WRITTEN STATEMENT
OF THE
MANUFACTURERS OF EMISSION CONTROLS ASSOCIATION
ON THE NEW YORK STATE'S PROPOSED STATE IMPLEMENTATION PLAN REVISIONS

October 10, 2007

The Manufacturers of Emission Controls Association (MECA) is pleased to provide testimony in response to the New York State Department of Environmental Conservation's (NYS DEC) request for comments on the proposed revisions to the State Implementation Plan (SIP) for Ozone (8-Hour NAAQS) Attainment Demonstration for the New York Metropolitan Area (NYMA) and Poughkeepsie area.

MECA supports NYS DEC's proposal to control mobile source emissions of nitrogen oxides (NOx) and volatile organic compounds (VOC) through control strategies, such as adopting California's Low Emission Vehicle II (LEV II) standards and adopting California's emissions standards for personal watercraft. However, MECA believes that the NYS DEC could achieve additional emission reduction of ozone precursors by implementing a number of other strategies that employ advanced emission control technologies. These emission control technologies for mobile sources that will be needed to help the NYS DEC achieve ozone attainment are cost-effective and are being used today in on-road and non-road applications in the U.S. and other major marketplaces around the world.

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 PM and NOx emission control technologies for both new and existing engines. These companies have developed control technologies for gasoline, diesel, and alternative-fueled engines.

MECA believes that further NOx emission reductions can be achieved by adopting a number of California mobile source emission control standards that go beyond requirements set forth by the U.S. EPA.

MECA believes that greater reductions of NOx emissions can be achieved by adopting California's proposed aftermarket converter requirements for light-duty, gasoline vehicles that set higher performance and durability standards. The ARB Board is expected to approve these revised aftermarket converter requirements at their October 25-26, 2007 Board hearing. ARB's proposed regulation will eliminate the sale of older aftermarket converter products that have modest performance standards and a limited 25,000-mile warranty, and require that higher performance and more durable OBD-compliant aftermarket converter products be used on both non-OBD and OBD-equipped vehicles starting in January 2009. These ARB-approved OBD-compliant aftermarket converters are warranted for 50,000 miles based on the use of a more aggressive, high temperature accelerated engine-aging protocol compared to the vehicle

durability demonstration currently required by EPA for approved aftermarket converter products. EPA has not updated its aftermarket converter requirements since 1986 and, with more than three million aftermarket converters sold per year across the U.S. (based on surveys completed by MECA with aftermarket converter manufacturers), significant additional reductions of hydrocarbon emissions, including toxic hydrocarbon emissions, and NOx emissions could be achieved with a national aftermarket converter policy that made use of the same higher performance OBD-compliant aftermarket converters available in California. The ARB staff report for this proposed regulation estimates that, in 2012, 1.26 million pre-OBD vehicles will be equipped with aftermarket catalysts in California. The proposed regulation will reduce 36 tons per day of HC+NOx from this aging fleet of light-duty vehicles.

MECA believes that New York State can achieve additional reductions in NOx emissions by adopting ARB's standards for HC+NOx for sterndrive and inboard marine engines. The technology to reduce emissions from spark-ignited inboard and sterndrive marine engines is based on automotive-type three-way catalyst with closed-loop control technology. This technology has been used on well over 300,000,000 automobiles with outstanding results and the same technologies can be adapted to marine inboard and sterndrive engines. Results from EPA- and ARB-sponsored test programs detailed in the EPA Draft Regulatory Impact Analysis for New Nonroad Spark-Ignited Engines, Equipment, and Vessels issued in April 2007 (http://www.epa.gov/otaq/regs/nonroad/marinesi-equipld/420d07004.pdf), confirm that three-way catalysts can be effectively integrated into marine inboard and sterndrive engines, and three-way catalysts have the necessary mechanical integrity and catalytic durability to perform with high emission conversion efficiencies throughout the entire 480-hour useful life emissions requirement for these marine engines, regardless of operation in fresh or salt water environments. Important results from this demonstration program included the design and integration of exhaust manifolds with three-way catalysts that provided relatively low exhaust manifold surface temperatures (through the use of a water-jacketed exhaust system) and minimized the potential for water ingestion into the region of the manifolds that contained the three-way catalysts. Both ceramic- and metallic-based substrates were used to display a range of three-way catalyst formulations as a part of this durability test program, all with good results. Thus, a variety of three-way catalyst technology options used successfully in automotive applications were shown to be effective in these marine engine applications.

Another strategy that can obtain additional NOx emission reduction to achieve ozone attainment in the NYMA and Poughkeepsie area would be to adopt California's 0.6 g/bhp-hr HC + NOx 2010 emission standard for off-road spark-ignited engines with horsepower ratings greater than 25 horsepower, if New York has the authority to opt into this regulation. The technology to reduce emissions from these off-road SI engines is based on automotive-type three-way catalyst closed-loop technology. Three-way catalysts have also been used effectively on thousands of large, natural gas-fueled, reciprocating engines (so-called rich burn or stoichiometric natural gas engines) used for power production or pumping applications. These same catalyst technologies can be adapted to spark-ignited engines used in off-road mobile sources such as forklift trucks, airport ground support equipment, and portable generators.

Closed-loop, three-way catalyst-based systems are already being used on these large, spark-ignited, off-road engines to meet ARB's and EPA's 2004 3.0 g/bhp-hr HC + NOx

standard. Closed-loop, three-way catalyst systems will also be the primary technology pathway for meeting the EPA and ARB 2007 exhaust emission standard of 2.0 g/bhp-hr HC + NOx. Retrofit kits that include air/fuel ratio control systems along with three-way catalysts have been sold into the LPG-fueled fork lift industry for installation on uncontrolled engines (an LSI application) for nearly 10 years. In both new engine and retrofit applications, these closed-loop three-way catalyst systems have shown durable performance in LSI applications, consistent with the excellent durability record of closed-loop three-way catalyst systems used in automotive applications for more than twenty-five years. MECA believes that advanced three-way catalyst technology based on automotive applications can provide a cost-effective, durable, high performance solution for controlling NOx and HC emissions from new and existing large spark-ignited engines used in off-road applications.

In order to achieve additional NOx emission reductions from light-duty vehicles, New York State should encourage California to adopt a LEV III light-duty vehicle program by the end of 2008 for implementation during the post-2010 timeframe. The emergence of "clean diesel" light-duty vehicles in the U.S. that employ DPFs, SCR catalysts, and/or NOx adsorber catalysts, and the significant number of near-zero tailpipe and evaporative emission light-duty gasoline vehicle models that have been certified to date by ARB as partial-zero emission vehicles (PZEVs, more than 30 current models) or super ultra-low emission vehicles (SULEV) provides strong evidence that all new light-duty vehicles sold in the U.S. are capable of achieving these most stringent NOx exhaust emissions standards. Once California adopts a LEV III program, other states can then choose to opt into the program to take advantage of the additional NOx emission reductions to help meet their SIP goals.

Regarding heavy-duty diesel vehicles, due to the long operating lives of diesel engines, it will take decades for older, "dirtier" on-road and non-road diesel engines to be replaced with the mandated newer "cleaner" engines. Given the health and environmental concerns associated with diesel engines and because existing on-road and non-road diesel engines make up a significant percentage of diesel pollution emitted, there is an increasing interest in retrofitting the existing legacy fleet of on-road and non-road diesel engines as a means of complying with federal or state ambient air quality standards for ozone. MECA commends New York State for adopting a mandatory diesel retrofit program for its public diesel fleet vehicles. However, we believe that funding for this program needs to be identified to ensure the success of the program. Additionally, MECA encourages NYS DEC to adopt similar programs for New York's private on-road and off-road diesel vehicles. MECA believes that proven retrofit technologies, including combinations of DOCs or DPFs with SCR catalysts, lean NOx catalysts, or low pressure EGR, are available to deliver significant reductions in PM and NOx emissions from existing on-road and non-road diesel engines. MECA member companies are already investing considerable resources in expanding the number and scope of verified retrofit technologies that can provide significant reductions of PM and NOx emissions from existing diesel vehicles and equipment.

Conclusion

In closing, we believe that numerous strategies are available to further reduce hydrocarbon and NOx emissions from mobile source engines to meet ozone attainment in the New York Metropolitan Area and Poughkeepsie area. Once the State Implementation Plan is in place, our industry is prepared to do its part and deliver these cost-effective, advanced emission control technologies to the market.

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