COMMENTS OF THE
MANUFACTURERS OF EMISSION CONTROLS ASSOCIATION
ON CALIFORNIA AIR RESOURCES BOARD'S PROPOSED ADVANCED CLEAN TRUCKS REGULATION

December 12, 2019

The Manufacturers of Emission Controls Association (MECA) is pleased to provide supportive comments on the California Air Resources Board's (CARB) proposed rulemaking to accelerate adoption of zero-emission vehicles (ZEVs) in the medium- and heavy-duty truck sector and reduce the amount of harmful emissions generated from on-road mobile sources. We support CARB's ongoing leadership in the effort to reduce the environmental footprint of transportation to meet the state's SIP and climate goals, including technology advancing regulations that provide pathways, including electrification, to clean up the heavy-duty vehicle fleet. We believe an important opportunity exists to continue to reduce greenhouse gas emissions from medium- and heavy-duty engines and vehicles through the application of innovative technologies and fuels. MECA would like to share some suggestions, based on experience from our long and successful partnership with CARB, that we believe will strengthen this proposal and enhance technologies that can be implemented to help meet the state's air quality goals.

MECA is an industry trade association of the world's leading manufacturers of clean mobility technology. Our members have nearly 50 years of experience and a proven track record in developing and commercializing emission control, efficiency and electric technology for a wide variety of on-road and off-road vehicles and equipment in all world markets. Our members provide the technologies that enable heavy-duty on-road vehicles to meet the most stringent NOx and PM emission standards as well as electrification and all electric technologies that reduce emissions of all pollutants, criteria and climate, and allow vehicles to be the cleanest possible. Through innovation, our members have developed the technologies that allow vehicle manufacturers to meet the most stringent emission standards in the world. As these technologies evolved from combustion to electrification, MECA has become technology agnostic and our members are focused on delivering all mobility solutions to improve the overall emissions footprint of vehicles, including battery and fuel cell materials, components for hybrid, as well as, all electric commercial vehicles. Our industry has played an important role in the environmental success story associated with light- and heavy-duty vehicles in the United States and has continually supported efforts to develop innovative, technology-forcing, regulatory programs to deal with air quality and climate challenges.

MECA is generally supportive of the ACT proposal and would like to share some suggestions, based on concepts proven during our long and successful partnership with CARB, which we believe will strengthen this proposal and advance technologies that enhance ZEV penetration. There is a long track record of meeting environmental goals through the implementation of performance-based standards and competing technology solutions. While technology mandates have been used to provide certainty in specific selected markets, they can result in premature barriers to investment and innovation in promising parallel pathways to achieving the same environmental goals. This has the unintended effect of destabilizing other markets for cost effective technologies and constraining the technology solution options to meet the state's air quality goals.

We believe that the targets in this ACT proposal are very aggressive, with compliance pathways limited to battery electric and fuel cell vehicles and partial compliance credits for plug-in hybrid electric vehicles (PHEV). Aggressive targets signal to industry the direction the state is heading in the future; however, history of the light-duty ZEV requirements resulted in multiple corrections according to technology readiness and market demand. With the ACT regulation, CARB is expanding this policy model into commercial vehicles. Although some commercial vehicle segments may be more challenging to electrify than passenger cars, the proposed ACT sales targets are even more aggressive. Technology suppliers believe that this rule would benefit from the addition of multiple compliance pathways toward the same objective of net zero tailpipe emissions. As providers of technology solutions for efficient engines, hybrids and ZEVs, we recognize that the pathway to electrification has market challenges that must be addressed, such as battery material availability, infrastructure and consumer acceptance. As governments and industry address these challenges and markets transition, we must continue to make progress in improving the efficiency in all commercial truck sectors. Given the uncertainties in the lifecycle climate impacts of battery production as well as infrastructure needs with the shift to electrification of the transportation system, MECA recommends that CARB remain open to additional technology options in its pursuit of a net zero-emission vehicle future. Therefore, we recommend the inclusion of additional compliance pathways into the current ACT proposal.

We believe that in those truck sectors that are more challenging to fully electrify in the near-term, electric hybrids can offer significant emission reductions as these sectors transition to full electric and the infrastructure is readied for a significant number of electric trucks. While PHEV have a compliance pathway in this regulation, non-plug-in hybrid electric vehicles (HEV) are not eligible for compliance. MECA recommends CARB consider allowing HEVs, that meet or exceed the MY2027 Phase 2 GHG standard early (or exceed the standard after MY2027), to be able to earn partial credits that are eligible for a portion of total ZEV compliance targets.

An example where this type of approach has been proposed to expand parallel technology pathways in a zero-emission program is China's light-duty New Emission Vehicle (NEV) dual credit policy, recently proposed by China's Ministry of Industry and Information Technology. Following years of rapid growth in their market of battery electric cars, multiple credits were generated, allowing the increased production of larger conventional vehicles. The recent EV market pull-back has prompted China to amend the policy to add a provision allowing high efficiency hybrids to receive modest NEV credit towards compliance. If a vehicle meets or exceeds a threshold fuel economy limit, an OEM may obtain partial credit for its sale. The partial credit limit was set stringent enough to continue to drive investment and innovation to improve the efficiency of all vehicles.

The types of vehicles that could meet these ultra-low fuel consumption levels include advanced HEVs that couple the cleanest engine technologies with electrified powertrains. In passenger cars, we have seen HEVs continue to improve with sustained innovation of advanced combustion, efficiency and electric technologies. This battery and component innovation has expanded into electric trucks and incentives will enable faster penetration into the commercial truck fleet. Such a parallel technology approach would not subtract from the ACT but only expand the pathways toward meeting the state's environmental goals. Ultimately, the environmental goals are the policy drivers leaving industry in the business of delivering the technology that meets those targets in the most cost-effective way for consumers.

For those truck segments that are less amenable to full electric powertrains, broad application of hybridization delivers sustainable electrification and magnitudes greater emission reductions than a limited number of all-electric trucks. A recent article quantified the environmental sustainable pathways of HEV and BEV powertrains for passenger cars (https://seekingalpha.com/article/4271072-long-range-evs-antithesis-efficiency-sustainability).

In the transition to CARB's goal of a net zero-emission fleet, conventional engines will continue to be built and, if operated on low carbon fuel, these will also offer parallel criteria and GHG reductions. MECA has applauded CARBs innovative Low Carbon Fuel Standard (LCFS) that incorporates consideration of life cycle analysis as a parallel path to decarbonize the in-use fleet. We believe that inclusion of a parallel compliance path for the non-electric fleet would encourage continued investment in low carbon fuels that are not considered a compliance option for this regulation. MECA suggests that CARB consider complementary fleet rules and vehicle sales rules that allow for partial compliance with ZEV mandates via combined vehicle and low carbon fuel approaches, such as ultra-low NOx trucks fueled by low to net zero-carbon fuels under the ACT or a complementary in-use fleet regulation.

MECA members continue to support CARB's ongoing efforts to set near-zero NOx standards for heavy-duty trucks, and the heavy-duty truck omnibus regulation is on the same timeline as ACT as both proposals are scheduled to be brought before the Board by mid-2020 and implemented along parallel timelines. The Low-NOx Omnibus and ACT regulations will affect the same vehicles and stakeholders, so we recommend that the emissions inventories and market analyses for these be considered holistically.

As the battery electric and fuel cell electric truck markets mature, we support continued progress on performance standards for these vehicles and components in order to drive continual improvement and innovation and ensure the most cost-effective emission reductions and affordable trucks for California. Examples of performance standards for electric vehicles could include battery performance standards, such as lifecycle emission reduction goals, range requirements, and short- and long-term deterioration limits. CARB has the opportunity to provide confidence to consumers who have limited experience with electrified technologies. Furthermore, performance standards also provide consumer protections to those who invest in these technologies. We have witnessed over a history of transportation regulations and incentive programs, that performance standards lead to continued progress in the development of cost-effective robust technologies to ensure the cleanest and most efficient vehicles and equipment.

In conclusion, MECA commends California's leadership to reduce emissions of criteria and climate pollutants. The heavy-duty transportation sector is responsible for a major portion of California's emissions inventory, and these emissions are forecast to continue increasing, reflecting the anticipated impact of factors such as economic growth, increased movement of freight by trucks, ships, and rail, and continued growth in personal travel. There are significant opportunities to continue to reduce greenhouse gas emissions from medium- and heavy-duty engines and vehicles through the application of innovative technologies and fuels, including all-electric trucks. We believe the inclusion of additional compliance pathways will strengthen this proposal and advance complementary technologies that can be implemented to meet the state's air quality goals.

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