AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN DIEGO

DATE: July 30, 2003

TO: San Diego County Air Pollution Control Board

SUBJECT: AMENDMENT OF RULE 69.4 – STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES – REASONABLY AVAILABLE CONTROL TECHNOLOGY (District: All)

SUMMARY:

Overview

Rule 69.4 was initially adopted on September 12, 1994 (APCB #4), to meet federal requirements. It regulates oxides of nitrogen emissions from stationary reciprocating internal combustion engines at facilities emitting 50 tons or more per year of oxides of nitrogen. Rule 69.4 was approved by the Environmental Protection Agency (EPA) and included in the State Implementation Plan.

In 2000, Rule 69.4 was amended for consistency with new Rule 69.4.1 (Stationary Reciprocating Internal Combustion Engines – Best Available Retrofit Control Technology) which was adopted to meet state requirements. In June 2002, EPA notified the Air Pollution Control District that Rule 69.4 contained certain deficiencies that prevented its full approval. Therefore, the rule is being amended again to correct the EPA-identified deficiencies. Correcting these deficiencies should allow Rule 69.4 to be fully approved by EPA. The amended Rule 69.4 will be submitted to EPA for inclusion in the State Implementation Plan.

The proposed amendments require all engines subject to the emission limits of the rule to record specified operating parameters, to have a non-resettable totalizing fuel or hour meter, and to be tested at least once every 24 months. Any existing gaseous-fueled engine rated at 1,000 brake horsepower or greater and operated more than 2,000 hours per year must be tested annually. In addition, an owner or operator of such engines newly installed after the date of this rule amendment will be required to continuously monitor operating parameters to ensure compliance with the emission standards of the rule. Operators of large new engines (5,000 brake horsepower or larger), operating 6,000 hours or more per year, will be required to continuously monitor emissions. The amendments also specify the averaging period for determining compliance and provide minor clarifications and updates.

SUBJECT: AMENDMENT OF RULE 69.4 – STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES – REASONABLY AVAILABLE CONTROL TECHNOLOGY (District: All)

Recommendation(s)
AIR POLLUTION CONTROL OFFICER
Adopt the Resolution entitled Resolution Amending Rule 69.4 of Regulation IV of the Rules and Regulations of the San Diego County Air Pollution Control District and make appropriate findings:

(i) of necessity, authority, clarity, consistency, non-duplication and reference as required by Section 40727 of the State Health and Safety Code;

(ii) that an analysis comparing the amended rule with existing requirements applicable to the sources affected by the proposed rule has been prepared pursuant to Health and Safety Code Section 40727.2;

(iii) that amending Rule 69.4 will alleviate a problem and will not interfere with the attainment of ambient air quality standards (Section 40001 of the State Health and Safety Code);

(iv) that the socioeconomic impact of amending Rule 69.4 was actively considered pursuant to Section 40728.5 of the State Health and Safety Code and there will be no adverse socioeconomic impact on industry including small businesses; and

(v) that it is certain there is no possibility that amending Rule 69.4 may have a significant adverse effect on the environment, and this action is exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to California Code of Regulations, Title 14, Section 15061(b)(3).

Fiscal Impact
The recommended action will have no fiscal impact on the District.

Business Impact Statement
The proposed amendments will have a negligible impact on business. Most new requirements in amended Rule 69.4 are similar to requirements already in effect in existing Rule 69.4.1. The amended rule would add a requirement for annual emissions testing for ten existing engines at two facilities; this is a federal requirement. However, these engines are already being tested annually pursuant to the Air Pollution Control District permitting rules.

One new requirement that will apply to owners or operators of future new gaseous-fueled engines rated at 1,000 brake horsepower and larger and operating more than 2,000 hours per year is to continuously monitor operating parameters or emissions. Most such engines will already be equipped to continuously monitor operating parameters to ensure that emission controls operate properly. Another new requirement is for owners or operators of future new gaseous-fueled engines rated at 5,000 brake horsepower and larger and operating more than 6,000 hours per year to

continuously monitor emissions. These engines will also be subject to a new proposed federal regulation for hazardous air pollutants and will likely already be required to continuously monitor emissions under that regulation and existing Air Pollution Control District permitting rules.

Advisory Board Statement

There was no quorum at the Air Pollution Control Advisory Committee meeting. The members present recommended amending Rule 69.4 at its June 11, 2003, meeting.

BACKGROUND:

Oxides of nitrogen (NOx) react in the atmosphere with organic compounds to form photochemical smog. Rule 69.4 regulates NOx emissions from stationary reciprocating internal combustion engines with a brake horsepower (bhp) rating of 50 or greater located at sources emitting 50 tons of NOx per year or more. The rule, first adopted in 1994, implements Reasonably Available Control Technology (RACT) mandated by the Federal Clean Air Act. It was approved by EPA and included in the State Implementation Plan (SIP). However, in June 2002, EPA notified the Air Pollution Control District (District) that Rule 69.4 (amended in November, 2000) contained certain deficiencies that prevented its full approval. The current amendments to Rule 69.4 are expected to satisfy EPA requirements by addressing these deficiencies.

In November 2000, the District adopted new Rule 69.4.1 (Stationary Reciprocating Internal Combustion Engines – Best Available Retrofit Control Technology) to comply with the more stringent California Clean Air Act. Rule 69.4.1 applies to all stationary reciprocating internal combustion engines, 50 bhp and greater, including those subject to the federal requirements. At the same time, Rule 69.4 was amended to ensure consistency with Rule 69.4.1 exemptions, definitions, and recordkeeping requirements. In January 2001, amended Rule 69.4 was submitted to EPA as a SIP revision.

However, in June 2002, EPA notified the Air Pollution Control District that amended Rule 69.4 contained several new deficiencies that prevented its full approval. The current amendments to Rule 69.4 are expected to satisfy EPA requirements by addressing these deficiencies. Not amending Rule 69.4 at this time would result in a situation where engines would have to comply with two different versions of Rule 69.4, one contained in the SIP, and the other approved by the Board in the District Rules and Regulations.

The amendments specify that all engines subject to the emission standards measure and record specified operating parameters monthly, have a non-resettable totalizing fuel or hour meter and be emissions tested at least once every 24 months. Existing gas-fueled engines rated at 1,000 bhp or greater and operated more than 2,000 hours per year must be tested annually. The amended rule also specifies an emissions averaging period (30 to 60 minutes) for the purposes of compliance determinations, and provides minor clarifications and updates.

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Currently, there are ten existing internal combustion engines located at two facilities in San Diego County that would be affected by the proposed amendments. All engines are already in compliance with all provisions of amended Rule 69.4 except that eight engines at one facility will have to be emissions tested every year instead of every two years. This is a federal requirement.

EPA initially recommended the amended rule require all existing and new gaseous-fueled engines rated at 1,000 bhp and above, and operating 2,000 hours per year or more, be equipped with continuous emission monitoring or parametric emission monitoring. The District convinced EPA that the associated costs were unwarranted and would result in little or no emission reduction benefit. Further, the District demonstrated that such monitoring would be cost-prohibitive for all but very large new engines. As a result, the amendments require only continuous monitoring of operating parameters for new gaseous-fueled engines rated at 1,000 bhp and above, operating 2,000 hours per year or more, and require continuous emission monitoring or parametric emissions monitoring for only new gaseous-fueled, 5,000 bhp or larger engines operating 6,000 hours per year or more.

No emission reductions are expected as a result of these Rule 69.4 amendments.

A public workshop for amended Rule 69.4 was held on November 20, 2002, and was attended by three people. The comments and District responses are presented in the attached workshop report.

Socioeconomic Impact Assessment

Section 40728.5 of the State Health and Safety Code requires the District to perform a socioeconomic impact assessment for new and revised rules and regulations significantly affecting air quality or emission limitations. There are ten engines at two facilities which are subject to Rule 69.4. The engines are part of cogeneration facilities using landfill gas or digester gas to generate electricity. The amended rule would add a requirement for annual emissions testing of these engines; this is a federal requirement. However, these engines are already being tested annually pursuant to the District permitting rules. The engines already comply with the amended rule in all other respects. Therefore, there will be no impact on these facilities.

The District persuaded EPA that the continuous parametric or emission monitoring requirements should be applied only to very large new engines. Thus, new engines rated at 1,000 bhp or larger and operating for more than 2,000 hours per year are required to include continuous monitoring of operating parameters or emissions. Such engines are expected to be already equipped with continuous parametric monitoring to ensure that emission controls operate properly. The engines rated at 5,000 bhp or larger will also be required to have continuous emission monitoring pursuant to a recently proposed federal regulation or existing District permitting rules.

Therefore, the rule amendments will have no impact on existing or new facilities or employment and the economy of the region. There is no impact on small businesses. The rule amendments are also not expected to result in emission reductions.

Compliance with Board Policy on Adopting New Rules
On February 2, 1993 (APCB #2), the Board directed that, with the exception of a regulation requested by business or a regulation for which a socioeconomic impact assessment is not required, no new or revised regulation shall be implemented unless specifically required by federal or state law. The proposed amendment of Rule 69.4 is required by federal law and therefore is consistent with this Board directive.

California Environmental Quality Act
The California Environmental Quality Act requires an environmental review for certain actions. The District has conducted a preliminary review of whether the California Environmental Quality Act applies to the proposed amendments to Rule 69.4. It is certain there is no possibility that adopting amended Rule 69.4 may have a significant adverse effect on the environment. Therefore, adoption of amended Rule 69.4 is exempt from the provisions of the California Environmental Quality Act pursuant to California Code of Regulations, Title 14, Section 15061(b)(3).

Comparison to Existing Requirements
Prior to adopting, amending, or repealing a rule or regulation, California Health and Safety Code Section 40727 requires findings of necessity, authority, clarity, consistency, non-duplication, and reference. As part of the consistency finding to ensure proposed rule requirements do not conflict with or contradict other District or federal regulations, Health and Safety Code Section 40727.2 requires the District to perform a written analysis identifying and comparing the air pollution control standards and other provisions of amended Rule 69.4 with existing or proposed District rules and guidelines and existing federal rules, requirements, and guidelines applying to the same source category.

The requirements of amended Rule 69.4 have been compared to federal RACT requirements, and to the District's New Source Review rules and Rule 69.4.1 for stationary reciprocating internal combustion engines. The analysis is presented in Attachment C.

Linkage to the County of San Diego's Strategic Plan
Proposed amended Rule 69.4 is in alignment with the Environment Initiative of the County's Strategic Plan because it reduces environmental risk through regulation by maintaining all of the NOx emission reductions being achieved under the rule and thus helps to preserve air quality and helps to protect the public from the harmful effects of air pollution, achieve and maintain air quality standards, and meet federal and state mandates.

Amended Rule 69.4 appropriately balances preserving air quality, protecting public health, and meeting economic development needs.

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Respectfully submitted,

Richard J. Smith

ROBERT R. COPPER
Deputy Chief Administrative Officer

RICHARD J. SMITH
Air Pollution Control Officer

ATTACHMENTS

A. Resolution amending Rule 69.4 of the District's Rules and Regulations
B. Change Copy of Rule 69.4
C. Comparative Analysis
D. Workshop Report

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AGENDA ITEM INFORMATION SHEET

CONCURRENCE(S)

COUNTY COUNSEL REVIEW	[X] Yes D 6/27/03	
Written disclosure per County Charter Section 1000.1 required	[ ] Yes	[X] No
GROUP/AGENCY FINANCE DIRECTOR	[ ] Yes	[X] N/A
CHIEF FINANCIAL OFFICER	[ ] Yes	[X] N/A
Requires Four Votes	[ ] Yes	[X] No
GROUP/AGENCY INFORMATION TECHNOLOGY DIRECTOR	[ ] Yes	[X] N/A
CHIEF TECHNOLOGY OFFICER	[ ] Yes	[X] N/A
DEPARTMENT OF HUMAN RESOURCES	[ ] Yes	[X] N/A

Other Concurrence(s): N/A

ORIGINATING DEPARTMENT: Air Pollution Control District County of San Diego

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AUTHORIZED REPRESENTATIVE: Richard J. Smith

Richard J. Smith, Air Pollution Control Officer

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AGENDA ITEM INFORMATION SHEET
(continued)

PREVIOUS RELEVANT BOARD ACTIONS:
November 15, 2000 (APCB #3), Amend for Consistency with Rule 69.4.1; September 27, 1994 (APCB #4), Approved Adoption of Rule 69.4.

BOARD POLICIES APPLICABLE:
N/A

BOARD POLICY STATEMENTS:
N/A

CONTRACT NUMBER(S):
N/A

ATTACHMENT A

Re Rules and Regulations of the)
Air Pollution Control District)
of San Diego County . . . . . .)

**RESOLUTION AMENDING RULE 69.4
OF REGULATION IV
OF THE RULES AND REGULATIONS OF THE
SAN DIEGO COUNTY AIR POLLUTION CONTROL DISTRICT**

On motion of Member Jacob, seconded by Member Roberts, the following resolution is adopted:

WHEREAS, the San Diego County Air Pollution Control Board, pursuant to Section 40702 of the Health and Safety Code, adopted Rules and Regulations of the Air Pollution Control District of San Diego County; and

WHEREAS, said Board now desires to amend said Rules and Regulations; and

WHEREAS, notice has been given and a public hearing has been held relating to the amendment of said Rules and Regulations pursuant to Section 40725 of the Health and Safety Code.

NOW THEREFORE IT IS RESOLVED AND ORDERED by the San Diego County Air Pollution Control Board that the Rules and Regulations of the Air Pollution Control District of San Diego County be and hereby are amended as follows:

Proposed Amendments to Rule 69.4 are to read as follows:

RULE 69.4. STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES - REASONABLY AVAILABLE CONTROL TECHNOLOGY (Adopted 9/27/94; Rev. Effective11/15/00; Rev. Effective (*date of adoption)*)

(a) **APPLICABILITY**

(1) Except as provided in Section (b), this rule shall apply to stationary internal combustion engines with a brake horsepower (bhp) rating of 50 or greater located at a stationary source which emits or has a potential to emit 50 tons per year or more of oxides of nitrogen (NOx).

(2) An engine subject to this rule or specifically exempt by Subsection (b)(1) of this rule shall not be subject to Rule 68.

(b) **EXEMPTIONS**

(1) This rule shall not apply to the following:

(i) Engines used exclusively in connection with a structure designed for and used as a dwelling for not more than four families.

(ii) Engines used exclusively in agricultural operations for the growing of crops or the raising of fowl or animals.

(iii) Any engine when operated exclusively within a permitted test cell solely for the research, development, or testing of gas turbine engines or their components.

(iv) Any engine when operated exclusively within a permitted test cell solely for the research, development, or testing of reciprocating internal combustion engines or their components.

(2) The provisions of Section (d) of this rule shall not apply to the following:

(i) Any engine which operates less than 200 hours per calendar year.

(ii) Any emergency standby engine provided that operation of the engine for non-emergency purposes does not exceed 52 hours per calendar year.

(iii) Any emergency standby engine at a nuclear power generating station subject to the requirements of the Nuclear Regulatory Commission provided that operation of the engine for non-emergency purposes does not exceed 200 hours per calendar year.

(iv) Any engine used exclusively in conjunction with military tactical support equipment.

An owner or operator of an engine who is claiming an exemption pursuant to Subsection (b)(2) shall conduct annual maintenance of the engine as recommended by the engine manufacturer or as specified by any other maintenance procedure approved in writing by the Air Pollution Control Officer and shall maintain records in accordance with Subsections (e)(1) and (e)(2) of this rule.

(3) The provisions of Subsections (e)(3), (e)(4), and (e)(5) of this rule shall not apply to any engine which is equipped with a continuous emission monitoring system (CEMS) pursuant to Subsections (e)(7) or (e)(8).

(c) **DEFINITIONS**

For the purposes of this rule, the following definitions shall apply:

(1) **"Add-on Control Equipment"** means any technology that is used to reduce emissions from the exhaust gas stream of an engine and is installed downstream of the engine.

(2) **"Brake Horsepower Rating, bhp"** means the maximum continuous brake horsepower output rating as specified by the engine manufacturer and listed on the engine nameplate, if available, regardless of any de-rating.

(3) **"Emergency Standby Engine"** means an engine used exclusively in emergency situations, except as provided in Subsections (b)(2)(ii) and (b)(2)(iii), to drive an electrical generator, an air compressor or a water pump.

(4) **"Emergency Situation"** means any one of the following:

(i) An unforeseen electrical power failure from the serving utility or of on-site electrical transmission equipment.

(ii) An unforeseen flood or fire, or a life-threatening situation.

(iii) Operation of emergency generators for Federal Aviation Administration licensed or military airports for the purpose of providing power in anticipation of a power failure due to severe storm activity.

Emergency situation shall not include operation for purposes of supplying power for distribution to an electrical grid, operation for training purposes, or other foreseeable events.

(5) **"Fossil Derived Gaseous Fuel"** means gaseous fuel including, but not limited to, natural gas, methane, ethane, propane, butane, and gases stored as liquids at high pressure such as liquefied petroleum gas, but excluding waste derived gaseous fuel.

(6) **"Lean-Burn Engine"** means an engine that is designed to operate with an air-to-fuel ratio that is more than 1.1 times the Stoichiometric air-to-fuel ratio.

(7) **"Military Tactical Support Equipment"** means the same as defined in Rule 2.

(8) **"Portable Emission Unit"** means the same as defined in Rule 20.1.

(9) **"Reasonably Available Control Technology (RACT)"** means the lowest emission limit that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.

(10) **"Rich-Burn Engine"** means an engine that is designed to operate with an air-to-fuel ratio less than or equal to 1.1 times the Stoichiometric air-to-fuel ratio.

(11) **"Stationary Internal Combustion Engine" or "Engine"** means a spark or compression ignited, reciprocating internal combustion engine which is not a portable emission unit.

(12) **"Stationary Source"** means the same as is defined in Rule 2.

(13) **"Stoichiometric Air-to-Fuel Ratio"** means the chemically balanced air-to-fuel ratio at which all fuel and all oxygen in the air and fuel mixture are theoretically consumed by combustion.

(14) **"Uncontrolled NOx Emissions"** means NOx emissions from an engine before application of add-on control equipment.

(15) **"Waste Derived Gaseous Fuel"** means gaseous fuel including, but not limited to, digester gas and landfill gas, but excluding fossil derived gaseous fuel.

(d) **STANDARDS**

(1) A person shall not operate a stationary internal combustion engine subject to this rule unless:

(i) Uncontrolled NOx emissions from the following engines are reduced with add-on control equipment by not less than the following:

Engine Category	Weight Percent Reduction
Rich-burn engines using fossil derived gaseous fuel or gasoline	90
Lean-burn engines using fossil derived gaseous fuel	80
Engines using exclusively waste derived gaseous fuel	80

or

(ii) The emission concentration of NOx, in parts per million by volume (ppmv), calculated as nitrogen dioxide at 15% oxygen on a dry basis, or in grams of NOx per brake horsepower-hour, are not greater than the following:

Engine Category	Concentration of NOx g/bhp-hr (ppmv)
Rich-burn engines using fossil derived gaseous fuel or gasoline	0.9 (50)
Lean-burn engines using gaseous fuel	2.3 (125)
Engines using exclusively waste derived gaseous fuel	2.3 (125)
Engines using diesel or kerosene fuel	9.0 (700)

(2) For all engines subject to Subsection (d)(1) of this rule, the emission concentration of carbon monoxide (CO), calculated at 15% oxygen on a dry basis, shall not exceed 4,500 ppmv.

(3) An owner or operator of an engine subject to this rule shall conduct annual maintenance of the engine as recommended by the engine manufacturer or as specified by any other maintenance procedure approved in writing by the Air Pollution Control Officer.

(e) **MONITORING AND RECORDKEEPING REQUIREMENTS**

(1) An owner or operator of an engine subject to this rule shall keep the following records and shall maintain these records on-site for at least the same period of time as the engine to which the records apply is located at the site:

(i) engine manufacturer name and model number;

(ii) brake horsepower output rating;

(iii) combustion method (i.e. rich-burn or lean-burn);

(iv) fuel type;

(v) a manual of recommended maintenance as provided by the engine manufacturer, or other maintenance procedure as approved in writing by the Air Pollution Control Officer; and

(vi) records of annual engine maintenance, including dates maintenance was performed.

(2) In addition to the records required by Subsection (e)(1), an owner or operator of an engine exempt pursuant to Subsection (b)(2) from the requirements of Section (d) shall maintain an operating log containing, at a minimum, the following:

(i) dates and times of engine operation. If applicable, indicate whether the operation was for non-emergency purposes or during an emergency situation and the nature of the emergency, if available; and

(ii) total cumulative hours of operation per calendar year, based on actual readings of the engine hour or fuel meter.

The records specified in Subsection (e)(2)(i) are not required if total engine operations for any purpose, including emergency situations, do not exceed 52 hours in a calendar year.

(3) In addition to the records required by Subsection (e)(1), an owner or operator of a rich-burn engine subject to the requirements of Section (d) shall measure and record at least once each calendar month those operating parameters determined necessary to

ensure compliance by the Air Pollution Control Officer. Such operating parameters shall include but are not limited to:

(i) temperature of the inlet and outlet of the control equipment; or

(ii) engine air-to-fuel ratio; or

(iii) engine inlet manifold temperature and pressure.

(4) In addition to the records required by Subsection (e)(1), an owner or operator of a lean-burn engine using gaseous fuel subject to the requirements of Section (d) shall also measure and record at least once each calendar month those operating parameters determined necessary to ensure compliance by the Air Pollution Control Officer. Such operating parameters shall include but are not limited to:

(i) engine air-to-fuel ratio or automatic air-to-fuel ratio control signal voltage; or

(ii) engine exhaust gas temperature; or

(iii) engine inlet manifold temperature and pressure.

(5) In addition to the records required by Subsection (e)(1), an owner or operator of an engine using diesel fuel subject to the requirements of Section (d) shall also measure and record at least once each calendar month those operating parameters determined necessary to ensure compliance by the Air Pollution Control Officer. Such operating parameters shall include but are not limited to:

(i) engine air-to-fuel ratio; or

(ii) engine exhaust gas temperature; or

(iii) engine inlet manifold temperature and pressure.

(6) Except for engines exempt under Subsection (b)(1), an owner or operator of an engine subject to this rule shall install a non-resettable totalizing fuel meter or non-resettable totalizing engine operating hours meter.

(7) An owner or operator of a gaseous-fueled engine rated at 1,000 bhp or greater and operated more than 2,000 hours per calendar year and first installed in San Diego County after (*date of adoption*) shall continuously monitor operating parameters necessary to ensure compliance with the emission standards specified in Section (d) of this rule. Alternatively, an owner or operator of such engine may install, operate, and maintain in calibration a continuous emission monitoring system (CEMS) to continuously measure and record oxygen concentration and NOx emissions concentration corrected to 15 percent oxygen. The CEMS shall be certified, calibrated, and maintained in accordance with all applicable federal regulations including reporting requirements of Sections 60.7(c), 60.7(d), and 60.13 of 40 CFR Part 60, performance

specifications of Appendix B of 40 CFR Part 60, quality assurance procedures of Appendix F of 40 CFR Part 60, and a protocol approved in writing by the Air Pollution Control Officer.

(8) An owner or operator of a gaseous-fueled engine rated at 5,000 bhp or greater and operated more than 6,000 hours per calendar year and first installed in San Diego County after (*date of adoption*) shall install, operate, and maintain in calibration a continuous emission monitoring system (CEMS) to continuously measure and record oxygen concentration and NOx emissions concentration corrected to 15 percent oxygen, or an alternative system such as a Parametric Emission Monitoring System approved by the Air Pollution Control Officer and Environmental Protection Agency (EPA). The CEMS shall be certified, calibrated, and maintained in accordance with all applicable federal regulations including reporting requirements of Sections 60.7(c), 60.7(d), and 60.13 of 40 CFR Part 60, performance specifications of Appendix B of 40 CFR Part 60, quality assurance procedures of Appendix F of 40 CFR Part 60, and a protocol approved in writing by the Air Pollution Control Officer.

(9) All records required by Subsections (e)(2) through (e)(7) shall be retained on-site for at least three years and made available to the District upon request.

(f) TEST METHODS

To determine compliance with Section (d) during a source test, measurements of NOx, CO, carbon dioxide (CO_2) and oxygen content of exhaust gas shall be conducted in accordance with San Diego County Air Pollution Control District Test Method 100, Air Resources Board (ARB) Test Method 100 or equivalent EPA test method and a source test protocol approved in writing by the Air Pollution Control Officer.

(g) SOURCE TEST REQUIREMENTS AND COMPLIANCE DETERMINATION

Source tests shall be conducted according to the following:

(1) After initial compliance has been determined, any engine subject to the requirements of Subsection (d), except for engines described in Subsection (g)(2) below, shall be tested at least once every 24 months, unless more frequent testing is specified in writing by the Air Pollution Control Officer.

(2) Any gaseous-fueled engine rated at 1,000 bhp or greater and operated more than 2,000 hours per calendar year shall be tested at least once every 12 months, unless more frequent testing is specified in writing by the Air Pollution Control Officer.

(3) Emissions source testing shall be conducted using the test methods specified in Section (f) and a source test protocol approved in writing by the Air Pollution Control Officer prior to testing.

(4) Emissions source testing shall be performed at no less than 80 percent of the brake horsepower rating. If an owner or operator of an engine demonstrates to the satisfaction of the Air Pollution Control Officer that the engine does not operate at these conditions, then emissions source testing shall be performed at the highest achievable

continuous brake horsepower rating, or under the typical duty cycle or operational mode of the engine.

(5) The averaging period to calculate NOx and CO emission concentrations and to determine compliance shall be at least 30 minutes and not more than 60 minutes. NOx and CO emission concentrations shall be calculated as an average of three subtests.

(6) For the purposes of a compliance determination based on CEMS data, the averaging period to calculate NOx emissions concentration shall be one clock hour.

IT IS FURTHER RESOLVED AND ORDERED that the amendments to Rule 69.4 of Regulation IV shall take effect upon adoption.

IT IS FURTHER RESOLVED AND ORDERED that the Air Pollution Control Officer submit amended Rule 69.4 of Regulation IV to the California Air Resources Board for transmittal to the federal Environmental Protection Agency for inclusion in the federal State Implementation Plan.

PASSED AND ADOPTED by the Air Pollution Control Board of the San Diego County Air Pollution Control District, State of California, this 30th day of July, 2003, by the following votes:

AYES: Cox, Jacob, Slater, Roberts, Horn

STATE OF CALIFORNIA)
County of San Diego)SS

I hereby certify that the foregoing is a full, true and correct copy of the Original Resolution, which is now on file in my office.

THOMAS J. PASTUSZKA
Clerk of the San Diego County
Air Pollution Control District

By: _____
Drucilla Willis, Deputy

APPROVED AS TO FORM AND LEGALITY
COUNTY COUNSEL

By: _____
SENIOR DEPUTY

No. 03-155
7/30/03 (APCD 1)

This is a true certified copy of the original document on file or of record in the office of the Clerk of the Board. It bears the seal of the County of San Diego, imprinted in purple ink, and bears the signature of a Deputy Clerk.

THOMAS J. PASTUSZKA
CLERK OF THE BOARD, SAN DIEGO COUNTY, CALIFORNIA

By Deputy: _____ Date: 8-4-03

AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN DIEGO

CHANGE COPY

PROPOSED AMENDMENTS TO RULE 69.4

Proposed Amendments to Rule 69.4 are to read as follows:

RULE 69.4. STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES - REASONABLY AVAILABLE CONTROL TECHNOLOGY (Adopted 9/27/94; Rev. Effective11/15/00; Rev. Effective (*date of adoption*))

(a) **APPLICABILITY**

(1) Except as provided in Section (b), this rule shall apply to stationary internal combustion engines with a brake horsepower (bhp) rating of 50 or greater located at a ~~major~~ stationary source which emits or has a potential to emit 50 tons per year or more of oxides of nitrogen (NOx).

(2) An engine subject to this rule or specifically exempt by Subsection (b)(1) of this rule shall not be subject to Rule 68.

(b) **EXEMPTIONS**

(1) This rule shall not apply to the following:

(i) Engines used exclusively in connection with a structure designed for and used as a dwelling for not more than four families.

(ii) Engines used exclusively in agricultural operations for the growing of crops or the raising of fowl or animals.

(iii) Any engine when operated exclusively within a permitted test cell solely for the research, development, or testing of gas turbine engines or their components.

(iv) Any engine when operated exclusively within a permitted test cell solely for the research, development, or testing of reciprocating internal combustion engines or their components.

(2) The provisions of Section (d) of this rule shall not apply to the following:

(i) Any engine which operates less than 200 hours per calendar year.

(ii) Any emergency standby engine provided that operation of the engine for non-emergency purposes does not exceed 52 hours per calendar year.

(iii) Any emergency standby engine at a nuclear power generating station subject to the requirements of the Nuclear Regulatory Commission provided that operation of the engine for non-emergency purposes does not exceed 200 hours per calendar year.

(iv) Any engine used exclusively in conjunction with military tactical support equipment.

An owner or operator of an engine who is claiming an exemption pursuant to Subsection (b)(2) shall conduct annual maintenance of the engine as recommended by the engine manufacturer or as specified by any other maintenance procedure approved in writing by the Air Pollution Control Officer and shall maintain records in accordance with Subsections (e)(1) and (e)(2) of this rule.

(3) The provisions of Subsections (e)(3), (e)(4), and (e)(5) of this rule shall not apply to any engine which is equipped with a continuous emission monitoring system (CEMS) pursuant to Subsections (e)(7) or (e)(8).

(c) **DEFINITIONS**

For the purposes of this rule, the following definitions shall apply:

(1) **"Add-on Control Equipment"** means any technology that is used to reduce emissions from the exhaust gas stream of an engine and is installed downstream of the engine.

(2) **"Brake Horsepower Rating, bhp"** means the maximum continuous brake horsepower output rating as specified by the engine manufacturer and listed on the engine nameplate, if available, regardless of any de-rating.

(3) **"Emergency Standby Engine"** means an engine used exclusively in emergency situations, except as provided in Subsections (b)(2)(ii) and (b)(2)(iii), to drive an electrical generator, an air compressor or a water pump.

(4) **"Emergency Situation"** means any one of the following:

(i) An unforeseen electrical power failure from the serving utility or of on-site electrical transmission equipment.

(ii) An unforeseen flood or fire, or a life-threatening situation.

(iii) Operation of emergency generators for Federal Aviation Administration licensed or military airports for the purpose of providing power in anticipation of a power failure due to severe storm activity.

Emergency situation shall not include operation for purposes of supplying power for distribution to an electrical grid, operation for training purposes, or other foreseeable events.

(5) **"Fossil Derived Gaseous Fuel"** means gaseous fuel including, but not limited to, natural gas, methane, ethane, propane, butane, and gases stored as liquids at high pressure such as liquefied petroleum gas, but excluding waste derived gaseous fuel.

(6) **"Lean-Burn Engine"** means an engine that is designed to operate with an air-to-fuel ratio that is more than 1.1 times the Stoichiometric air-to-fuel ratio.

~~(7) "Major Stationary Source of NOx" means a stationary source which emits or has the potential to emit 50 tons or more of NOx per year.~~

~~(8)~~(7) **"Military Tactical Support Equipment"** means the same as defined in Rule 2.

~~(9)~~(8) **"Portable Emission Unit"** means the same as defined in Rule 20.1.

~~(10)~~(9) **"Reasonably Available Control Technology (RACT)"** means the lowest emission limit that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.

~~(11)~~(10) **"Rich-Burn Engine"** means an engine that is designed to operate with an air-to-fuel ratio less than or equal to 1.1 times the Stoichiometric air-to-fuel ratio.

~~(12)~~(11) **"Stationary Internal Combustion Engine" or "Engine"** means a spark or compression ignited, reciprocating internal combustion engine which is not a portable emission unit.

~~(13)~~(12) **"Stationary Source"** means the same as is defined in Rule 2.

~~(14)~~(13) **"Stoichiometric Air-to-Fuel Ratio"** means the chemically balanced air-to-fuel ratio at which all fuel and all oxygen in the air and fuel mixture are theoretically consumed by combustion.

~~(15)~~(14) **"Uncontrolled NOx Emissions"** means NOx emissions from an engine before application of add-on control equipment.

~~(16)~~(15) **"Waste Derived Gaseous Fuel"** means gaseous fuel including, but not limited to, digester gas and landfill gas, but excluding fossil derived gaseous fuel.

(d) **STANDARDS**

(1) A person shall not operate a stationary internal combustion engine subject to this rule unless:

(i) Uncontrolled NOx emissions from the following engines are reduced with add-on control equipment by not less than the following:

Engine Category	Weight Percent Reduction
Rich-burn engines using fossil derived gaseous fuel or gasoline	90
Lean-burn engines using fossil derived gaseous fuel	80
Engines using exclusively waste derived gaseous fuel	80

or

(ii) The ~~emissions~~ emission concentration of NOx, in parts per million by volume (ppmv), calculated as nitrogen dioxide at 15% oxygen on a dry basis, or in grams of NOx per brake horsepower-hour, are not greater than the following:

Engine Category	Concentration of NOx g/bhp-hr (ppmv)
Rich-burn engines using fossil derived gaseous fuel or gasoline	0.9 (50)
Lean-burn engines using gaseous fuel	2.3 (125)
Engines using exclusively waste derived gaseous fuel	2.3 (125)
Engines using diesel or kerosene fuel	9.0 (700)

(2) For all engines subject to Subsection (d)(1) of this rule, the ~~emissions~~ emission concentration of carbon monoxide (CO), calculated at 15% oxygen on a dry basis, shall not exceed 4,500 ppmv.

(3) An owner or operator of an engine subject to this rule shall conduct annual maintenance of the engine as recommended by the engine manufacturer or as specified by any other maintenance procedure approved in writing by the Air Pollution Control Officer.

(e) MONITORING AND RECORDKEEPING REQUIREMENTS

(1) An owner or operator of an engine subject to this rule shall keep the following records and shall maintain these records on-site for at least the same period of time as the engine to which the records apply is located at the site:

(i) engine manufacturer name and model number;

(ii) brake horsepower output rating;

(iii) combustion method (i.e. rich-burn or lean-burn);

(iv) fuel type;

(v) a manual of recommended maintenance as provided by the engine manufacturer, or other maintenance procedure as approved in writing by the Air Pollution Control Officer; and

(vi) records of annual engine maintenance, including dates maintenance was performed.

(2) In addition to the records required by Subsection (e)(1), an owner or operator of an engine exempt pursuant to Subsection (b)(2) from the requirements of Section (d) shall maintain an operating log containing, at a minimum, the following:

(i) dates and times of engine operation. If applicable, indicate whether the operation was for non-emergency purposes or during an emergency situation and the nature of the emergency, if available; and

(ii) total cumulative hours of operation per calendar year, based on actual readings of the engine hour or fuel meter.

The records specified in Subsection (e)(2)(i) are not required if total engine operations for any purpose, including emergency situations, do not exceed 52 hours in a calendar year.

(3) In addition to the records required by Subsection (e)(1), an owner or operator of a rich-burn engine subject to the requirements of Section (d) shall measure and record at least once each calendar month those operating parameters determined necessary to ensure compliance by the Air Pollution Control Officer. Such operating parameters shall ~~may~~ include but are not limited to:

(i) temperature of the inlet and outlet of the control equipment; or

(ii) engine air-to-fuel ratio; ~~and~~ or

(iii) engine inlet manifold temperature and pressure.

(4) In addition to the records required by Subsection (e)(1), an owner or operator of a lean-burn engine using gaseous fuel subject to the requirements of Section (d) shall also measure and record at least once each calendar month those operating parameters determined necessary to ensure compliance by the Air Pollution Control Officer. Such operating parameters shall ~~may~~ include but are not limited to:

(i) engine air-to-fuel ratio or automatic air-to-fuel ratio control signal voltage; or

(ii) engine exhaust gas temperature; ~~and~~ or

(iii) engine inlet manifold temperature and pressure.

(5) In addition to the records required by Subsection (e)(1), an owner or operator of an engine using diesel fuel subject to the requirements of Section (d) shall also measure and record at least once each calendar month those operating parameters determined necessary to ensure compliance by the Air Pollution Control Officer. Such operating parameters shall ~~may~~ include but are not limited to:

(i) engine air-to-fuel ratio; or

(ii) engine exhaust gas temperature; ~~and~~ or

(iii) engine inlet manifold temperature and pressure.

(6) Except for engines exempt under Subsection (b)(1), an owner or operator of an engine subject to this rule shall install a non-resettable totalizing fuel meter or non-resettable totalizing engine operating hours meter.

(7) An owner or operator of a gaseous-fueled engine rated at 1,000 bhp or greater and operated more than 2,000 hours per calendar year and first installed in San Diego County after (*date of adoption*) shall continuously monitor operating parameters necessary to ensure compliance with the emission standards specified in Section (d) of this rule. Alternatively, an owner or operator of such engine may install, operate, and maintain in calibration a continuous emission monitoring system (CEMS) to continuously measure and record oxygen concentration and NOx emissions concentration corrected to 15 percent oxygen. The CEMS shall be certified, calibrated, and maintained in accordance with all applicable federal regulations including reporting requirements of Sections 60.7(c), 60.7(d), and 60.13 of 40 CFR Part 60, performance specifications of Appendix B of 40 CFR Part 60, quality assurance procedures of Appendix F of 40 CFR Part 60, and a protocol approved in writing by the Air Pollution Control Officer.

(8) An owner or operator of a gaseous-fueled engine rated at 5,000 bhp or greater and operated more than 6,000 hours per calendar year and first installed in San Diego County after (*date of adoption*) shall install, operate, and maintain in calibration a continuous emission monitoring system (CEMS) to continuously measure and record oxygen concentration and NOx emissions concentration corrected to 15 percent oxygen, or an alternative system such as a Parametric Emission Monitoring System approved by the Air Pollution Control Officer and Environmental Protection Agency (EPA). The CEMS shall be certified, calibrated, and maintained in accordance with all applicable federal regulations including reporting requirements of Sections 60.7(c), 60.7(d), and 60.13 of 40 CFR Part 60, performance specifications of Appendix B of 40 CFR Part 60, quality assurance procedures of Appendix F of 40 CFR Part 60, and a protocol approved in writing by the Air Pollution Control Officer.

~~(6)~~(9) All records required by Subsections (e)(2) through (e)~~(5)~~(7) shall be retained on-site for at least three years and made available to the District upon request.

(f) **TEST METHODS**

~~(1)~~ To determine compliance with Section (d) during a source test, measurements of NOx, CO, carbon dioxide (CO_2) and oxygen content of exhaust gas shall be conducted ~~determined~~ in accordance with San Diego County Air Pollution Control District Test Method 100, Air Resources Board (ARB) Test Method 100 or

equivalent ~~Environmental Protection Agency (~~EPA~~)~~ test method and a source test protocol approved in writing by the Air Pollution Control Officer.

~~(2) The averaging period to calculate NOx and CO emission concentrations and to determine compliance shall be at least 30 minutes and not more than 60 minutes. NOx and CO emission concentrations shall be calculated as an average of three subtests.~~

~~(3) Emissions source testing, if applicable, shall be performed at no less than 80 percent of the brake horsepower rating. If an owner or operator of an engine demonstrates to the satisfaction of the Air Pollution Control Officer that the engine cannot operate at these conditions, then emissions source testing shall be performed at the highest achievable continuous brake horsepower rating or under the typical duty cycle or typical operational mode of the engine.~~

(g) SOURCE TEST REQUIREMENTS AND COMPLIANCE DETERMINATION

Source tests shall be conducted according to the following:

(1) After initial compliance has been determined, any engine subject to the requirements of Subsection (d), except for engines described in Subsection (g)(2) below, shall be tested at least once every 24 months, unless more frequent testing is specified in writing by the Air Pollution Control Officer.

(2) Any gaseous-fueled engine rated at 1,000 bhp or greater and operated more than 2,000 hours per calendar year shall be tested at least once every 12 months, unless more frequent testing is specified in writing by the Air Pollution Control Officer.

(3) Emissions source testing shall be conducted using the test methods specified in Section (f) and a source test protocol approved in writing by the Air Pollution Control Officer prior to testing.

(4) Emissions source testing shall be performed at no less than 80 percent of the brake horsepower rating. If an owner or operator of an engine demonstrates to the satisfaction of the Air Pollution Control Officer that the engine does not operate at these conditions, then emissions source testing shall be performed at the highest achievable continuous brake horsepower rating, or under the typical duty cycle or operational mode of the engine.

(5) The averaging period to calculate NOx and CO emission concentrations and to determine compliance shall be at least 30 minutes and not more than 60 minutes. NOx and CO emission concentrations shall be calculated as an average of three subtests.

(6) For the purposes of a compliance determination based on CEMS data, the averaging period to calculate NOx emissions concentration shall be one clock hour.

COMPARATIVE ANALYSIS FOR

RULE 69.4 - Stationary Reciprocating Internal Combustion Engines – Reasonably Available Control Technology

Pursuant to California Health and Safety Code Section 40727, the Air Pollution Control District (District) is required to make findings of necessity, authority, clarity, consistency, non-duplication, and reference prior to adopting, amending, or repealing a rule or regulation. As part of the consistency finding to ensure proposed rule requirements do not conflict with or contradict other District or federal regulations, Health and Safety Code Section 40727.2(a) requires the District to perform a written analysis identifying and comparing the air pollution control standards and other provisions of proposed amended Rule 69.4 with existing or proposed District rules and guidelines and existing federal rules, requirements, and guidelines applying to the same source category.

Amended Rule 69.4 controls oxides of nitrogen (NOx) emissions from stationary reciprocating internal combustion engines located at facilities emitting 50 tons or more per year of NOx. It reflects the federal Reasonably Available Control Technology (RACT) requirements.

There are two other District rules that apply to the same engines, Rule 69.4.1 (Internal Combustion Engines - Best Available Retrofit Control Technology, and the District's New Source Review Rules 20.1, 20.2, and 20.3.

Rule 69.4.1 reflects California Clean Air Act requirements. It applies to all existing and new stationary reciprocating internal combustion engines rated at 50 brake horsepower or greater, including those at sources emitting 50 tons per year of NOx or more. New Source Review requirements reflect federal and state mandates and apply to new and modified engines including those at large sources of NOx.

The standards and requirements of Rule 69.4 are not in conflict with those of the more stringent Rule 69.4.1. The emission standards of amended Rule 69.4 are less stringent than those of Rule 69.4.1, due to less stringent federal RACT requirements. Requirements for monitoring, recordkeeping and source testing in amended Rule 69.4 are very similar to those in Rule 69.4.1. An existing engine in compliance with Rule 69.4.1 will be in compliance with Rule 69.4. However, a new future engine rated at 1,000 brake horsepower or more will be subject to more stringent monitoring requirements under amended Rule 69.4 than under existing Rule 69.4.1.

The New Source Review Rules 20.1, 20.2, and 20.3 also establish, for new or modified engines, more stringent emissions standards than amended Rule 69.4 in order to meet state and federal requirements for Best Available Control Technology (BACT). The monitoring, recordkeeping and source testing requirements of amended Rule 69.4 are more specific but not inconsistent with the requirements of New Source Review. A new or modified engine in compliance with the New Source Review rules would also be in compliance with amended Rule 69.4.

A detailed comparison of amended Rule 69.4 with Rule 69.4.1 and BACT requirements of New Source Review is provided in Table 1. There are no conflicts or contradictions between federal and District requirements.

Table 1 - Comparative Analysis of Rule 69.4

Items for Comparison	Rule 69.4	Rule 69.4.1	New Source Review Rules, Best Available Control Technology (BACT)
Applicability	Stationary IC engines ≥ 50 bhp	Stationary IC engines ≥ 50 bhp	New IC engines ≥ 50 bhp
Exemption	• Exempt from rule: - Portable engines - Agricultural engines - Family dwelling engines - Test cell research engines • Exempt from emission standards: - Military tactical engines - Emergency standby engines - Engines operating < 200 hrs/yr - Nuclear power plant engines	• Exempt from rule: - Portable engines - Agricultural engines - Family dwelling engines - Test cell research engines - Military tactical engines • Exempt from emission standards: - Existing emergency standby engines - Existing engine operating < 200 hrs/yr - Nuclear power plant engines	• Exempt from rule: - Agricultural engines - Military tactical engines - Family dwelling engines - Engines with emissions < 10 lbs/day of all criteria pollutants
Emission Standards	A. <u>NOx Standard:</u> • Gas engines: - Rich burn natural gas or gasoline: 50 ppmv - Waste gas: 125 ppmv - Lean burn: 125 ppmv • Diesel engines: 700 ppmv (approx. 9 grams/bhp-hr) B. <u>CO Standard:</u> 4,500 ppmv C. <u>VOC Standard:</u> N/A *(ppmv concentrations calculated at 15% O_2)*	A. <u>NOx Standard:</u> • Gas engines: - Rich burn natural gas or gasoline: 25 ppmv - Rich burn waste gas: 50 ppmv - Lean burn: 65 ppmv • Diesel engines: - High-use, new low-use, new cyclic, new emergency standby: 6.9 grams/bhp-hr - Low-use: 700 ppmv (approx. 9 grams/bhp-hr) B. <u>CO Standard:</u> 4,500 ppmv C. <u>VOC Standard:</u> - Rich burn gas engines: 250 ppmv *(ppmv concentrations calculated at 15% O_2)*	A. <u>NOx Standard:</u> • Gas engines: 0.07 grams/bhp-hr (approx. 4.8 ppmv) • Diesel engines: - Engines < 200 bhp: 7.2 grams/bhp-hr - Engines between 200 bhp and 750 bhp: 6.9 grams/bhp-hr B. <u>CO Standard:</u> N/A C. <u>VOC Standard:</u> - Diesel engine < 200 bhp: 1.5 grams/bhp-hr - Lean burn gas engine: 0.6 grams/bhp-hr - Rich burn gas engine: 0.15 grams/bhp-hr *(ppmv concentrations calculated at 15% O_2)*

Table 1 - Comparative Analysis of Rule 69.4 - Continued

Items for Comparison	Rule 69.4	Rule 69.4.1	New Source Review Rules, Best Available Control Technology (BACT)
Control Technology Standard	N/A	• Gas engines: N/A • Diesel engines: - High use, all replacement engines: Tier I certified off-road engines - Low-use engines: Tier I certified off-road engines; or combination of any two of the following: Turbo-charger, aftercooler, or 4° injection timing retard	• Gas engines: electric motor, non-selective catalytic reduction (NSCR), selective catalytic reduction (SCR) • Diesel engines: - Engines < 200 bhp: California Diesel fuel and turbo-charger, aftercooler, and 4° injection timing retard - Engines between 200 and 750 bhp: SCR, or, if not cost effective: California Diesel Fuel, and turbocharger, aftercooler, and 4° injection timing retard, or Tier I certified off road engines
Fuel Requirement	N/A	California Diesel fuel	California Diesel fuel
Monitoring Requirements	- Monitor operating parameters that are indicative of engine emissions - Continuously monitor operating parameters, or alternatively, install a continuous emission monitoring system (CEMS) for new engines 1,000 bhp or above and operating more than 2,000 hours per calendar year - Install CEMS for new engines 5,000 bhp and above and operating more than 6,000 hours per year - Install engine hour - or fuel meters	- Monitor operating parameters that are indicative of engine emissions - Install engine hour meters or fuel meters	- Pending evaluation on case-by-case basis, no specific requirements
Recordkeeping Requirements	• Keeping records of: - Engine descriptions, fuel type, maintenance procedure manual - Engine operating hours per calendar year - Engine maintenance - Applicable engine operating parameters	• Keeping records of: - Engine descriptions, CARB fuel certification, maintenance procedure manual - Engine operating hours per calendar year - Engine inspection and maintenance - Applicable engine operating parameters	- Pending evaluation on case-by-case basis, no specific requirements

Table 1 - Comparative Analysis of Rule 69.4 - Continued

Items for Comparison	Rule 69.4	Rule 69.4.1	New Source Review Rules, Best Available Control Technology (BACT)
Source Test Requirements	- Once every 24 months for engines subject to emission standard requirements. - Annual for existing gaseous fueled engines rated at or above 1,000 bhp and operating more than 2,000 hours per calendar year.	- Source testing once every 24 months for engines subject to emission standard requirements	- Pending evaluation on case-by-case basis, no specific requirements

AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN DIEGO

PROPOSED AMENDMENTS TO RULE 69.4 - STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES - REASONABLY AVAILABLE CONTROL TECHNOLOGY

WORKSHOP REPORT

A notice for a workshop on the proposed Rule 69.4 amendments was mailed to all known owners and operators of stationary reciprocating internal combustion (IC) engines in San Diego County. Notices were also mailed to all Economic Development Corporations and Chambers of Commerce in San Diego County, the U.S. Environmental Protection Agency (EPA), the California Air Resources Board (ARB), and other interested parties. The workshop was held on November 20, 2002, and was attended by three people. Oral and written comments were received before and during the workshop. The comments and the Air Pollution Control District (District) responses are as follows:

1. ARB WRITTEN COMMENT

Subsection (e)(8) requires that the referenced records be retained for a period of at least three years. This retention period falls short of the five-year period required for the federal Title V program sources. It is recommended that Subsection (e)(8) be modified to include a five-year record retention for these sources, to comply with the Title V requirements and improve the rule's stringency.

DISTRICT RESPONSE

Title V sources will have a specific requirement to retain records for five years as a part of the federal Title V permit program. Therefore, it is not necessary to include this requirement in Rule 69.4. Moreover, should this Title V requirement change in the future, the District would not have to make corresponding amendments to Rule 69.4 and other rules which may apply to Title V sources.

2. WRITTEN COMMENT

Subsection (e)(7) of the proposed amended rule requires the installation of a Continuous Emission Monitoring System (CEMS) to measure and record oxygen and oxides of nitrogen (NOx) emission concentrations for existing gaseous-fueled engines rated at 1,000 brake horse power (bhp) or above and operating more than 2,000 hours per year. Minnesota Methane LLC operates 12 such engines in San Diego County. The cost of installation, operation and maintenance of CEMS, and accompanying data acquisition systems, would be close to a million dollars. This is financially burdensome and would potentially bankrupt the operation. In addition, the company has contracts with both local utilities and the City of San Diego to

supply power. A failure to do so would bring about legal action for breach of contracts, resulting in additional financial sanctions. This requirement would not significantly improve air quality but would severely impact Minnesota Methane LLC and similar businesses located in San Diego County.

DISTRICT RESPONSE

A continuous monitoring of large gaseous-fueled engines was included in the rule to correct an EPA-identified rule deficiency. It is also consistent with the state Reasonably Available Control Technology and Best Available Retrofit Control Technology (RACT/BARCT) Guidance issued by ARB in 2001. However, the District agrees that it would result in a great financial burden on existing facilities in San Diego County. In addition, existing engines which would be subject to these requirements are presently complying with the significantly more stringent emission standards of Rule 69.4.1 (Stationary Reciprocating Internal Combustion Engines - Best Available Retrofit Control Technology) than those of Rule 69.4.

Proposed Subsection (e)(7) has been revised to exclude existing engines from the requirement to install CEMS provided that the engines undergo annual source testing. The CEMS requirement will only apply to new engines rated at 1,000 bhp or above and operating more than 2,000 hours and installed after the date of the rule adoption.

EPA has concurred with the District's position.

3. WRITTEN COMMENT

The amendment to Subsection (e)(7) has been proposed as a correction to a rule deficiency identified by EPA. If the District decides to revise this amendment as a result of the workshop comments, how would it be presented to EPA?

DISTRICT RESPONSE

As a part of regular rule development procedures, the District would conduct a preliminary discussion with EPA staff on the proposed rule changes as a result of workshop comments. The amended rule, together with the workshop report, will then be submitted to EPA for formal comments.

In this case, Subsection (e)(7) requirements have been discussed with EPA staff. They have concurred with the revision described above. (See response to Comment No. 2.)

4. WRITTEN COMMENT

Can an existing Title V permit be modified to designate a facility as a synthetic minor source for NOx if a facility has a potential to emit of approximately 51 tons per year, but had actual emissions less than 50 tons per year?

DISTRICT RESPONSE

Yes, such a facility can be designated a synthetic minor source for NOx if it applies for and is granted practicably-enforceable permit conditions in its Title V permit limiting its potential to emit to less than 50 tons of NOx per year.

5. WRITTEN COMMENT

Would this facility be also exempt from Rule 69.4 requirements?

DISTRICT RESPONSE

Yes, it would be exempt from Rule 69.4 which applies only to sources which have a potential to emit 50 tons per year of NOx or more and reflects federal RACT requirements. However, the facility will still be subject to Rule 69.4.1 - Stationary Reciprocating Internal Combustion Engines - Best Available Retrofit Control Technology, which reflects more stringent state requirements and applies to all reciprocating IC engines rated 50 bhp or larger.

6. WRITTEN COMMENT

Rule 4701 of the San Joaquin Valley Unified Air Pollution Control District (APCD) is similar to Rule 69.4. Both rules were adopted to reduce NOx emissions from reciprocating IC engines to achieve attainment of the state and federal ozone standard. San Joaquin Valley is designated by the Federal Clean Air Act as a severe ozone nonattainment area while San Diego County is a serious nonattainment area. However, Rule 4701 only requires continuous monitoring of NOx, O_2 and CO for engines with "an external control device." Why would EPA have more stringent requirements for the area which has less severe air pollution problems?

DISTRICT RESPONSE

EPA has not yet approved current Rule 4701 into the State Implementation Plan (SIP). In fact, EPA first proposed a limited approval/limited disapproval of this rule, identifying several deficiencies including monitoring requirements, in 1998 when San Joaquin Valley was still designated as a serious ozone non-attainment area. In December 2001, EPA reclassified San Joaquin Valley as a severe ozone non-attainment area. In February 2002, EPA finalized its limited approval/limited disapproval of Rule 4701.

San Joaquin Valley APCD is presently in the process of revising Rule 4701 to correct EPA-identified deficiencies. It is now proposing to require CEMS by year 2007 on all new and existing engines larger than 1,000 bhp and operating more than 2,000 hours per year to make it consistent with the state RACT/BARCT Guidance.

7. WRITTEN COMMENT

As currently written, Rule 69.4 does not allow for any type of intermediate performance testing prior to the submittal of the Construction Completion Notice. The City of San Diego Metropolitan Wastewater Department proposes to add language to the rule to allow the testing of partially installed equipment prior to installation of air pollution controls.

DISTRICT RESPONSE

The District is presently working on new Rule 24.1 – Initial Start-up and Shakedown (Commissioning) Operations for Equipment with Add-on Emission Control Devices which will address emissions and other issues that arise during the commissioning of equipment with add-on emission controls. The District is planning to present this rule for a public workshop in late 2003.

8. WORKSHOP COMMENT

Is Parametric Emission Monitoring System (PEMS) considered an alternative monitoring system by Subsection (e)(7)? Can this subsection include language for PEMS?

DISTRICT RESPONSE

Yes. Subsection (e)(7) has been revised to clarify that a PEMS is an allowed alternative to CEMS provided that it is approved by the District and EPA.

9. WORKSHOP COMMENT

Getting approval from EPA usually takes time and will slow down the process. EPA approval is not required in other sections of the rule.

DISTRICT RESPONSE

It has been EPA policy since 1987 that no alternative means of emission control and/or monitoring and reporting requirements are allowed at a local agency's discretion in a federally enforceable rule unless it is also approved by EPA.

10. WORKSHOP COMMENT

In other districts, parametric monitoring is considered equivalent to continuous emission monitoring.

DISTRICT RESPONSE

Please see the District response to Comment No. 8.

11. WORKSHOP COMMENT

Can the District persuade EPA to repeal its requirement for CEMS on large engines? The engines subject to Rule 69.4 are already required by permit conditions to monitor air to fuel ratio, which perfectly reflects exhaust oxygen concentration. A portable NOx analyzer is also used to periodically check the engine emissions. Similar monitoring has proven successful in a similar operation in Washington State.

DISTRICT RESPONSE

The District has obtained EPA concurrence to require CEMS only for new engines installed after the date of rule adoption provided that existing engines rated at 1,000 bhp or higher and operating more than 2,000 hours per year undergo an annual source test.

The air-to-fuel ratio may indicate oxygen concentration, but it is not necessarily sufficient for determining NOx emissions concentration. As stated in response to Comment No. 8, an alternative monitoring system is allowed provided it is approved by the District and EPA.

In regard to portable emission analyzers, engine operators may want to use them as a screening tool to periodically check NOx emissions concentration. The District does not currently require them. Also, please see the District response to Comment No. 13.

12. WORKSHOP COMMENT

Not all recordkeeping requirements of Section (e) should be necessary for engines that have CEMS.

DISTRICT RESPONSE

The District agrees. The rule has been revised to specify that only the requirements of Subsection (e)(1) are applicable to engines which have CEMS.

13. WORKSHOP COMMENT

Would the District use a portable analyzer to determine compliance status?

DISTRICT RESPONSE

The District is currently investigating the use of portable analyzers as part of a program to monitor compliance with the rule. At the present time, the District would require a follow-up source test whenever portable analyzer results indicate a potential violation of the emission standards of Rule 69.4.

14. WORKSHOP COMMENT

Would the District consider some time window for engines not having to comply with the emission standards during startups and shutdowns in source test requirements of Section (g)?

DISTRICT RESPONSE

The District is not aware that this is a problem when compliance is determined by a source test using District Test Method 100. The rule specifies a testing period to calculate NOx and CO emission concentrations of at least 30 minutes and not more than 60 minutes. This period is longer than a typical 15-minute start-up period for an engine with internal emission controls (combustion modifications). In addition, all engines subject to Rule 69.4 must also comply with more stringent emission standards of Rule 69.4.1. Therefore, excess emissions from such engines, if any, should be minimal during start-up or shutdown and should not violate Rule 69.4 limits.

15. WORKSHOP COMMENT

When will the proposed amended rule become effective?

DISTRICT RESPONSE

The amended rule will become effective on the date of its adoption by the Air Pollution Control Board. The District is planning to submit the rule to the Board for adoption in April 2003.

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