SCEC

February 23, 2007

Mr. Martin Kay
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, California 91765

Subject: **Proposed Amendments to Rule 1110.2**
SCEC #2037.2064

Dear Mr. Kay:

Thank you for the opportunity to submit comments regarding proposed amendments to SCAQMD Rule 1110.2. As a source testing and air quality consulting firm, SCEC provides services to several organizations that will be affected by the proposed rule amendments. SCEC trusts that SCAQMD will consider these comments in pursuit of a rule that can be acceptable to both the Governing Board and the regulated community.

Low Use Engines

SCEC is confident that numerous non-emergency low-use engines would be affected by the proposed amendments. SCAQMD has provided some operating flexibility with regard to periodic monitoring requirements by specifying that monitoring using a hand-held analyzer should not occur more frequently than once every 750 operating hours. SCEC appreciates this consideration, but also encourages SCAQMD to give additional consideration to low-use engines in other components of the proposed amendments.

Source Testing Frequency

The proposed amendments would require source testing every two years or 8,760 operating hours, which ever would occur first. This would result in source testing of several low-use engines after only a few hundred operating hours. SCEC recommends that the testing frequency be modified to specify the greater of every two years or 8,760 operating hours. To ensure that some level of monitoring occurs in place of the biannual source test, it may be acceptable to qualify the 750-hour monitoring provision with the condition that at least one monitoring occurrence with a hand-held analyzer occur per year.

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CEMS Applicability

The proposed amendment would inadvertently require a low-use engine to be fitted with a CEMS simply due to its proximity to another engine when the combined rating is greater than 1,000 hp. While the value in altering the existing CEMS applicability threshold of 1,000 hp and 2-million bhp-hr/yr has not yet been clarified, SCEC recommends that any change in CEMS applicability include exclusions for low-use engines. One way of facilitating an exclusion may be to apply the proposed annual throughput threshold of 16 x 10^9 Btu on a per engine basis, rather than an aggregate basis.

Proposed Emission Standards

Even if the proposed retrofit standards or the proposed distributed generation standards can be economically and environmentally justified for prime use engines, they may not be justified for low-use engines. SCEC requests that SCAQMD give consideration to low use engines in its assessing the cost implications of the proposed amendments and set appropriate applicability thresholds based upon actual annual operating hours.

Exemptions

Many RACT / BARCT rules throughout California include exemption provisions for low use engines. Because gaseous-fueled engines permitted to current BACT have significantly lower emissions than comparable diesel emergency engines that are exempt from Rule 1110.2, SCAQMD should consider a blanket exemption from additional rule requirements for these low use engines. SCEC suggests that an exemption threshold of 500 hours per year would be appropriate for gaseous-fueled engines that meet current BACT.

Continuous Emissions Monitoring Systems (CEMS)

Given the stringent alternative periodic monitoring program that SCAQMD is proposing, it is not clear why the existing CEMS applicability threshold should be altered. Still, if SCAQMD goes forward with changes to the CEMS requirement to Rule 1110.2, SCEC recommends that the following concerns be addressed. These concerns are in addition to the low-use issue already identified.

Engines Operated below Manufacturers Ratings

In some applications such as water pumping operations, engines do not typically operate near rated capacity. Because engine operating levels are driven by the device they power, rather than engine rating, the proposed amendments should include provisions to allow the operator to use typical engine operating loads to determine if the 1,000 hp threshold is exceeded.

CEMS Installation Schedule

The proposed CEMS implementation schedule is unrealistically aggressive. It allows only one year for operators and vendors to complete a cumbersome procurement and installation process. It would also put significant pressure on SCAQMD resources to ensure that CEMS installation applications are processed in a timely manner. The notable increase in CEMS installations within such a short time will also put significant pressure on the few reliable vendors that can supply local engine operators and the testing companies that are certified by SCAQMD to perform source emissions tests.

During a recent meeting with stakeholders, SCAQMD advised that the proposed amendments would result in approximately 100 to 200 new CEMS installations. This is a significant increase in the number of CEMS applications that SCAQMD processes in a typical year. It is SCEC's experience that even with today's relatively low number of CEMS installations the application submittal and review process typically spans four to six months. The additional volume of CEMS applications in a one-year period would result in a longer processing queue at SCAQMD, leaving even less time to specify, purchase and install the systems. It is also SCEC's experience that although conditional certification of a new CEMS can be obtained within six months of the initial RATA, final certification often is delayed beyond six months.

An overly aggressive CEMS implementation schedule can encourage unqualified vendors to enter the local market with inferior products and support services. Because many of the affected operators have never been required to operate a CEMS, they will not know if they have made a poor purchase until after the system is installed.

Compatibility with Proposed Emission Limits

The proposed amendment would require that CEMS be installed prior to 2010 – 2012 when engines must meet new emission standards. AQMD has indicated that compliance with the proposed emission limits may require significant retrofits or engine removal. Conceivably, the installation of a CEMS in 2008 would be followed by equipment removal or significant modifications that would limit the useful life of a very expensive monitoring system. Even if an existing system is retained after the 2010-2012 retrofit deadlines, its emission profile will be substantially different from its pre-retrofit profile. Because of Rule 218.1 analyzer range requirements, analyzers installed to monitor current emission concentrations may have to be replaced to monitor emissions after 2010-2012.

SCEC recommends that for existing engines, new CEMS should not be required prior to the implementation of the 2010 – 2012 emission limits. This ensures that the CEMS are designed to monitor the lower emissions limits and that they have reasonably useful lives. It also allows for an adequate time to plan, purchase and install the system; and to implement a suitable QA/QC program.

Shared CEMS

SCEC appreciates SCAQMD's explicit recognition that shared CEMS are acceptable for demonstrating compliance with Rule 1110.2. SCEC is concerned, however, that SCAQMD may incorrectly assume that shared systems are an easy solution to the significant cost burden that the rule will place on many operators. SCEC feels that shared CEMS will have limited applications if they are to be subject to Rule 218.1. Shared systems will not be a solution for every operator who would otherwise be required to install CEMS under the proposed amendments.

Source Test Provisions

In addition to the preceding concern regarding source testing of low-use engines, SCEC has a few additional concerns regarding the proposed amendments.

Test Conditions

The proposed amendments would require source emission tests to be conducted at high, normal and low operating loads. For applications such as water pumping, actual operating loads during the test are dependent upon water pumping needs and cannot be manipulated to conduct the source emissions test. Controlling generator engine loads for the sake of conducting multi-load source tests would often require the operator to purchase or rent load banks at considerable cost.

SCEC recommends that SCAQMD's current policy of requiring tests at an "as found" condition is appropriate for many engines. Any proposed amendments to Rule 1110.2 calling for multi-load tests should be supplemented with provisions allowing for exclusions when multiple loads cannot be achieved during the test or when conducting multiple loads would result in unwarranted costs.

Discontinuation of Tests

Provisions prohibiting the discontinuation of a test should be deleted from the proposed rule amendments. An alternative to requiring that the test be completed is simply to require that the attempted test and its discontinuation be documented. It typically costs $200 to $250 per hour to conduct an emissions test. VOC sample processing costs are an additional $600 - $900 per sample. Given these costs, it is unreasonable to require a facility operator to complete a failing test.

Periodic Monitoring

The greatest environmental benefit of a periodic monitoring program is achieved simply because monitoring is being conducted. The 72-hour hands-off period does nothing to

further compliance or to increase the benefits that will already be achieved simply by having a monitoring program in the first place. Periodic monitoring, with or without a hands-off period, will promote responsible engine and emission control system maintenance. SCEC recommends that SCAQMD delete the 72-hour hands-off requirement.

Implementation of DG Standard

Availability of Technology

It is clear that no internal combustion engine technology exists today that can meet the proposed DG standard. It is also clear that CARB's 2007 DG standard is intended to be applied to small generating systems that are exempt from local permit, rather than large systems that are subject to BACT. Finally, it is clear that gas turbines and fuel cells are not the best technology for every distributed generation application. Given the lack of available internal combustion engine technology, SCEC strongly encourages SCAQMD to delay implementation of the DG standard until suitable internal combustion engine technology is projected to become commercially viable.

Consideration of Outstanding Permit Applications and Outstanding Permits to Construct

The proposed rule would apply the 2007 DG emission standard to any non-emergency natural gas power generator engine for which a permit to construct has not been issued prior to June 1, 2007. The DG standard would also apply to an engine for which a permit to construct has been issued prior to June 1, 2007, but installation has not taken place within 12-months of permit issuance. There are plenty of valid situations in which a project cannot be completed within 12-months of permit issuance and SCAQMD accommodates these situations by prudently renewing the permit to construct. There are also plenty of reasons why a permit application can be prudently submitted, but for which SCAQMD review and permit issuance can be delayed. SCEC encourages SCAQMD to revise the applicability provision to exclude any engine for which a complete application is submitted prior to the implementation deadline.

Staff Report Omissions

The proposed staff report is the primary vehicle for making certain that the Governing Board and the regulated community will fully understand the intent and implications of the proposed amendments. SCEC sees several opportunities for SCAQMD staff to provide additional valuable information to support the actions that the Governing Board will be asked to take.

Proposed Retrofit Requirements for Biogas Engines

On page 30 of the staff report, SCAQMD offers a paragraph that summarizes the state of technology that is expected to be available to support the proposed retrofit requirement. The staff report should also contain a comprehensive analysis of available and emerging technologies. For example, SCAQMD suggests that biogas treatment to remove siloxanes would support the use of SCR and oxidization catalysts. Most biogas conditioning to date appears to have been conducted on a scale to support fuel cell and gas turbine operations. SCAQMD indicates that fuel conditioning to support post-combustion emission controls already exists at one facility. SCAQMD should offer a critical analysis of the operation, including equipment size, age of system, operating profile, capital and operating costs, monitored emission performance, implementation challenges, etc.

The State of Natural Gas Engine Technology

On page 17 of the staff report, SCAQMD states that through CEC's Advanced Internal Combustion Engine Collaborative, advancements are being made to ICE technologies that may lead them to being able to achieve CARB's 2007 DG standard. A more comprehensive discussion of available engine technology is warranted if the Governing Board and regulated community are expected to form sound opinions of the proposed amendments. SCAQMD should discuss the advances and failures of the CEC-sponsored projects. SCAQMD should also provide a better understanding of the timeframes in which any emerging internal combustion engine technologies are expected to become commercially available.

CARB DG Standards and BACT Guidance

On pages 14, 16 and 26 of the staff report, SCAQMD discusses CARB's DG BACT guidance for larger engines subject to local permitting. On page 14, SCAQMD compares current BACT with CARB's 2007 DG standard. SCAQMD also clarifies that AB1298 established a goal to require permitted equipment meet the DG standard by the earliest practicable date. SCAQMD does not explain why CARB's BACT guidance is less stringent than the DG standard or why in the absence of more stringent BACT guidance and available engine technology, SCAQMD concludes that 2007 is indeed the earliest practicable date to meet the more stringent DG standards.

SCAQMD's overviews of the CARB's DG program doe not include the technology review and standards update component that resulted from SB 1298. CARB recently completed its technology assessment to determine if DG standards or BACT guidance should be updated. CARB subsequently modified DG standards for biogas operations, but chose to retain its previously issued BACT guidance for natural gas engines subject to local permits. CARB's action appears to reflect the fact that technology is not yet available and not likely to be commercially viable in the immediate future that would

allow for compliance with standards that are more stringent than those to which SCAQMD currently permits. Through the technology review process, CARB effectively confirmed that attempting to require that reciprocating engines meet central station-equivalent emission standards in 2007 is not at all practicable.

SCEC thanks you again for the opportunity to submit comments. We look forward to continuing to work with SCAQMD as proposed amendments to Rule 1110.2 are further refined.

Sincerely
SCEC

Karl A. Lany
Vice President

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