California Council for Environmental and Economic Balance

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July 16, 2007

Via Electronic Transmittal
http://www.arb.ca.gov/regact/2007/perp07/perp07.htm

Ms. Lori Andreoni, Clerk of the Board
California Air Resources Board
1001 I Street
23rd Floor
Sacramento, CA 95812

Regarding: **"*Notice of Public Availability of Modified Text for the Public Hearing to Consider Proposed Amendments to the Statewide Portable Equipment Registration Program and the Airborne Toxic Control Measure for Diesel Fueled Portable Engines*"**

Dear Ms. Andreoni,

At the Board's hearing on March 22, 2007, the California Council for Environmental and Economic Balance (CCEEB) submitted comments and proposed amendments to address concerns regarding the application of the ATCM for portable engines.[1] The focus of our comments related to the need for language to allow statewide Portable Equipment Registration Program (PERP) registration of **low-use and emergency use** resident Tier 0 and certified non-resident portable engines. Our desire was to enable businesses such as telecommunications companies to operate existing low-use portable engines in response to non-traditional emergencies, such as equipment power failures and "threats of emergencies" that did not meet Board definitions. At that time the Board directed staff to work with CCEEB for changes to the proposed regulations that could be accommodated through the 15-day public comment period (see March 22, 2007 Board Hearing Transcript pages 234 – 243)

CCEEB met with Stationary Source Division Chief Robert Fletcher and his staff and also discussed our concerns by telephone on several occasions to discuss our proposed language and its intent for these low-use portable engines. On or about May 28, 2007, Chief Fletcher verbally informed us that the changes we requested had been rejected.

The purpose of these comments is to reiterate our request to the Board to restore the language in the ATCM so that low-use portable engines can be included in the statewide PERP and avoid unnecessary and unreasonable administrative burdens for staff, local air districts and businesses without any perceptible improvement in air quality in the state. Additionally, as described below, the cost impact from the proposed language is prohibitively high.

[1] A copy of CCEEB's letter can be found at www.arb.ca.gov/lists/perp07/15-cceeb_comment_letter_on_perp_reg_-_atcm_031907.doc

Need to respond to *Non-traditional* Emergencies

The proposed regulation allows any portable engine to be used in the state during an "Emergency Event," defined as "…refers to a situation arising from a sudden and reasonably unforeseen natural disaster such as an earthquake, flood, fire or other acts of God, or other unforeseen event that requires the use of portable engines to help alleviate the threat to public health and safety." This definition does not, for example, address the telecommunications industry's need to strategically deploy low-use portable equipment at short notice in the event of a power or equipment failure, or if there is a terrorist or technological *threat of emergency* to telecommunications networks or systems. Such events may require resident Tier 0 or non-resident certified portable engines to be deployed in the state to mitigate such risks.

Costs of Strict Application of the ATCM for Portable Equipment Are Unreasonable For Low-use Engines and Do Not Provide a Perceptible Decrease in Health Risk

In a memo to Mr. Fletcher, dated June 1, 2007 (Attachment 1), CCEEB reiterated in writing CCEEB's objectives discussed in prior meetings with ARB staff. In a subsequent e-mail to Mr. Fletcher, dated June 27, 2007 (Attachment 2) we provided cost calculations for the replacement of Tier 0 engines that serve an essential public service (telecommunications) in a very low-use capacity.

Based on our calculations, the cost to replace these very low-use back-up generators that perform an essential public serve is $861,952.24/Ton of PM reduced. The telecommunications providers in the state own an estimated 500 portable engines. Engines range in size from less than 50 brake horsepower (bhp) to over 2,500 bhp. California's primary telecommunications provider owns approximately 250 portable engines. On average these engines operate less than 20 hours per year. Board staff estimates that portable engines that are <u>not</u> low-use operate on average 450 hours per year.

The increase in health risk for Tier 0 low-use engines operated for less than 20 hours per year is imperceptible. However as proposed, companies would be forced to replace engines at a great cost for no pollution reduction. Assuming annual operation of these low-use portable engines at 20 hours for engines 500 bhp in size, emitting PM at a rate of 1 g/bhp-hr, the approximately 50 low-use non-certified portable engines in the state used by California's major telecommunications provider would contribute a <u>statewide</u> average emission of 3.03 lb/day of PM.

Impact of Excluding Low-use Resident Tier 0 and non-resident certified engines from PERP

ARB's proposed regulation would effectively require any non-certified, Tier 0 low-use portable engine that is not already registered to be replaced, rather than retrofitted, as retrofitting is typically infeasible for such engines. Our cost calculations are included in an attachment to the June 27, 2007 e-mail referred to above. CCEEB believes that the $861,952.24/Ton of PM reduced over a 10 year useful life of the engines is unreasonably high for the pollution reduction benefit.

For the reasons discussed above, CCEEB respectfully renews its request that the Portable Diesel ATCM be amended to allow registration of resident Tier 0 and non-resident certified low-use or emergency portable engines under the statewide Portable Equipment Registration Program until January 1, 2020.

Thank you for your consideration.

Sincerely,

Allan Lind

cc. Members of the Air Resources Board
Mike Scheible, Acting Executive Officer
Robert Fletcher

Attachment 1

June 1, 2007

Memo

TO: Bob Fletcher

FR: Allan Lind

RE: **Follow-up to our meeting on the ATCM for Portable Engines**

Bob,

Thank you for the voice-mail earlier this week indicating that CCEEB's proposed amendments to the ATCM for Diesel Particulate Matter from Portable Engines greater than 50 horsepower have been rejected. This is, of course, disappointing but not entirely unexpected. As you have suggested, we are considering the option of filing a comment letter during the 15-day comment period following your release of the proposed final ATCM.

I did want to follow up on our meeting last week to address what could be an inadvertent misunderstanding as to the seriousness of the situation as we see it.

First, I think we got a little too caught up in the use of the Super Bowl as an example of a situation that might present a need for greater flexibility in the proposed PERP ATCM. Such an example is admittedly an isolated case. It would have been more pertinent to focus on the relationship between non-certified low-use portable engines and the limited utilization of such equipment in case of emergencies affecting core functions of the telecommunications industry.

While the functionality of telecommunications systems operating in California is protected through a multi-layer system of reliability measures, the last line of defense against the unpredictable event (catastrophic or otherwise) is the strategic deployment of low-use portable equipment. CCEEB believes the ARB has miscalculated the significance of this use in terms of the public health risk and the costs of complying with the ATCM. Before rejecting changes suggested by CCEEB to the proposed ATCM, we believe ARB should consider several questions:

- ✓ How many sites in the state's telecommunications network need protection?
- ✓ How many low-use portable power engines are needed to protect the network?
- ✓ How long might these low-use portable engines routinely operate?
- ✓ Where might these low-use portable engines be likely to operate and what emission impact will such operation cause?
- ✓ Is it cost-effective to prohibit the operation of non-certified low-use portable engines to the detriment of the state's telecommunications network?

CCEEB believes that the cost-effectiveness of the proposed ATCM, when applied to the use of non-certified engines in the very low-use situation of the telecommunications industry is unsupportable. The following information explains how we arrive at this conclusion.

<u>California's Telecommunication Network</u>

In California, telecommunications providers operate in excess of 7000 facilities. As providers of essential public services, state and federal law require approximately 3,000 of these facilities to be supported by back-up power to continue uninterrupted service in the event of a commercial power failure. These facilities include network operation centers, data and web-hosting centers, centralized and remote telecommunication switching offices, fiber optic relay stations, radio relay stations, and Trans-Pacific cable stations. It cannot be stressed enough that reliability and security for reliable telecommunications services are essential in today's world.

Uninterrupted electrical supply at each facility address three needs: 1) stable direct current (DC) power to ensure uncorrupted flow of voice, data and video information through sensitive telecommunications equipment, 2) power for HVAC systems to maintain required operating temperatures for installed telecommunications equipment., and 3) ensuring that the facilities, especially unmanned locations, are secure from domestic and foreign threats. California's telecommunications providers use stationary and portable standby generators, some of which are non-certified, as a last resort for electric power to ensure that the telecommunications network does not fail.

At larger facilities, when commercial power is disrupted (e.g., a tree limb falls on a power line during a storm or if the local power utility's distribution system experiences an unplanned outage), back-up generators provide electrical power to the batteries and critical building systems until commercial power is restored. At smaller facilities the battery systems alone sustain the stable electrical needs of the switching equipment for 4 to 8 hours. Unless and until primary electrical power is restored, a low-use portable engine is deployed to provide backup power at these facilities so that the reliability and security of the system is not compromised.

The staging of low-use portable engines is predicated on the ability to transport engines of varying sizes to locations before the batteries reach a critical discharge condition. Low-use portable engines are most often deployed in rural areas where the power grid tends to be less reliable.

Example: Fiber Optic Relay Stations Must Be Fail-Safe

The need for these low-use portable engines is perhaps best illustrated by the requirements of California's extensive and growing fiber optic network. Fiber optic networks require regeneration of light beams about every 50 miles. There are presently over a thousand such sites in California where such an energy boost is required to take place. An extended power outage to any one fiber optic relay station in California's network is simply not an option.

Many of these sites are located in remote areas away from any population yet the volume of voice, data and video traffic transmitted through these remote stations is no different than the volume of traffic transmitted through a site in the middle of a large urban center. It is important to recognize that the operational integrity of the primary trans-pacific fiber optic cable system connecting Japan and the United States becomes the responsibility of California's telecommunications companies when that cable system comes ashore in a remote stretch of northern California coastline. The failure of a remote station, then, is no less significant than the failure of an urban center station in terms of the affect on the lives, commerce and public interests of persons, businesses and governments literally around the globe.

Number of Low-use Portable Engines Protecting California's Telecommunications System

Telecommunications providers in the state own an estimated 500 portable engines. Engines range in size from less than 50 brake horsepower (bhp) to over 2,500 bhp. California's primary telecommunications provider owns approximately 250 portable engines to support approximately 3,000 facilities (about 20 percent of these engines are non-certified low-use portable engines). This 1:12 ratio of portable engines-to-protected sites has ensured the integrity of California's telecommunications systems through every natural disaster, bolt of lightning or fallen tree limb for the past several decades. Real-time experience has validated the number of engines and their staging around the state to provide a level of network reliability expected of the system with what we believe to be a virtually imperceptible impact on the environment.

Typical Operation of Low-Use Portable Engines

Historically a telecommunication provider's low-use portable engine operates less than 20 hours per year. This includes time for testing and maintenance and actual use during electrical power outages.

Impact of Emissions from Low-use Non-Certified Portable Engines

Assuming annual operation of these low-use portable engines at 20 hours for engines 500 bhp in size, emitting PM at a rate of 1 g/bhp-hr, the approximately 50 low-use non-certified portable

engines in the state used by California's major telecommunications provider would contribute a statewide average emission of 3.03 lb/day of PM.

Cost of Avoided Emissions

ARB's proposed regulation would effectively require any non-certified, Tier 0 low-use portable engine that is not already registered to be replaced, rather than retrofitted, as retrofitting is typically infeasible for such engines. Assuming a PM emission rate of 0.15 g/bhp-hr for a Tier 2 diesel powered genset, the net daily statewide PM reduction from 50 low-use engines would be 2.57 lb/day. Additionally these engines would have to be replaced again around 2017, when Tier 4 standards would apply. This second investment would occur well before the reasonable life expectancy of the equipment has been met.

We estimate the cost of a new 500 bhp Tier 2 engine to be as high as $250,000. However, if one assumes an average cost of $150,000 for a 500 bhp, Tier 2 (0.15 g/bhp-hr PM) diesel powered genset in 2007, the replacement cost for 50 gensets would $7.5 million, and the cost of PM emission reduction would be $1.6 million/ton over a 10 year useful life of the engines. The cost per ton is absurdly high for the pollution reduction benefit.

Balancing Risk Reduction and Cost-Effectiveness

For the reasons discussed above, CCEEB respectfully renews its request that the Portable Diesel ATCM be amended to allow registration of low-use or emergency portable engines under the statewide Portable Equipment Registration Program until January 1, 2020.

Thank you for your consideration. I am, of course, available at your convenience if you should wish to discuss this issue further.

Attachment 2

Calculation of cost per ton of PM reduced by replacing low use portable emergency back-up generators

Standard HeaderFull Message View

Allan Lind <allanlind@sbcglobal.net>

ViewWednesday, June 27, 2007 9:41:59 PM

To:Bob Fletcher <rfletche@arb.ca.gov>

PM Calc for single portable engine replacement 062707(1).xls (19KB)

Bob,

This is a follow-up to the note I sent you a few weeks back concerning the cost of replacing the low-use back-up generators.

We received a price quotation from a supplier of portable generator sets that would typically be purchased. According to this supplier, the price today for a portable generator set (not just an engine) meeting the requirements for low-use/emergency purposes would be:

* 300 KW/480 bhp genset - $179,087 + tax
* 400 KW/637 bhp genset - $206,338 + tax

Either of these engines would meet the latest ARB emission standards and would be delivered approximately 28 weeks after it is ordered.

Given PM emissions of a Tier 0 engine of 1 g/bhp-hr, a low-use engine operating at 20 hours per year would produce the equivalent of .058 lbs/day (as compared to the allowable emissions of a primary use portable engine of 150 lbs/day [13CCR Section 2456(d)(6)]).

Assuming operating costs between Tier 0 and Tier 3 engines are essentially the same, and assuming a life expectancy of 25 years, we find an annualized cost per ton of **$861,952.24** to reduce the PM from 1 g/bhp-hr to 0.15 g/bhp-hr.

The attached spread sheet provides details for this calculation. While crunching the numbers we couldn't help noting that the PM emission rate allowable under the portable engine ATCM for a single engine (150 lbs/day) is greater than the emissions produced from more than 3,000 low-use back-up generators operating at a rate of 20 hours/year.

Linus Farias assisted me in these calculations and he would be glad to go over them with you or your staff at your convenience.

Thanks for your consideration.

--Allan

P.S., Have you triggered the 15-day comment period on th portable engine ATCM? I haven't seen a notice if there has been one. --al