPV definition.<sup>3</sup>

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<sup>1</sup> [Mercedes-Benz USA Reports Q2 2024 Group Sales of 95,596 Vehicles \(mbusa.com\)](https://www.mbusa.com)

<sup>2</sup> [Mercedes-Benz High-Power Charging and Starbucks Team Up to Launch an Elevated EV Charging Experience Across America \(prnewswire.com\)](https://prnewswire.com)

<sup>3</sup> In addition to the Mercedes-Benz comments, Mercedes-Benz also supports the comments filed by our trade association, Auto Innovators, and by CharIN.

## **ZEV Assurance Measures**

### **Interoperability**

There is a consensus among electric vehicle (EV) charging stakeholders that enhancing interoperability is essential for achieving Zero-Emission Vehicle (ZEV) objectives and enhancing the customer experience with ZEVs. Significant strides have been made both globally and nationally in recent years. We urge CARB to consider the extensive progress made, and underway, on the international and domestic stage, and to align its efforts with those of other key agencies, such as the California Energy Commission and the Joint Office of Energy and Transportation, to ensure a cohesive approach to addressing these critical issues. This strategic coordination is vital for streamlining efforts, avoiding duplication, and accelerating the transition to a sustainable, ZEV future.

At the workshop, CARB elaborated on its intention to implement interoperability requirements as a new component of ZEV assurance measures. We noted CARB's inclination to mandate full compliance with ISO 15118-2 and DIN SPEC 70121, including the Plug & Charge feature. While a uniform implementation of communication standards in the market is a precondition for a fully interoperable charging ecosystem, the wholesale adoption of these standards would entail the integration of features and test cases that introduce points of failure without delivering substantial benefits to the customer, and in some cases even detract from the customer experience. It is crucial that the focus remains on customer value, ensuring that the implemented features enhance the user experience and reliability of ZEVs without adding unnecessary complexity or cost. With the goals of uniform standards adoption and customer value in mind, we would like to highlight CharIN's activities on EVSE Conformance Certification & EV Declaration of Conformity as an example of critical development work being done to address interoperability. Under its CCS Extended effort, CharIN is identifying necessary interoperability features from communication protocols (i.e. ISO 15118-2 and DIN SPEC 70121), and other relevant standards (e.g. IEC 61851-1, -23). Through such efforts, test cases for interoperability are being comprehensively evaluated, and conformance tests will be developed accordingly. We would like to encourage CARB to consider CharIN's work through this rulemaking process, and if possible, join these efforts.

Mercedes-Benz would like to offer some perspective on the interpretation of data presented during the June 26, 2024 ACC II amendments workshop. Specifically, [slide 58](#) from the workshop materials depicts a pie chart detailing the causes of charging failures as reported at the 2023 VOLTS Testing Event. It is important to recognize that these failure modes and their frequencies do not accurately reflect the real-world issues currently faced or anticipated in the near future. These testing events primarily serve as a platform for EV and EVSE manufacturers to evaluate products at various stages of development, often with the primary aim of gathering in-depth diagnostic data rather than simply achieving a successful charging session. Consequently, the data from the VOLTS Testing Event should not be leveraged as a basis for establishing new regulatory requirements. Finally, we are concerned with the timeline CARB has set for its rulemaking process. The industry's ongoing efforts to reach a necessary consensus on these matters have timelines that extend beyond CARB's current schedule for rulemaking. For instance, CharIN's CCS Extended initiative is projected to conclude in the third quarter of 2025. We believe it is premature for CARB to establish requirements in this arena where the technology continues to undergo rapid change. Requirements that do not allow for flexibility will lead to unnecessary restrictions to consumers. However, if CARB insists on putting regulations in place, we respectfully suggest that CARB consider deferring the implementation of any new requirements until these industry activities have been completed. In our view, this date will extend beyond MY2028, the implementation date suggested by CARB. Allowing adequate time for all relevant parties to weigh in will ensure that the regulations are informed by the most comprehensive and current consensus within the industry. In the

meantime, by joining in the CharIN efforts, CARB will have the opportunity to participate in and directly see the auto industry's time, effort and scope devoted to improving interoperability.

### **EV Performance Labels**

As part of the workshop, CARB offered additional metrics it would like to require for EV performance labels. While we strive to provide more valuable information to consumers at time of sale for EVs, the timing of CARB's effort raises questions about how to achieve this goal through a consistent and national approach, especially considering the limited window sticker space on vehicles on the dealer lot.

Now that EPA has initiated its process of revising the federal fuel economy and emissions label to include EV information of interest to consumers when making purchasing decisions, we would like to see CARB eliminate this requirement from the amendment process. We do not agree with the need for an additional California-specific label. Furthermore, the timing of CARB's rulemaking does not align with EPA's process. Therefore, we recommend that CARB actively participate in EPA's workgroup to ensure that any EPA solution meets CARB's needs rather than set up requirements that are unnecessarily duplicative or similar with no additional benefit for consumers. Lastly, but importantly, new EV labeling requirements should not result in new testing requirements. We recommend that both agencies look at utilizing data that can be gathered through existing testing requirements.

### **SAE J1772 Requirement**

While not addressed in the workshop, Mercedes-Benz recommends that CARB revisit the requirement in 1962.3 that vehicles must be compatible with SAE J1772. Since adoption of ACC II in 2023, the entire automotive industry, including Mercedes-Benz, has publicly announced plans to adopt the North American Charging Standard (NACS), which is being standardized under SAE J3400. We understand that CARB is waiting for a final standard before incorporating SAE J3400 into 1962.3.

Unfortunately, CARB's rulemaking timeline likely will not align with the finalization of SAE J3400. Mercedes-Benz requests that CARB move quickly to adopt SAE J3400 once it is finalized and provide a transition period to allow for the use of both CCS and SAE J3400. Lastly, because we will need to certify our MY2026 vehicles before CARB finalizes its ACC II amendments, we would ask that CARB waive the CCS requirement for these vehicles.

### **Measurement for Compliance with Battery Durability Requirements**

Mercedes-Benz would like CARB to provide clarification regarding the "excessive vehicle to grid operation", which will be used to eliminate vehicles from the test sample used to determine compliance with the battery durability provisions. [1962.7\(d\)\(2\)\(D\)1i](#) states that "In selecting vehicles to be included in a test sample group for enforcement durability testing, the Executive Officer shall include only vehicles that ... have no indication of excessive vehicle to grid operation". Yet, CARB has not established a method for measuring what is meant by "excessive vehicle to grid operation". There is currently a bill under consideration in the CA legislature, SB-59, under which the CARB Board and the Public Utilities Commission would "require any weight class of battery electric vehicle to be bidirectional-capable if it determines there is a sufficiently compelling beneficial bidirectional-capable use case to the battery electric vehicle operator and electrical grid". While the author of the bill intends for it to be used for emergency backup, it is highly likely that consumers will also use the bidirectional capability to charge when rates are low and provide backup to their homes when rates are high. As such, we have significant concern that this constant use of bidirectional charging will result in battery degradation beyond normal usage. Therefore, we would ask that CARB consider adding a virtual mileage metric

or some other means of measuring the use of the battery beyond normal usage; this metric will serve the dual purpose of clarifying 1962.7(d)(2)(D)1i and prepare for the eventuality of bidirectional charging.

### **Criteria Emission Provisions**

CARB indicated at the workshop that it was not planning to adopt the NMOG + NOx bins EPA added in the federal Multi-pollutant final rule (MPR). In response, Mercedes-Benz urges CARB to adopt all of the additional bins added by EPA. These bins, at 5 mg/mi increments, provide additional flexibility, necessary alignment with EPA, and the opportunity to achieve additional emissions benefits in limited cases if the lower “halfway” bin can be selected (e.g., if a vehicle would comply at 50 mg/mi but instead opts for 45 mg/mi NMOG + NOx). Enhanced flexibility is needed because of the extremely low emission requirements and because the fleet average will only include internal combustion (ICE) vehicles, making it even more challenging to meet the standards, especially as ICE options phase out of the market as a direct result of the ZEV requirements.

Mercedes-Benz is pleased with the alternate approach that CARB offered at the workshop to eliminate the federal “Cleaner Car Provision”, which greatly assists with aligning the federal and California programs. In other words, this approach would allow a path to marrying up the differences between the two regulations. Although it was not addressed in the workshop materials, Mercedes-Benz understands that CARB’s intent is to eliminate this provision for both LDVs and MDVs. The elimination of this provision is equally important for MDV certification as CARB is also proposing to not harmonize medium-duty bins and bin structure. We therefore recommend that CARB clearly note this intent to remove “Cleaner Car Provision” for MDVs in its next iteration.

In addition, CARB is considering the idea of including high altitude requirements for US06 and 50F, which were inadvertently added into ACC II in the 2023 15-day notice. Mercedes-Benz disagrees with including these requirements and requests that CARB exclude them. There are very few vehicles that drive at altitude, particularly in California, so CARB’s inclusion of these requirements would in effect have very little or no significant emissions benefits but would add costly testing requirements. We note that EPA does not require these tests at high altitude.

Standard test cells do not have altitude capabilities. The only third-party lab in the United States at the proper altitude is TRP (formerly SGS) in Aurora, CO. All other labs with high-altitude capability merely simulate the vehicle conditions at altitude and may not produce certification level results. Mercedes-Benz has no choice but to use a third-party lab in the US as our internal labs (Long Beach, Ann Arbor, Tuscaloosa) do not have this simulation capability; several other companies also use this lab. Indeed, the increased workload and testing volume if requirements are added could result in delays in vehicle testing and ultimately certification. According to our estimates, if we were to add this capacity internally, it would likely take 2.5 years to build a chamber, and add an additional 3-4 years to operationalize, at a cost of approximately \$10-15 million. Clearly, the cost is not worth the limited benefits of conducting testing and meeting a new standard, particularly as CARB’s ZEV mandate requires ICE engine sales to decrease year over year.

Lastly, we also believe the EPA regulations 40 C.F.R. § 86.1818-12(a)(2) are protectant of high altitude emissions. If CARB nevertheless believes that a requirement is needed here, it should adopt the same provisions as EPA and accept EPA testing and results for compliance purposes.

### **GHG Provisions**

Mercedes-Benz appreciates the information and insights regarding a new GHG regulation, presented by CARB at the workshop. Mercedes-Benz remains unconvinced, however, that CARB needs a new, or different, GHG regulation. EPA’s MPR sets aggressive requirements that will require OEMs to reduce GHG emissions

substantially from model years 2027-2032; recent National Highway Traffic Safety Administration requirements also set challenging fuel economy standards for model years 2027-2031. Industry spent the better part of two years working with EPA to incorporate a realistic view of how OEM investments will be used in EV versus ICE technologies, ultimately striking a balance that may result in some ICE improvements without detracting from EV efforts. Furthermore, CARB's ZEV program is leading to the elimination of ICE vehicles and reinforcing the need for significant resources to be devoted to EVs. As a result, the ZEV program serves as a backstop, with less than 25 percent ICE-only vehicles that can be sold in MY2031 and decreasing quickly to zero percent only four model years later. We see no need for CARB to add to the regulatory burden by requiring its own rule, replete with different and separate requirements, and that will be all the more challenging to align with under the federal rules. Consequently, Mercedes-Benz re-emphasizes our position that the EPA GHG regulations will more than sufficiently result in GHG controls in California, even with the larger percentage of ZEVs that will be sold in California.

Mercedes-Benz would also like to comment on CARB's proposal to eliminate discounting the plug-in hybrid electric vehicle (PHEV) GHG emissions by its electric vehicle miles traveled (eVMT) share. We understand CARB believes the existing PHEV utility factor overstates the eVMT contribution, but we note that it is more than zero. Moreover, PHEVs should be given some credit for charge sustaining mode. CARB should consider a variety of studies of PHEV charging patterns in order understand consumer charging behavior, especially as the number of PHEVs on the road increases.

If CARB determines that it must adopt GHG standards, then Mercedes-Benz recommends that CARB adopt the EPA program, including the flexibilities defined by EPA. This approach is preferable to CARB proposing its own ICE-only standard, which may inadvertently create more challenges than solve any perceived emissions concerns about backsliding. CARB should also accept all testing, certification, and compliance for EPA as compliant with CARB's program. This approach would give CARB the necessary assurance that the fleet continues to be held to standards, with the overlay of CARB's ZEV program acting as the truly forcing regulatory approach.

Further, even though CARB suggested a new flexibility to allow OEMs to use extra ZEV credits for GHG compliance, given the stringent nature of the ZEV program, it is unclear to what extent excessive ZEV credits will be available for conversion. This issue would be further stressed by the comparatively low ZEV sales in Section 177 states compared to California.

While we understand CARB's concerns regarding backsliding and the impact of its higher percentages of ZEVs sold as a result of the ZEV program, the solution of adopting the EPA standards will have minimal impact on backsliding (vehicles are designed and sold for 50-states) and avoids the numerous complications (e.g., duplicative compliance costs, unnecessary development costs, potentially and inadvertently counting vehicle changeover to ZEVs as backsliding, and addressing that the diminishing ICE fleet in California will be models carrying over rather than designed to be high-emitting) that a California-only, ZEV-excluded GHG standard raises.

### **MDV Provisions**

Class 2b and 3 MDVs, encompassing pickups and vans, are integral to a variety of work-related tasks, with operators expecting capable vehicles with high cargo and payload capabilities. The diverse applications of medium-duty vans in this segment demand a nuanced approach in standard setting efforts. The existing regulatory landscape for Class 2b and 3 medium-duty vans is increasingly complex, with various emissions frameworks that can lead to regulatory conflict and lack of clarity. Therefore, Mercedes-Benz urges CARB to consider the distinct functions and market needs in the medium-duty sector when standard setting.

Rulemaking efforts have historically overlooked the specific roles of vans in this segment, which differ significantly from pickup trucks. CARB's work, through the Clean Trucks Partnership, will hopefully help provide certainty and harmonization amongst existing programs.

In addition, vans in this segment are used as last-mile package delivery vehicles, large capacity people movers, recreational vehicles, and for vocational use by small and large businesses across the state of California. These unique applications are not typically served by pick-up trucks in this same weight category. As a result, regulating in this space creates challenges when the regulatory approach must consider the capabilities, function, and use cases of different vehicles, i.e., pickup trucks with towing capacities approaching 50,000 lbs. and vans used as people movers and recreational vehicles. Rulemaking efforts should also not tie medium-duty emissions standards to the same expectations as light-duty when they are designed and intended for a fundamentally different use. Mercedes-Benz appreciates CARB's consideration of these challenges and is committed to working with CARB to address any challenges as well.

### **NMOG + NOx Fleet Averages**

During the June 26th workshop, CARB stated its goal to align the stringency of ACC II medium-duty NMOG + NOx fleet averages with federal standards. Yet, the disparity in approaches between the programs — namely, CARB's exclusion of ZEVs from fleet calculations and the EPA's inclusion of ZEVs in their averages, alongside the treatment of engine certified MDVs now certifying to heavy-duty federal standards — complicates direct comparisons for equivalency purposes between the two programs. This issue was not clearly addressed in the ACC II amendment workshop, and as a result, it is not clear how CARB considered the stringency comparison between the two programs.

The uncertainty and increased costs associated with changes to NMOG + NOx fleet averages for MDVs pose challenges for manufacturers, especially given the smaller market size and limited vehicle lines, within the medium-duty fleet, to distribute costs compared to LDVs. The population of the entire American Class 2b-3 fleet of work trucks, work vans, and cutaway chassis-cab vehicles is small; the entire segment consists of fewer than one million vehicles sold per year, compared to the light-duty fleet that consists of over 14 million vehicles.<sup>4</sup>

Given these considerations—including the treatment of engine-certified vehicles, the unique utilization of MDVs (primarily used as work vehicles), — altering the current California Air Resources Board (CARB) MDV NMOG + NOX standards seems unwarranted. If CARB decides to modify its existing fleet averages, Mercedes-Benz recommends aligning the pathway timelines and beginning the new fleet averages in MY2031, consistent with EPA's default compliance pathways.

### **PM Standards**

Existing ACC II MDV standards have formed the basis of development work and internal goals since the beginning of CARB engagement in 2020. Significant work and investment is already underway to design to CARB's existing LEV IV PM standards for MDVs, and in fact, this information was shared with EPA as part of our concerns about EPA's adoption plans for MDV PM standards.

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<sup>4</sup> 89 Fed. Reg. 52563

CARB has indicated it plans to harmonize its ACC II PM standards to 0.5 mg/mi to align stringency with EPA's MDV (and also LDV) requirements. In stark contrast to the already finalized CARB LEV IV standards, newly proposed PM standards are 16-20x more stringent than current ACC II MDV PM standards and may represent a significant challenge for both testing and compliance for certain MDVs.

If CARB adopts the lower standards, Mercedes-Benz requests that CARB align with the timing of EPA's default path for MDV requirements, which begin in MY2031. Due to the small MDV fleet, meeting this extremely low standard is extremely challenging and the extra year is of paramount importance for development, design, and product cycles.

### **Test Cycles**

CARB proposed during the June 26th workshop to curtail certain existing test flexibilities for Class 2b and 3 vehicles, removing testing flexibilities for low power to weight ratio vehicles and requiring a full US06 test. CARB offered the rationale of aligning with EPA certification requirements, however the timing of the restriction of this flexibility, as proposed by CARB, is not aligned with the finalized provisions of the federal MPR. Mercedes-Benz urges CARB not to make this change mandatory before MY2031 and instead allow optional early compliance beginning in MY2027, an approach that will be consistent with EPA's early and default compliance pathways in the MPR.

### **Medium Duty Passenger Vehicle (MDPV) Definition**

Although not addressed directly during the workshop presentation, Mercedes-Benz understands that CARB's intent is to fully align with the recently updated EPA definitions of a MDPV. In EPA's final rule, language was added to [§ 86.1803-01](#) to clarify that cargo vans are not included as MDPV:

*(2) Starting with model year 2027, or earlier at the manufacturer's discretion, Medium-duty passenger vehicles means any heavy-duty vehicle...except that the MDPV definition does not include any vehicle that has any of the following characteristics:*

*...(vi) Is a van in a configuration with greater cargo-carrying volume than passenger-carrying volume at the point of first retail sale. Determine cargo-carrying volume accounting for any installed second-row seating, even if the manufacturer has not described that as an available feature.*

This change is appropriate and necessary to account for the unique characteristics and use cases of cargo vans. The change in definitions that is driving CARB's concern is that as manufacturers electrify light duty pickup trucks, battery pack weight will increase the vehicle's GVWR and push them into the medium-duty category, thereby changing their emissions classification from light-duty standards. The primary concern expressed by CARB is that low-utility pickup trucks will fall into this regulatory grey zone. CARB's concern does not align with the use case for cargo vans, as these vans are primarily work vehicles with unique characteristics that differentiate them from their light-duty counterparts (larger cargo-carrying volume than passenger-carrying volume). As such, we understand that CARB does intend to adopt this definition in whole, but since not purposefully mentioned at the workshop, Mercedes-Benz would like CARB to affirm this understanding.

Mercedes-Benz urges CARB to align fully with EPA definitions and timing (MY2031) to provide regulatory clarity between the two programs (CARB ACC II vs EPA MPR).

**Conclusion**

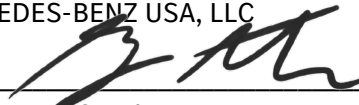
Thank you for considering Mercedes-Benz’s comments which cover many aspects of CARB’s proposed amendments to ACC II. We have committed millions of research and development dollars to electrify our fleet to meet CARB’s extremely stringent ZEV regulation. We ask that CARB consider the patently diminishing benefits of also requiring the auto industry to invest in new technology to reduce GHG and criteria emissions even further. Mercedes-Benz asks instead that CARB align with EPA’s program. Mercedes-Benz appreciates the opportunity to continue to work with CARB through the rest of the rulemaking process. Please let us know if you have any questions.

Sincerely,

MERCEDES-BENZ RESEARCH & DEVELOPMENT N.A., INC.

By: Amy Klinkenberger July 26, 2024  
Amy Klinkenberger, Director, Safety, Fuels & Regulatory Affairs Date

MERCEDES-BENZ USA, LLC

By:  July 26, 2024  
Gregory Gunther, Manager Date