

TESTIMONY



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MECA Clean Mobility Comments on the Proposed Amendments to On-Road Motorcycle Emission Standards and Test Procedures and Adoption of New On-Board Diagnostics and Zero-Emission Motorcycle Requirements

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MECA Clean Mobility is pleased to provide supporting comments and recommendations to the California Air Resources Board's Proposed Amendments to On-Road Motorcycle Emission Standards and Test Procedures and Adoption of New On-Board Diagnostics and Zero-Emission Motorcycle Requirements. MECA supports stringent criteria pollutant, evaporative and greenhouse gas emission standards founded on technologically feasible and cost-effective solutions that facilitate the attainment of the state's air quality and climate change goals.

MECA is a non-profit trade association of the world's leading manufacturers of technologies for clean mobility. Our members have over 50 years of experience and a proven track record in developing and manufacturing emission control, engine efficiency and electric propulsion technology for a wide variety of on-road and off-road vehicles and equipment in all world markets. Our industry has played an important role in the emissions success story associated with mobile sources in the United States, including two- and three-wheel vehicles subject to this regulation, and has continually supported efforts to develop innovative, technology advancing, emission reduction programs to deal with environmental problems in global world markets.

MECA has worked closely with CARB staff since 2018 in support of the proposal providing both workshop comments and test data. We appreciate the time and dedication that CARB staff have invested into this regulatory effort and thank them for their openness in receiving and incorporating feedback from a broad range of stakeholders. Finalization of the proposed on-road motorcycle standards will provide certainty to technology suppliers and their OEM

customers who continue to invest in developing the technologies that reduce mobile source emissions.

MECA views the proposed emission standards to be feasible and supports the adoption of the major elements of the proposal, including the following:

- I. Tailpipe emission standards and test procedures aligned with Euro 5 requirements.
- II. Revised evaporative emissions requirements and test procedures. Specifically, the addition of carbon performance requirements and durability testing of components, as these are key to ensuring the evaporative emission limits are maintained over the useful life. A few technical recommendations and edits to clarify certain elements of TP-934 (Appendix B2) are included in the Appendix to these comments.
- III. Euro 5 OBD requirements with the additional requirement to monitor the fuel system to determine compliance with applicable emissions standards.
- IV. Increase in lifetime warranty and durability requirements for large displacement motorcycles.

The emission controls for compliance with Euro 5 standards are already available and include newer catalyst formulations carried over from light duty automotive applications, advanced metallic substrates and converter designs that provide better exhaust mixing and catalytic performance. Higher quality activated carbon with higher adsorptive capacities, durability and improved canister design are also available from automotive applications and will allow motorcycles to readily comply with the proposed evaporative emissions standards. These technologies already exist and are being applied to Euro 5 motorcycles in the European market since 2020.

However, there are two elements of the proposal that we believe have the potential for abuse and can undermine air quality benefits.

The implementation delay and 3-Year phase-in can be shortened.

During development of the regulatory proposal up to the June 2023 workshop, CARB staff consistently sought rule implementation for combustion engine motorcycles starting in MY2026. The MY2026 implementation date is feasible for current motorcycles as CARB's proposal is overwhelmingly premised on alignment with current Euro 5 production requirements and test procedures that have been in place since MY2020. CARB's proposed regulation adds minor evaporative emissions changes based on CARB's current off-highway

recreational vehicle emission standards and an additional OBD fuel system monitoring requirement. The result is that CARB's proposal will largely allow manufacturers to streamline their product lines of motorcycle models for the EU and California.

MECA believes that the delay in implementation as presented in the final proposal to MY2029 and combined with a three-year 30%/60%/100% phase-in is overly generous to address these minor differences, and when combined with ZEM program implementation, is likely to encourage an extended pre-buy of existing motorcycles which lack the desired emissions improvements, OBD protections and air quality benefits of the regulation.

To address this issue, MECA recommends that given the proposed delay in implementation, the Board should consider a more aggressive phase-in of emission standards of at least 60%/80%/100%.

Additional Clarifications on Evaporative Systems Test Procedures and OBD requirements

MECA recommends that CARB incorporate additional language within Section 4 and Appendix B of the TP-934 Test Procedure to clarify that the evaporative emissions test procedures of Section 5 and Section 6, including the pre-conditioning drive, hot soak test and diurnal testing, employ an appropriately aged/fully aged evaporative canister (150 gasoline cycles according to Appendix B). For example, if a manufacturer selects the option in Appendix B of using carbon performance data provided by the canister vendor, it should be further clarified that the canister that is used for the certification emission test use carbon that has completed this durability testing (carbon that is aged with 150 gasoline cycles and meets the performance criteria). This ensures the carbon used for the certification test is consistent with the other option in Appendix B where the manufacturer conducts the 150 gasoline aging cycles to prove the carbon performance prior to conducting the durability and emissions tests.

With regards to on-board diagnostics, it is vital to ensure that pressure relief valves (PRVs) with sealed tanks maintain their integrity in-use and do not leak, as leaks from sealed systems are uncontrolled emissions and such leaks were observed to be a problem in the EPA conducted fuel system component testing. We recommend that CARB consider the incorporation of requirements for manufacturers using PRVs with sealed tanks to demonstrate OBD functionality that identifies failures of these components.

We offer a list of other recommended comments and edits for Appendix B2; TP-934 Test Procedure in the appendix to our comments.

Small Volume Manufacturer Concessions Should Sunset by 2036

Suppliers recognize the limited resources that small manufacturers have to redesign and certify their motorcycles to new regulatory requirements. However, overly generous flexibilities in meeting future standards may create loopholes that ultimately fail to deliver the intended air quality benefits of the regulation. We believe that the small volume motorcycle manufacturer concessions for combustion engine and zero emission motorcycle requirements should be limited to existing manufacturers and sunset by MY2033 and MY2036 respectively. These sunset dates provide 9 to 12 model years of notice which provides sufficient lead time for existing small volume manufacturers to source compliant IC engine and zero emission powertrains and plan their business transition. Most importantly, this limitation will dissuade the continued marketing of higher emitting motorcycle powertrains as well as the potential creation of new small companies which may seek to pursue specialty IC powered motorcycles that lack advanced emission controls as well as escape zero emission motorcycle requirements.

CONCLUSION

MECA appreciates the hard work and dedication that CARB staff put into this updated on-highway motorcycle proposal. We commend California's leadership in creating a strong signal and robust market for lower and zero emission motorcycles. Our industry is prepared to do its part and deliver cost-effective and durable advanced tailpipe and evaporative emission controls as well as battery and electric powertrain components and technologies to support the goals of this rule.

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Appendix

Comments on APPENDIX B2; TP-934 “Test Procedure for Determining Evaporative Emissions from Model Year 2028 and Subsequent On-Road Motorcycles”

Section 4.1.1 and 4.1.2

- The “?” should be replaced with °

Section 4.3 – Tip Test

- It is recommended that clarification be provided if three-wheeled ONMC’s are to be covered.

Section 4.3.1.3 – Tip Test

- The definition of a passing canister tip test is for the weight of the canister not to increase by more than 10% of the BWC as compared to the weight before the tip test. It is recommended that this section of the regulatory text includes a reference to the BWC value determined in 5.2.1 and also clarify that this BWC value should be multiplied by the canister volume to determine a mass that is used for comparison with the canister weight gain.

Section 5.1a)1. and 2.

- The “?” should be replaced with °

Section 5.2.1

- For determination of a canister’s nominal butane working capacity, it is recommended to add that the purge be conducted with dry air, to be consistent with the language requiring dry air for purge in section 10.2 when determining butane working capacity.

Section 6.1.1.10

- Is the intention of this additional WMTC preconditioning drive to purge the canister with 2 drive cycles? Clarification is needed.

Section 6.2

- It is recommended that a maximum time between completion of 6.1.1.10 and 6.2 be specified. For example, for light-duty vehicles seven minutes is specified for both the 48-hr and 72-hr, see section 9.1.10 for a reference:
 - For the supplemental two-diurnal test sequence (see section III.D.1. of these test procedures) perform a hot soak test as described in this section, except that the test shall be conducted within seven minutes after completion of the hot start exhaust test and temperatures throughout the hot soak measurement period must be between 68°F and 86°F.

Section 6.2.5 and 6.2.9

- Notations of CHCe1 and C2H5O5e1 are used in these sections. This type of notation is not used in the light duty evap regs and is not explained elsewhere.

Section 8

- The “?” before F and C should be replaced with °