

October 3, 2006

Ms Annette Hebert  
Chief, Mobile Sources Operations Division  
California Air Resources Board  
El Monte, CA 91731

**Subject: Off-Road Diesel Air Toxic Air Control Measure**

Dear Annette:

After considerable discussion with CIAQC members and the Executive Director of the Manufacturers of Emission Controls Association (MECA), CIAQC has reached a consensus on a proposed alternative Off-Road Diesel ATCM for ARB staff consideration. We believe that it will be protective of human health and air quality while allowing regulated businesses to continue to grow, build California's infrastructure and create jobs.

The regulation outlined in the California Air Resources Board Staff's July 2006 *Regulatory Concepts* does not achieve these health, air quality or economic goals. The *Regulatory Concepts* are difficult to understand, impossible to comply with and would devastate the construction industry in California. Initial estimates of the direct nominal costs to comply with the Off-Road ATCM approach \$14 billion by 2010 and at least \$17 billion by 2020. The construction industry is unable to bear these costs, particularly the front-loaded costs.

Our members are among the most progressive construction companies in the state. They have made significant use of Carl Moyer Program funds, implemented aggressive preventative maintenance programs, and have done nothing short of demonstrating a willingness to participate in the development of emission reduction technologies. The fact that CIAQC members continue to struggle with the challenges of complying with the *Regulatory Concepts* indicates that our well-intentioned, but perhaps less-involved, colleagues in the construction industry will not be able to comply with your proposed ATCM and that they might not even be aware of its development.

The 2000 Diesel Risk Reduction Plan envisioned a 75% reduction in diesel particulate matter by 2010, a ten-year period, and an 85% reduction in diesel particulate matter by 2020, a twenty-year period. Since the Off-Road ATCM has not yet been adopted, CIAQC will recommend to CARB that ten and twenty-year periods from the date of adoption be established to achieve the goals of the 2000 Diesel Risk Reduction Plan and to extend the significant program costs.

Any Off-Road ATCM that forces California business owners to build their future business plans on technology that does not currently exist is not only optimistic, but extremely speculative. A failure of the market to deliver passively-regenerating Level 3 VDECS should not result in a requirement to prematurely replace, repower or retire tens of thousands of productive business assets.

With these matters-of-fact in mind, CIAQC strongly encourages CARB to launch a new series of meetings, workshops and public outreach efforts to establish an Off-Road ATCM that embraces the following concepts and recommendations:

- *Multiple workshops should be held in the Northern, Central and Southern areas of the state.*
- *CIAQC recommends that CARB allow VDECS emission reductions based on the actual verified reduction rate rather than an assumed 25% reduction for Level 1 VDECS, 50% reduction for Level 2 VDECS and 85% reduction for Level 3 VDECS.*
- *If NOx reductions are included in the Off-Road ATCM, this inclusion would represent an additional barrier to market entry for virtually all VDECS since they do not reduce NOx emissions.*
- *CIAQC recommends a goal of reducing fleet average PM emissions to a Tier 1 emissions level of 0.40 grams per brake horsepower hour by the year 2015.*
- *CIAQC recommends a goal of reducing fleet average PM emissions to a Tier 3 emissions level of 0.15 grams per brake horsepower hour by the year 2025.*
- *CIAQC believes that a well-crafted regulation should require a business to retrofit, repower or replace a piece of equipment only once over its operational life.*
- *Likewise, a company which installs a VDECS on an engine should not be required to replace that same engine at a later date unless that engine has reached the end of its operational life.*
- *The Off-Road ATCM should include annual **no-fee** reporting throughout the duration of the regulation so that program adjustments can be made if necessary and so emission reduction progress can be tracked.*
- *A single fleet identification number should be assigned to all equipment within a fleet rather than assigning unique engine identification numbers.*
- *Provide an economic hardship provision to extend compliance deadlines for economically disadvantaged contractors.*
- *CARB should be required to submit a report to its Board annually describing the success of enforcement efforts aimed at bringing non-participating companies into the Off-Road ATCM.*

Below we discuss further the rationale for each of the concepts and recommendations.

- **Extensive outreach to stakeholders.** *Multiple workshops should be held in the Northern, Central and Southern areas of the state. CARB must exhaust every effort to inform impacted industries, trade associations, environmental groups and members of the public of their opportunity to help craft the Off-Road ATCM in a way that is easy to read and understandable by all (perhaps using databases of business licenses, state tax data sorted by NAICS code or similar information). Notifications must be sent to the entire construction industry through trade and*

general media, by multiple direct mail, e-mail, faxes, web site postings and all other available media so that the problems a lack of outreach caused in the Portable Equipment Registration Program (PERP) are not repeated in the Off-Road ATCM.

The large attendance at the July 21, 2006 meeting, which was surprising to CARB, indicates that stakeholders are becoming aware of what is developing, are becoming concerned, want to participate and are willing to participate when well-informed. CIAQC and its members have conducted several outreach workshops to educate businesses subject to the Off-Road ATCM, with good results. As the Off-Road ATCM continues to develop, CIAQC is committed to continuing outreach to our members and will encourage our members to attend CARB's workshops throughout the state.

- **Development of Level 3 Verified Diesel Emission Control Systems (VDECS), without absolute reliance upon them.** During our September 13, 2006 meeting with Dr. Joseph Kubsh, the Executive Director of MECA, he indicated that, while some Level 3 VDECS may be developed for Tier 0 engines, most Tier 0 engines may never have an appropriate VDECS option. Dr. Kubsh was not optimistic that the number of VDECS envisioned in the Fleet Examples provided by Tony Brasil during our August 18, 2006 meeting would be verified and available for our members to purchase.

CIAQC members support crafting an Off-Road Diesel ATCM that encourages development of passively-regenerating Level 3 VDECS, particularly for Tier 0 Engines. We insist that these devices be extensively field-tested for each specific equipment application under the normal working conditions of our industry, rather than merely bench-tested, for verification purposes. Additionally, operator safety, safe equipment operation and visibility must be considered before requiring that a VDECS be installed on any piece of equipment.

Passive regeneration is critical because many of our members' projects are performed in remote or undeveloped areas where the power supply necessary to support active regeneration technologies is simply not available. *CIAQC recommends that CARB improve the Regulatory Concepts to allow VDECS emission reductions based on the actual verified reduction rate rather than an assumed 25% reduction for Level 1 VDECS, 50% reduction for Level 2 VDECS and 85% reduction for Level 3 VDECS.* This approach will incentivize the development of Level 1 VDECS that could achieve reductions of up to 45% and Level 2 VDECS that could achieve reductions of up to 80% that might otherwise not come to market because they cannot achieve Level 3 verification. This is consistent with the fleet average concepts. **Finally, it is worth noting that if NO<sub>x</sub> reductions are included in the Off-Road ATCM, this inclusion would**

**represent an additional barrier to market entry for virtually all VDECS since they do not reduce NO<sub>x</sub> emissions.**

While we believe most stakeholders agree that development of passively-regenerating Level 3 VDECS is mandatory to achieve the goals of the Off-Road ATCM; if this technology does not develop as we all hope public and private contractor equipment must not be rendered useless. Any Off-Road ATCM that forces California business owners to build their future business plans on technology that does not currently exist is not only unrealistically optimistic, but extremely speculative. This becomes a case of where, rather than mitigating risk, government *imposes* further risk on a business. A failure of the market to deliver passively-regenerating Level 3 VDECS should not result in a requirement to prematurely replace, repower or retire tens of thousands of productive business assets.

- **Maximize the benefits of advancing engine technology to achieve early NO<sub>x</sub> reductions.** CIAQC members have confidence in the advancement of clean engine technologies developed by major engine manufacturers. Tier 2 and Tier 3 engines have been developed and are currently being introduced into the California off-road fleet. Tier 2 and Tier 3 engines emit approximately 75% less diesel particulate matter (PM) than their Tier 0 counterparts. This is nearly the same reduction that would be achieved by retrofitting a Tier 0 engine with a Level 3 VDECS.

Tier 2 and Tier 3 engines also emit significantly less NO<sub>x</sub> than comparable Tier 0 engines. This NO<sub>x</sub> reduction benefit is not achievable by most VDECS. While CIAQC does not support the inclusion of NO<sub>x</sub> reduction requirements in the Off-Road ATCM, it is important to recognize that a well-crafted regulation can result in additional environmental benefits that might not be achieved otherwise. CARB should encourage adoption and penetration of a technology that creates synergistic improvements, even though it may not achieve the same reductions in a single pollutant. Such a holistic approach is more likely to deliver overall environmental improvements than a series of single-faceted initiatives.

*CIAQC recommends a goal of reducing fleet average PM emissions to a Tier 1 emissions level of 0.40 grams per brake horsepower hour by the year 2015. This will allow much greater market penetration of Tier 2 and Tier 3 engines into the California off-road fleet. This goal would reduce diesel particulate emissions by approximately 70% from Tier 0 emission levels, maintain the existing Tier 1 fleet, preserve the benefits of millions of California taxpayer dollars already expended in the form of Carl Moyer funding used to finance the purchase of Tier 1 engines, allow time for Level 3 VDECS technology to develop and gain the NO<sub>x</sub> reduction*

benefit associated with the use of Tier 2 and Tier 3 engines. This approach will also sustain the availability of Carl Moyer Funding so that small and medium-sized contractors can take advantage of this successful program. Since its inception more than \$24 million of Carl Moyer Funding has been allocated to off-road equipment retrofits. As a result, approximately 2.9 tons per day of NO<sub>x</sub> and 0.16 tons per day of PM have already been eliminated. These reductions will remain in place throughout the useful life of the equipment.

*CIAQC recommends a goal of reducing fleet average PM emissions to a Tier 3 emissions level of 0.15 grams per brake horsepower hour by the year 2025. This goal would allow the introduction of Tier 4 engines into the California off-road fleet and the application of these engines into earlier-tiered machines. The introduction of Tier 4 engines will, similar to Tier 2 and Tier 3 engines, utilize a technology being developed by major engine manufacturers to significantly reduce not only diesel particulate emissions, but NO<sub>x</sub> emissions as well.*

- **Expend resources on a piece of equipment only once.** *CIAQC believes that a well-crafted regulation should require a business to retrofit, repower or replace a piece of equipment only once over its operational life. For example, a company should not be required to put a VDECS on a Tier 1, Tier 2 or Tier 3 engine if that engine was purchased to replace a lower-tier engine. A VDECS is not a “one size fits all” solution. According to VDECS manufacturers, virtually every project is a “custom” installation. The devices are costly and require frequent maintenance. Device cleaning results in the generation of a hazardous waste that must be disposed of properly at additional expense to the operator.*

*Likewise, a company which installs a VDECS on an engine should not be required to replace that same engine at a later date unless that engine has reached the end of its operational life. Companies that have been proactive in repowering their unregulated off-road equipment with Tier 1 or Tier 2 engines should be exempt from any further regulation until the equipment has reached the end of its operational life. An additional regulation only duplicates the costs for this equipment and creates an unnecessary financial burden on the equipment operator.*

- **Require reporting to assess actual inventories and emissions.** *CIAQC believes that the actual statewide off-road equipment inventory remains in question. The Off-Road ATCM should include annual **no-fee** reporting throughout the duration of the regulation so that program adjustments can be made if necessary and so emission reduction progress can be tracked. In conjunction with interested stakeholders, CARB must develop a simple-to-use mechanism which is available both in hard-copy and electronic form to support the reporting program. CIAQC*

will work with CARB as a part of an advisory group to establish the annual reporting mechanisms necessary to support the Off-Road ATCM.

- Sequential/Unique Engine Identification Number should be replaced with Owner Equipment Number. Engines will be changed, but equipment will remain constant. Engines will be replaced with equivalent or cleaner engines. One fleet identification number should be assigned to all equipment within a fleet.
- **Provide an economic hardship provision to extend compliance deadlines for economically disadvantaged contractors.** CIAQC would like to work with CARB to develop a “black and white” definition which will create the parameters establishing “economic hardship”. To assist in this effort, CIAQC has retained an economic-analysis firm well known for its work on California’s environmental policies that will conduct an analysis of the direct cost impacts to the construction industry of CARB’s proposal as well as any alternatives, including those developed by CIAQC. This analysis will take about two and a half months to complete.
- **Create a fair and equitable enforcement mechanism.** The goals of the Off-Road ATCM will never be achieved without balanced enforcement. The enforcement mechanisms developed must include some checks on operators who comply with the reporting program we advocated earlier in this letter. However, the majority of enforcement activities must be focused upon companies that make little or no attempt to comply with the regulation. Non-compliance creates competitive advantages that cannot be tolerated given the significant costs associated with the Off-Road ATCM. *CARB should be required to submit a report to its Board annually describing the success of enforcement efforts aimed at bringing non-participating companies into the Off-Road ATCM.* The Off-Road ATCM must not result in enforcement actions in cases where sufficient VDECS or new engines are not available from manufacturers.

While many details need to be worked out, CIAQC believes that an Off-Road ATCM that embraces these basic principles will result in emission reductions that should be fully supported by the environmental community. These reductions will be costly to our industry under the best of circumstances. They will cause the cost of road, highway, housing and other infrastructure projects to increase throughout the state. However, if the approach is reasonable and the costs can be absorbed over an extended period of time, the goals outlined in these principles are achievable.

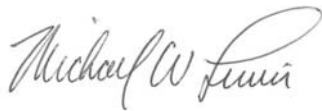
Finally, CIAQC has begun to review the inventory information supplied by CARB. We generally agree with the 2000 inventory. However, our member’s inventories reflect a higher percentage of Tier 0 equipment in 2005 than indicated in the CARB inventory. We would like to

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meet with you so we can better understand CARB's assumptions regarding fleet growth projections, the high percentage of Tier 4 engines in the 2020 inventory and the complete loss of approximately 40,000 Tier 0 engines from the statewide inventory between 2000 and 2005. We believe many of these Tier 0 engines may not have been eliminated, but have merely changed hands and are continuing to operate in California.

We look forward to continuing to work towards an effective and reasonable Off-Road ATCM. If you have any questions, please call me at (626) 858-4611.

Sincerely,



Michael Lewis,  
Senior Vice President  
Construction Industry Air Quality Coalition

The following organizations and companies have participated in the development of this alternative:

Construction Industry Air Quality Coalition  
Associated General Contractors of California  
Building Industry Association of Southern California  
Engineering Contractors Association  
Southern California Contractors Association  
Southern California Rock Products Association, Associate Member

Associated General Contractors of San Diego  
Building Industry Association of San Diego County  
California Mining Association  
Construction Materials Association of California  
Engineering & General Contractors Association  
Engineering & Utility Contractors Association  
Mobile Crane Operators Group  
Red Mountain Machinery  
Sukut Construction, Inc.  
Teichert Inc.