STATEMENT OF THE
MANUFACTURERS OF EMISSION CONTROLS ASSOCIATION
ON AMENDMENTS TO THE IN-USE OFF-ROAD AND IN-USE ON-ROAD DIESEL-FUELED FLEET REGULATIONS

December 16, 2010

MECA is pleased to provide comments on the ARB's proposed amendments to the regulations covering in-use on-road and off-road diesel vehicles. MECA members understand the need for industry economic relief that is driving the proposed changes. MECA supported the amendments to the off-road regulation that the Board adopted in 2009 providing economic relief to end-users. We provide the following recommended changes to the proposal in an effort to identify additional opportunities for emission reductions.

MECA is a non-profit association made up of the world's leading manufacturers of emission control technology for motor vehicles. Our members have over 35 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 ARB Diesel Risk Reduction Plan, including regulations adopted by the Board to reduce emissions from in-use trucks, buses, and off-road equipment, are critically important to meeting the state's federally mandated air quality requirements and provide significant health care benefits for the residents of California (estimated by ARB to be equal to a large multiple of the estimated costs of compliance with the regulations). These ARB diesel risk reduction regulations also provide a significant climate change co-benefit associated with the large reductions in black carbon emissions that are a major component of diesel particulate matter emissions from mobile sources. Black carbon's contribution to climate change is viewed by many leading climate experts (including Dr. Mark Jacobson of Stanford University, Dr. V. Ramanathan of the Scripps Institute at the University of San Diego, and Dr. Charles Zender of the University of California - Irvine) as second only to carbon dioxide.

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. A 2007 survey of MECA members estimated that more than $2 billion has been invested in developing and commercializing diesel emission control technologies for both new and in-use vehicles. New diesel emission control products continue to be added to ARB's list of verified retrofit technologies. There are twenty-one Level 3 diesel retrofit technologies on ARB's verified list each of which has taken between $1-2 million of up-front investment to develop and verify. Retrofit manufacturers have made substantial additional investments in verification costs associated with de-verified technologies, revised verification requirements, and pending verifications of new retrofit technologies to further expand the options available to fleet owners

to comply with ARB's in-use fleet regulations. In 2013, off-road VDECS manufacturers will be required to re-verify existing systems using the Non-Road Transient Combined (NRTC) test cycle. Manufacturers have made significant investments in re-verifying retrofit PM reduction technologies to comply with other changes to ARB's verification requirements such as NO_2 limits. Furthermore, manufacturers are required to begin the in-use compliance portion of the verification process after the sale of only 50 units. Before their initial investment is recovered, manufacturers are required to remove and replace devices from vehicles for testing. In-use testing requires significant resources at an added cost of approximately $0.5 million per Level 3 device that manufacturers must bear at a time when their business has disappeared due to regulatory changes and delays. Technology providers rely on regulatory stability in order to develop their business plans and justify the necessary investments to meet the commercial needs in time for implementation. The regulatory changes outlined in this proposal have significantly diminished their present and future business outlook.

We understand, first hand, the strain on California's fleets caused by today's economic environment. MECA supports ARB's efforts to increase the availability of state incentive funds, grants and loan programs to help end-users comply with the off-road and on-road regulations. End users that have to comply with ARB's various diesel risk reduction regulations can make use of federal economic stimulus funds, state incentive funds and loan programs to help pay for clean diesel technologies and vehicles that comply with these regulations. California incentive programs need modifications that provide additional opportunities for the use of verified retrofit technologies. These should include; accepting projects with 2 years of surplus emissions and additional weighting given to cost effectiveness of diesel retrofits relative to repowers or replacements.

ARB's diesel fleet regulation push California into a sustainable green economy and create jobs associated with the manufacture, sales, installation, and servicing of diesel exhaust emission controls. A survey conducted in late 2008 shows that MECA members directly contribute over 65,000 green jobs around the country including more than 1,000 jobs in California. These jobs include technical and service personnel responsible for selling, developing, installing and maintaining diesel retrofits that are employed by our members. A more recent analysis took into account independent small businesses in California that install and maintain retrofit devices and estimated 4,000 jobs are associated with the diesel retrofit industry in California. An independent economic analysis completed in early 2009 (available on MECA's diesel retrofit website, www.dieselretrofit.org, under "Useful Documents") translates investments in diesel retrofit technologies into jobs associated with manufacturing, sales, installation, and maintenance of advanced emission control technologies. Every million dollars spent on diesel retrofit technology creates or preserves about 21 jobs. The mandatory PM retrofits on 1998-2006 MY trucks/buses (> 26,000 lb GVWR) included in the ARB staff proposal are estimated to create more than 20,000 jobs. On the contrary, the removal of mandatory PM retrofits for 1994-1997 trucks and the lighter trucks < 26,000 lbs, as well as, all retrofit requirements from California's off-road equipment eliminates the opportunity for more than 26,000 additional retrofit-related jobs.

MECA would like to offer several additional modifications to the proposal that would achieve further emission reductions while providing additional opportunities for verified retrofit technologies. There are eleven Level 3 devices verified for vehicles prior to model year 1998. We believe that extending the mandatory PM retrofits for 1994-1997 trucks over 26,000 pounds combined with extended life before turnover would achieve additional early PM reductions while allowing end users to continue to operate their vehicles longer. We understand that retrofitting lighter, less expensive, vehicles (<26,000 lbs GVWR) with Level 3 retrofits may not be cost effective in all cases, however, in-order to capture some emission reductions of PM and other air toxics from the medium duty fleet, we believe ARB should incentivize installation of ARB or EPA verified Level 1 and Level 2 retrofits on these lighter trucks. These technologies provide a more economical, passive solution to achieving some emission reductions from this fleet of 140,000 vehicles in the state. Furthermore, we believe that children riding on school buses less than 26,000 lbs GVWR should be given the same opportunity of cleaner air as those riding on the larger buses and therefore these lighter school buses should also be required to install Level 3 PM retrofit devices. Incentive funding should be prioritized to cover the costs of these retrofits on school buses.

Changes to the off-road rule have reduced retrofit technologies for this segment to a voluntary option toward compliance. MECA supports the inclusion of a retrofit for life provision for up to 15% of the fleet horsepower until January 2013 and double credits for retrofits installed up to one year prior to the compliance date as a way to incentivize early PM reductions via retrofits. In order to insure that PM reductions are achieved from older off-road equipment and to incentivize retrofits, MECA would support a delayed turnover of Tier 0/1vehicles or allowing the addition of Tier 0/1 equipment to a fleet if they are retrofit with a Level 3 device.

ARB offers a number of compliance extensions if devices or vehicles are not available from manufacturers in time to meet fleet emission target dates. Because the regulation offers two options toward compliance (retrofit or replace), we believe that extensions in obtaining Tier 3/4i equipment should be predicated on a lack of available VDECS that would upgrade Tier 1/2 equipment to equivalent Tier 3/4i emission levels.

In their proposed regulation, ARB staff has removed the end of life PM filter requirement from off-road vehicles. Several OEMs have already introduced Tier 3/4i equipment without diesel particulate filters. Furthermore, Tier 2 and 3 off-road vehicles can remain in a fleet for many decades resulting in long term PM emissions and therefore, we believe that ARB should retain an end of life diesel particulate filter requirement on high use equipment (>500 hr.) that remains in the fleet beyond 2023. These filters may be OEM equipped or retrofit and would insure that the cleanest vehicles do the majority of the work in the state. An hour meter requirement for off-road vehicles would simplify usage record keeping for fleet owners.

MECA would welcome a dialog with ARB staff on various approaches that would provide economic relief to device manufacturers and insure that technologies are available when they are needed. We continue to believe that more can be done to further streamline the verification process by continuing the cooperative effort to harmonize the application and test plan approval process with U.S. EPA in an effort to move toward true reciprocity of the two

verification processes. The workload will continue to increase as verification maintenance of existing verified devices will combine with the increasing demands of in-use compliance coupled with the demand for new verifications of advanced integrated technology solutions. MECA remains concerned with the resources that ARB has dedicated to cover both the in-use and new verification process needs. We urge the Board to review the verification staff resources to determine if they are adequate to meet the future needs of the program. Harmonizing the California and federal verification and in-use compliance programs to the fullest extent possible will serve to leverage resources within the two agencies and reduce the escalating costs for device manufacturers to verify new devices under both programs. We understand that staff will revisit the verification program and propose changes to the Board by the end of 2011. We believe that several of the recommendations that MECA has presented to streamline the verification process can be implemented without the need to open the regulation. We ask that the Board direct senior ARB staff to review our recommendations and implement them as quickly as possible.

General remarks on the lack-of performance of retrofit devices are often made with no information to back them up. There are always isolated issues with any technology but in general DPF retrofit systems work and have demonstrated a high level of durability and reliability. For over 30 years, off-road diesel engines used in the construction, mining, and materials handling industries have been equipped with exhaust emission control technology – initially with diesel oxidation catalysts (DOCs) and followed later by diesel particulate filters (DPFs). These systems have been installed on vehicles and equipment both as original equipment and as retrofit technology on over 250,000 non-road engines worldwide. Over 50,000 active and passive DPF retrofit systems have been installed worldwide on off-road applications. More than 20,000 of these filters have been successfully employed in Europe on construction equipment used in tunneling projects. A 2003 survey (SAE Paper 2004-01-0076) of 3,848 construction retrofit installations from 2001 to 2003 in Europe found a failure rate of only 1-2 percent. The failures were most often associated with improper engine maintenance and operation rather than DPF functionality. Any product issues cited in this study were easily addressed through further product improvements.

The durability and performance of PM control technologies is being demonstrated on OEM on-road applications beginning with the 2007 model year. Since 2007, nearly every new 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 over 800,000 new trucks operating on DPFs mostly in the U.S. In 2010 the same new highway trucks are being required to reduce NOx emissions by 90% relative to pre-2007 requirements and are being equipped with NOx control technologies such as lean NOx trap catalysts, urea-SCR catalysts and high flow EGR systems. MECA's annual sales survey of retrofit technologies has shown that since 2001, approximately 20,000 Level 3 DPFs in California and nearly 55,000 across the country have been installed on on-road vehicles from construction vehicles like dump trucks to long-haul Class 8 tractors and many other types of vehicles and equipment.

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. Having a well defined review process in place ensures that implementation of the proposed regulations are accomplished with minimal administrative delays or judgments. We are engaged in working with 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, the operators and workers on construction sites. Safety must continue to be an essential component of the engineering and installation of retrofit emission control devices.

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 their Diesel Risk Reduction Plan that will significantly reduce PM and NOx emissions from in-use, off-road and on-road diesel vehicles operating in the state. We urge the Board to adopt the proposed changes to the fleet regulations and to commit to obtaining approval of the final regulatory package through the Office of Administrative Law as quickly as possible to allow time for end-users to take full advantage of the double credits and other incentives offered by the regulation. MECA requests that the Board direct senior ARB staff to quickly identify relief opportunities within the verification program to off-set the loss of revenue from these regulatory roll backs. Furthermore, ARB must remain vigilant on any further attempts to stay or delay the overall goals of the agency's various in-use 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. We wish to thank the ARB staff for its willingness to work closely with all interested parties throughout the regulatory process. Our industry is committed to do its part to help achieve the goals of these regulations.

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