APCD
AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN DIEGO

Air Pollution Control Board

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April 8, 2008

TO: Meeting Participants and Other Interested Parties

DISCUSSION OF IMPLEMENTATION OF THE AIRBORNE TOXIC CONTROL MEASURE FOR DIESEL PARTICULATE MATTER FROM PORTABLE DIESEL-FUELED ENGINES RATED AT 50 HORSEPOWER AND GREATER

On June 28, 2005, the Air Pollution Control District conducted a public workshop to receive comments and questions regarding District implementation of the California Air Resources Board's (ARB) Airborne Toxic Control Measure (ATCM) for Diesel Particulate Matter from Portable Diesel-Fueled Engines Rated at 50 Horsepower and Greater (Sections 93116-93116.3, Title 17, California Code of Regulations). During the District's implementation process, ARB adopted emergency amendments to the ATCM, causing a delay in the District's release of this Workshop Report. The attached report contains the comments and questions received and the District's responses. The District responded to the comments received based of the current effective version of the ATCM.

If you have any questions regarding the attached report or the ATCM, please call Cara Bandera at (858) 586-2751 or John Annicchiarico at (858) 586-2733.

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RMA:CB:jlm

Attachments

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AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN DIEGO

AIRBORNE TOXIC CONTROL MEASURE (ATCM) FOR DIESEL PARTICULATE MATTER FROM PORTABLE DIESEL-FUELED ENGINES RATED AT 50 HORSEPOWER AND GREATER

WORKSHOP REPORT

A workshop notice for implementation of the Airborne Toxic Control Measure (ATCM) for Diesel Particulate Matter from Portable Diesel-Fueled Engines Rated at 50 Horsepower and Greater (Title 17 of the California Code of Regulations (CCR), Section 93116 through 93116.5) was mailed to all known individuals who have portable diesel-fueled engines registered with the State or the District, and operated in California. Notices were also mailed to all Economic Development Corporations and Chambers of Commerce in San Diego County, the San Diego Farm Bureau, the U.S. Environmental Protection Agency (EPA), the California Air Resources Board (CARB), and other interested parties.

A workshop was held on June 28, 2005. Thirty (30) people attended the workshop. Oral comments were received during the workshop from affected persons.

The comments and District responses are as follows:

1. WORKSHOP COMMENT

Are engines that are driving cranes at shipyards subject to this regulation?

DISTRICT RESPONSE

This statewide regulation applies to all portable diesel-fueled engines rated at 50 brake-horsepower (bhp) and greater. The ATCM defines a portable engine as an engine that is designed for and capable of being carried or moved from one location to another, including different locations at the same facility. The engine is not considered portable if it remains at one location for longer than 12 months, or during the full annual operating period of a seasonal source, or is moved only in an attempt to circumvent the portable diesel engine ATCM requirements. A location is defined as any single site at a building, structure, facility, or installation. Therefore, if the crane engine meets the definition of a portable engine, then it must comply with this regulation.

Local District rules consider each facility as a single location. Therefore, equipment that moves around within a facility but remains at that same facility, is considered to be stationary pursuant to local District rules. By contrast, pursuant to the statewide ATCM, this same equipment would be considered portable. Consequently, a crane engine may have a stationary engine permit from the District, but must also comply with the portable diesel engine ATCM. However, under certain circumstances an owner may request that a crane engine be considered stationary under the ATCM.

2. WORKSHOP COMMENT

Are engines located on floating dry docks subject to this regulation?

DISTRICT RESPONSE

An engine located on a floating dry-dock, which is capable of being moved and is moved at least once every 12-months for operation purposes, would be considered a portable engine. Therefore, as long as the engine continued to meet the definition of portable, it would be subject to this regulation. Also, see response to Comment No. 1.

3. WORKSHOP COMMENT

Can biodiesel be used in engines that are subject with this regulation?

DISTRICT RESPONSE

Blends of 20% biodiesel or less and CARB diesel can be sold and marketed in California as CARB diesel fuel, provided the biodiesel blend meets CARB specifications for aromatic and sulfur content and ASTM D975 for diesel fuel, as required by the Division of Measurement Standards. If such a fuel meets these specifications, then it may be used in portable diesel-fueled engines as CARB diesel. A common example is 20% biodiesel and 80% CARB diesel commonly know as B20.

The regulation requires that diesel-fueled portable engines in California only use CARB diesel fuel, or an alternative diesel fuel, or CARB diesel fuel with a fuel additive. However, it also requires that alternative diesel fuel and fuel additives first be verified by CARB through the Verification Procedure for In-Use Strategies to Control Emissions from Diesel Engines. Any fuel with more than 20% biodiesel is classified as an alternative diesel fuel and therefore, cannot be used in a portable engine unless first verified by CARB. The only exception, pursuant to CARB policy, is for engines that were using biodiesel prior to the effective date of this regulation, which may continue to use biodiesel fuel.

4. WORKSHOP COMMENT

Is the California Air Resources Board in the process of verifying any biodiesel fuel or CARB diesel and biodiesel blends?

DISTRICT RESPONSE

Currently, no biodiesel or CARB diesel and biodiesel blends have been, or are in the process of being, verified by the California Air Resources Board for use in diesel-fueled portable engines in California. Verification requires a warranty be granted by the biodiesel producer and thus far, no

biodiesel manufacturer has granted the warranty. Verification also requires that nitrogen oxide emissions do not increase by more than 10 percent. Some testing shows that biodiesel unblended with diesel may increase nitrogen oxide emissions by more than 10 percent. In addition, a biodiesel fuel would have to achieve a particulate matter emission rate reduction of at least 25% to be considered for Level 1 verification as a particulate matter control strategy, and most biodiesel blends do not achieve this great of a reduction of particulate matter.

5. WORKSHOP COMMENT

When determining fleet averages and deciding what engines to include in the fleet average, is it correct that stationary engines are not included in the fleet average calculation?

DISTRICT RESPONSE

Yes, this regulation only applies to portable diesel-fueled engines rated at 50 bhp or greater. Stationary diesel engines are not included when calculating a fleet average. Also, see response to Comment No. 1.

6. WORKSHOP COMMENT

For emergency engines, can an owner or operator comply with the regulation by simply restricting the maintenance and testing hours per year?

DISTRICT RESPONSE

In contrast to the stationary diesel ATCM, there is no compliance option for emergency engines to simply reduce maintenance and testing hours. To comply with the regulation, emergency engines must be certified to a CARB or EPA non-road engine standard by January 1, 2010, or commit in writing to replacing the engine with a Tier 4 engine within 2 years of availability of Tier 4 engines. By 2020, emergency engines that are not already a Tier 4 engine must either be replaced with a Tier 4 engine or equipped with control equipment that is verified by CARB to achieve at least an 85% diesel particulate matter (PM) emission reduction.

7. WORKSHOP COMMENT

How does an engine qualify as a low-use engine for purposes of this regulation?

DISTRICT RESPONSE

Portable diesel-fueled engines that operate 80 hours or less in a calendar year qualify as low-use engines under this regulation. These engines must meet the emission standard requirements for low-use engines.

8. WORKSHOP COMMENT

What is an SCR system?

DISTRICT RESPONSE

An "SCR system" is an air pollution emissions control system that utilizes a catalyst to reduce oxides of nitrogen (NOx) emissions through the selective catalytic reduction (SCR) with nitrogen-containing compounds, such as ammonia or urea, injected into the exhaust stream.

9. WORKSHOP COMMENT

Will the District develop a reporting form to be used for fleet averaging calculation when facilities are required to submit fleet averaging reports?

DISTRICT RESPONSE

When fleet averages are required to be submitted to CARB in 2013, most likely either CARB or the District will develop a form to be used for calculating fleet averages. The District will mail advisories relating to rule requirements and available forms, as the applicable compliance dates in the ATCM are approached.

10. WORKSHOP COMMENT

Are Tier 3 or Tier 4 engines currently available for purchase?

DISTRICT RESPONSE

For engines in the horsepower range of 50-100, Tier 3 engines became available in 2008, and Tier 4 engines will be phased in from 2008-2013. For engines in the 100-175 horsepower range, Tier 3 engines became available in 2007, and Tier 4 engines will be phased in from 2008-2013. For engines in the 175-750 horsepower range, Tier 3 engines were available in 2006, and Tier 4 engines will be phased in from 2011-2014. For engines greater than 750 horsepower, there will not be Tier 3 engines, and Tier 4 engines will be phased-in from 2011-2015.

11. WORKSHOP COMMENT

How can industry make a profit on engines when the standards change so quickly? Are CARB and EPA working with engine manufacturers to meet these standards?

DISTRICT RESPONSE

The District understands that EPA worked closely with engine manufacturers during the development of EPA's non-road engine standards. CARB, for the most part, has adopted EPA's non-road standards as California's off-road engine standards. These standards are phased-in over many years to give engine manufacturers enough time to recover the cost of the research and development to meet each new standard.

12. WORKSHOP COMMENT

Do subcontractor's engines fall under a facility's fleet average?

DISTRICT RESPONSE

Subcontractor engines are generally not included in another owner's fleet average. For the purposes of this regulation, a fleet is defined as a group of portable engines that are owned and managed by an individual operating entity such as a business, business unit within a corporation, or individual city or state department under the control of a Responsible Official. A Responsible Official is defined as an individual employed by the company or public agency with the authority to certify that the portable engines under his/her jurisdiction comply with the requirements of the regulation. Under this definition, a company may have more than one Responsible Official and more than one fleet. The definition of fleet also states that portable engines owned by different business entities that are under the common control of only one Responsible Official are to be treated as a single fleet. Therefore, only if a subcontractor's engines are controlled by the same Responsible Official would they be included in the facility's fleet average.

13. WORKSHOP COMMENT

Can a company have two fleets at the same facility?

DISTRICT RESPONSE

Yes, if each fleet has a different Responsible Official, a company can have more than one fleet at a facility. See also response to Comment No. 12.

14. WORKSHOP COMMENT

Are engines under 50 brake horsepower included in this regulation?

DISTRICT RESPONSE

No. This rule only applies to portable diesel-fueled engines that are rated at 50 brake horsepower and greater.

15. WORKSHOP COMMENT

What about engines in a fleet that are under 50 brake horsepower? Are they still subject to registration? Are they included in fleet averaging?

DISTRICT RESPONSE

The District currently does not require engines less than 50 brake horsepower to have a permit or registration. Since these smaller engines are not subject to the regulation, they are not included in the fleet average calculations. See also response to Comment No. 14.

16. WORKSHOP COMMENT

What is the process for getting a permit or registration with the District for a portable diesel-fueled engine?

DISTRICT RESPONSE

Portable engines that will only operate in San Diego County and meet the current emissions standards for new off-road engines are eligible for portable equipment registration with the District. The District's General Application Form (App116) and the appropriate Certificate of Registration Form must be submitted to the District along with the required fee. Once the completed forms have been received, the fee paid, and compliance with applicable rules verified, the applicant receives their registration for the first year of operation. Each year thereafter, the District will mail a renewal invoice and after the renewal fees are paid, a new registration will be sent to the registration holder.

Portable engine owners/operators may also register their engines with CARB under the Portable Equipment Registration Program (PERP). Engines with a valid PERP registration may operate anywhere throughout California, including San Diego County. Additional information on the PERP may be found on CARB's website at: http://www.arb.ca.gov/portable/portable.htm

17. WORKSHOP COMMENT

For engines that are currently operating without a permit or registration, are they eligible for registration or permitting today?

DISTRICT RESPONSE

Engines currently operating without a permit or registration are eligible for registration or permitting after January 1, 2006, only if the engine meets the current emissions standards for new off-road engines at the time of registration. For example, all engines below 750 hp that

submit an application for a registration today, must meet the Tier 3 engine certification standards. If an application is submitted today for an engine 750 hp or greater, that engine must meet Tier 2 engine certification standards. One exception to this requirement is certified engines that operated in California between March 1, 2004 and October 1, 2006, may register in the State PERP until December 31, 2009.

18. WORKSHOP COMMENT

What is a "normal" time frame for receiving a portable engine registration from the District?

DISTRICT RESPONSE

Registration for portable engines in San Diego County is an "over-the-counter" registration. If an applicant has all the required paperwork completed, appropriate fees submitted, and the engine meets the requirements of District Rule 12.1 and the ATCM, then it takes about 15-20 minutes to receive a registration. The applicant is immediately given the first year registration and will be invoiced annually for registration renewal. Applications that are mailed into the District are processed within 3 days.

19. WORKSHOP COMMENT

What are the advantages and disadvantages of registering an engine with the District versus registering the engine with CARB?

DISTRICT RESPONSE

Registrations issued by the District are only valid in San Diego County, whereas registrations issued by the State are valid everywhere in California. It is less expensive to register an engine with the State than with the District. Another advantage of registering an engine with the State is that the engine can later be sold for use outside of San Diego County, and a change of ownership submitted by the new owner without the engine having to meet emission standards for a new engine.

In addition to the ATCM, an engine registered with the District must meet the requirements of Rule 12.1, and an engine registered with the State must comply with the Portable Equipment Registration Program (PERP) requirements. An engine cannot be registered both with the District and the State because a valid State registration makes the local District registration null and void. The conditions on the State or District registration must be followed at all times. On average, it takes less time to receive a District registration compared to a State registration, but once a complete application is submitted to the State, the engine can operate in San Diego County until the PERP registration is received or denied.

20. WORKSHOP COMMENT

What is included in fleet averaging for this regulation?

DISTRICT RESPONSE

Each fleet subject to this regulation must comply with a weighted average PM emission fleet average expressed as grams per brake horsepower-hour (g/bhp-hr). The fleet average is divided into three different horsepower ranges, less than 175, 175-749, and greater than 750. Each horsepower range has a fleet average that must be met by 2013, 2017, and 2020, with the limit successively becoming more stringent.

The fleet must include all portable engines under control of the Responsible Official with the exception of emergency engines, low-use engines, lattice boom cranes, and some engines equipped with SCR. The fleet average is calculated by the summation of each portable engine's brake horsepower multiplied by their PM emission factor, and then divided by the summation of the brake horsepower of each engine in the fleet. After the fleet average is calculated, it can be revised when grid power is used for more than 200 hours in lieu of using a portable diesel-fueled engine, for alternative-fueled engines, and portable diesel-fueled engines certified to a Tier 4 non-road engine standard added to a fleet prior to January 1, 2015.

21. WORKSHOP COMMENT

There are three agencies that permit a diesel engine/tank: the Department of Environmental Health, Fire Department, and the District. These agencies all regulate the same equipment. It seems like these inspections and permits could all be combined.

DISTRICT RESPONSE

Each agency must issue permits based on its own authority, rules, and regulations. The District permits the engine, but does not permit diesel fuel tanks. The Department of Environmental Health and the Fire Department permit the diesel fuel tank. At one time, the County did try coordinating the inspections between all three agencies, but determined a coordinated inspection did not save time or money because it still required three inspectors and coordinating inspection schedules proved difficult. The County is always looking into ways to improve efficiency, but unfortunately, there is not a better way at this time.

22. WORKSHOP COMMENT

Why are our clients being cited for not having records onsite of where they purchased their fuel when the only fuel that can be purchased in San Diego is CARB diesel fuel?

DISTRICT RESPONSE

The District requires verification that diesel fuel is CARB diesel fuel because at the present time, non-CARB diesel fuel can be sold in California for other uses such as in marine vessels. Diesel fuel may also be purchased in Arizona or Mexico that is not CARB diesel fuel.

Records for fuel purchase can consist of anything in writing that shows CARB diesel was purchased and used to fill the engine tank. The records for CARB diesel fuel purchased can be kept at a central location rather than at each individual engine with the written approval of the District.

23. WORKSHOP COMMENT

For engines that are not used often and may have had fuel sitting in their tanks for years, do the tanks have to be emptied if they do not contain CARB diesel fuel?

DISTRICT RESPONSE

The regulation requires that all portable diesel-fueled engines use only CARB diesel fuel or a verified alternative diesel fuel, or CARB diesel fuel with a verified fuel additive. Therefore, to comply with the regulation, the fuel tank would have to be emptied if it does not already contain CARB diesel fuel. In July 2006, ultra-low sulfur diesel (15 ppm or less) began being phased-in as CARB diesel fuel. Tanks that contained CARB diesel fuel, but not ultra-low sulfur CARB diesel fuel, do not have to be emptied as long as only CARB diesel fuel is added to the tank. See also response to Comment No. 3.

24. WORKSHOP COMMENT

Is anyone testing certified engines? Can engines be tested to show that emissions meet the certification level even if the engine itself is not a certified engine?

DISTRICT RESPONSE

The regulation requires that all portable diesel-fueled engines are certified engines by 2010. The regulation does not allow for engines to meet the certification tiered standards in lieu of being a certified engine. One exception to this requirement is for emergency engines and low-use engines, which may commit to replacing uncertified engines with a Tier 4 engine within 2 years of availability of Tier 4 engines. Upon District approval, lattice boom cranes may also be exempt from the 2010 requirement to be a certified engine.

CB:jlm
04/08/08