**STATEMENT**
**OF THE**
**MANUFACTURERS OF EMISSION CONTROLS ASSOCIATION**
**ON THE AIR RESOURCES BOARD'S**
**PROPOSED AIR TOXIC CONTROL MEASURE**
**FOR STATIONARY COMPRESSION-IGNITION ENGINES**

*November 20, 2003*

The Manufacturers of Emission Controls Association (MECA) is pleased to provide testimony in support of the Air Resources Board's proposed air toxic control measure (ATCM) for stationary compression-ignition engines. We commend the Board for its continuing efforts to develop and implement effective control programs for major sources of air pollution such as this category of engines. We believe that the proposed requirements, as detailed in the Staff Report, are an important step forward in further reducing emissions from stationary compression-ignition engines.

We continue to have concerns regarding the availability of reliable field measurement techniques that are as accurate as the full dilution methods used in traditional engine testing in controlled environments, in particular to accurately determine compliance at the very stringent emission limits set by this rule. Consequently, we believe that the best approach for demonstrating compliance using emission control strategies such as diesel particulate filter retrofit should be through the ARB verification process under a properly controlled testing environment. Our members have discussed this issue with the ARB staff on previous occasions and we appreciate the staff's willingness to continue to work with MECA members, other interested stakeholders, and the local air quality districts to help resolve this issue.

MECA is a non-profit association of the world's leading manufacturers of emission control technology for mobile sources and stationary internal combustion (IC) engines. 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 on-road and off-road vehicles/equipment and stationary IC engines, including stationary compression-ignition engines.

## DISCUSSION

The ARB Staff Report provides a comprehensive analysis of the emission control technology options available to reduce PM emissions from stationary compression-ignition (CI) engines. MECA supports the analysis performed by ARB and we offer some additional comments in support of the staff's conclusions regarding the technological feasibility of diesel particulate filters (DPFs) and diesel oxidation catalysts (DOCs) to significantly reduce PM emissions from stationary CI engines.

*Technologies to Reduce Diesel PM Emissions*

Diesel particulate filters (DPFs) are commercially available today and have been successfully used in many applications, including stationary CI engines. High efficiency DPF technology can reduce PM emissions by up to 90 percent or more, ultra-fine carbon particles by up to 99+ percent and, depending on the system design, toxic HC emissions by up to 80 percent or more. Worldwide, over 1000 DPFs have been installed on stationary diesel engines. The development and application of emission control strategies for stationary diesel engines has been facilitated by the significant experience gained in applying these technologies to mobile sources. Over 100,000 on-road heavy-duty vehicles worldwide and in excess of 500,000 diesel passenger cars in Europe have been equipped with this technology. For nonroad engines, DPFs have been successfully installed and used on mining, construction, and materials handling equipment, as well as a smaller number of ferries and locomotives. DPF technology is also projected to be utilized on highway heavy-duty diesel engines sold in the U.S. beginning with the 2007 model year. Indeed, DPFs are currently available on selected on-road diesel vehicles in the U.S., Europe, and Asia. Also, a growing number of different filter system designs and strategies – both passive and active – are emerging.

Diesel oxidation catalysts (DOCs) are capable of reducing PM emissions typically in the range of 20 to 40 percent and can reduce toxic HC emissions by up to 70 percent or more. In the U.S., over 500 stationary diesel engines have been outfitted with DOCs. In addition, DOCs have been used in retrofit applications for mobile sources for over 30 years. Over 100,000 on-road vehicles and 250,000 off-road vehicles and equipment have been retrofitted with DOCs. In addition, over 50 million light-duty vehicles in Europe and over three million trucks and buses in the U.S. have been equipped with DOCs as original equipment.

Also, we agree with the ARB staff that the availability of CARB diesel fuel (i.e., 15 ppm sulfur diesel fuel) will be critical in order to meet the proposed PM reduction requirements.

*Emission Standards and Implementation Schedule*

MECA believes the proposed diesel PM reduction requirements for both new and in-use stationary CI engines are reasonable and will help achieve the 80 percent reductions in PM emissions by 2020 estimated by ARB in the Staff Report. Regarding the effective dates, MECA believes ARB's proposal sets out a reasonable timetable for implementation of the ATCM.

*Test Method*

As noted above, the primary concern of MECA members is the challenge of finding a reliable field measurement technique to use in demonstrating compliance at the

very low PM levels required by the proposed standards (e.g., 0.01 g/bhp-hr PM or 85 % PM reduction for in-use prime engines) that is as accurate as the full dilution methods used in traditional engine testing in controlled environments.

Test methodology, as well as technician variability, can cause significant variability in the test results, making it difficult to comply with the regulated levels. ARB's August 23, 2003 report entitled "Test Working Group for Stationary Diesel Engine PM Test Method Comparison" found that the PM measurement using Method 5 was more than twice that of ISO 8178 from the same stationary engine. Of the two tests, MECA members believe that the ISO 8178 test procedure or the 5-mode version of that procedure is a more appropriate field test method.

MECA believes the best approach for demonstrating compliance using emission control technology such as the DPF should be through the ARB verification process. Further, we recommend that a company seeking verification for its product should be able to demonstrate, through an engineering analysis, that its technology is applicable to a broad range of engine applications. We believe that source testing for verified products should be minimized and that, if a source test is used, we believe ISO 8178 or the 5-mode version of that procedure is the better test for this category of engines. In this regard, there is an inconsistency in the proposed rule because the engine manufacturer can demonstrate compliance using a full dilution method in a controlled environment, but the DPF manufacturer may be required to use a less accurate measurement technique to verify performance of the DPF.

We request that the Board revisit, if appropriate, the issues associated with field measurement of PM from stationary engines after the ARB staff and interested stakeholders have had the opportunity to continue the dialogue related to measurement issues.

**CONCLUSION**

In closing, we commend the Air Resources Board for its leadership in reducing emissions from stationary compression-ignition engines. We support, in general, the proposed regulations and we are committed to do our part to ensure that the emission control technology is available to help meet these standards. MECA members look forward to working with the ARB staff and Board, other interested stakeholders, and the local air quality districts to resolve the issues related to field test methods to demonstrate compliance with the proposed PM emission standards.

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