

**WRITTEN COMMENTS OF THE
MANUFACTURERS OF EMISSION CONTROLS ASSOCIATION
ON THE CALIFORNIA AIR RESOURCES BOARD'S PROPOSED AMENDMENTS TO
THE ON-BOARD DIAGNOSTIC SYSTEM REQUIREMENTS FOR HEAVY-DUTY
ENGINES, PASSENGER CARS, LIGHT-DUTY TRUCKS, MEDIUM-DUTY VEHICLES
AND ENGINES**

August 23, 2012

The Manufacturers of Emission Controls Association (MECA) is pleased to provide comments in support of the California Air Resources Board's proposed amendments to their HD OBD and OBD II requirements for heavy, medium and light-duty vehicles and engines. In particular our comments focus on the in-use monitoring performance requirements for the catalysts, PM filter and PM sensor monitors and revising of the thresholds for the PM filter monitor, the NOx sensor monitor and the NOx catalyst monitor for the 2013 through 2015 model years. These amendments, when adopted, will better align the OBD monitoring requirements with the current state of PM and NOx sensor technology development and commercialization. MECA applauds ARB for working with all stakeholders in order to develop requirements and timelines that are consistent with the state of the art PM and NOx sensors and NMHC catalyst monitoring capabilities.

MECA is a non-profit association of the world's leading manufacturers of emission control technology for mobile sources. Our members have over 40 years of experience and a proven track record in developing and manufacturing emission control technology for a wide variety of on-road and off-road vehicles and equipment, including extensive experience in developing exhaust and evaporative emission controls for gasoline and diesel light-duty vehicles in all world markets. A number of MECA members are engaged with their customers in developing sensor technologies. These sensors may be used for real time measurement of PM and NOx levels in the exhaust to facilitate closed loop control of the combustion process as well as monitoring of the catalyst and filter functionality. Several of our members are leading suppliers of evaporative control technologies as well as secondary air injection systems. Our industry has played an important role in the emissions success story associated with light-duty vehicles in California, and has continually supported efforts to develop innovative, technology-forcing, emissions programs to deal with California's unique air quality problems.

The majority of MECA's comments address the proposed changes to requirements for catalyst and filter monitoring and monitoring of PM and NOx sensor failure modes and performance faults. MECA supports the proposed delay and higher thresholds associated with NOx conversion efficiency across a NOx reduction catalyst on medium and heavy-duty engines over the 2013 to 2015 timeframe. We agree with staff's estimates that a target threshold of +0.2 g/bhp-hr for all engines by 2016 is feasible. We also agree with the staff proposal that allows those engines that choose to implement a plus 0.3 g/bhp-hr threshold in the 2014-2015 phase in period to meet the final +0.2 g/bhp-hr final limit in 2017. Although significant advances in sensor technology have been made to achieve the current +/- 10% or +/- 10 ppm NOx sensor accuracy, the staff proposal will provide engine manufacturers with additional time to implement and optimize their preferred NOx catalyst monitoring strategies. Furthermore we concur with

staff's decision to require identical thresholds for NOx sensors as those being proposed for NOx catalyst monitoring.

Similarly because PM sensors are not yet commercially ready across all manufacturers, MECA members are working with their customers to be fully integrated in the 2015 timeframe. We support the revision of emission thresholds and sensor failure mode flexibilities to better match the capabilities of current monitoring technologies while providing additional time for the full implementation of PM sensors and sensor monitoring out to 2016 for medium and heavy-duty engines. Similar to the proposal for NOx emission monitoring of NOx catalysts, MECA believes it is reasonable to provide flexibilities for vehicles and engines that implement tighter PM monitoring limits during the 2014 and 2015 phase-in period to fully implement the final threshold limit in 2017. Furthermore MECA supports the proposed delay until 2015 for monitoring requirements of the NMHC conversion function of catalyzed PM filters for heavy-duty engines to align with recent changes to the MD OBD II regulation. MECA also supports the proposal for delaying monitoring requirements on catalyzed PM filters for proper NO₂/NO feedgas generation to assist SCR systems until the 2016 and subsequent model years.

MECA supports ARB staff's decision to align the HD OBD requirements for monitoring proper feedgas generation across an oxidation or NMHC catalyst with the recently proposed OBD II regulation for light and medium-duty vehicles and delay this requirement until 2015 for heavy-duty engines. We support the evaporative system monitoring in 2018 for heavy-duty engines that are subject to evaporative emission standards such as LPG engines. Evaporative system monitoring is an established technology on hundreds of thousands light-duty gasoline vehicles and it can be readily integrated on these heavy-duty alternatively fueled engines.

MECA commends ARB for regularly reviewing the developments in sensor technologies and monitoring strategies with all stakeholders and taking important steps to revise the on board diagnostic regulations as needed. We believe that this proposal achieves the right balance between technically achievable monitoring thresholds and timelines that stimulate sensor technology development to achieve the objectives of the regulation and insure that catalysts and filters are delivering the necessary emission performance over their full useful life and beyond. Our industry is prepared to do its part and deliver cost-effective, advanced OBD monitoring technologies to the market.

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