STATE OF CALIFORNIA
AIR RESOURCES BOARD

Public Hearing To Adopt California's	**)**	**Agenda Item: 06-8-5**
Heavy-Duty Diesel In-Use	**)**	
Compliance Regulation	**)**	**Hearing Date: September 28, 2006**

COMMENTS OF THE ENGINE MANUFACTURERS ASSOCIATION

Date: September 25, 2006

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Introduction

The Engine Manufacturers Association ("EMA") hereby submits its comments regarding the initial statement of reasons ("ISOR") that the California Air Resources Board ("ARB") published on August 11, 2006, relating to the proposed adoption of a California heavy-duty diesel in-use compliance testing regulation (the "Proposed HDIUT Rule"). EMA is the trade association that represents the world's leading manufacturers of internal combustion engines used in a wide variety of applications, including the diesel-fueled engines utilized in the heavy-duty on-highway ("HDOH") trucks that are slated for in-use testing under the Proposed HDIUT Rule.

The Negotiated HDIUT Outline

As with any ARB rulemaking impacting HDOH engines, EMA and its members have a direct and significant interest in the Proposed HDIUT Rule and the manner in which it will be finalized and implemented. EMA's interest is perhaps even more heightened in this case, since the Proposed HDIUT Rule stems from many months of detailed negotiations between EMA, EPA and ARB aimed at settling a number of significant legal issues and challenges relating to the group of emission control requirements referred to as "not-to-exceed" or "NTE" standards.

In 2000 and 2001, EMA initiated a series of legal actions challenging the NTE standards. The basic premise for those challenges was that the NTE standards were fundamentally unlawful, since there were no prescribed test procedures for engine manufacturers to utilize to demonstrate compliance with the NTE standards.

Following the initiation of EMA's legal challenges, EPA and ARB entered into negotiations with EMA to explore whether more detailed and uniform test procedures could be developed for establishing conformance with the NTE standards. Those negotiations ultimately led to the consideration of an in-use NTE compliance testing program, since the NTE standards are primarily directed at ensuring that engine emissions in-use do not vary in any significant manner from the level of engine emissions observed during the certification testing of engines under laboratory conditions.

One specific result from the parties' lengthy and complex NTE settlement negotiations was a 10-page outline for the establishment of a detailed regulatory program implementing a manufacturer-run in-use testing program to assess the real-world compliance of HDOH vehicles with the applicable NTE emission standards (the "HDIUT

Outline"). Under that HDIUT Outline, EPA and ARB expressly agreed to implement the type of specified and uniform test procedures that manufacturers had sought to enable them to demonstrate compliance with the NTE standards in a clear and definitive manner. Following the completion of the HDIUT Outline, EPA published a final rule establishing a manufacturer-run in-use NTE testing program based upon and consistent with the HDIUT Outline (the "EPA HDIUT Rule"). (See 70 Fed.Reg. 34594, June 14, 2005).

ARB was an active participant in the negotiations that led to the development of the HDIUT Outline. As a result of that participation, and pursuant to a Statement of Agreement and Accord ("SAA"), entered into by and among ARB, EMA, and certain of EMA's members in 2003, ARB agreed to propose a California HDIUT regulation in substantial conformance with the HDIUT Outline. The Proposed HDIUT Rule at issue in this rulemaking fulfills ARB's commitments under the SAA, and, if adopted as recommended by ARB Staff, will ensure a viable, nationwide program for the in-use NTE compliance testing of HDOH engines and vehicles, as envisioned and agreed to by the parties under the HDIUT Outline.

In-Use Testing Represents A Paradigm Shift

The critical importance of ARB implementing an in-use testing rule that is fully consistent with the letter and spirit of the HDIUT Outline cannot be overstated. The type of manufacturer-run in-use NTE testing program that is at issue in this rulemaking represents a true paradigm shift from the regulatory scheme that heretofore has been applied to control emissions from HDOH vehicles and engines. Previously, HDOH engine standards have been established with reference to highly specified engine development and testing processes that are carried out using engine dynamometers in carefully controlled and monitored engine laboratories. In addition, the technical feasibility of the underlying engine emission standards, as well as an engine's compliance with those standards, traditionally have been assessed through the use of specific engine duty cycles (designating specified engine speed and torque test points) that can be programmed into and run on engine dynamometers, again in a controlled and monitored laboratory environment (e.g. the federal test procedure or "FTP").

An in-use NTE testing program, by contrast, represents a fundamental break - - a paradigm shift - - from the traditional HDOH engine development and testing processes that have been in place for the past several decades. The NTE requirements are not the type of standards that can be assessed against a specifically prescribed dynamometer-based engine test cycle. Instead, the NTE standards apply to any 30-second increment of engine operating conditions under a very broad range of engine speed, load and ambient conditions that reasonably could be encountered in real-world operation. As a result, how a manufacturer conclusively "tests" for compliance with such loosely-defined NTE standards amounts to a fundamental break with the past and a very significant challenge in and of itself. Indeed, it was that very problem that prompted manufacturers' legal challenges to the NTE standards back in 2000 and 2001.

On top of the fundamental change (and challenge) posed by the very nature of the NTE standards, the proposed in-use compliance program also moves the testing of

engines away from the dynamometer and out of the laboratory. Instead of controlled, monitored and repeatable engine laboratory conditions, HDOH engine emissions will now be assessed with the engine installed in a heavy-duty truck as it is operated under completely uncontrolled and changing real-world driving conditions, and utilizing still-developing portable emissions measurement systems ("PEMS"). Manufacturers have never before faced this level of challenge in performing emission tests in uncontrolled real-world environments utilizing largely unproven PEMS. It is, in sum, a true paradigm shift that manufacturers are facing.

The In-Use Testing Program Must Be Implemented
And Administered On A Uniform Nationwide Basis

Due to the significant (in fact, unprecedented) challenges that engine manufacturers will face in implementing the Proposed HDIUT Program, it is vital that the in-use program be administered on a uniform and nationwide basis, without any unique or special provisions for particular jurisdictions, including California. To that end, the HDIUT Outline specifically includes a commitment by the parties to a single coordinated program. It is incumbent on both ARB and EPA, therefore, that they continue to work diligently together throughout the implementation of their respective Rules to ensure that their respective commitments to a single, nationwide in-use testing program are honored. EPA's own words on this point bear repeating:

> California's involvement in the development of this [in-use testing] program was critical in assuring that engine manufacturers are subject to a consistent national in-use NTE testing program. CARB intends to adopt an identical program soon. EPA and CARB expect to coordinate in the annual selection of engine families to be in-use tested and to work together in determining whether Phase 2 testing is warranted for engine families where the number of passing engines in Phase 1 does not automatically lead to no further testing. CARB has its own authority and decision process in determining remedial action, but CARB expects to work with EPA and manufacturers in this process. (70 Fed.Reg. at 34598.)

As the foregoing makes clear, EPA's and ARB's adherence to the critically important objective of assuring "a consistent national in-use testing program" is a condition precedent to the feasibility (not to mention cost-effectiveness) of the Proposed HDIUT Rule. Indeed, engine manufacturers expressly relied on the respective agencies' commitment to a uniform nationwide program in developing and agreeing to the HDIUT Outline, and in resolving the legal challenges to the underlying NTE standards. Thus, that cornerstone commitment to uniformity must remain in place in any final ARB rulemaking relating to in-use testing. Without it, establishment of the envisioned manufacturer-run in-use NTE testing program will not be possible.

ARB Lacks Clear Statutory Authority
To Mandate Unilaterally That Manufacturers
Undertake An In-Use Testing Program

Because of the daunting technical, not to mention financial, challenges that manufacturers necessarily will face in implementing an in-use NTE testing program, it is crucial, as noted above, that any final program not deviate from the HDIUT Outline that manufacturers, EPA and ARB carefully negotiated and developed over many months. Indeed, any material deviation from that Outline will occasion material issues concerning the feasibility and thus the implementation of an in-use testing program.

In this regard, it is important to note that ARB's authority to proceed unilaterally with a manufacturer-run in-use testing program without manufacturers' agreement and consent is, at best, questionable. More specifically, as EMA has stated on many occasions, including in the numerous meetings that led to the development of the negotiated HDIUT Outline, we do not believe that ARB has the unilateral authority to force engine manufacturers to implement an in-use emissions testing program. Outside of a duly-initiated enforcement or recall action, ARB's statutory authority to impose emissions testing requirements on manufacturers is limited to the testing of new motor vehicles and new motor vehicle engines during the certification process or during assembly line testing. (See Health and Safety Code, sections 43104, 43105, 43202, 43203, and 43210.) ARB has no similar authority to compel manufacturers to conduct emissions testing of in-use, used (non-new) motor vehicles and engines.

Reflective of the limitations on its regulatory authority, ARB's current regulations relating to in-use compliance testing place the responsibility and costs of conducting in-use testing on ARB, not on manufacturers. (See California Code of Regulations, title 13, sections 2111-2140.) And, as ARB expressly notes in the ISOR for the Proposed HDIUT Rule,

> The existing procedures require that trucks be taken out of service, have their engines removed, and then be installed on an engine dynamometer. It is a time consuming and costly process (roughly costing $250,000 per engine family). Primarily for this reason, ARB has not conducted any in-use compliance testing on HDDEs. (ISOR, p.v.)
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> If ARB did not take any action to adopt the proposed [HDIUT] requirements, it will still have the authority to conduct in-use compliance testing under its current in-use compliance regulations. Under those regulations, we [ARB, not manufacturers] would perform engine dynamometer testing. If ARB would test the same annual number of engine families as in the proposed

> [HDIUT] program, staff estimates the annual costs would be $4.5 million. (ISOR, p. 31.)

Accordingly, and in light of ARB's lack of any clear authority to adopt a manufacturer-run HDIUT program in the absence of manufacturers' agreement (as reflected in the SAA and the HDIUT Outline), it is critically important that ARB's Proposed HDIUT Rule remain fully consistent with the program that engine manufacturers have agreed to implement in accordance with the HDIUT Outline and the EPA HDIUT Rule.

ARB's Proposed HDIUT Rule Is Consistent
With The HDIUT Outline And The EPA HDIUT Rule

ARB has honored the letter and spirit of the SAA (and the related negotiations among the parties) in submitting the Proposed HDIUT Rule for Board approval. Specifically, ARB has made it clear that its Proposed HDIUT Rule is intended to be -- and is -- essentially identical to the EPA HDIUT Rule. The following statements from the ISOR confirm this intent:

> The proposed regulation would implement a manufacturer-run in-use compliance program for HDDEs based on an agreement among ARB, U.S. EPA, and engine manufacturers in May 2003…. The federal program is essentially identical to staff's proposal. (ISOR, p.vi.)

* * *

> Staff's proposed manufacturer-run compliance program is intended to be identical to the program adopted by the U.S. EPA in June 2005. This program would ensure compliance from a group of vehicles that affect California's clean air attainment goals and would harmonize both California and federal requirements. For example, engine family and vehicle selection, in-use testing protocol using PEMS, test data and results reporting, and vehicle pass determination are all identical to those adopted by the U.S. EPA in their rule. Only the following element of staff's proposal differ slightly with the federal program.
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> One of the elements of staff's proposal that may differ with the federal program is how ARB would evaluate the test data for determining compliance. Both U.S. EPA and ARB would coordinate engine family selection and receive the same test data and test results submitted by manufacturers after testing is completed. ARB would make its own interpretation and determination of test results based on the data submitted by manufacturers or in

> conjunction with other data generated by ARB from its own in-use testing. Thus, ARB's interpretation of manufacturer test results and pursuit of remedial action may be different from actions taken by the U.S. EPA. (ISOR, p. 21.)

Because the ARB's Proposed HDIUT Rule is essentially identical to the EPA HDIUT Rule, EMA and its members support the adoption of the Proposed HDIUT Rule. Adopting the Rule, as recommended by ARB staff, will complete the implementation of the SAA, and will establish a viable, ground-breaking manufacturer-run in-use NTE testing program that will ensure the real-world emissions benefits of advanced diesel engines and exhaust after-treatment systems. All of this, in turn, will continue to facilitate the deployment, validation and expansion of clean diesel technologies.

The HDIUT Program For PM Emissions Still Faces Significant Technological Hurdles

The ISOR correctly notes that further technological developments will be necessary before PEMS capable of making real-time, accurate measurements of particulate matter ("PM") emissions, as distinguished from gaseous emissions, will become commercially available. Accordingly, the HDIUT program as it relates to PM emissions will not be implemented on the same schedule as the program for gaseous emissions. Specifically, the "pilot program" for the in-use testing of PM emissions is not scheduled to commence until December of this year. (ISOR, p. 34.)

It remains highly unlikely that verified, sufficiently accurate and reliable PEMS for assessing real-time PM emissions in-use will be commercially available as of December 2006 – only three months from now. Accordingly, ARB should be aware that the implementation of the HDIUT program as it relates to PM emissions will in all likelihood be deferred (into 2007, and perhaps even 2008) to the point in time when robust and proven PEMS for PM have become commercially available. In that regard, the following statement from the ISOR should be duly noted:

> The proposed program would be enforceable beginning with 2007 model year HDDEs. But this assumes that the measurement accuracy margins have been determined and the two pilot programs for both gaseous and PM are either completed or at least underway to gain necessary experience before the start of the enforceable program. Thus, if major milestones slip, the enforceable program could be delayed. (ISOR, p. 34.)

With respect to the PM component of the HDIUT Program, ARB should anticipate that milestones will slip, and that the program will be delayed. That said, however, the HDIUT Program as it relates to gaseous pollutants is underway, on-track

and showing very promising results that underscore the truly significant value of this paradigm-shifting effort to assess HDOH engine emissions in-use.

Conclusion

EMA appreciates the opportunity to submit these comments relating to the Proposed HDIUT Rule. As noted above, the proposed in-use NTE testing program represents a fundamental and ground-breaking paradigm shift in the regulation and control of emissions from HDOH vehicles and engines. Accordingly, continuing cooperation among ARB, EPA and engine manufacturers will be necessary to accomplish that change in paradigm. For its part, and recognizing that many significant challenges still lie ahead, EMA looks forward to an ongoing collaborative effort with ARB and EPA to ensure that the negotiated in-use NTE testing program is implemented in a feasible, cost-effective and highly successful manner.

Respectfully submitted

ENGINE MANUFACTURERS ASSOCIATION

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