

**STATEMENT OF THE  
MANUFACTURERS OF EMISSION CONTROLS ASSOCIATION  
ON THE AIR RESOURCES BOARD'S  
PROPOSED AMENDMENTS TO THE REGULATION FOR IN-USE OFF-ROAD  
DIESEL-FUELED FLEETS**

*July 23, 2009*

---

MECA is pleased to provide testimony in support of ARB's proposed amendments to the regulation for in-use off-road diesel vehicles including the provisions for fleets in meeting BACT requirements in 2010 - 2011 and the early retirement and reduced activity credits as a way to provide economic relief to the construction industry. The most efficient use of any available retrofit credits occurs when retrofits are focused on equipment that represents a larger portion of the state fleet where there has been the most retrofit experience rather than trying to retrofit specialized unique pieces of equipment. We believe that the proposal presents a balanced approach that facilitates economic relief in the near future while providing voluntary incentives to fleets interested in taking advantage of early retrofits and engine re-powers as a way for California to make up for some of the lost emissions resulting from the proposed changes to the regulation.

MECA is a non-profit association of the world's leading manufacturers of emission control technology for motor vehicles. Our members have over 30 years of experience and a proven track record in developing and manufacturing emission control technology for a wide variety of diesel and gasoline on-road and off-road vehicles and equipment. A number of our members have extensive experience in the development, manufacture, and application of PM and NOx control retrofit technologies including a majority of the devices on ARB's verified technology list.

The off-road regulation has been amended twice in the past 6 months to provide economic relief and preserve industry jobs. MECA testified in support of both rounds of proposed amendments because MECA members share first-hand the economic hardships of the automotive, truck and construction industries. The technology planning, development and verification cycle for retrofit systems comes years ahead of a regulation. Regulatory stability is critical for VDECS manufacturers to justify and build a viable business that generates green jobs for California. The economy has put a significant strain on businesses of all sizes including manufacturers of retrofit technologies. Our members have invested and continue to invest significant resources in developing and verifying diesel retrofit technologies for the whole range of in-use diesel engines currently operating in California, including on-road, off-road, and stationary sources. Beginning this year, tighter regulations on retrofit technology require lower NO<sub>2</sub> emission from retrofit devices. In order to obtain a plus designation, a PM retrofit device can emit no more than 20% higher NO<sub>2</sub> than the baseline engine-out emissions. All of the manufacturers have successfully completed the process of re-verifying retrofit PM reduction technologies to the plus designation to comply with this change in the regulation. MECA members are committed to continue to develop and verify the VDECS technologies that will be needed to meet the emission reduction targets by the implementation date of this regulation in 2010 and the state's SIP commitments in 2014.

Today's economic environment puts the Air Resources Board in a difficult situation having to balance the goals of the Diesel Risk Reduction Plan and meeting their commitment to achieving the State Implementation Plan by 2014. Some of the emission reduction losses may be recovered through the voluntary retrofit credit provisions included in this proposal. Others may need to be made-up by reductions from other vehicle segments. MECA members come prepared with retrofit and first-fit technologies to reduce emissions from the entire range of mobile and stationary internal combustion engines. There are a number of off-road gasoline engine categories that have not yet benefited from the same three-way catalyst technologies that have been used on passenger cars for over thirty-five years. These include off-road motorcycles and all-terrain vehicles (ATV), as well as, Class 2 less than 25 hp off-road gasoline engines and outboard marine engines. Additional emission reductions can also be achieved from on-road motorcycles that are currently equipped with TWCs by requiring these large road bikes to meet emission limits similar to ARB's regulations for light-duty vehicles. The technology to reduce emissions from these classes of engines is readily available today. MECA members have continually demonstrated their ability to successfully apply emission control technologies in a diversity of regulatory driven markets.

For diesel retrofit on-road and off-road applications, the area of crankcase PM emissions has been overlooked by California whereas this technology is used by fleets in other states to reduce the overall PM being emitted by a vehicle. The typical crankcase PM emitted by a pre-2007 diesel engine ranges from 0.01-0.04 g/bhp-hr. This PM level is a fraction (9-28%) of the total PM from a 1994 vehicle but becomes significant (50-80%) when that vehicle is retrofitted with a Level 3 DPF. The tons per day of crankcase PM, coming from the entire diesel engine fleet, represents a significant portion of the state's PM inventory. The U.S. EPA recognized the significant contribution of crankcase PM when developing its 2007/2010 on-highway diesel emission standards. All 2007 and newer highway diesel vehicles and future Tier 4 off-road vehicles must account for crankcase PM as part of the total PM emissions to meet the overall vehicle PM limits. Some manufacturers are meeting the requirements by using CCV filter devices identical to those verified by EPA for in-use diesel engines. These filters capture virtually 100% of the PM coming from the crankcase. CCV technology has been verified by the U.S. EPA as a stand alone technology or in combination with exhaust control devices. We encourage the ARB to investigate cost effective ways to implement CCV technology, already verified by EPA, through verification reciprocity thus making it eligible for state and federal emission reduction funding. MECA members are committed and prepared to work with ARB staff as they look to other combustion engine emission sources to recover some of the lost emissions as a result of the proposed changes to the off-road regulation.

A recent survey of our members shows that our industry contributes over 65,000 green jobs around the country including a significant number of jobs in California. These jobs involve technical and service personnel responsible for developing, installing and maintaining diesel retrofit devices. One estimate suggests that a full-time job is created as a result of the installation of every 3-7 diesel retrofits. Another way to look at this is that the installation of 1000 retrofits creates 140 to 330 green jobs. New diesel emission control products continue to be added to ARB's list of verified technologies. The number of VDECS suitable for off-road vehicles has more than doubled in the past year including five passively regenerated Level 3

DPF devices and a combined PM-NOx device providing 85% PM reduction and 40% NOx reduction. Several manufacturers are closely engaged in verifying urea-SCR retrofit technology with ARB and these efforts should lead to additional commercial, verified NOx reduction technologies. Manufacturers are expected to verify even more passive and active filter technologies in the coming year for off-road applications to further expand the options available to fleet owners to comply with ARB's requirements. One manufacturer has verified a hybrid active and passive DPF system that combines a Level 3+ passive DPF with an electrical element to actively assist regeneration during periods of low temperature duty-cycle application. This effectively extends the operating time in between active regenerations. This system is being demonstrated on several off-road applications and is in the process of being verified for off-road vehicles.

MECA and our members are actively involved with ARB staff to further clarify criteria used in granting exemption from retrofit requirements for applications or installations deemed to be unsafe. The installation of safe retrofits that minimize the visibility impacts on operators are best achieved by focusing retrofit credits and devices on vehicles that have demonstrated the most retrofit success rather than trying to retrofit the largest construction vehicles in a fleet in order to maximize the use of double horsepower emission credits offered by this proposal. Having a well defined review process in place would ensure that implementation of the proposed regulations are accomplished with minimal administrative delays or judgments. We look forward to working with Cal/OSHA, ARB and interested stakeholders to develop effective and realistic amendments to the California Code of Regulations that will serve to ensure that modifying construction equipment with VDECS is done with consideration to the safe operation of the vehicle and a safe, clean work environment for the operators and workers on construction sites.

We commend the Air Resources Board for its continuing efforts to provide the people of California with healthy air quality and for demonstrating true leadership in this innovative regulatory program that will significantly reduce PM and NOx emissions from in-use, off-road diesel vehicles operating in the State. We also wish to thank the ARB staff for its willingness to work closely with all interested parties throughout the regulatory process. Troubled economic times offer a readily justifiable opportunity to attack emission regulations. However, the reasons for adopting those regulations in the first place, such as health care costs, have not diminished in spite of the economy. We urge the Board to remain vigilant on any attempts to stay or delay the overall goals of ARB's off-road fleet rules or ARB's broader Diesel Risk Reduction Plan. These important emission reductions strategies not only protect the health of all the citizens of California but also provide an important source of economic growth and green jobs for the state. Our industry pledges its continued support and commitment to do its part to help achieve the goals of this regulation.

**Contact:**

Joseph Kubsh  
Executive Director  
Manufacturers of Emission Controls Association  
1730 M Street, NW  
Suite 206

Washington, D.C. 20036  
Tel.: (202) 296-4797  
E-mail: [jkubsh@meca.org](mailto:jkubsh@meca.org)