

**WRITTEN COMMENTS OF THE
MANUFACTURERS OF EMISSION CONTROLS ASSOCIATION
ON THE U.S. ENVIRONMENTAL PROTECTION AGENCY'S PROPOSAL
COVERING REVISIONS FOR EMERGENCY VEHICLES AND SCR MAINTENANCE
DOCKET ID NO. EPA-HQ-OAR-2011-1032**

July 23, 2012

The Manufacturers of Emission Controls Association (MECA) is pleased to provide comments in support of U.S. EPA's proposal for revisions to heavy-duty highway emergency vehicles and SCR maintenance (Docket ID No. EPA-HQ-OAR-2011-1032).

MECA is a non-profit association of the world's leading manufacturers of emission control technology for motor vehicles. Our members have decades of experience and a proven track record in developing and manufacturing emission control technology for a wide variety of on-road and non-road vehicles and equipment. A number of our members have extensive experience in the development, manufacture, and application of hydrocarbon, PM and NOx emission control technologies for both new and existing engines. Our members include the largest suppliers of SCR catalysts for original equipment applications in all world markets where this technology is being used for mobile source applications and companies that have or are in the process of verifying SCR systems for retrofit applications for both on-road and off-road diesel engines. MECA members are also involved in developing other types of NOx emission controls for mobile source applications on diesel engines including lean NOx adsorber catalysts, lean NOx catalysts (sometimes referred to as hydrocarbon-SCR catalysts), and combinations of these NOx catalysts with SCR catalysts. In general, MECA member companies have developed and commercialized a wide variety exhaust and evaporative emission control technologies for gasoline, diesel, and alternative-fueled engines.

MECA supports EPA's proposal to amend its heavy-duty diesel engine programs to specifically allow engine manufacturers to request to deploy specific emission controls or settings for new and in-use engines that are sold for use only in emergency vehicles. MECA agrees with EPA that it is important to enable fire trucks and ambulances with heavy-duty diesel engines to perform mission-critical life- and property-saving work without risk of losing power, speed or torque due to abnormal conditions of the emission control systems. While these provisions do offer limited relief from the latest emission standards for these engines, PM emissions reductions from these emergency vehicles may still be achieved through the general requirement that the use of engines must meet the most stringent and practical emission standards. MECA also believes that EPA should tightly define the range and scope of emergency vehicles that can employ emission system modifications to ensure that any relief is implemented on a relatively small number of vehicles.

Diesel particulate filters (DPFs) based on ceramic wall-flow filter substrates are the most effective PM reduction technology for a wide range of diesel engine applications. High-efficiency DPF technology can reduce PM emissions by over 85 percent or more and provide large reductions in black carbon emissions, an important climate change pollutant. Catalyzed

filters have the added co-benefit of reducing toxic HC emissions by up to 80 percent or more. The durability and performance of PM control technologies is being demonstrated on U.S. OEM on-road, heavy-duty applications beginning with the 2007 model year. Since 2007, nearly every new heavy-duty diesel vehicle sold in the U.S. or Canada has been equipped with a high efficiency diesel particulate filter to comply with the U.S. EPA's 2007/2010 on highway regulations. This represents more than one million trucks operating with DPFs here in North America. DPFs will be standard equipment on new heavy-duty trucks in Europe starting in 2013 in order to comply with the new Euro VI particle number emission standard. A number of manufacturers have also started to equip a range of off-road diesel engines with DPFs to comply with EPA's Tier 4 off-road emission standards.

MECA supports EPA's proposal to include new provisions in its regulations that explicitly permit replacement of diesel exhaust fluid (DEF) as part of approved emission-related scheduled maintenance and set out the permitted maintenance intervals for replacement of DEF on diesel fueled new motor vehicles, new motor vehicle engines and new nonroad compression-ignition engines. MECA agrees with EPA that as SCR use has become common in the transportation sector and replenishment of DEF is necessary for SCR to be effective, it is appropriate to add DEF replenishment to the list of scheduled emission-related maintenance published in the Code of Federal Regulations, rather than rely on a case-by-case approval as is specified in the current regulation. MECA also concurs with EPA's assessment that in light of the existing tight space constraints and the overall desire to maximize cargo-carrying capacity to minimize emissions and meet consumer operational demands, and the built-in DEF tank size buffer to insure DEF refills, the proposed DEF tank sizes are technologically necessary and are also reasonable and appropriate.

Lastly, MECA also supports EPA's proposal to adopt special provisions for engines used in dedicated emergency vehicles to ensure that manufacturers are able to design and implement reliable, robust emission control systems with regeneration strategies that do not interfere with the mission of emergency vehicles. We agree with EPA that temporary flexibility may be appropriate to allow SCR-equipped off-road engines to operate without DEF in emergency circumstances.

SCR is a proven, durable NOx reduction technology for mobile sources and has become an important NOx emission reduction technology for mobile sources in the U.S. and other world markets as evidenced by the hundreds of thousands of light-duty and heavy-duty vehicles that have been sold and operated with SCR technology over the past six years in Europe, Japan, and North America. Ammonia SCR has been used to control NOx emissions from stationary sources for over 25 years. More recently, it has been successfully applied to mobile sources, including light-duty diesel vehicles, diesel trucks, marine vessels, and locomotives. In 2005, SCR using a urea-based reductant was introduced on large number of on-road diesel heavy-duty engines to help meet the Euro IV or Euro V heavy-duty NOx emission standards. There are now hundreds of thousands of SCR-equipped trucks operating in Europe. SCR is being used by most engine manufacturers for complying with U.S. EPA's onroad heavy-duty diesel engine emission standards since 2010 and in Japan since 2009. Several auto manufacturers have also commercialized SCR systems for light-duty diesel vehicles that are being sold in California and across the U.S. SCR applications have also been introduced recently on a range of off-road

diesel engines to comply with EPA's interim Tier 4 emission standards and off-road SCR applications are expected to expand significantly in the coming few years as OEMs certify new off-road diesel engines to EPA's final Tier 4 emission limits. Marine diesel and locomotive engines are also expected to employ SCR catalyst to comply with EPA Tier 4 emission regulations in these sectors.

MECA members continue to devote significant resources to the development of NOx and PM reduction technologies for both original equipment and retrofit mobile source applications in the U.S. and other world markets. DPF and SCR systems are proven and durable PM and NOx reduction technologies for mobile sources. MECA members stand ready to work with engine, equipment, and vehicle manufacturers on implementing the proposed modifications for emergency vehicles and proposed minimum DEF tank sizes once these amendments are finalized.

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