Application of San Diego Gas & Electric Company (U902M) for Authority, Among Other Things, to Increase Rates and Charges for Electric and Gas Service Effective on January 1, 2012.	A.10-12-005 (Filed December 15, 2010)
Application of Southern California Gas Company (U904G) for authority to update its gas revenue requirement and base rates effective on January 1, 2012.	A.10-12-006 (Filed December 15, 2010)

Application: A.10-12-006
Exhibit No.: SCG-215

PREPARED REBUTTAL TESTIMONY OF
DEANNA R. HAINES
ON BEHALF OF SOUTHERN CALIFORNIA GAS COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

OCTOBER 2011

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PREPARED REBUTTAL TESTIMONY OF
DEANNA R. HAINES
ON BEHALF OF SOUTHERN CALIFORNIA GAS COMPANY

I. INTRODUCTION

My testimony adopts the Prepared Direct Testimony of Lisa Gomez and responds to selected portions of the following environmental policy-related intervenor testimony:

- Division of Ratepayer Advocates (DRA), DRA Exhibits 24, 44 & 45;
- Southern California Generation Coalition (SCGC), Catherine Yap, Pages 13-18;
- The Utility Reform Network (TURN), William Marcus, Pages 1-3.

Southern California Gas Company (SCG) disagrees with certain analysis and conclusions of the above intervenors and rebuts incorrect and unsupported disallowances. I describe the environmental policy and issues that impact new compliance costs for the Environmental Services department as well as for other SCG Operations and Policy witnesses who support new environmental compliance requirements.

As described in my direct testimony,[1] the Environmental Services department forecasts an overall escalated budget in 2012 of $13.90 million, which includes $ 8.96 million to SDG&E, $4.86 million to SCG and $0.09 million to Corporate.

The summary of intervenor testimonies that seek to change or deny incremental environmental-related changes is provided below.

[1] Exhibits SCG-15, p. LPG-18; SDGE-21, p. LPG-20 (Gomez, adopted by Haines).

- DRA - does not seek changes to the booked expenses for SCG of $4.86 million for the Environmental Services department. However, DRA seeks to reduce incremental O&M increases from $35,219,000 to $352,000, for witnesses in other environmental-related areas of SCG operations and policy. For new capital environmental-related requirements, DRA seeks to reduce total proposed increases from $40,880,000 (2011 and 2012) to $9,123,000 (2011 and 2012).
- SCGC – for some but not all compliance expenses, SCGC supports use of the New Environmental Balancing Account (NERBA) associated with new greenhouse gas regulations and denies CARB's administrative fees (~$4.52 million) in Transmission O&M.[2]
- TURN – refutes SCG's request for the NERBA Gas Distribution dollars in the amount of $23.4 million and additional O&M expenses.

This rebuttal will address each of the intervenors' claims as they relate to environmental policies. While SCG did not address each and every DRA and intervenor proposal, it should not be assumed that failure to address any individual issue implies agreement by SCG with the DRA or intervenor proposal.

My testimony is organized as follows:

- Section II – SCG Environmental Services O&M Expenditures
- Section III – Environmental Policy Issues
  - A. New Environmental Regulatory Balancing Account (NERBA)
  - B. Greenhouse Gas (GHG) Regulations Compliance Obligations
    1. GHG Regulations field staff support for Distribution

[2] SCGC, Yap, p. 14, lines 23-24. Note that SCGC references these costs as Transmission O&M; however, costs are in testimony and workpapers for SCG-05, Gas Engineering O&M.

2. GHG Regulations Impacts to Transmission and Storage

3. AB32 Cost of Implementation Fees (aka Administrative Fees)

4. AB32 Cap-and-Trade Compliance Obligations

C. Compensatory Mitigation for Incidental Programmatic Take Permits

D. Reciprocating Internal Combustion Engines (RICE) National Emission Standards for Hazardous Air Pollutants (NESHAPS)

E. Mojave Desert Air Quality Management District (MDAQMD) Rule 1160

F. South Coast Air Quality Management District (SCAQMD) Rule 317

G. Santa Barbara County Air Pollution Control District (SBCAPCD) Rule 333

- Section IV – Summary and Conclusion
- Section V– Statement of Qualifications
- Section VI – Appendices

II. SOCALGAS ENVIRONMENTAL SERVICES O&M EXPENDITURES

DRA supports the total book expense for SCG Environmental Expenses in Table 24-2 on page 3 of DRA-24 and the total shared services for SDG&E Environmental Expenses in Table 24-1 on page 2. SCG agrees with DRA's recommendation for accepting the total booked expenses for SCG Environmental Services expenses and the total shared expenses for SDGE Environmental with no change.

III. ENVIRONMENTAL POLICY ISSUES

However, DRA recommends reducing certain environmental-related incremental increases included in the testimonies and workpapers of other SCG witnesses. Those other witnesses also rebut DRA's recommendations and defer to this testimony for the central policy support justifying SCG's position. My testimony identifies where regulations were not appropriately applied to a company process and where that has led to misguided

recommendations. Where DRA has incorrectly described certain issues, I explain current environmental-related upward pressures for both SCG and SDG&E. In general, the key environmental issues presented in this GRC period are very complex and in some cases still in flux. The complexity of these new regulatory requirements is further compounded when applied to specific utility operations and equipment. Understanding and correctly applying regulatory requirements in any given circumstance is important to correctly forecasting environmental-related increases and reaching an appropriate recommendation.

A. New Environmental Regulatory Balancing Account (NERBA)

DRA incorrectly recommends rejecting SCG's proposed treatment of greenhouse gas mandatory reporting requirements for Gas Distribution in the New Environmental Regulatory Balancing Account (NERBA).[3] SCG has proposed this two-way balancing account mechanism (in Greg Shimansky's testimony)[4] due to the uncertainty and potential high dollars for certain greenhouse gas related issues. The environmental issues proposed for the SCG NERBA are limited to Environmental Protection Agency's (EPA's) Mandatory Reporting under Subpart W, AB32 Cap-and-Trade emission allowances (a tradeable type of emissions credit) and AB32 administrative fees. Due to the large scope of these issues and the potentially high costs of compliance with these new regulations, NERBA is a sensible way to account for and manage this uncertainty.

In contrast, DRA's recommendation to use "90 locations and a unit cost of $300 per site for $27,000 in TY 2012, compared to SCG's request for $23.4 million for this sub-category"[5] does not account for this uncertainty. DRA implies that there is certainty because "the new

[3] DRA Exhibit-44, Gas Distribution, Section h., pp. 24-27; SCGC Yap Testimony, pp. 13-18; TURN Marcus Testimony pp. 1-3. SCGC and TURN intervenors have mixed opinions as it relates to NERBA. SCGC provide arguments for some expenses to be included in NERBA while TURN generally agrees with DRA's position to eliminate it altogether.
[4] Exhibit SCG-34 (SCG Regulatory Accounts), pp.5-7.
[5] DRA Exhibit-44, p. 27, line 20.

Subpart W became final and effective as of November 8, 2010."[6] While this is true, EPA's Mandatory Reporting under Subpart W is still in flux, as is the State's inclusion of these requirements in their AB32 mandatory reporting regulations. It is uncertain what requirements compliance with these rules will entail, and at what potentially large costs. The proposed two-way balancing account for these costs thus continues to be reasonable.

It is important to understand that the EPA's Subpart W has undergone several modifications and iterations regarding definitions and source description since the November 8th 2010 rule. In August 2011, EPA issued a second revision of technical corrections that again changed areas of consideration involved in determining source requirements for leak testing.[7] For example, rule definitions have changed for terms like "city gate," which impacts scope and costs for compliance activities. The specific language used to identify the distribution equipment that must have annual leak testing has changed several times.

Adding to this uncertainty, the rule is currently in a 30-day comment period that started on September 9, 2011, where EPA issued proposed revisions to three subparts under the Greenhouse Gas Mandatory Reporting Rule, Part 98: subparts A, I, and W. The revisions are to correct technical and editorial errors and address issues identified as a result of working with trade associations and representatives from companies required to report under the new rule during rule implementation. In the current comment process, EPA is considering the use of leak threshold levels so that smaller above grade transmission-distribution transfer stations would not be required to conduct leak testing. These revisions and proposed revisions have real impacts on compliance costs.

[6] DRA Exhibit-44, p. 25, line 23.
[7] http://www.epa.gov/climatechange/emissions/subpart/w.html.

The moving target and uncertainty surrounding the regulatory leak testing requirements has truly made cost determination challenging. As stated in DRA-SCG-107-Q2 (see Appendix A), "SoCalGas is currently supporting the American Gas Association who is working with EPA to gain greater clarity on the rulings and its requirements for Subpart W as it applies to SoCalGas' business operations. Until more specific guidance is received SoCalGas is not in a position to provide an updated cost estimate." Consequently, SCG refutes DRA's position that the impact of an evolving Subpart W can be defined at this time to 90 distribution meter and regulator stations. SCG's original estimates on Subpart W requirements should stand, because of the uncertainty for the final mandates of the rule in this GRC period.

DRA's recommendations to reject SCG's NERBA account and incorporate extreme reductions to SCG's estimates for Subpart W costs should be rejected, because costs for the Subpart W compliance activities are potentially very large and are still difficult to forecast. NERBA reasonably provides for the two-way balancing of costs during the initial implementation of the Subpart W mandates until their scope is clearly defined by the agencies and there is a historical base for future projections. For these reasons, NERBA is a sound mechanism to recover costs for the initial implementation of these new environmental regulatory mandates.

B. Greenhouse Gas (GHG) Regulations Compliance Obligations[8]

DRA challenges field staff support and/or related contractor support due to the timing of both the AB32 Cap-and-Trade program and the AB32 and EPA's Mandatory Reporting Rule. DRA also challenges the timing of the compliance obligations for the AB32 Cost of Implementation Fees (aka Administrative Fees) and allowances or offsets needed for the AB32

[8] DRA Exhibit-44, pp. 50-54 for Gas Distribution; pp. 71-73 for Gas Engineering; p. 99 for Gas Transmission; and pp. 106-107 for Gas Storage.

Cap-and-Trade program. DRA's conclusions for these areas should be rejected, as detailed in the sections that follow**.**

1. GHG Regulations field staff support for Distribution

DRA claims that SCG's requested gas distribution field support resources should be reduced (from 4 FTE to 2 FTE) because implementation of the EPA's issuance of the Greenhouse Gas Mandatory Reporting Rule has been extended and the California Air Resources Board (CARB) AB32 cap-and-trade program has been delayed.[9] These recommendations are not supported by fact. SCG has explained to DRA that EPA's mandatory reporting was delayed, but only from a due date of March 2011 to September 30, 2011.[10] SCG's monitoring, recordkeeping and reporting requirements are not delayed beyond the TY 2012, and the timing for such reporting still remains well within the GRC period. Consequently, SCG is still required to conduct the compliance activities for AB32 and EPA's programs for monitoring, recordkeeping and reporting.

The facts support SCG's request for 4 FTEs. An entity's emissions for purpose of compliance with the cap-and-trade program are based on its reported emission under CARB's Mandatory Reporting Program. Although there is a cap-and-trade program delay, such delay does not impact SCG's need for added staff to conduct the new monitoring-related requirements for reporting. SCG will be incurring costs to manage compliance obligations under the AB32 and EPA Mandatory Reporting in this GRC period and its request for an incremental increase in costs for staff to manage these new requirements is necessary.[11]

[9] DRA Exhibit-44, p.52, lines 10-16 (Mandatory Reporting Rule); p. 53, lines 10-18 (Cap-and-Trade).
[10] *See* SCG response to DRA data request DRA-SCG-095-Q3 (see Appendix B).
[11] As described in SCG-02 and SCG-202, the Prepared Direct and Rebuttal Testimonies of Gina Orozco-Mejia (Gas Distribution).

2. GHG Regulations Impacts to Transmission and Storage

DRA recommends a fifty percent reduction in Gas Storage's request for incremental cost increases, because "[T]he number of sites proposed by SCG in the application was 78,147 and the final rule now requires leak detection only at certain sites identified as custody transfer gate stations."[12] This reasoning is incorrect, and does not support DRA's recommendation. Further, DRA recommends that the Commission deny SCG's Gas Transmission's requested dollars for CARB, AB32 and EPA greenhouse gas requirements, stating "it is unlikely that SCG will be required to address any new regulations until 2016 because of the delay in the implementation date."[13] This reasoning is also incorrect and misapplied, as shown below.

AB32 and EPA mandatory reporting requirements both include a number of activities beyond "Distribution" that specifically apply to both Transmission and Storage. SCG's requests are based on estimated cost increases to identify fugitive releases of methane gas into the atmosphere and FTEs to address increased monitoring, recordkeeping and reporting requirements under AB32 and EPA's Mandatory Reporting requirements in Transmission and Storage. Neither the start date of AB32 Cap-and-Trade program nor the leak survey required by distribution impacts the compliance activity and recordkeeping requirements specific to gas transmission or storage under AB32's or EPA's Mandatory Reporting requirements. For example, unchanged compliance activities can be found in regulations (40 CFR, Part 98) and include the following:

- Enhanced fugitive leak detection, monitoring, and repair practices including

[12] DRA Exhibit-44, pp. 106-107, lines 2-5.
[13] DRA Exhibit-44, p. 99, lines 12-14.

- Annual leak detection for fugitives from connectors, block valves, control valves, compressor blowdown valves, pressure relief valves, orifice meters, other meters regulators, and open-ended lines;

- Count of natural gas pneumatic bleed devices;
- Quantification of leaks;
- Calculation and reporting of emissions;
- Development, maintenance and implementation of the greenhouse gas monitoring plans that details quality control and quality assurance activities that must be followed for measurements of greenhouse gas emissions from all sources; and
- Development, maintenance and implementation of an overall greenhouse gas management plan.

SCG Gas Transmission is required to manage the monitoring, recordkeeping and reporting requirements for AB32's and EPA's Mandatory Reporting requirements for its large compressor stations. The first mandatory reports were due September 30, 2011. The large compressor stations that emit more than 25,000 MT CO2e are covered industrial facilities in the first compliance period of cap-and-trade (delayed from 2012 to 2013). The 2016 date DRA references is the ***second*** compliance period for AB32 cap-and-trade allowances. However, SCG will be incurring costs in ***this*** GRC period to manage compliance obligations under the AB32 and EPA Mandatory Reporting. SCG's request for an incremental increase in costs for these new requirements is timely, necessary and reasonable.[14]

The leak detection activities at 78,147 sites described in SCG's testimony are Gas Distribution operations in compliance with Subpart W. SCG Transmission and Storage

[14] Supported in the Prepared Direct and Rebuttal Testimony SCG-03 and SCG-203 of John Dagg (Gas Transmission).

operations have compliance obligations to manage the monitoring, recordkeeping and reporting requirements for AB32's and EPA's Mandatory Reporting requirements. These new compliance activities have generated additional work scheduling and tracking requirements, along with an increased volume of data to be collected, analyzed, reported and stored. These are incremental activities with associated expenses to the Transmission and Storage organizations to meet the new compliance requirements. SCG's requests for an incremental increase in costs for these new requirements[15] are necessary, reasonable, and should be approved.

3. AB32 Cost of Implementation Fees (aka Administrative Fees)

DRA states it is "not confident that the AB32 regulations will require any compliance action from SCG regarding fees and or emission credits until at least 2016."[16] However, SCG ***already*** paid mandatory AB32 administrative fees to CARB for the agency's fiscal budgets 2010/2011 and 2011/2012. The fees total more than $11 million and will be on-going on an annual basis. Copies of CARB administrative fee invoices to SCG are attached (see Appendix C). Decision (D.)10-12-026 authorized a memorandum account for SCG to record any fees pending final disposition.

In SCGC[17] testimony recommends denial of the AB32 Administrative Fees ($4.52 million) because "[I]ncluding SoCalGas' cost of ARB administrative fees in gas transmission O&M would result in recovery of administrative fees from EG and wholesale customers that bear the ARB administrative fee directly."[18] This is a concern by SCGC that would be resolved in a rate-design proceeding following the decision in this rate case, but also appears to be a misunderstanding on SCGC's part that the total of fees would be collected twice.

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[15] Described in the Prepared Direct and Rebuttal Testimonies of James Mansdorfer (Gas Storage SCG-04, pp. JDM-14 & 15) and John Dagg (Gas Transmission SCG-03, pp. JLD-7 and 12).
[16] DRA Exhibit-44, p. 73, lines 22-23.
[17] SCGC, Yap, pp. 13-18.
[18] SCGC, Yap, p. 14, lines 25-27.

SCGC correctly notes from the testimony of Mr. Ray Stanford,[19] which SCGC cites within its own testimony, that the fees are calculated while excluding wholesale and electric generating unit customers (EGU). Mr. Stanford further elaborates (also shown in SCGC's testimony) that SCG's estimate or its TY 2012 fee at $4,542,000 is based on SCG 2008 throughput minus the EGU and wholesale throughput, so that wholesale and EGU customers would not be double-charged. Future rate-design proceedings can ensure that the AB32 fee component is excluded from their tariffed rates.

The total $4.52 million is still attributable to the core gas volume (excludes wholesale and generators), which is still invoiced to SCG, and is therefore a necessary expense of providing service to ratepayers. SCGC's implication that the $4.52 million would be double-collected is in error, and the Commission should still approve SCG's request for AB32 Administrative Fees. Also, SCGC's recommendation that AB32 fees should be made part of the NERBA is, in fact, precisely as SCG proposes both in Mr. Stanford's testimony[20] and my direct testimony.[21] Thus, it is reasonable for the Commission to adopt SCG's proposal to allow cost recovery for AB32 administrative fee expenses in this GRC through the proposed NERBA mechanism.

4. AB32 Cap-and-Trade Compliance Obligations

DRA incorrectly concludes that AB32 cap-and-trade emissions allowances will not likely require SCG to have a compliance action or obligation regarding fees and or emission credits until at least 2016.[22] The 2012 cost of cap-and-trade emissions allowances represented in the workpapers of witness Ray Stanford, Gas Engineering, at $5 million represent only one year of estimated allowance obligation for SCG's covered industrial facilities.[23] An allowance is an

[19] SCG-05, pp. 21-22.
[20] Exhibit SCG-05, p. RKS-21, lines 20-24.
[21] Exhibit SCG-15, LPG-10, line 9 (Gomez, adopted by Haines).
[22] DRA Exhibit-44, p. 73, lines 20-23.
[23] Exhibit SCG-05-WP, pg. 23.

authorization allowing a covered entity to emit one metric tonne (MT) of carbon dioxide equivalent (CO2e). SCG requires emissions allowances in the first compliance period because of the operation of its large storage fields and transmission compressors stations. These large facilities trigger the "industrial-combustion and process emissions" category of facilities covered in the first compliance period or initial phase of the cap-and-trade program because their combustion emissions exceed 25,000 MT of CO2e in a year.

CARB's cap-and-trade regulatory changes delayed the first allowance auction that was originally scheduled for February 2012 to August 2012, in which SCG plans to participate. Consequently, the 2012 auction will make the 2013 first compliance period allowances available as well as a portion of the 2015 second compliance period allowances. SCG will incur costs in 2012 with its participation in CARB's 2012 auctions to acquire allowances for up to 33 percent of the 2013 compliance obligations for 2013 emissions. In addition, SCG will also be allowed to purchase 10 percent of the 2015 second compliance allowances in 2012. The cost of an allowance is still driven by the market and is very uncertain. Although SCG estimated the cost of an allowance to be ~$20 per tonne of CO2e, the actual cost could be much higher.

The second cap-and-trade compliance period starting in 2015 relates to fuel suppliers and is outside the scope of this GRC. SCG's obligation to pay under the second compliance period will occur in 2016 and will be additive to SCG's initial compliance period cap-and-trade obligations for its facilities emitting greater than 25,000 MT of CO2e. As mentioned previously, the allowances for 2015 *could* be acquired as early as 2012 through CARB auctions, but SCG still did not include these second-phase costs in this GRC period. DRA's claim that no compliance obligations for AB32 cap-and-trade will occur in this GRC period is incorrect. SCG's request for cost recovery for AB32 cap-and-trade allowance expenses in this GRC through the proposed NERBA mechanism should be approved.

In summary, DRA is incorrect in claiming that compliance obligations for AB32's Cap-and-Trade program, AB32's Cost of Implementation Fees and AB32's and EPA's Mandatory Reporting are not within the GRC timeframe due to some delays in the AB32 Cap-and-Trade program. SCG will incur costs during this timeframe, as described above. Also, definitions for equipment that require leak surveying are still in flux and Transmission and Storage under AB32 and EPA's Mandatory Reporting have distinct and separate facilities with their own compliance requirements.

C. Compensatory Mitigation for Programmatic Incidental Take Permits[24]

As part of its recommendation to the Commission, DRA addresses the process for compensatory mitigation for environmental impacts. Regarding habitat mitigation, DRA incorrectly recommends the full disallowance of SCG's cost estimate. SCG disagrees with eliminating needed funds for purchase of mitigation related to provisions of Section 10 of the Federal Endangered Species Act (ESA) and Section 2081 of the State Fish and Game Code.

DRA incorrectly concludes that the "strategy of purchasing lands in exchange for special permits to satisfy requirements under the ESA is very speculative"[25] and that "SCG has not provided any detailed analysis to justify the need."[26] SCG needs to purchase mitigation in the form of credits from a land bank or actual land in exchange for "take" authorization for unavoidable impacts to a listed species or its habitat. SCG's provides additional detail on the process below to explain that it is not speculative, but regulatory-driven, with state and federal agency oversight.

"Take" authorizations are provided to SCG by way of obtaining Incidental Take Permits (ITPs) pursuant to Section 10 of the Federal ESA and Section 2081 of the State Fish and Game

[24] DRA Exhibit-45, pp. 20-21 (Pipeline Land Rights (Budget Code 617)).
[25] DRA Exhibit-45, p. 21, lines 3-4.
[26] DRA Exhibit-45, p. 21, line 8.

Code (i.e., the State ESA). These laws are not speculative. They are in effect, and SCG's operations and maintenance (O&M) and construction activities in the affected lands are subject to these laws. Under these laws, the unauthorized take of certain listed species is prohibited. Accordingly, SCG is pursuing take authorizations via the preparation and submittal of a Habitat Conservation Plan (HCP) in support of state and federal applications for ITPs. Under the provisions of both the federal and state ESAs, an applicant for an ITP is required to demonstrate how they intend to mitigate their "take" impacts and how they will pay for such mitigation. SCG's pre-purchase of compensatory mitigation is the primary component of the Company's effort to comply with this programmatic permit approach.

The offer of pre-purchasing mitigation prior to actual impacts is not a new idea, but rather an agency-preferred practice that has been successfully implemented since 1998 by SCG, pursuant to the terms and conditions of SCG's Section 7 Programmatic Consultation/Conference between the U.S. Bureau of Land Management and the U.S. Fish and Wildlife Service (USFWS), regarding SCG's O&M and new construction within the San Joaquin Valley. The pre-purchasing of mitigation land has also been employed by other project proponents, including PG&E, whose San Joaquin Valley O&M HCP (Jones & Stokes, December 2006) identified approximately 225 acres of compensation lands that would be pre-purchased to offset their first five years of effects. Additionally, HCPs are utilized nation-wide as a strategic approach to conservation and promoting biodiversity. For example, NiSource, which distributes electricity, natural gas and water in the Midwest and Northeast United States, has proposed a multi-state HCP for their pipeline system that spans three USFWS regions and fourteen states (see Appendix D).

In its response to DRA-SCG-136-KCL (Appendix E), SCG explained the need for obtaining ITPs in detail to DRA and from which most of the content of this rebuttal is drawn.

SCG also explained that there is no other feasible alternative that accommodates the efficient and timely completion of pipeline work required for safety, reliability and General Order related compliance.

To paraphrase the information already provided to DRA in Work Papers and in DRA-SCG-136-KCL:

- SCG's Coastal Region Conservation Program (CRCP) planning area encompasses 8,656,707 acres. SCG performs O&M and construction activities within this planning area, oftentimes within habitat that is occupied by state and/or federally listed endangered or threatened species.
- The California Department of Fish and Game and the USFWS administer the state and federal ESAs and have the authority to issue ITPs to applicants who apply for such permits in accordance with their regulations.
- In order to obtain an ITP, SCG must prepare and submit an HCP, demonstrate how the Company will minimize and mitigate its impacts, and ensure that adequate funding is secured to pay for the HCP's implementation.
- The purchase of mitigation (conservation) lands or credits from existing land banks is the primary component of securing this programmatic permit. Purchased mitigation will be preserved in perpetuity in exchange for "take" authorization for unavoidable impacts to a listed species or its habitat.
- Based on an historical analysis of documented O&M and construction activities, as well as typical land purchase or credit costs within the planning area of the HCP, SCG estimated the mitigation cost for the first five years to be $6.3 million.

- The only workable solution for SCG is to obtain programmatic long-term ITPs that ensure compliance with the ESAs as opposed to acquiring individual permits for each O&M project which is inefficient and still would require the purchase of mitigation.
- Obtaining 50-year ITPs will provide regulatory certainty and predictability over a 50-year period, during which permit conditions and mitigation requirements could become more onerous and costly.
- The programmatic permit approach is the most efficient and cost-effective strategy to manage the voluminous maintenance projects by providing for predictable compliance requirements which help manage costs and support timely completion of pipeline-related activities.

In summary, DRA's recommendation for a total disallowance of SCG's estimates for mitigation is unfounded. SCG's mitigation fund request is reasonable and accurate.[27] These credits are absolutely essential for cost-effective, efficient and responsive operations, maintenance and construction within the CRCP planning area covered by the laws referenced in this section.

D. Reciprocating Internal Combustion Engines (RICE) National Emission Standards for Hazardous Air Pollutants (NESHAPS)

DRA correctly recommends using the latest SCG adjusted estimates for RICE NESHAPS Subpart ZZZZ capital costs, but incorrectly recommends disallowance of the O&M maintenance costs for both RICE NESHAPS Subpart ZZZZ compliance and Mojave Desert Air Quality Management District (MDAQMD). **[28]** In its data response (DRA-SCG-050-KCL, see Appendix F), SCG was able to provide updated capital cost estimates to the DRA in its data response

[27] Supported by the Prepared Direct and Rebuttal Testimonies and work papers of Ray Stanford (SCG-05, p. RKS-80, SCG-205, SCG-05-CWP-261 and 262) (SCG Gas Engineering).
[28] DRA Exhibit-44, pp. 99-100, DRA Exhibit-45 pp. 19-20.

because the final Rule is clear on the compliance requirements and the agencies are clear on their interpretation of the requirements.

For DRA's disallowance of O&M-related RICE NESHAPS costs,[29] DRA "[C]oncludes that SCG's request for an increase of $144,000 is unjustified for RICE NESHAPS and MDAQMD Rule 1160 O&M expenses. DRA states: "[B]ased on the much lower number of engines being impacted, the incremental increase associated with the O&M cost will be negligible." This is not accurate. The need for additional O&M expenses is real, because these costs support compliance with both RICE NESHAPS and Mojave Desert Rule 1160 requirements. DRA assumes that the Rule 1160 impacts are outside of the current GRC period, which is not the case, as explained in the following section.

E. Mojave Desert Air Quality Management District (MDAQMD) Rule 1160

DRA recommends removal of all capital and O&M dollars related to MDAQMD Rule 1160 based on their understanding that the anticipated revisions to the rule will be sometime after the TY 2012.[30] However, the process to update the MDAQMD Rule 1160's expected implementation is in 2012, as noted in its Master Rule Development Calendar for 2011. As described below, SCG will need dollars to implement the rule consistent with its cost forecast and request.

In DRA's Exhibit-44, DRA states, that "at this time, there is no indication that any changes will be made and/or finalized by 2012. MDAQMD's 2011 Master Rule Development Calendar identifies this rule as being part of a list of 'Potential rule and plan activities.'" DRA

[29] DRA Exhibit-44, p.100.
[30] DRA Exhibit-44 pp. 69-71, 100; DRA Exhibit-45 pp. 19-20.

additionally states that "[T]here is no indication that it will even be considered,"[31] in part due to the limited detail provided about the proposed rule on the calendar itself.

SCG respectfully disagrees with DRA's conclusion on the timing for MDAQMD Rule 1160. MDAQMD and SCG are currently performing activities to partner on a pilot study needed to finalize Rule 1160 requirements. The fact that MDAQMD 2011 Master Rule Development Calendar only provides a brief synopsis for the action considered for this Rule 1160 rule should have no bearing on the reasonableness of SCG's request. As further detailed below, SCG is currently incurring necessary costs consistent with Rule 1160 compliance.

The MDAQMD is an air quality district that is designated as a severe nonattainment area for ozone, classified Severe-17 for the federal 8-Hour Ozone standard. Because of this designation, the MDAQMD, like all county and regional air districts with this designation, is mandated by the California Health and Safety Code (HSC) to employ "all feasible measures" to develop and implement plans to attain air quality standards as outlined in Chapter 10: District Plans to Attain State Ambient Air Quality Standards [40910 - 40930].

Other local air districts have already published specific rules that require significant reduction of the emission levels from internal combustion engines. These recently amended rules all have lower emissions limits than the current MDAQMD Rule 1160. It is reasonable to expect lower emission limits in the revised MDAQMD Rule 1160 to be in line with the other local air districts. The air districts with published similar rules include: San Joaquin Valley APCD Rule 4702 (see Appendix G); Santa Barbara County Rule 333 (see Appendix H); South Coast AQMD Rule 1110.2 (see Appendix I); Ventura County APCD Rule 74.9 (see Appendix J); and, San Diego County APCD Rules 69.4 and 69.4.1 (see Appendix K).

[31] DRA Exhibit-44, p. 70, lines 10-13.

The MDAQMD has drafted Rule 1160.1 **(**see Appendix L), which is a "sister rule" to proposed Rule 1160. This rule specifically addresses agricultural engines in the district and did not require the amount of industry input as Rule 1160; hence, a draft is already available. Because Rule 1160 amendments impact larger and more complex engines than agricultural engines, MDAQMD is currently working with SCG on the rule development. SCG has had extensive communications with MDAQMD regarding the proposed Rule 1160 revision. As part of its effort to draft a rule that will both meet the mandated air quality objectives and at the same time not impose restrictions that will adversely affect business operations, specifically the reliability of SCG's system supported by the North Needles and South Needles Compressor stations, MDAQMD has sought technical input from SCG through an engine pilot study.

SCG is currently participating in a pilot study in cooperation with MDAQMD to determine the feasibility and impacts of proposed amendments to Rule 1160 and associated control options. The pilot study requires permits for the affected engines. The subsequent applications for the permit modifications that are needed to facilitate the pilot study and permits are attached (see Appendices M and N). Copies of the permits at both North Needles and South Needles Compressor stations contain language that indicates the modified engines will be used to collect data for the proposed changes to MDAQMD Rule 1160 as follows (emphasis added):

> **Condition 6**: Not later than 90 days after the emission modifications have been completed, the o/o [owner/operator] shall perform subsequent source testing on the modified engine pursuant to test protocol dated September 10, 2010. ***These test results are anticipated to be used to determine emission concentrations for expected rule changes to MDAQMD Rule 1160***.

The MDAQMD has issued the respective permits for the engines used in the pilot study (North Needles – B000301 (see Appendix M), and South Needles – B000298 (see Appendix N).

In conducting the pilot study, SCG has spent approximately $590,000 year-to-date on equipment retrofits and modifications, monitoring, troubleshooting and testing at the North Needles compressor station (see Appendix O). SCG has submitted a draft report to the MDAQMD with the pilot test conclusions and will submit a final report with additions before January 1, 2012. At which time, the District will have the test data and information it needs to complete the Rule 1160 revisions. This is consistent with the MDAQMD Master Rule Development Calendar.

The aforementioned costs were incurred in advance of the rule amendment to provide data that will enable the MDAQMD to develop a rule that is based on actual operations. SCG and MDAQMD have partnered on this pilot study to help to ensure that the rule revisions are based on actual data so that SCG compressor engines will be able to continue to operate. SCG appreciates the efforts of the MDAQMD to partner with us to ensure that limits set in the rule revisions are feasible with available retrofits and technologies. There is no reason for SCG to doubt that the MDAQMD Rule 1160 will be revised and implemented by early 2012. SCG stands by its timeline for implementation of the revisions to MDAQMD Rule 1160 and its associated requirements.

In summary, DRA's recommendation for total disallowance of MDAQMD-related capital and O&M costs is based on faulty assumptions regarding the timing of the revised rule. SCG understands that MDAQMD has calendared the proposed Rule 1160 for 2011 and will partner with SCG on a pilot test study to define rule limits. Based on SCG's work with MDAQMD, SCG has no reason to doubt that its forecasted Rule 1160 compliance costs will fall in this GRC period, and SCG's request should be approved.

F. South Coast Air Quality Management District (SCAQMD) Rule 317

The DRA recommends that SCG's requested increase for South Coast Air Quality Management District (SCAQMD) Rule 317 for TY 2012 be denied.[32] SCG disagrees with DRA's conclusion that "[T]he final Rule 317 established a fee equivalent approach that replaces the fees that would have been otherwise paid by the qualifying facilities by applying alternative funding programs from federal, state and local sources,"[33] for the reasons provided below.

On January 6, 2011, the SCAQMD revised Rule 317 subsequent to SCG's GRC filing. This revision contains language that would demonstrate fee equivalency based on the application of alternative funding programs from federal and other sources. Unlike previous versions of the proposed rule that were under consideration by the SCAQMD, this methodology has the potential to eliminate or reduce fees paid by major facilities under Section 185 of the Federal Clean Air Act. The SCAQMD Rule 317 is the local air rule that implements compliance with Section 185 of the Federal Clean Air Act. The approach and revisions by the SCAQMD were made possible by the EPA "Guidance on Developing Fee Programs Required by Clean Air Act section 185 for the 1-Hour Ozone NAAQS [National Ambient Air Quality Standards]" dated January 5, 2010. The SCAQMD Board voted and adopted the January 2011 version of Rule 317 on February 4, 2011.

SCG reviewed the latest version of the SCAQMD's rule and supports its implementation. However, the environmental justice community has expressed their opposition to the fee equivalency methodology. In fact, since Rule 317 was adopted, the DC Circuit Court has rejected EPA's use of the aforementioned guidance document as a result of a lawsuit by the Natural Resources Defense Council (NRDC) vs. EPA. Section 185 impacts other non-attainment

[32] DRA Exhibit-44, pp. 105, Table 44-28A, 107-108.
[33] DRA Exhibit-44, p. 108, lines 5-7.

air districts, including the MDAQMD, where SCG has one qualifying facility in addition to three facilities in the SCAQMD. Further, the EPA has also determined that the SCAQMD did not meet the 1-Hour Ozone Standard by 2010. Remedies for not meeting the Standard include payment of penalties under CAA Section 185, which will be required locally under SCAQMD Rule 317. Given these recent legal challenges and the inability of the SCAQMD to rely on EPA guidance to demonstrate fee equivalency, as well as the failure of the SCAQMD to meet the Standard, SCG will be required to pay the fees required by Rule 317. SCG's original request for funding and current cost estimates are reasonable and should be approved.

G. Santa Barbara County Air Pollution Control District (SBCAPCD) Rule 333

DRA recommends that the Commission deny SCG's Underground Storage funding request for Santa Barbara County Air Pollution Control District (SBCAPCD) Rule 333 requirements.[34] DRA is incorrect in concluding that Rule 333 revisions do not warrant significant changes in SCG's monitoring requirements. SBCAPCD Rule 333 F.3 was amended on June 19, 2008 to increase the monitoring testing from quarterly to monthly should the quarterly test show an exceedance. The testing frequency reverts to quarterly when the engine is shown to be in compliance for three consecutive months (Rule 333, Section F.3). The amendments to June 19, 2008 Rule 333 revisions did not take effect until June 19, 2010. SCG respectively disagrees with DRA conclusions regarding the impact of revised Rule 333 and details are referenced in Rebuttal Testimony of James Mansdorfer.[35]

[34] DRA Exhibit-44, pp. 110-111.
[35] Exhibit SCG-204.

IV. SUMMARY AND CONCLUSION

The DRA testimony recommends that it is in support of the total booked expenses for SCG Environmental of $4.86 million and total shared services for SDG&E Environmental of $5.53 million. SCG supports these recommendations.

DRA continues to significantly lower or deny in total incremental environmental-related changes for other SCG operational and policy in the amount totaling more than $34 million in O&M and more than $31 million in capital requests. DRA's reductions are based on incorrect claims regarding new environmental requirements, which SCG has refuted in detail. Also, adoption of the NERBA mechanism is reasonable and should be approved for use in recovering potentially high dollar amounts for which there is still regulatory uncertainty, as further described in Mr. Shimansky's testimony. DRA's recommendations are, as detailed in this rebuttal, based on inappropriate conclusions where regulations have not been appropriately interpreted or applied and should be denied by the Commission.

This concludes my prepared rebuttal testimony.

V. WITNESS QUALIFICATIONS

My name is Deanna Haines. My business address is 555 W. Fifth St., Los Angeles, California, 90013. My current position is Director of Environmental Services under the Environmental and Support Services organization. The Environmental Services organization provides services to both SDG&E and SCG. I joined SCG in 1988. I have been in my current position at SCG since January 2011.

I have a Bachelor of Science Degree in Chemical Engineering from University of Southern California and a Masters in Business Administration from University of Redlands.

I have not previously testified before the Commission.

VI. APPENDICES

Appendix A – DRA-SCG-107-Q2

Appendix B – DRA-SCG-095-Q3

Appendix C – AB32 CARB Administrative Fee Invoices

Appendix D – NiSource Habitat Conservation Plan

Appendix E – DRA-SCG-136-KCL

Appendix F – DRA-SCG-050-KCL

Appendix G – San Joaquin Valley APCD Rule 4702

Appendix H – Santa Barbara County Rule 333

Appendix I – South Coast AQMD Rule 1110.2

Appendix J – Ventura County APCD Rule 74.9

Appendix K – San Diego County APCD Rules 69.4 and 69.4.1

Appendix L – MDAQMD Rule 1160.1

Appendix M – North Needles-B000301

Appendix N – South Needles-B000298

Appendix O – MDAQMD Rule 1160 Project Summary

Appendix A – DRA-SCG-107-Q2

DRA DATA REQUEST
DRA-SCG-107-DAO
SOCALGAS 2012 GRC – A.10-12-006
SOCALGAS RESPONSE
DATE RECEIVED: JUNE 17, 2011
DATE RESPONDED: JULY 1, 2011

Subject: Follow up to SCG's response to DRA-63

Please provide the following:

2. Provide the final cost estimates for Subpart W.

SoCalGas Response:

SoCalGas is currently supporting the American Gas Association who is working with EPA to gain greater clarity on the rulings and its requirements for Subpart W as it applies to SoCalGas' business operations. Until more specific guidance is received SoCalGas is not in a position to provide an updated cost estimate.

Appendix B – DRA-SCG-095-Q3

DRA

Division of Ratepayer Advocates
California Public Utilities Commission
State of California

DATA REQUEST

Southern California Gas Company Test Year 2012 GRC
A.10-12-006

Date: June 2, 2011

Responses Due: June 16, 2011

To: Ronald van der Leeden
RvanderLeeden@semprautilities.com
(213) 244-2009

From: Truman Burns, Project Coordinator
Donna Fay Bower, Assistant Project Coordinator
Division of Ratepayer Advocates
505 Van Ness Avenue, Room 4205
San Francisco, CA 94102

Originated by: Dao Phan
Phone: 415-703-5249
Email: dao@cpuc.ca.gov

Data Request No: DRA-SCG-095-DAO

Exhibit Reference: SCG-2 and SCG-15, Gas Distribution O&M

Subject: Follow-Up to Data Requests number 86 and 87

Please provide the following:

1. Please provide a copy of IHS Global Insight forecast for February 2011.

2. In SCG's response to DRA-87, question number 2, SCG stated the following:

> Question no. 2: Please identify the "changing laws, regulations, and rules," stated on page GOM-39 requiring 4 new positions. Please also explain in detail if these 4 positions are newly created work activities or if the positions are created to support or to expand existing work activities.

SoCalGas Response:

"Ms. Lisa Gomez is the policy witness for environmental issues and has described in detail the changing laws, regulations and rules that SoCalGas will need to address for Green House Gas (GHG) and Stormwater Construction Permits in her direct testimony (Exhibit SCG-15; pages LPG-7-11, 14).

"The requested 4 new positions will support the field operations to ensure compliance with these new regulations, in addition to reasonably foreseeable modifications to existing regulations."

a. Please identify the number of positions, by distribution region, that currently support field operations and specifically assigned to ensure compliance with governmental regulations.
b. Please identify the number of positions, by distribution region, that supported field operations and were specifically assigned to ensure compliance with governmental regulations each year from 2005-2011 YTD.
c. Please explain why SoCalGas needs one new position for each distribution region, beginning in 2012, as stated on page GOM-39.
d. Is it SoCalGas' operational policy to assign Field Environmental Compliance Specialists by distribution region? If yes, please explain the rationale.
e. Please explain in detail how SoCalGas has documented the need for the 4 new positions in 2012 and provide a copy of all supporting documents.

3. With reference to LPG-7, please provide a citation to and a copy of the GHG Mandatory Reporting Rule ("MRR").
   a. Please provide a copy of the "first emissions report" SCG submitted to EPA in March, 2011.
   b. Please provide the data collected since January 2011 pursuant to the current Subpart W of the MRR. Please explain in detail the process used to collect the data, and the personnel used for this process.
   c. With reference to LPG-8, please provide a citation to and a copy of the so-called "GHG Tailoring Rule." Has EPA undertaken another rulemaking to discuss how the programs should impact smaller sources?
   d. With reference to LPG-9, has CARB adopted a final cap-and-trade regulation?
   e. With reference to LPG-10:
      i. Please provide a citation to and a copy of CARB's mandatory GHG reporting regulations adopted in December 2008.
      ii. Please provide the voluntary reports SCG has made to the California Climate Action Registry and/or The Climate Registry since 2004, and any reports SCG has made to CARB.
      iii. Please explain in detail the process SCG will undertake to prepare and submit annual GHG inventories. Please explain in detail, with citations to AB 32, the statement "annual GHG inventories required by AB 32."
      iv. Please provide a citation to and a copy of the CEQA Guidelines that

were amended in February 10 “to address GHG emissions.”

f. With reference to LPG-11, please explain in detail the requirement of “two additional air quality environmental specialists (FTEs) at SoCalGas beginning in 2012.” Please explain which “new GHG programs” and “new air quality programs” require these additional FTEs, and quantify how many FTEs are attributed to each new GHG program

---

Provide two copies of the above information as it becomes available but no later than the due date identified above. If you are unable to provide the information by this date, please provide a written explanation to the data request Originator seven calendar days before the due date as to why the response date cannot be met and your best estimate of when the information can be provided. Please identify the person who provides the response and his (her) phone number.

Provide electronic responses if possible, and set of hard copy responses with your submittal to the data request originator and the DRA Project Coordinator(s). All data responses need to have each page numbered, referenced, and indexed so worksheets can be followed. If any number is calculated, include a copy of all electronic files so the formula and their sources can be reviewed.

If you have any questions regarding this data request, please call the originator at the above phone number.

Appendix C – AB32 CARB Administrative Fee Invoices

Appendix C - AB32 CARB Administrative Fee Invoices

Air Resources Board

Mary D. Nichols, Chairman
1001 I Street • P.O. Box 2815
Sacramento, California 95812 • www.arb.ca.gov

Matthew Rodriquez
Secretary for
Environmental Protection

Edmund G. Brown Jr.
Governor

September 7, 2011

Mr. Darrell Johnson
Southern California Gas
555 West 5th Street, M.L. GT16G3
Los Angeles, California 90013

Dear Mr. Johnson:

The California Global Warming Solutions Act of 2006 (AB 32) requires that California reduce greenhouse gas emissions to 1990 levels by 2020. AB 32 also authorizes the Air Resources Board (ARB) to establish a schedule of fees to fund state agency activities to implement AB 32. ARB finalized the AB 32 Cost of Implementation Fee Regulation in 2010.

Each year, the Legislature and the Governor establish the amount of the fee when they approve the budget for State agencies with AB 32 programs funded by the fee. These funds are used to develop and implement programs to reduce the State's greenhouse gas emissions and improve air quality – such as more efficient households, vehicles, and lower-carbon gasoline. For fiscal years 2010-2011 through 2013-2014, the fee will also collect funds to repay loans that were used to start up the AB 32 program.

Pursuant to title 17, California Code of Regulations, section 95205, enclosed is a fiscal year 2011-12 invoice for your facility or power entity. You are receiving a second invoice in calendar year 2011 because fiscal year 2010-11 invoices were delayed, in part, due to the late date of the fiscal year 2010-11 budget approval. The normal schedule for invoicing is 30 days after the California budget is signed. Future invoices should be mailed in approximately this time frame. This invoice is due and payable on receipt. Payment must be transmitted to ARB by November 7, 2011. Pursuant to California Health and Safety Code section 38580, penalties may be imposed for nonpayment.

Thank you for your cooperation. If you have questions regarding the determination of the total invoice amount, please contact Mr. Robert DuVall at (916) 324-5930 or by email at rduvall@arb.ca.gov and request an Invoice Detail Report. If you have any questions regarding methods of payment, please contact Chris Lee at (916) 322-0557 or by email at clee@arb.ca.gov.

Sincerely,

Leslie C. Ford, Manager
Grants & Revenues Section

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: http://www.arb.ca.gov.

INVOICE

State of California
California Environmental Protection Agency
AIR RESOURCES BOARD
Federal Employer Identification Number 68-0288069

Mr. Darrell Johnson
Southern California Gas
555 West 5th Street, M.L. GT16G3
Los Angeles, California 90013

INVOICE NO: CC11000047
ARB ID #: 5002
DATE: September 7, 2011
PAYMENT DUE DATE: November 7, 2011

AB 32 Cost of Implementation Fee Regulation Invoice Fiscal Year 2011-12
For Emissions During Calendar Year 2009

DESCRIPTION	AMOUNT
The Fiscal Year (FY) 2011-12 AB 32 Cost of Implementation Fee is authorized by Health & Safety Code Section 38597 and required by title 17, California Code of Regulations, Sections 95200-95207. The Regulation became effective July 17, 2010. The Regulation can be downloaded from: http://www.arb.ca.gov/regact/2009/feereg09/ab32finalfro.pdf For further information about payment, please contact Mr. Chris Lee at (916) 322-8202. For additional detail on determination of the Amount Due, please contact Mr. Robert DuVall at (916) 324-5930 and request an Invoice Detail Report	
AMOUNT DUE	**$5,673,218**

Payment Options:

__ Check
Make check payable and send to :
Air Resources Board
P. O Box 1436
1001 I Street 20th Floor
Sacramento, CA 95812-1436

__ Credit Card
Credit Card # _____
Expiration Date: _____

__ Wire Transfer
State of California Air Resources Board
c/o Bank of America, Interbranch to 0148
Routing No. 0260-0959-3
Account No.: 01482-80005
Notice of Transfer to: Ms. Lauri Brunkhorst at fax (916) 322-9612
Wire transfer fee: $15 in addition to invoice amount

FOR ACCOUNTING USE ONLY

TC 120 FY 11/12 VENDOR _____
INDEX 3900 PCA 99115 OBJ _____ SOURCE 125600 AGY 32
SUBSIDIARY _____ GL _____
TYPE _____ FM _____ BATCH # _____ DATE _____

Air Resources Board

Mary D. Nichols, Chairman
1001 I Street • P.O. Box 2815
Sacramento, California 95812 • www.arb.ca.gov

Linda S. Adams
Acting Secretary for Environmental Protection

Edmund G. Brown Jr.
Governor

July 29, 2011

Darrell Johnson
SCG
555 West Avenue, M.L. GT16G3
Los Angeles, California 90013

Dear Mr. Johnson:

The California Global Warming Solutions Act of 2006 (AB 32) requires that California reduce greenhouse gas emissions to 1990 levels by 2020. AB 32 also authorizes the Air Resources Board (ARB) to establish a schedule of fees to fund state agency activities to implement AB 32. ARB finalized the AB 32 Cost of Implementation Fee regulation in 2010.

Each year, the Legislature and the Governor establish the amount of the fee when they approve the budget for State agencies with AB 32 programs funded by the fee. These funds are used to develop and implement programs to reduce the State's greenhouse gas emissions and improve air quality – such as more efficient households, vehicles, and lower-carbon gasoline. For fiscal years 2010-2011 through 2013-2014, the fee will also collect funds to repay loans that were used to start up the AB 32 program.

Pursuant to title 17, California Code of Regulations, section 95205, enclosed is a fiscal year 2010-11 invoice for your facility or entity. You are receiving this invoice because you changed reported data or reported new data after the original invoices were sent in April 2011. It is due and payable on receipt. Payment must be transmitted to ARB by September 27, 2011. Pursuant to California Health and Safety Code section 38580, penalties may be imposed for nonpayment.

Thank you for your cooperation. If you have questions regarding the determination of the total invoice amount, please contact Mr. Robert DuVall at (916) 324-5930 or by e-mail at rduvall@arb.ca.gov and request an Invoice Detail Report.

If you have any questions regarding methods of payment, please contact Chris Lee at (916) 322-0557 or via email at clee@arb.ca.gov.

Sincerely,

Leslie C. Ford, Manager
Grants & Revenues Section

Enclosure

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: http://www.arb.ca.gov.

State of California
California Environmental Protection Agency
AIR RESOURCES BOARD
Federal Employer Identification Number 68-0288069

Darrell Johnson
SCG
555 West Avenue, M.L. GT16G3
Los Angeles, California 90013

INVOICE NO: CC10000285
ARB ID #: 5002
DATE: July 29, 2011
PAYMENT DUE DATE: Sept. 27, 2011

AB 32 Cost of Implementation Fee Regulation Invoice Fiscal Year 2010-11
For Emissions During Calendar Year 2008

DESCRIPTION	AMOUNT
The Fiscal Year (FY) 2010-11 AB 32 Cost of Implementation Fee is authorized by Health & Safety Code Section 38597 and required by Title 17, California Code of Regulations, Sections 95200-95207. The Regulation became effective July 17, 2010. The Regulation can be downloaded from: http://www.arb.ca.gov/regact/2009/feereg09/ab32finalfro.pdf For further information about payment, please contact Mr. Chris Lee at (916) 322-0557. For additional detail on determination of the Amount Due, please contact Mr. Robert DuVall at (916) 324-5930 and request an Invoice Detail Report.	
AMOUNT DUE	**$ 1,123,678**

Payment Options:

__ Check
Make check payable and send to :
Air Resources Board
P. O. Box 1436
1001 I Street 20th Floor
Sacramento, CA 95812-1436

__ Credit Card
Credit Card # _____
Expiration Date: _____

__ Wire Transfer
State of California Air Resources Board
c/o Bank of America, Interbranch to 0148
Routing No. 0260-0959-3
Account No.: 01482-80005
Notice of Transfer to: Ms. Lauri Brunkhorst at fax (916) 322-9612
Wire transfer fee: $15 in addition to invoice amount

FOR ACCOUNTING USE ONLY

TC 120 FY 10/11 VENDOR _____
INDEX 3900 PCA 99115 OBJ _____ SOURCE 125600 AGY 32
SUBSIDIARY _____ GL _____
TYPE _____ FM _____ BATCH # _____ DATE _____

Air Resources Board

Mary D. Nichols, Chairman
1001 I Street • P.O. Box 2815
Sacramento, California 95812 • www.arb.ca.gov

Linda S. Adams
Acting Secretary for Environmental Protection

Edmund G. Brown Jr.
Governor

April 5, 2011

Mr. Darrell Johnson
Southern California Gas Company
555 West 5th Street, M.L. GT16G3
Los Angeles, CA 90013

The California Global Warming Solutions Act of 2006 (AB 32) requires that California reduce greenhouse gas emissions to 1990 levels by 2020. AB 32 also authorizes the Air Resources Board (ARB) to establish a schedule of fees to fund state agency activities to implement AB 32. ARB finalized the AB 32 Cost of Implementation Fee regulation in 2010.

Each year, the Legislature and the Governor establish the amount of the fee when they approve the budget for State agencies with AB 32 programs funded by the fee. These funds are used to develop and implement programs to reduce the State's greenhouse gas emissions and improve air quality – such as more efficient households, vehicles, and lower-carbon gasoline. For fiscal years 2010-2011 through 2013-2014, the fee will also collect funds to repay loans that were used to start up the AB 32 program.

Pursuant to Title 17, California Code of Regulations, section 95205, enclosed is the fee assessment for your facility or entity. It is due and payable upon receipt. Payment must be transmitted to ARB within 60 days of receipt. Pursuant to California Health and Safety Code section 38580, penalties may be imposed for nonpayment.

Thank you for your cooperation. If you have questions regarding the determination of the total invoice amount, please contact Mr. Robert DuVall at (916) 324-5930 or by e-mail at rduvall@arb.ca.gov and request an Invoice Detail Report.

If you have any questions regarding methods of payment, please contact me at (916) 322-8202 or via email at lford@arb.ca.gov.

Sincerely,

Leslie C. Ford, Manager
Grants & Revenues Section

Enclosure

cc: Mr. Robert DuVall, Air Pollution Specialist
Climate Change Planning Section

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: http://www.arb.ca.gov.

APPROVAL SIGNATURE		
TYPE OR PRINT NAME: Pam Fair	PHONE NO.: 858-650-6108	MAIL LOC.: CP 33C
INTERNAL ORDER: 300662215	ACCT. NO.: 6405713	
COST CENTER: 2200-2176	PURCHASE ORDER NO.:	

State of California
California Environmental Protection Agency
AIR RESOURCES BOARD
Federal Employer Identification Number 68-0288069

O.K. to Pay
HUGO NEJIA
ACM

Mr. Darrell Johnson
Southern California Gas Company
555 West 5th Street, M.L. GT16G3
Los Angeles, CA 90013

INVOICE NO: CC10000055
ARB ID #: 5002
DATE: April 5, 2011

PAYMENT DUE DATE: June 4, 2011

AB 32 Cost of Implementation Fee Regulation Invoice

DESCRIPTION	AMOUNT
The Fiscal Year 2010-2011 AB 32 Cost of Implementation Fee is authorized by Health & Safety Code Section 38597 and required by Title 17, California Code of Regulations, Sections 95200-95207. The Regulation was approved by the Office of Administrative Law and became effective on July 17, 2010. The Regulation can be downloaded at: http://www.arb.ca.gov/regact/2009/feereg09/ab32finalfro.pdf For further information about payment, please contact Ms. Leslie Ford at (916) 322-8202. For additional detail on the determination of the Total Amount Due, please contact Mr. Robert DuVall at (916) 324-5930 and request an Invoice Detail Report.	
TOTAL AMOUNT DUE	**$ 4,741,879**

Payment Options:

__ Check

Make check payable and send to :
Air Resources Board
P. O. Box 1436
1001 I Street 20th Floor
Sacramento, CA 95812-1436

__ Credit Card

Credit Card # _____

Expiration Date: _____

__ Wire Transfer

State of California Air Resources Board
c/o Bank of America, Interbranch to 0148
Routing No. 0260-0959-3
Account No.: 01482-80005
Notice of Transfer to: Ms. Lauri Brunkhorst at fax (916) 322-9612

Wire transfer fee: $15 in addition to invoice amount

FOR ACCOUNTING USE ONLY

TC 120 FY 10/11 VENDOR _____

INDEX 3900 PCA 99115 OBJ _____ SOURCE 125600 AGY 32

SUBSIDIARY _____ GL _____

TYPE _____ FM _____ BATCH # _____ DATE _____

INVOICE
State of California
California Environmental Protection Agency
AIR RESOURCES BOARD
Federal Employer Identification Number 68-0288069

Darrell Johnson
Southern California Gas Company (SCG) Fee Regulation
555 West Avenue, M.L. GT16G3
Los Angeles, CA 90013

INVOICE NO: CC10000055
ARB ID #: 5002
DATE: March 25, 2011

AB 32 Cost of Implementation Fee Regulation Invoice Detail Report
Confidential Business Information

Common Carbon Cost (CCC): $ 0.171 per MT CO2

Non-Electricity Sectors

For all non-electricity sector fuels with a quantity reported, a Fuel Fee Rate is determined by multiplying the Common Carbon Cost (CCC) by an Emission Factor. A fee liability is determined by multiplying the Fuel Fee Rate by the fuel units (therm, gallon, or short ton). For all non-electricity sector fuels with required emissions reported a fee liability is determined by multiplying the CCC by the reported emissions.

Natural Gas

Fuel	CCC ($ / MT CO2)	x	Emission Factor (MT CO2 / therms)	=	Fuel Fee Rate (FFR) ($ / therms)
Natural Gas	0.171	x	0.005302	=	0.000906642

Applicability: Quantity Reported	*Therms*	*or*	*MT CO2*	*x*	*CCC or FFR*	*=*	*Fee*
Section 95201(a)(1)(A): Natural Gas Delivered	5,230,156,532		27,730,289.93		0.000906642		$4,741,879.68

Total Non-Electricity Fee = $4,741,879.68

Electricity Sectors

For all electricity sectors fees are based on an Electricity Fee Rate determined for each source of electricity delivered in California by multiplying the Common Carbon Cost (CCC) by an Emission Factor. Each specified source or asset-owning or asset-controlling supplier will have an emission factor determined. Unspecified sources have an assigned default emission factor. A fee liability is determined as the Electricity Fee Rate multiplied by the MWh of net generation.

Total Electricity Fee = $0.00

Summary

Total Non-Electricity Fee	**$4,741,879.68**
Total Electricity Fee	**$0.00**
Total Fee =	**$4,741,879.68**

Appendix D- NiSource Habitat Conservation Plan

BUILDING

Multi-Species Habitat Conservation Plan

Endangered Species Compliance for Energy Infrastructure Projects

Habitat Conservation Plan

Preserving Our Natural Legacy

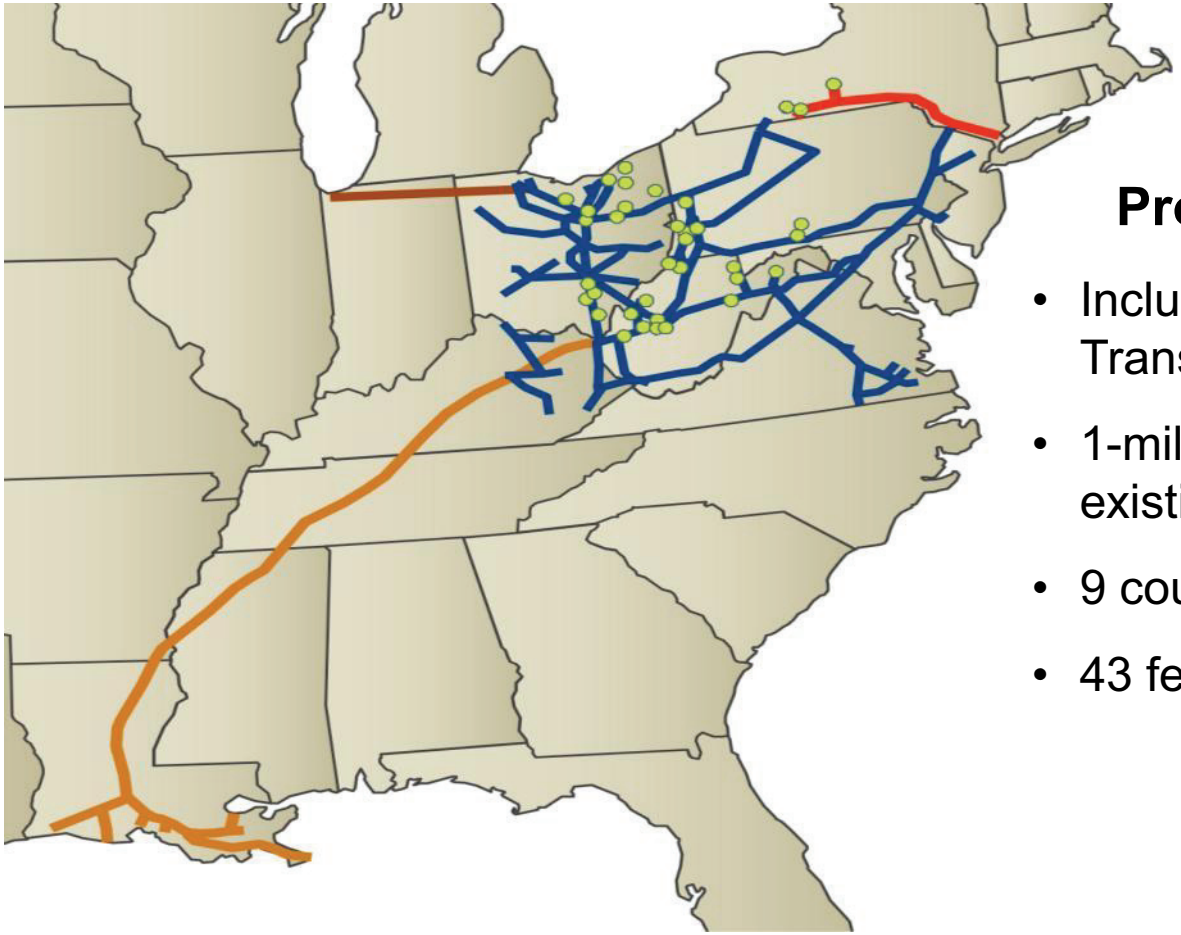
NiSource®

NiSource Habitat Conservation Plan

- Comprehensive multi-state, multi-region plan
- Extends to at least 43 federally-protected species
- Includes conservation program to avoid, minimize, and mitigate potential impacts
- Meets all requirements of Section 10 of the Endangered Species Act (ESA)
- Improves the infrastructure permitting process

NiSource MSHCP Pipeline System Map

3 USFWS regions | 14 states | >15,000 linear miles | 9.5 million acres



Proposed Coverage Area

- Includes all current NiSource Gas Transmission & Storage assets
- 1-mile wide corridor around existing pipelines
- 9 counties with major storage fields
- 43 federally-protected species

Habitat Conservation Plan
Preserving Our Natural Legacy

NiSource MSHCP Benefits

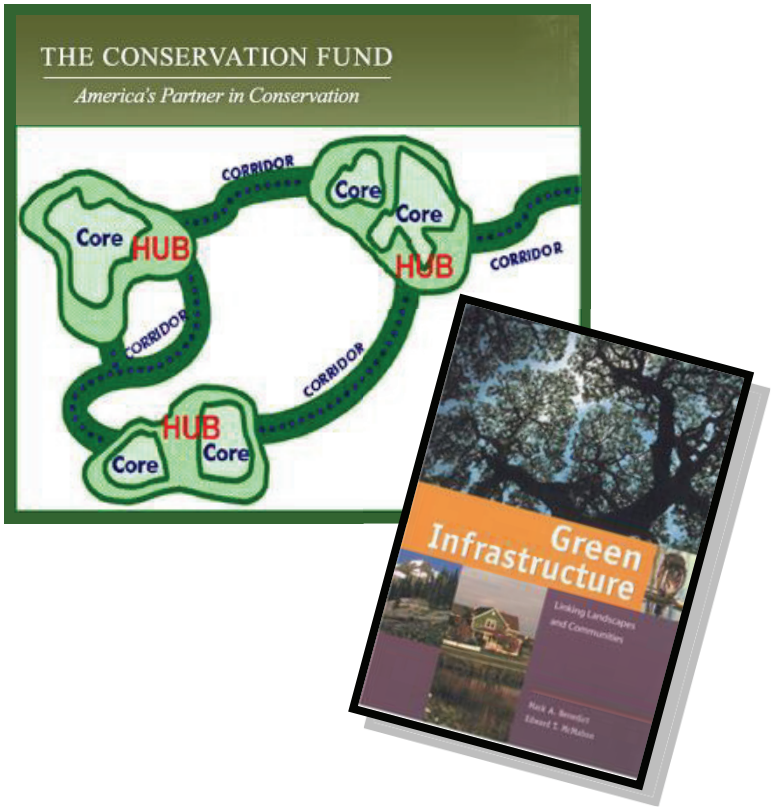
- Enhances ESA Compliance process
  - ESA issues known at planning stage
  - Avoids individual project review
- Pre-defined and consistent best management practices
- Enhanced mitigation opportunities in collaboration with state conservation efforts
- Minimizes seasonal restrictions
- Brings consistency to budgeting process
- Long-term consistency

The HCP would allow NiSource to repair, upgrade, replace and expand its energy infrastructure to deliver natural gas while enhancing conservation of species under the ESA in a comprehensive, consistent and transparent manner.

Habitat Conservation Plan
Preserving Our Natural Legacy

Landscape-Level Mitigation

- HCP includes a Green Infrastructure System across 14 states – working with The Conservation Fund
- Input into which lands or ecosystems have highest conservation values
- Advice on sustainable framework to integrate and inform
- Tie system together with links, sites, lands and landscape values
- Assistance with mitigation proposals to meet conservation goals



Habitat Conservation Plan
Preserving Our Natural Legacy

NEPA Compliance

- US Fish & Wildlife Service has prepared a DEIS, Biological Assessment and will complete a Biological Opinion and finalize the EIS as part of the overall HCP assessment
- A notice that the DEIS and HCP is available for public comment was placed in the Federal Register on July 13, 2011
  - 90-day public comment period
- Public Informational Meetings will occur in each FWS Region in mid-August
  - Columbus, Ohio – August 16th
  - Lexington, Kentucky – August 17th
  - Charleston, W.Va. – August 18th

Habitat Conservation Plan
Preserving Our Natural Legacy

For More Information…

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Appendix E – DRA-SCG-136-KCL

DRA DATA REQUEST
DRA-SCG-136-KCL
SOCALGAS 2012 GRC – A.10-12-006
SOCALGAS RESPONSE
DATE RECEIVED: AUGUST 1, 2011
DATE RESPONDED: AUGUST 16, 2011

Subject: Gas Engineering and Transmission Capital Expenditures

Please provide the following:

1. On page RKS-80 of direct testimony SCG-05, SCG requested $6.3 million "to purchase land in exchange for special permits issued by the United States Fish & Wildlife Services (USFWS) and California Department of Fish & Game (CDFG)." Please describe in detail how this "exchange" works.

SoCalGas Response:

SoCalGas is currently developing the Coastal Region Conservation Program (CRCP) Habitat Conservation Plan (HCP) in support of applications for state and federal Incidental Take Permits (ITPs) for operation and maintenance (O&M) activities and new construction within a seven-county planning area. Obtaining the ITPs would provide SoCalGas with a means to ensure compliance with the state and federal Endangered Species Acts (ESAs) while conducting O&M and construction activities while providing regulatory certainty and predictability. The purchase of conservation lands is anticipated to be the primary component of SoCalGas' mitigation strategy under this HCP for the following reason:

The USFWS and CDFG may only issue an ITP to an applicant if the agency finds, among other things, that: (i) the applicant will minimize and mitigate the impacts of such taking; (ii) the applicant will ensure that adequate funding for the HCP will be provided; and (iii) the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild (ref: 16 U.S.C. § 1539(a)(2)(A) and (B) for USFWS, and Fish and Game Code § 2081(b) and (c) for CDFG).

2. Lines 12 to 14 of the same page as described above indicate the $6.3 million estimate is based on an expectation of $1.25 million worth of mitigation land purchase per year for five years. Please justify the need and show details on how SCG derived these costs.

SoCalGas Response:

As indicated in the response to Question 1, both the state and federal ESAs require applicants to mitigate their "take" impacts and ensure that adequate funding is in place prior to the issuance of the ITPs. "Take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct (ref: 16 U.S.C. § 1532(19)). Of particular importance is the definition of the term "harm" which could include significant habitat modification or degradation (ref: 50 CFR § 17.3). Since it is not uncommon for SoCalGas' repairs and maintenance activities to occur within suitable habitat for state and federally listed species, it is vital for the Company to secure the funding for the required mitigation and seek approval of an HCP. Without the benefit of an HCP in place and the ITPs in hand, the Company will be at risk of potential non-compliance with the state and federal ESAs which could result in civil and/or criminal actions toward SoCalGas and its employees.

In an effort to determine the potential cost associated with purchasing the required mitigation, SoCalGas conducted an analysis of documented O&M and new construction activities that took place between 2003 and 2009. Based on this analysis, it was estimated that approximately 150 acres of suitable habitat for one or more of the covered species would be impacted every 5 years. Considering typical mitigation ratios to offset these impacts and current costs associated with obtaining compensatory mitigation credits (primarily via the purchase of conservation lands), SoCalGas estimated that the mitigation cost required to offset the first 5 years of impacts would total approximately $6.3 million.

In an effort to increase agency support for the CRCP, SoCalGas is planning to propose to the agencies (USFWS and CDFG) the first 5 years of compensatory mitigation up-front, prior to the actual impacts. As projects are implemented over the 5-year period, compensatory mitigation would be deducted from the available mitigation credits. Any remaining credits would rollover to the next 5-year period. This cycle would be repeated every 5 years for the duration of the 50-year permit and will ensure that mitigation stays ahead of impacts. For additional details on this activity, please refer to Capital Work Paper No. 00617.02 on pages RKS-CWP-261 and RKS-CWP-262 of Exhibit No. SCG-05-CWP

DRA DATA REQUEST
DRA-SCG-136-KCL
SOCALGAS 2012 GRC – A.10-12-006
SOCALGAS RESPONSE
DATE RECEIVED: AUGUST 1, 2011
DATE RESPONDED: AUGUST 16, 2011

3. Please provide cost-effectiveness study of the "exchange" described in Question 1 above if performed. What other alternatives has SCG considered?

SoCalGas Response:

As indicated in the response to Question No.1 above, obtaining the ITPs would provide SoCalGas with a prudent means to ensure compliance with state and federal ESAs while providing regulatory certainty and predictability over a 50-year period during which permit conditions and mitigation requirements could become more onerous and costly. Without the required mitigation and associated dedicated funding in place, SoCalGas could not obtain the ITPs. And without the ITPs, SoCalGas would run the risk of substantial penalties and/or criminal liability if an endangered species or its habitat is disturbed during O&M or construction activities.

Alternatives to SoCalGas' CRCP would include seeking individual ITPs for each and every activity that may impact a listed species or its habitat, or not seeking the ITPs at all. Seeking individual ITPs could result in substantial delays in conducting maintenance and construction projects, some of which are time-sensitive related to Transmission pipeline reliability and safety. In addition, mitigation for impacts to listed species or their habitat would still be required. The alternative of not seeking the ITPs puts the Company at risk of substantial penalties and/or criminal liability if an endangered species or its habitat is disturbed. Neither of these alternatives is considered a prudent course of action compared to establishing a long-term programmatic permit that would provide SoCalGas with regulatory certainly and predictability over the 50-year life of the permits.

Appendix F – DRA-SCG-050-KCL

DRA DATA REQUEST
DRA-SCG-050-KCL
SOCALGAS 2012 GRC – A.10-12-006
SOCALGAS RESPONSE
DATE RECEIVED: MARCH 1, 2011
DATE RESPONDED: MARCH 15, 2011

Exhibit Reference: SCG-05 and SCG-05-CWP

Subject: Gas Engineering and Transmission Capital Expenditures

7. What is the current status of NESHAPS Subpart ZZZZ (see Budget Number 00315.07)?

SoCalGas Response:

EPA finalized RICE/NESHAPS Subpart ZZZZ in August 20, 2010. The effective date for the finalized rule was October 19, 2010. The final compliance date is October 19, 2013.

The estimated costs as a result of the finalized rule are lower than the estimated costs of the March 2009 proposed rule. The SoCalGas costs for the finalized rule are shown below.

	2011		2012		2013	
	Workpapers as filed Dec 2010*	Adjusted costs based on final NESHAP Rule**	Workpapers as filed Dec 2010*	Adjusted costs based on final NESHAP Rule**	Workpapers as filed Dec 2010*	Adjusted costs based on final NESHAP Rule**
Capital	$407	$407	$3,588	$1,707	$10,506	$150

The original proposed rule crafted by EPA impacted 71 engines and 10 locations. The August 2010 amendments, that is, the finalized rule, impacted only 7 locations and 19 engines. The finalized rule did not include lean burn engines at Major Sources over 500 hp. The finalized rule also assigned "work practices" as opposed to emissions limits for engines previously proposed to have emission limits.

8. What is the current status of Rule 1160 (see Budget Number 00315.08)?

SoCalGas Response:

Mojave Desert Air Quality Management District (MDAQMD) has calendared Rule 1160 for amendment in 2011. The rule will be amended to analyze particulate matter measures for cost effectiveness, to update for Reasonably Available Control Technology and to conform to Air Toxic Control Measure from the California Air Resources Board. The current cost estimates only reflect anticipated changes for volatile organic compounds, oxides of nitrogen and carbon monoxide limits. At this time, there is no change in the original estimate of cost for complying with the anticipated revisions to MDAQMD Rule 1160.

Appendix G – San Joaquin Valley APCD Rule 4702

RULE 4702 INTERNAL COMBUSTION ENGINES (Adopted August 21, 2003; Amended June 16, 2005; Amended April 20, 2006; Amended January 18, 2007; Amended August 18, 2011)

1.0 Purpose

The purpose of this rule is to limit the emissions of nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compounds (VOC), and sulfur oxides (SOx) from internal combustion engines.

2.0 Applicability

This rule applies to any internal combustion engine rated at 25 brake horsepower or greater.

3.0 Definitions

3.1 Agriculture Operations (AO): the growing and harvesting of crops or the raising of fowl or animals, for the primary purpose of earning a living, or of conducting agricultural research or instruction by an educational institution.

3.2 Air Pollution Control Officer (APCO): the Air Pollution Control Officer of the San Joaquin Valley Unified Air Pollution Control District.

3.3 ARB: California Air Resources Board.

3.4 California Reformulated Diesel: diesel fuel meeting 15 ppmv sulfur content limit as required by the California Diesel Fuel Regulations as specified in the California Code of Regulations, Title 13, Division 3, Chapter 5 (Standards for Motor Vehicle Fuels), Article 2 (Standards for Diesel Fuel), Section 2281- Sulfur content of Diesel Fuel.

3.5 California Reformulated Gasoline: gasoline meeting California Air Resources Board requirements for motor vehicle fuel as specified in California Code of Regulations, Title 13, Division 3, Chapter 5, Article 1, Subarticle 2 - Standards for gasoline sold beginning March 1, 1996.

3.6 Certified Compression-Ignited Engine: a Tier 1, Tier 2, Tier 3, or Tier 4 compression-ignited engine that is EPA certified as specified in Title 40 Code of Federal Regulations Part 89 or in Title 40 Code of Federal Regulations Part 1039.

3.7 Certified Spark-Ignited Engine: a spark-ignited engine that is used exclusively in agricultural operations and that is ARB certified as specified in Title 13,

Division 3, Chapter 9, Article 4.5, Section 2433 of the California Code of Regulations and that has been certified to meet a Certification Level for hydrocarbon plus NOx emissions of 0.6 grams/bhp-hr (40.2 ppmv) or less.

3.8 CO: carbon monoxide.

3.9 Compression-Ignited Internal Combustion Engine: an engine that uses the heat of compression to initiate combustion.

3.10 Cyclic Loaded Engine: an internal combustion engine that, under normal operating conditions, varies in shaft load by 40% or more of rated brake horsepower during recurrent periods of 30 seconds or less or is used to power an oil well reciprocating pump unit.

3.11 De-rated Engine: an internal combustion engine which has been physically limited and restricted by permit condition to an operational level of less than 50 horsepower.

3.12 Diesel Engine: a compression-ignited internal combustion engine.

3.13 Disaster or State of Emergency: a fire, flood, earthquake, or other similar natural catastrophe.

3.14 Distributed Generation (DG): relatively small power plants, such as internal combustion engine generator sets, which are used to generate electrical power that is either fed into the power grid or used on-site. DG units are located throughout the grid and are usually sited in or close to load centers or utility customers' sites. Distributed Generation also refers to a mechanical drive system consisting of one or more internal combustion engines and electric motors, where use of the internal combustion engines or electric motors is interchangeable.

3.15 Emergency Standby Engine: an internal combustion engine which operates as a temporary replacement for primary mechanical or electrical power during an unscheduled outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the operator. An engine shall be considered to be an emergency standby engine if it is used only for the following purposes: (1) periodic maintenance, periodic readiness testing, or readiness testing during and after repair work; (2) unscheduled outages, or to supply power while maintenance is performed or repairs are made to the primary power supply; and (3) if it is limited to operate 100 hours or less per calendar year for non-emergency purposes. An engine shall not be considered to be an emergency standby engine if it is used: (1) to reduce the demand for electrical power when normal electrical power line service has not failed, or (2) to produce

power for the utility electrical distribution system, or (3) in conjunction with a voluntary utility demand reduction program or interruptible power contract.

3.16 EPA: U.S. Environmental Protection Agency.

3.17 Exhaust Control: device or technique used to treat an engine's exhaust to reduce NOx, VOC, or CO emissions, and includes, but is not limited to, catalysts, afterburners, reaction chambers, and chemical injectors.

3.18 Flood: a sudden and reasonably unforeseen rising and overflowing of a body of water especially onto normally dry land.

3.19 Gaseous Fuel: a fuel which is a gas at standard conditions including but not limited to natural gas, methane, ethane, propane, butane and liquefied petroleum gas (LPG).

3.20 Higher Heating Value (hhv): the total heat liberated per mass or volume of fuel burned (expressed as Btu per pound, Btu per cubic foot, or Btu per gallon), when fuel and dry air at Standard Conditions undergo complete combustion and all resulting products are brought to their standard states at Standard Conditions. If certification of hhv is not provided by the fuel supplier, it shall be determined by the applicable test methods specified in Section 6.4.

3.21 Installation Date: the date that an internal combustion engine is initially placed at a location in order to be operated for the first time in its lifetime.

3.22 Internal Combustion Engine: a spark- or compression-ignited reciprocating engine.

3.23 Lean-Burn Engine: a spark-ignited internal combustion engine that is operated with an exhaust stream oxygen concentration of four (4) percent by volume, or greater, prior to any exhaust stream control device.

3.24 Limited Use Engine: an internal combustion engine that is limited by a permit condition to be operated no more than 4,000 hours per calendar year and provided the following requirements are met:

3.24.1 The engine is operated with an operating nonresettable elapsed time meter;

3.24.2 In lieu of an operating nonresettable elapsed time meter, the operator may use an alternative device, method, or technique, in determining operating time, provided that the alternative is approved by the APCO and EPA and is allowed by the Permit-to-Operate. The operator must

demonstrate that the alternative device, method, or technique is equivalent to using a nonresettable elapsed time meter;

3.24.3 The operator shall properly maintain and operate the nonresettable elapsed time meter or alternative device in accordance with the manufacturer's instructions; and

3.24.4 The engine operator maintains records of the annual operating hours and makes the records available to the APCO upon request.

3.25 Location: a single site at a building, structure, facility, or installation.

3.26 Low-use Engine: an internal combustion engine that is limited by a permit condition to be operated no more than 200 hours per calendar year and the engine is not used to perform any of the functions specified in Section 3.26.1 through Section 3.26.3.

3.26.1 Generate electrical power that is either fed into the electrical utility power grid or used to reduce electrical power purchased by a stationary source;

3.26.2 Generate mechanical power that is used to reduce electrical power purchased by a stationary source; or

3.26.3 Is used in a distributed generation application.

3.27 Military Tactical Equipment: a transportable engine operated by the United States armed forces or National Guard which is designed specifically for military use in an off-road, dense terrain; hostile environment; or aboard military combat vessels.

3.28 Mobile Agricultural Equipment: equipment at an agricultural operation which is towed or mounted on a vehicle and is continuously moved during the operation of the equipment. Mobile Agricultural Equipment includes, but is not limited to sprayers, balers, and harvest equipment.

3.29 NOx: oxides of nitrogen, calculated as equivalent nitrogen dioxide (NO_2).

3.30 Operator: includes but is not limited to any person who owns, leases, supervises, or operates a facility and/or equipment.

3.31 Public Utilities Commission (PUC) Quality Natural Gas: high methane gas (at least 80% methane by volume) as specified in PUC General Order 58-A.

3.32 Rated Brake Horsepower: the continuous brake horsepower rating specified for the engine by the manufacturer or listed on the nameplate of the unit, unless

otherwise physically limited and specified by a condition on the engine's Permit-to-Operate or Permit-Exempt Equipment Registration.

3.33 Replacement Engine: an engine that is installed to replace an engine that was in place as of August 18, 2011, and that such replacement is performed solely for the purpose of complying with the requirements of Section 5.2 of this rule.

3.34 Rich-Burn Engine: a spark-ignited internal combustion engine that is operated with an exhaust stream oxygen concentration of less than four (4) percent by volume prior to any exhaust stream control device.

3.35 Spark-ignited Internal Combustion Engine: a liquid or gaseous fueled engine designed to ignite its air/fuel mixture by a spark across a spark plug.

3.36 Stationary Source: as defined in Rule 2201 (New and Modified Stationary Source Review Rule).

3.37 Tier 1 Engine, Tier 2 Engine, Tier 3 Engine, and Tier 4 Engine: an EPA-certified compression-ignited engine that meets the Tier 1, Tier 2, or Tier 3 emission standards of Table 1 on page 56970 of the Final Rule (October 23, 1998) or the Tier 4 emission standards of Table II.A.2 (Tier 4 NOx and NMHC Standards and Schedule) on page 38971 of the Final Rule (June 29, 2004) or Table II.A.4 (Tier 4 Standards for Engines Over 750 hp (g/bhp-hr)) on page 38980 of the Final Rule (June 29, 2004), respectively.

3.38 VOC: volatile organic compounds, as defined in Rule 1020 (Definitions).

3.39 Waste Gas: an untreated, raw gas derived through a natural process, such as anaerobic digestion, from the decomposition of organic waste at municipal solid waste landfills or publicly owned wastewater treatment facility. Waste gas includes landfill gas which is generated at landfills, digester gas which is generated at sewage treatment facilities, or a combination of the two.

3.40 Wind Machine: a machine consisting of a large fan mounted on a tower powered by an internal combustion engine, used exclusively to provide protection to crops, including, but not limited to oranges, lemons, and grapes, from cold weather by effecting a heat transfer by moving warmer atmospheric air downward and mixing it with the colder air surrounding a crop.

4.0 Exemptions

4.1 The requirements of this rule shall not apply to the following engines:

4.1.1 An engine used to propel implements of husbandry, as that term is defined in Section 36000 of the California Vehicle Code, as that section existed on January 1, 2003.

4.1.2 An engine used exclusively to power a wind machine.

4.1.3 A de-rated spark-ignited engine not used in agricultural operations, provided the de-rating occurred before June 1, 2004.

4.1.4 A de-rated spark-ignited engine used in agricultural operations or a de-rated compression-ignited engine, provided the de-rating occurred before June 1, 2005.

4.1.5 An engine used exclusively to power Mobile Agricultural Equipment.

4.1.6 An internal combustion engine registered as a portable emissions unit under the Statewide Portable Equipment Registration Program pursuant to California Code of Regulations Title 13, Division 3, Chapter 9, Article 5, Sections 2450-2465.

4.1.7 An internal combustion engine registered as a portable emissions unit under Rule 2280 (Portable Equipment Registration).

4.2 Except for the requirements of Sections 5.9 and 6.2.3, the requirements of this rule shall not apply to an emergency standby engine or a low-use engine, provided that the engine is operated with an operating nonresettable elapsed time meter.

4.2.1 In lieu of operating a nonresettable elapsed time meter, the operator may use an alternative device, method, or technique, in determining operating time, provided that the alternative is approved by the APCO and EPA and is allowed by the Permit-to-Operate or Permit-Exempt Equipment Registration. The operator must demonstrate that the alternative device, method, or technique is equivalent to using a nonresettable elapsed time meter.

4.2.2 The operator shall properly maintain and operate the nonresettable elapsed time meter or alternative device in accordance with the manufacturer's instructions.

4.3 Except for the administrative requirements of Section 6.2.3, the requirements of this rule shall not apply to the following:

4.3.1 An internal combustion engine that meets the following conditions:

4.3.1.1 The engine is operated exclusively to preserve or protect property, human life, or public health during a disaster or state of emergency, such as a fire or flood; and

4.3.1.2 Except for operations associated with Section 4.3.1.1, the engine is limited to operate no more than 100 hours per calendar year as determined by an operational nonresettable elapsed time meter, for periodic maintenance, periodic readiness testing, and readiness testing during and after repair work of the engine; and

4.3.1.3 The engine is operated with an operational nonresettable elapsed time meter. In lieu of installing a nonresettable elapsed time meter, the operator of an engine may use an alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO and EPA. The operator of the engine shall properly maintain and operate the nonresettable elapsed time meter or alternative device in accordance with the manufacturer's instructions.

4.3.2 Military Tactical Equipment and engines used to retract military aircraft arresting gear cables.

4.4 For existing facilities, a replacement unit installed for the sole purpose of complying with the requirements of this rule shall be considered to be an emission control technique and shall be exempt from the Best Available Control Technology (BACT) and offsets requirements of District Rule 2201 (New and Modified Stationary Source Review Rule) provided that all other requirements of Rule 2201 are met.

4.5 Except for the requirements of Section 5.1, the requirements of this rule shall not apply to stationary engines rated at least 25 Brake Horsepower, up to, and including 50 Brake Horsepower.

5.0 Requirements

5.1 Stationary Engines Rated at Least 25 Brake Horsepower, Up To, and Including 50 Brake Horsepower and Used in Non-Agricultural Operations (Non-AO)

5.1.1 On and after July 1, 2012, no person shall sell or offer for sale any non-AO spark-ignited engine or any non-AO compression-ignited engine unless the engine meets the applicable requirements and emission limits specified in 40 Code of Federal Regulation (CFR) 60 Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines) and 40 CFR 60 Subpart JJJJ (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines) for the year in which the ownership of the engine changes.

5.1.2 By January 1, 2013, the operator shall submit a one-time report that includes the number of engines at the stationary source, and the following information for each engine:

5.1.2.1 Location of each engine,
5.1.2.2 Engine manufacturer,
5.1.2.3 Model designation and engine serial number,
5.1.2.4 Rated brake horsepower,
5.1.2.5 Type of fuel and type of ignition,
5.1.2.6 Combustion type: rich-burn, lean-burn, or compression ignition,
5.1.2.7 Purpose, and intended use, of the engine,
5.1.2.8 Typical daily operating schedule, and
5.1.2.9 Fuel consumption (cubic feet for gas or gallons for liquid fuel) for the previous one-year period.

5.2 Stationary Engines Rated at Greater than 50 Brake Horsepower ($>$50 bhp)

5.2.1 Spark Ignited Engines Used in non-AO - Table 1 Emission Limits/Standards

The operator of a spark-ignited internal combustion engine rated at $>$50 bhp that is used exclusively in non-AO shall not operate it in such a manner that results in emissions exceeding the limits in Table 1 for the appropriate engine type until such time that the engine has demonstrated compliance with Table 2 emission limits pursuant to the compliance deadlines in Section 7.5. In lieu of complying with Table 1 emission limits, the operator of a spark-ignited engine shall comply with the applicable emission limits pursuant to Section 8.0.

Table 1 Emission Limits/Standards for a Spark-Ignited Internal Combustion Engine rated at >50 bhp Used Exclusively in Non-AO (All ppmv limits are corrected to 15% oxygen on a dry basis.).			
Engine Type	NOx	CO	VOC
1. Rich-Burn			
a. Waste gas fueled	50 ppmv or 90% reduction	2000 ppmv	250 ppmv
b. Cyclic loaded, field gas fueled	50 ppmv	2000 ppmv	250 ppmv
c. All other engines	25 ppmv or 96% reduction	2000 ppmv	250 ppmv
2. Lean-Burn			
a. Two stroke, gaseous fueled, less than 100 horsepower	75 ppmv or 85% reduction	2000 ppmv	750 ppmv
b. All other engines	65 ppmv or 90% reduction	2000 ppmv	750 ppmv

5.2.2 Spark Ignited Engines Used in non-AO – Table 2 Emission Limits/Standards

On and after the compliance schedule specified in Section 7.5, the operator of a spark-ignited engine > 50 bhp that is used in non-AO shall comply with all the applicable requirements of the rule and one of the following, on an engine-by-engine basis:

5.2.2.1 On and after the compliance schedule specified in Section 7.5, the operator of a spark-ignited engine that is used exclusively in non-AO shall comply with Sections 5.2.2.1.1 through 5.2.2.1.3 on an engine-by-engine basis:

5.2.2.1.1 NOx, CO, and VOC emission limits pursuant to Table 2;

5.2.2.1.2 SOx control requirements of Section 5.7, pursuant to the deadlines specified in Section 7.5; and

5.2.2.1.3 Monitoring requirements of Section 5.10, pursuant to the deadlines specified in Section 7.5.

5.2.2.2 In lieu of complying with the NOx emission limit requirement of Section 5.2.2.1.1, an operator may pay an annual fee to the District, as specified in Section 5.6, pursuant to Section 7.6.

5.2.2.2.1 Engines in the fee payment program shall have actual emissions not greater than the applicable limits in

Table 1 during the entire time the engine is part of the fee payment program.

5.2.2.2.2 Compliance with Section 5.7 and 5.10, pursuant to the deadlines specified in Section 7.5, is also required as part of the fee payment option.

5.2.2.3 In lieu of complying with the NOx, CO, and VOC limits of Table 2 on an engine-by-engine basis, an operator may elect to implement an alternative emission control plan pursuant to Section 8.0. An operator electing this option shall not be eligible to participate in the fee payment option outlined in Section 5.2.2.2 and Section 5.6.

Table 2 Emission Limits for a Spark-Ignited Internal Combustion Engine Rated at >50 bhp Used Exclusively in Non-AO (All ppmv limits are corrected to 15% oxygen on a dry basis). Emission Limits are effective according to the compliance schedule specified in Section 7.5.

Engine Type	NOx Limit (ppmvd)	CO Limit (ppmvd)	VOC Limit (ppmvd)
1. Rich-Burn			
a. Waste Gas Fueled	50	2000	250
b. Cyclic Loaded, Field Gas Fueled	50	2000	250
c. Limited Use	25	2000	250
d. Rich-Burn Engine, not listed above	11	2000	250
2. Lean-Burn Engines			
a. Two-Stroke, Gaseous Fueled, >50 bhp and < 100 hp	75	2000	750
b. Limited Use	65	2000	750
c. Lean-Burn Engine used for gas compression	65 ppmv or 93% reduction	2000	750
d. Lean-Burn Engine, not listed above	11	2000	750

5.2.3 Spark-Ignited Engines Used Exclusively in Agricultural Operations (AO)

5.2.3.1 The operator of a spark-ignited internal combustion engine rated at >50 bhp that is used exclusively in AO shall not operate it in such a manner that results in emissions exceeding the limits in Table 3 for the appropriate engine type on an engine-by-engine basis.

5.2.3.2 In lieu of complying with the NOx, CO, and VOC limits of Table 3 on an engine-by-engine basis, an operator may elect to implement an alternative emission control plan pursuant to Section 8.0.

5.2.3.3 An operator of an AO spark-ignited engine that is subject to the applicable requirements of Table 3 shall not replace such engine with an engine that emits more emissions of NOx, VOC, and CO, on a ppmv basis, (corrected to 15% oxygen on a dry basis) than the engine being replaced.

Table 3 Emission Limits/Standards and Compliance Schedule for a Spark-Ignited Internal Combustion Engine >50 bhp Used Exclusively in AO (All ppmv limits are corrected to 15% oxygen on a dry basis).

Engine Type	NOx Limit	CO Limit	VOC Limit
1. Rich-Burn	90 ppmv or 80% reduction	2000 ppmv	250 ppmv
2. Lean-Burn	150 ppmv or 70% reduction	2000 ppmv	750 ppmv
3. Certified and installed on or before June 16, 2005	Meet a Certified Spark-Ignited Engine Standard of HC + NOx < 0.6 g/bhp-hr		

5.2.4 Certified Compression-Ignited Engines (AO and non-AO)

The operator of a certified compression-ignited engine rated >50 bhp shall comply with the following requirements:

5.2.4.1 Repower, replace, or control the engine's emissions to comply with the applicable limits/standards in Table 4 on an engine-by-engine basis by the compliance dates as specified in Table 4.

5.2.4.2 The annual hours of operation shall be determined on a calendar year basis.

5.2.4.3 In lieu of complying with the NOx, CO, and VOC limits of Table 4 on an engine-by-engine basis, an operator may elect to implement an alternative emission control plan pursuant to Section 8.0.

5.2.4.4 An operator of an AO compression-ignited engine that is subject to the applicable requirements of Table 4 shall not replace such engine with an engine that emits more emissions of NOx, VOC, and CO, on a ppmv basis, (corrected to 15% oxygen on a dry basis) than the engine being replaced.

5.2.4.5 Non-AO compression-ignited engines shall be operated in such a manner to comply with the SOx control requirements of Section 5.7 and the SOx monitoring requirements of Section 5.10.

Table 4 Emission Limits/Standards and Compliance Schedule for Compression-Ignited Internal Combustion Engine (corrected to 15% oxygen on a dry basis)

Engine Type	Emission Limit/ Standard	Compliance Date
1. Non-Certified Compression-Ignited Engine Installed on or before June 1, 2006		
a. Greater than 50 bhp but not more than 500 bhp	EPA Tier 3 or Tier 4	1/1/2010
b. Greater than 500 bhp but not more than 750 bhp and less than 1000 annual operating hours	EPA Tier 3	1/1/2010
c. Greater than 750 bhp and less than 1000 annual operating hours	EPA Tier 4	7/1/2011
d. Greater than 500 bhp and greater than or equal to 1000 annual operating hours	80 ppmv NOx, 2,000 ppmv CO, 750 ppmv VOC	1/1/2008 or, if owner has an agreement to electrify, comply by 1/1/2010
2. Certified Compression-Ignited Engine		
EPA Certified Tier 1 or Tier 2 Engine	EPA Tier 4	1/1/2015 or 12 years after installation date, but not later than 6/1/2018
b. EPA Certified Tier 3 or Tier 4 Engine	Meet Certified Compression-Ignited Engine Standard in effect at time of installation	At time of installation

5.2.5 Non-Certified Compression Ignited Engines (AO and Non-AO)

The operator of a non-certified compression-ignited engine, in place on or before June 1, 2006, shall comply with the Emission Limit/Standard and Compliance Date in Table 4 based on the non-certified compression-ignited engine that was in place on June 1, 2006, unless the operator meets one of the following conditions:

5.2.5.1 Replace the non-certified compression-ignited engine with a non-modified Tier 3 or a non-modified Tier 4 engine after June 1, 2006;

5.2.5.2 Control the non-certified compression-ignited engine after June 1, 2006, to emit emissions less than, or equal to, 80 ppmv NOx, 2,000 ppmv CO, and 750 ppmv VOC (corrected to 15% oxygen on a dry basis); or

5.2.5.3 Replace the non-certified compression-ignited engine after June 1, 2006, with an engine or other source with emissions less than, or equal to, 80 ppmv NOx, 2,000 ppmv CO, and 750 ppmv VOC (corrected to 15% oxygen on a dry basis).

5.3 All continuous emission monitoring systems (CEMS) emissions measurements shall be averaged over a period of 15 consecutive minutes. Any 15-consecutive-minute block average CEMS measurement exceeding the applicable emission limits of this rule shall constitute a violation of this rule.

5.4 Percent emission reductions, if used to comply with the NOx emission limits of Section 5.2, shall be calculated as follows:

5.4.1 For engines with external control devices that are not operated in combination with a second emission control device or technique, percent reduction shall be calculated using emission samples taken at the inlet and outlet of the control device.

5.4.2 For engines without external control devices and for engines with an external control device in combination with a second emission control device or technique, percent reduction shall be based on source test results for the uncontrolled engine and the engine after the control device or technique has been employed. In this situation, the engine's typical operating parameters, loading, and duty cycle shall be documented and repeated at each successive post-control source test to ensure that the engine is meeting the percent reduction limit. When representative source sampling prior to the application of an emissions control technology or technique is not available, the APCO may approve the use of a manufacturer's uncontrolled emissions information or source sampling from a similar, uncontrolled engine.

5.5 The operator of an internal combustion engine that uses percent emission reduction to comply with the NOx emission limits of Section 5.2 shall provide an accessible inlet and outlet on the external control device or the engine as appropriate for taking emission samples and as approved by the APCO.

5.6 Payment of an Annual Fee In Lieu of Complying with a NOx Emission Limit

The operator of a non-AO spark-ignited engine who elects to comply under Section 5.2.2.2 shall comply with the requirements of Sections 5.6 by the schedule specified in Section 7.6 and all other applicable provisions of this rule.

5.6.1 An operator shall pay a total annual fee to the District based on the total NOx emissions from those engines that will be subject to Section 5.2.2.2. The annual fee shall be calculated in the following manner:

5.6.1.1 The operator shall calculate the total emissions for all engines operating at a stationary source that will comply with Section 5.2.2.2. The total NOx emissions shall be calculated in accordance with Section 5.6.1.3.

5.6.1.2 The total annual fee shall be calculated in accordance with Section 5.6.1.4. These calculations include only the units that have been identified to comply with Section 5.2.2.2.

5.6.1.3 Total Emissions (TE) Calculation

$$E_{engine} = A \times B \times C \times D \times 2.147 \times 10^{-16}$$

Where:

E_{engine} = Annual NOx emissions for each unit, in tons/year.

A = NOx emission limit for the Permit-to-Operate, in ppmvd corrected to 15% oxygen.

B = Annual fuel use (ft3/year)

C = Fuel higher heating value (Btu/ft3) – for natural gas use 1000 Btu/ft3

D = Fuel F-Factor at 60F (Dscf/MMBtu) – for natural gas use 8579 Dscf/MMBtu

$$TE = \sum E(engine)$$

Where:

$\sum E(engine)$ = Sum of all NOx emissions from all units in the annual fee program, in tons per year.

5.6.1.4 Total Annual Fee Calculation

$$\text{Total Annual Fee} = (TE \times FR) + \text{Administrative Fee}$$

Where:

TE = Total Emissions, in tons per year, as calculated in Section 5.6.1.3.

FR (Fee Rate) = the cost of NOx reductions, in dollars per ton, as established by District Rule 9510. Under no circumstances shall the cost per ton of NOx reductions exceed the cost effectiveness threshold for the Carl Moyer Cost Effectiveness, as established by the applicable state law.

$$\text{Administrative Fee} = 4\% \times (TE \times FR)$$

5.7 Sulfur Oxides (SOx) Emission Control Requirements

On and after the compliance schedule specified in Section 7.5, operators of non-AO spark-ignited engines and non-AO compression-ignited engines shall comply with one of the following requirements:

5.7.1 Operate the engine exclusively on PUC-quality natural gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases; or

5.7.2 Limit gaseous fuel sulfur content to no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet; or

5.7.3 Use California Reformulated Gasoline for all gasoline-fired spark-ignited engines; or

5.7.4 Use California Reformulated Diesel for all compression-ignited engines; or

5.7.5 Operate the engine on liquid fuel that contains no more than 15 ppm sulfur, as determined by the test method specified in Section 6.4.6; or

5.7.6 Install and properly operate an emission control system that reduces SO_2 emissions by at least 95% by weight as determined by the test method specified in Section 6.4.6.

5.8 Monitoring Requirements: Non-AO Spark-Ignited Engines and Engines in an AECP (Section 8.0)

The operator of a non-AO spark-ignited engine subject to the requirements of Section 5.2 or any engine subject to the requirements of Section 8.0 shall comply with the following requirements:

5.8.1 For each engine with a rated brake horsepower of 1,000 bhp or greater and which is allowed by Permit-to-Operate or Permit-Exempt Equipment Registration condition to operate more than 2,000 hours per calendar year, or with an external emission control device, either install, operate, and maintain continuous monitoring equipment for NOx, CO, and oxygen, as identified in Rule 1080 (Stack Monitoring), or install, operate, and maintain APCO-approved alternate monitoring. The monitoring system may be a continuous emissions monitoring system (CEMS), a parametric emissions monitoring system (PEMS), or an alternative monitoring system approved by the APCO. APCO-approved alternate monitoring shall consist of one or more of the following:

5.8.1.1 Periodic NOx and CO emission concentrations,
5.8.1.2 Engine exhaust oxygen concentration,
5.8.1.3 Air-to-fuel ratio,
5.8.1.4 Flow rate of reducing agents added to engine exhaust,
5.8.1.5 Catalyst inlet and exhaust temperature,
5.8.1.6 Catalyst inlet and exhaust oxygen concentration, or
5.8.1.7 Other operational characteristics.

5.8.2 For each engine not subject to Section 5.8.1, monitor operational characteristics recommended by the engine manufacturer or emission control system supplier, and approved by the APCO.

5.8.3 For each engine with an alternative monitoring system, submit to, and receive approval from the APCO, adequate verification of the alternative monitoring system's acceptability. This would include data demonstrating the system's accuracy under typical operating conditions for the specific application and any other information or data deemed necessary in assessing the acceptability of the alternative monitoring system.

5.8.4 For each engine with an APCO approved CEMS, operate the CEMS in compliance with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13 (except subsection h), 40 CFR Appendix B (Performance Specifications), 40 CFR Appendix F (Quality Assurance Procedures), and applicable provisions of Rule 1080 (Stack Monitoring).

5.8.5 For each engine, have the data gathering and retrieval capabilities of an installed monitoring system described in Section 5.8 approved by the APCO.

5.8.6 For each engine, install and operate a nonresettable elapsed time meter.

5.8.6.1 In lieu of installing a nonresettable elapsed time meter, the operator may use an alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO and EPA and is allowed by Permit-to-Operate or Permit-Exempt Equipment Registration condition.

5.8.6.2 The operator shall properly maintain and operate the nonresettable elapsed time meter or alternative device in accordance with the manufacturer's instructions.

5.8.7 For each engine, implement the Inspection and Monitoring (I&M) plan, if any, submitted to and approved by the APCO pursuant to Section 6.5.

5.8.8 For each engine, collect data through the I&M plan in a form approved by the APCO.

5.8.9 For each engine, use a portable NOx analyzer to take NOx emission readings to verify compliance with the emission requirements of Section 5.2 or Section 8.0 during each calendar quarter in which a source test is not performed and the engine is operated.

5.8.9.1 If an engine is operated less than 120 calendar days per calendar year, take one NOx emission reading during the calendar year in which a source test is not performed and the engine is operated.

5.8.9.2 All emission readings shall be taken with the engine operating either at conditions representative of normal operations or conditions specified in the Permit-to-Operate or Permit-Exempt Equipment Registration.

5.8.9.3 The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO.

5.8.9.4 All NOx emissions readings shall be reported to the APCO in a manner approved by the APCO.

5.8.9.5 NOx emission readings taken pursuant to this section shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings evenly spaced out over the 15 consecutive-minute period.

5.8.10 The APCO shall not approve an alternative monitoring system unless it is documented that continued operation within ranges of specified emissions-related performance indicators or operational characteristics provides a reasonable assurance of compliance with applicable emission limits. The operator shall source test over the proposed range of surrogate operating parameters to demonstrate compliance with the applicable emission standards.

5.8.11 For each engine subject to Section 8.0, install and operate a nonresettable fuel meter.

5.8.11.1 In lieu of installing a nonresettable fuel meter, the operator may use an alternative device, method, or technique in determining daily fuel consumption provided that the alternative is approved by the APCO and EPA.

5.8.11.2 The operator shall properly maintain, operate, and calibrate the required fuel meter in accordance with the manufacturer's instructions.

5.9 Monitoring Requirements: All Other Engines

5.9.1 The operator of any of the following engines shall comply with the requirements specified in Section 5.9.2 through Section 5.9.5 below:

5.9.1.1 An AO spark-ignited engine subject to the requirements of Section 5.2;

5.9.1.2 A compression-ignited engine subject to the requirements of Section 5.2; or

5.9.1.3 An engine subject to Section 4.2.

5.9.2 Properly operate and maintain each engine as recommended by the engine manufacturer or emission control system supplier.

5.9.3 Monitor the operational characteristics of each engine as recommended by the engine manufacturer or emission control system supplier.

5.9.4 Install and operate a nonresettable elapsed time meter.

5.9.4.1 In lieu of installing a nonresettable elapsed time meter, the operator may use an alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO and EPA and is allowed by Permit-to-Operate or Permit-Exempt Equipment Registration condition.

5.9.4.2 The operator shall properly maintain and operate the nonresettable elapsed time meter or alternative device in accordance with the manufacturer's instructions.

5.9.5 The operator of an AO spark-ignited engine that has been retro-fitted with a NOx exhaust control that has not been certified in accordance with Section 9.0 Exhaust Control System Certification Requirements, or a compression-ignited engine that has been retro-fitted with a NOx exhaust control shall comply with the following:

5.9.5.1 Use a portable NOx analyzer to take NOx emission readings to demonstrate compliance with the emission requirements of Section 5.2.

5.9.5.2 The operator of a compression-ignited engine that is subject to the limits/standards of Section 5.2 Table 4 Category 1.d shall use a portable NOx analyzer to take NOx emission readings at least once every six (6) months that the engine is operated.

5.9.5.3 The operator of any other engine that has been retro-fitted with a NOx exhaust control shall use a portable NOx analyzer to take NOx emission readings at least once every 24 months that the engine is operated.

5.9.5.4 All emission readings shall be taken with the engine operating either at conditions representative of normal operations or conditions specified in the Permit-to-Operate or Permit-Exempt Equipment Registration.

5.9.5.5 The portable NOx analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO.

5.9.5.6 All NOx emissions readings shall be reported to the APCO in a manner approved by the APCO.

5.9.5.7 NOx emission readings taken pursuant to this section shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings evenly spaced out over the 15 consecutive-minute period.

5.10 SOx Emissions Monitoring Requirements

On and after the compliance schedule specified in Section 7.5, an operator of a non-AO engine shall comply with the following requirements:

5.10.1 An operator of an engine complying with Sections 5.7.2 or 5.7.5 shall perform an annual sulfur fuel analysis in accordance with the test methods in Section 6.4. The operator shall keep the records of the fuel analysis and shall provide it to the District upon request,

5.10.2 An operator of an engine complying with Section 5.7.6 by installing and operating a control device with at least 95% by weight SOx reduction efficiency shall submit for approval by the APCO the proposed the key system operating parameters and frequency of the monitoring and recording not later than July 1, 2013, and

5.10.3 An operator of an engine complying with Section 5.7.6 shall perform an annual source test unless a more frequent sampling and reporting period is included in the Permit-to-Operate. Source tests shall be performed in accordance with the test methods in Section 6.4.

5.11 Permit-Exempt Equipment Registration Requirements

The operator of an engine used exclusively in agricultural operations shall register such engine pursuant to Rule 2250 (Permit-Exempt Equipment Registration), except for an engine that meets any one of the following conditions:

5.11.1 The engine is required to have a Permit-to-Operate pursuant to California Health and Safety Code Section 42301.16; or

5.11.2 The engine is not required to comply with Section 5.2 of this rule.

6.0 Administrative Requirements

6.1 Emission Control Plan

The operator of an engine subject to the requirements of Section 5.2 of this rule shall submit to the APCO an APCO-approvable emission control plan of all actions to be taken to satisfy the emission requirements of Section 5.2 and the compliance schedules of Section 7.0. If there is no change to the previously-approved emission control plan, the operator shall submit a letter to the District indicating that the previously approved plan is still valid.

6.1.1 The requirement to submit an emission control plan shall apply to the following engines:

6.1.1.1 Engines that have been retrofitted with an exhaust control device, except those certified per Section 9.0;

6.1.1.2 Engines subject to Section 8.0;

6.1.1.3 An AO spark-ignited engine that is subject to the requirements of Section 8.0;

6.1.1.4 An AO spark-ignited engine that has been retrofitted with a catalytic emission control and is not subject to the requirements of Section 8.0.

6.1.2 Such emission control plan shall contain the following information, as applicable for each engine:

6.1.2.1 Permit-to-Operate number, Authority-to-Construct number, or Permit-Exempt Equipment Registration number,
6.1.2.2 Engine manufacturer,
6.1.2.3 Model designation and engine serial number,
6.1.2.4 Rated brake horsepower,
6.1.2.5 Type of fuel and type of ignition,
6.1.2.6 Combustion type: rich-burn or lean-burn,
6.1.2.7 Total hours of operation in the previous one-year period, including typical daily operating schedule,
6.1.2.8 Fuel consumption (cubic feet for gas or gallons for liquid) for the previous one-year period,
6.1.2.9 Stack modifications to facilitate continuous in-stack monitoring and to facilitate source testing,
6.1.2.10 Type of control to be applied, including in-stack monitoring specifications,

6.1.2.11 Applicable emission limits,
6.1.2.12 Documentation showing existing emissions of NOx, VOC, and CO, and
6.1.2.13 Date that the engine will be in full compliance with this rule.

6.1.3 The emission control plan shall identify the type of emission control device or technique to be applied to each engine and a construction/removal schedule, or shall provide support documentation sufficient to demonstrate that the engine is in compliance with the emission requirements of this rule.

6.1.4 For an engine being permanently removed from service, the emission control plan shall include a letter of intent pursuant to Section 7.2.

6.2 Recordkeeping

6.2.1 The operator of an engine subject to the requirements of Section 5.2 of this rule shall maintain an engine operating log to demonstrate compliance with this rule. This information shall be retained for a period of at least five years, shall be readily available, and be made available to the APCO upon request. The engine operating log shall include, on a monthly basis, the following information:

6.2.1.1 Total hours of operation,
6.2.1.2 Type of fuel used,
6.2.1.3 Maintenance or modifications performed,
6.2.1.4 Monitoring data,
6.2.1.5 Compliance source test results, and
6.2.1.6 Any other information necessary to demonstrate compliance with this rule.
6.2.1.7 For an engine subject to Section 8.0, the quantity (cubic feet of gas or gallons of liquid) of fuel used on a daily basis.

6.2.2 The data collected pursuant to the requirements of Section 5.8 and Section 5.9 shall be maintained for at least five years, shall be readily available, and made available to the APCO upon request.

6.2.3 An operator claiming an exemption under Section 4.2 or Section 4.3 shall maintain annual operating records. This information shall be retained for at least five years, shall be readily available, and provided to the APCO upon request. The records shall include, but are not limited to, the following:

6.2.3.1 Total hours of operation,
6.2.3.2 The type of fuel used,

6.2.3.3 The purpose for operating the engine,

6.2.3.4 For emergency standby engines, all hours of non-emergency and emergency operation shall be reported, and

6.2.3.5 Other support documentation necessary to demonstrate claim to the exemption.

6.3 Compliance Testing

The operator of an engine subject to the requirements of Section 5.2 or the requirements of Section 8.0 shall comply with the following requirements:

6.3.1 The requirements of Section 6.3.2 through Section 6.3.4 shall apply to the following engines:

6.3.1.1 Engines that have been retrofitted with an exhaust control device, except those certified per Section 9.0;

6.3.1.2 Engines subject to Section 8.0;

6.3.1.3 An AO spark-ignited engine that is subject to the requirements of Section 8.0;

6.3.1.4 An AO spark-ignited engine that has been retrofitted with a catalytic emission control and is not subject to the requirements of Section 8.0.

6.3.2 Demonstrate compliance with applicable limits, ppmv or percent reduction, in accordance with the test methods in Section 6.4, as specified below:

6.3.2.1 By the applicable date specified in Section 5.2, and at least once every 24 months thereafter, except for an engine subject to Section 6.3.2.2.

6.3.2.2 By the applicable date specified in Section 5.2 and at least once every 60 months thereafter, for an AO spark-ignited engine that has been retro-fitted with a catalytic emission control device.

6.3.2.3 A portable NOx analyzer may be used to show initial compliance with the applicable limits/standards in Section 5.2 for AO spark-ignited engines, provided the criteria specified in Sections 6.3.2.3.1 to 6.3.2.3.5 are met, and a source test is conducted in accordance with Section 6.3.2 within 12 months from the required compliance date.

6.3.2.3.1 A minimum of 15 minutes of runtime must be measured with data recorded at a minimum of 15, evenly spaced time intervals. Compliance is to be determined with the arithmetic average of the oxygen-corrected data;

6.3.2.3.2 The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Analyzer calibration records shall be made available at the District's request;

6.3.2.3.3 The analyzer shall be checked with EPA protocol span gas at the beginning and end of each test day. The results of these checks shall be recorded and copies submitted to the District with each engine test. If the analyzer exhibits more than a 10% deviation from the span check, the instrument must be re-calibrated. Any analysis performed prior to an end-of-day span check failure shall be void;

6.3.2.3.4 The test results of each engine, including span check results, shall be submitted to the District within 30 days of the test date. Test results shall clearly identify the engine tested including operator, location, permit or registration number, manufacturer, model, and serial number; and

6.3.2.3.5 The analyzer utilized for each check shall be clearly identified in the material submitted with the test results. Identification shall include manufacturer and serial number of the analyzer used, and the last calibration date.

6.3.3 Conduct emissions source testing with the engine operating either at conditions representative of normal operations or conditions specified in the Permit-to-Operate or Permit-Exempt Equipment Registration. For emissions source testing performed pursuant to Section 6.3.2 for the purpose of determining compliance with an applicable standard or numerical limitation, the arithmetic average of three (3) 30-consecutive-minute test runs shall apply. If two (2) of three (3) runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC shall be reported as methane. VOC, NOx, and CO

concentrations shall be reported in ppmv, corrected to 15 percent oxygen. For engines that comply with a percent reduction limit, the percent reduction of NOx emissions shall also be reported.

6.3.4 In addition to other information, the source test protocol shall describe which critical parameters will be measured and how the appropriate range for these parameters shall be established. The range for these parameters shall be incorporated into the I&M plan.

6.3.5 Engines that are limited by Permit-to-Operate or Permit-Exempt Equipment Registration condition to be fueled exclusively with PUC quality natural gas shall not be subject to the reoccurring source test requirements of Section 6.3.2 for VOC emissions.

6.3.6 Representative Testing

For spark-ignited engines, in lieu of compliance with the applicable requirements of Section 6.3.2, compliance with the applicable emission limits in Section 5.2 shall be demonstrated by submittal of annual emission test results, within 30 days of the test date, to the District, from a unit or units that represents a specified group of units, provided all of the following requirements are satisfied:

6.3.6.1 The units are located at the same stationary source;

6.3.6.2 The units were produced by the same manufacturer, have the same model number or other manufacturer's designation in common, and have the same rated capacity and operating specifications;

6.3.6.3 The units are operated and maintained in a similar manner; and

6.3.6.4 At least 20% of the total number of units are tested during each annual test cycle.

6.3.6.5 The District, based on documentation submitted by the stationary source:

6.3.6.5.1 Determines that the margin of compliance for the identical units tested is significant and can be maintained on an on-going basis; or

6.3.6.5.2 Determines based on a review of sufficient emissions data that, though the margin of compliance is not substantial, other factors allow for the determination that the variability of emissions for identical tested units is low enough for confidence that the untested unit will be in compliance. These factors may include, but are not limited to, the following:

6.3.6.5.2.1 Historical records at the tested unit showing consistent invariant load;

6.3.6.5.2.2 Fuel characteristics yielding low variability and therefore assurance that emissions will be constant and below allowable levels;

6.3.6.5.2.3 Statistical analysis of a robust emissions data set demonstrating sufficiently low variability to convey assurance that the margin of compliance, though small, is reliable.

6.3.6.6 Should any of the representative units exceed the required emission limits, or if the District notifies the operator that the criteria in Sections 6.3.6.1 through 6.3.6.5 have not been fulfilled, each of the units in the group shall individually demonstrate compliance by emissions testing. Failure to complete emissions testing within 90 days of the failed test shall result in the untested units being in violation of this rule. After compliance with the requirements of this section has been demonstrated, subsequent source testing shall be performed pursuant to Sections 6.3.2 or 6.3.6.

6.4 Test Methods

Compliance with the requirements of Section 5.2 shall be determined, as required, in accordance with the following test procedures or any other method approved by EPA and the APCO:

6.4.1 Oxides of nitrogen - EPA Method 7E, or ARB Method 100.

6.4.2 Carbon monoxide - EPA Method 10, or ARB Method 100.

6.4.3 Stack gas oxygen - EPA Method 3 or 3A, or ARB Method 100.

6.4.4 Volatile organic compounds - EPA Method 25A or 25B, or ARB Method 100. Methane and ethane, which are exempt compounds, shall be excluded from the result of the test.

6.4.5 Operating horsepower determination - any method approved by EPA and the APCO.

6.4.6 SOx Test Methods

6.4.6.1 Oxides of sulfur – EPA Method 6C, EPA Method 8, or ARB Method 100.

6.4.6.2 Determination of total sulfur as hydrogen sulfide (H_2S) content – EPA Method 11 or EPA Method 15, as appropriate.

6.4.6.3 Sulfur content of liquid fuel – American Society for Testing and Materials (ASTM) D 6920-03 or ASTM D 5453-99.

6.4.6.4 The SOx emission control system efficiency shall be determined using the following:

$$\% \text{ Control Efficiency} = [(C_{SO2,\ inlet} - C_{SO2,\ outlet}) / C_{SO2,\ inlet}] \text{ X } 100$$

Where:

$C_{SO2,\ inlet}$ = concentration of SOx (expressed as SO_2) at the inlet side of the SOx emission control system, in lb/Dscf

$C_{SO2,\ outlet}$ = concentration of SOx (expressed as SO_2) at the outlet side of the SOx emission control system, in lb/Dscf

6.4.7 The Higher Heating Value (hhv) of the fuel shall be determined by one of the following test methods:

6.4.7.1 ASTM D 240-02 or ASTM D 3282-88 for liquid hydrocarbon fuels.

6.4.7.2 ASTM D 1826-94 or ASTM 1945-96 in conjunction with ASTM D 3588-89 for gaseous fuel.

6.5 Inspection and Monitoring (I&M) Plan

The operator of an engine that is subject to the requirements of Section 5.2 or the requirements of Section 8.0 shall submit to the APCO for approval, an I&M plan that specifies all actions to be taken to satisfy the following requirements and the requirements of Section 5.8. The actions to be identified in the I&M plan shall include, but are not limited to, the information specified below. If there is no change to the previously approved I&M plan, the operator shall submit a letter to the District indicating that previously approved plan is still valid.

6.5.1 The requirements of Section 6.5.2 through Section 6.5.9 shall apply to the following engines:

6.5.1.1 Engines that have been retrofitted with an exhaust control device, except those certified per Section 9.0;

6.5.1.2 Engines subject to Section 8.0;

6.5.1.3 An AO spark-ignited engine that is subject to the requirements of Section 8.0.

6.5.1.4 An AO spark-ignited engine that has been retrofitted with a catalytic emission control and is not subject to the requirements of Section 8.0.

6.5.2 Procedures requiring the operator to establish ranges for control equipment parameters, engine operating parameters, and engine exhaust oxygen concentrations that source testing has shown result in pollutant concentrations within the rule limits.

6.5.3 Procedures for monthly inspections as approved by the APCO. The applicable control equipment parameters and engine operating parameters will be inspected and monitored monthly in conformance with a regular inspection schedule listed in the I&M plan.

6.5.4 Procedures for the corrective actions on the noncompliant parameter(s) that the operator will take when an engine is found to be operating outside the acceptable range for control equipment parameters, engine operating parameters, and engine exhaust NOx, CO, VOC, or oxygen concentrations.

6.5.5 Procedures for the operator to notify the APCO when an engine is found to be operating outside the acceptable range for control equipment parameters, engine operating parameters, and engine exhaust NOx, CO, VOC, or oxygen concentrations.

6.5.6 Procedures for preventive and corrective maintenance performed for the purpose of maintaining an engine in proper operating condition.

6.5.7 Procedures and a schedule for using a portable NOx analyzer to take NOx emission readings pursuant to Section 5.8.9.

6.5.8 Procedures for collecting and recording required data and other information in a form approved by the APCO including, but not limited to, data collected through the I&M plan and the monitoring systems described in Sections 5.8.1 and 5.8.2. Data collected through the I&M plan shall have retrieval capabilities as approved by the APCO.

6.5.9 Procedures for revising the I&M plan. The I&M plan shall be updated to reflect any change in operation. The I&M plan shall be updated prior to any planned change in operation. An engine operator that changes significant I&M plan elements must notify the District no later than seven days after the change and must submit an updated I&M plan to the APCO no later than 14 days after the change for approval. The date and time of the change to the I&M plan shall be recorded in the engine operating log. For new engines and modifications to existing engines, the I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit-to-Operate or Permit-Exempt Equipment Registration. The operator of an engine may request a change to the I&M plan at any time.

7.0 Compliance Schedules

7.1 Loss of Exemption

The operator of an engine which becomes subject to the emission limits/standards of this rule through loss of exemption shall not operate the subject engine, except as required for obtaining a new or modified Permit-to-Operate or Permit-Exempt Equipment Registration for the engine, until the operator demonstrates that the subject engine is in full compliance with the requirements of this rule.

7.2 Permanent Removal of an Engine

The operator of an engine who elects to permanently remove the engine from service shall comply with all of the following conditions:

7.2.1 Comply with all applicable requirements of this rule until the engine is permanently removed from service;

7.2.2 Submit a letter to the APCO no later than 14 days before the engine is permanently removed from service, stating the intent to permanently remove the engine from service. The engine removal letter can be submitted with the emission control plan, if any; and

7.2.3 Permanently remove the engine from service and officially surrender the Permit-to-Operate or Permit-Exempt Equipment Registration, if any, to the APCO no later than 30 days after the engine is permanently removed from service.

7.3 AO Compression-Ignited Engine

7.3.1 The operator of an AO compression-ignited engine that is subject to Section 5.2 and that is required to submit an Authority-to-Construct application in order to comply with the requirements of this rule, shall submit the Authority-to-Construct application, and any required Emission Control Plan or I&M Plan, no later than six months before the engine is required to be in compliance with the requirements of Section 5.2.

7.3.2 The operator of an AO compression-ignited engine that is subject to Section 5.2 and that is required to submit a Permit-Exempt Equipment Registration application in order to comply with the requirements of Rule 4702, shall submit the Permit-Exempt Equipment Registration application, and any required Emission Control Plan or I&M Plan, no later than three months before the engine is required to be in compliance with the requirements of Section 5.2.

7.3.3 Unless otherwise specified, the operator of an engine that is subject to the requirements of Section 5.2 of Rule 4702 shall be in full compliance with Rule 4702 by the indicated dates in Table 4.

7.4 Non-AO Compression-Ignited Engine

7.4.1 The operator of a non-AO compression-ignited engine that is subject to Section 5.2 and that is required to submit an Emission Control Plan, an I&M Plan, or an Authority-to-Construct in order to comply with rule requirements, shall submit such document(s) no later than six months before the engine is required to be in compliance with the requirements of Section 5.2.

7.4.2 Unless otherwise specified, the operator of an engine that is subject to the requirements of Section 5.2 shall be in full compliance with Rule 4702 by the indicated dates in Table 4.

7.5 Non-AO Spark-Ignited Engine

7.5.1 An operator with non-AO spark-ignited engines at a stationary source subject to Table 2 or Section 8.0 emission limits, SOx control requirements of Section 5.7, and the SOx monitoring requirements of Section 5.10 shall comply with the schedule specified in Table 5.

Table 5 Compliance Schedule for Non-AO Spark-Ignited Engines Subject to Table 2 Emission Limits, and SOx Control and Monitoring Requirements

Engines to be in Compliance at a Stationary Source	Emission Control Plan	Authority to Construct and Inspection and Monitoring Plan	Full Compliance
Operator with a single engine at a stationary source			
Single Engine	1/1/12	1/1/13	1/1/14
Operator with at least two engines, but less than 12 engines at a stationary source			
33% or more of the engines subject to Table 2 emission limits as of August 18, 2011	7/1/12	1/1/13	1/1/14
66% or more of the engines subject to Table 2 emission limits as of August 18, 2011	7/1/12	1/1/14	1/1/15
100% of the engines subject to Table 2 emission limits	7/1/12	1/1/15	1/1/16
Operator with at least 12 engines at a stationary source			
25% or more of the engines subject to Table 2 emission limits as of August 18, 2011	7/1/12	1/1/13	1/1/14
50% or more of the engines subject to Table 2 emission limits as of August 18, 2011	7/1/12	1/1/14	1/1/15
75% or more of the engines subject to Table 2 emission limits as of August 18, 2011	7/1/12	1/1/15	1/1/16
100% of the engines subject to Table 2 emission limits	7/1/12	1/1/16	1/1/17

7.5.2 As shown in Table 5, the column labeled:

7.5.2.1 "Emission Control Plan" identifies the date by which the operator shall submit an emission control plan pursuant to the applicable provisions of Section 6.1. The emission control plan shall identify all the Non-AO spark-ignited engines subject to Table 2 emission limits, SOx control and monitoring requirements. The emission control plan shall identify all the steps to be taken to comply with this rule. If there is no change to the previously approved emission control plan, the operator does not need to submit a new emission control plan. However, the operator shall submit a letter to the District indicating that previously approved plan is still valid.

7.5.2.2 "Authority to Construct and Inspection and Maintenance Plan" identifies the date by which the operator shall submit an Authority to Construct (if needed) and an Inspection and Monitoring Plan as specified in the applicable provisions of Section 6.5 for each engine subject to Table 2 emission limits, SOx control and monitoring requirements. If there is no change to the previously approved I&M plan, the operator does not need to submit a new I&M Plan. However, the operator shall submit a letter to the District indicating that previously approved I&M plan is still valid.

7.5.2.3 "Full Compliance" identifies the date by which the operator shall demonstrate that each unit is in compliance with Table 2 emission limits, SOx control and monitoring requirements.

7.6 Operator of Non-AO Spark-Ignited Engine Who Elects to Pay Fees

In lieu of complying with Table 2 NOx emission limits, the operator of a non-AO spark-ignited engine who elects to pay annual fees under Section 5.2.2.2 and Section 5.6 shall comply with the following requirements:

7.6.1 By the date specified in Table 5, submit an Emission Control Plan which includes the following information:

7.6.1.1 Number of engines at a stationary source that will comply under Section 5.2.2.2,

7.6.1.2 Location of each engine,

7.6.1.3 Engine manufacturer, model designation, engine serial number, and Permit-to-Operate number, and

7.6.1.4 Each engine's rated brake horsepower, fuel type, and type of ignition.

7.6.2 The total annual fees shall be paid to the District in the following manner:

7.6.2.1 Payment shall be paid no later than June 30 of each year, for the emissions of the previous calendar year,

7.6.2.2 The first payment is due to the District no later than June 30 of the year in which full compliance is required for the specified percent of engines at a stationary as specified in Table 5 that the operator has opted to pay the annual fees,

7.6.2.3 Should June 30 fall on a day when the District is closed, the payment shall be made by the next District working day after June 30, and

7.6.2.4 Payments shall continue annually until the engine either is permanently removed from use in the San Joaquin Valley Air Basin and the Permit-to-Operate is surrendered or the operator demonstrates compliance with the applicable Table 2 emission limits.

7.6.2.5 The emissions fee for units that operate for less than the full calendar year before demonstrating compliance under Section 5.2, shall be based on the actual fuel used during the portion of the calendar year prior to demonstrating that compliance or removing the unit from operation within the San Joaquin Valley Air Basin.

8.0 Alternative Emission Control Plan (AECP)

An operator may comply with the NOx emission requirements of Section 5.2 for a group of engines by meeting the requirements below. An operator that is subject to the requirements below shall also comply with all the applicable requirements of Sections 5.0, 6.0, and 7.0. Only engines subject to Section 5.2 are eligible for inclusion in an AECP.

8.1 During any seven (7) consecutive calendar day period, the operator shall operate all engines in the AECP to achieve an actual aggregate NOx emission level that is not greater than 90 percent of the NOx emissions that would be obtained by controlling the engines to comply individually with the NOx limits in Section 5.2. The operator shall operate engines in the AECP such that

$$AE_{Actual} \leq 0.90\ (AE_{Limit})$$

and shall notify the APCO within 24 hours of any violation of this section.

8.1.1 The actual aggregate NOx emissions (AE_{Actual}) is the sum of the actual NOX emissions, over a seven (7) consecutive calendar day period, from all engines in the AECP which were actually operated during that period. AE_{Actual} shall be calculated as follows:

$$AE_{Actual} = \sum_{i} (EF_i)(F_i)(k_i)$$

where:

i identifies each engine in the AECP.

EF_i is the NOx emission factor of the engine established pursuant to Section 8.2 and approved by the APCO.

F_i is the actual total fuel used by the engine during the seven (7) consecutive calendar day period.

k_i is a constant used to convert an engine's fuel use and NOx emission factor to the amount of NOx emitted. k_i is dependent on the engine and the pollutant emitted. Calculation of k_i shall be accomplished using 40 CFR Part 60, Appendix A, Method 19, or an equivalent method approved by EPA, ARB and the APCO.

8.1.2 The estimated aggregate NOx emissions limit (AE_{Limit}) is the sum of the NOx emissions, over a seven (7) consecutive calendar day period, for the same engines in the AECP which were actually operated during the same period as considered in Section 8.1.1, calculated with the NOx limits of Section 5.2 and the actual fuel usage during that seven (7) consecutive calendar day period. AE_{Limit} shall be calculated as follows:

$$AE_{Limit} = \sum_{i} (EL_i)(F_i)(k_i)$$

where:

i = identifies each engine in the AECP.

EL_i = the NOx emission limit from Section 5.2 for each engine.

F_i = the actual total fuel used by the engine during the seven (7) consecutive calendar day period.

k_i = a constant used to convert an engine's fuel use and NOx emission limit to the amount of NOx emitted. k_i is dependent on the engine and the pollutant emitted. Calculation of k_i shall be accomplished using 40 CFR Part 60, Appendix A, Method 19, or an equivalent method approved by EPA, ARB and the APCO.

8.1.3 Only engines in the AECP which were operated during the seven (7) consecutive calendar day period shall be included in the calculations of AE_{Limit} and AE_{Actual}.

8.1.4 The operator shall, at least one time each day the AECP is used, calculate and record the actual aggregate NOx emissions (AE_{Actual}) and the aggregate NOx emission limit (AE_{Limit}) for the preceding seven (7) consecutive calendar day period.

8.2 The operator shall establish a NOx emission factor limit for each engine. The established NOx emission factor of an engine shall be no less than the NOx emission factor of the engine from the most recent source test conducted pursuant to Section 6.3 and approved by the APCO. The operator shall not operate an AECP engine in such a manner that NOx emissions exceed the established NOx emission factor of the engine.

8.3 The operator shall submit the AECP to the APCO at least 18 months before compliance with the emission limits in Section 5.2 is required. The AECP shall:

8.3.1 Not be implemented prior to APCO approval.

8.3.2 Be enforceable on a daily basis by the District.

8.3.3 Contain any information necessary to determine eligibility of the engines for alternative emission control, including, but not limited to:

8.3.3.1 A list of engines subject to the AECP. All engines in an AECP shall be under the operational control of a single operator and shall be located at a single stationary source,

8.3.3.2 The NOx emission factor established by the engine operator for each engine pursuant to Section 8.2, and

8.3.3.3 The estimated aggregate NOx emissions calculated according to Section 8.1.2.

8.3.4 Present the methodology for determining equivalency of actual NOx emissions under the proposed AECP as compared to the estimated NOx emissions allowed by this rule.

8.3.5 Detail the method of recording and verifying daily compliance with the AECP.

8.3.6 Demonstrate to the satisfaction of the APCO that the difference between the NOx emission limits of this rule and any lower actual NOx emissions will not be used to increase emissions from the same or another source.

8.3.7 Demonstrate that the engines subject to the requirements of Section 5.2 are in compliance with or on an approved schedule for compliance with all applicable District rules.

8.4 The operator shall submit an updated or modified AECP for approval by the APCO prior to any of the following:

8.4.1 Modification of the engine(s) which would require an Authority-to-Construct;

8.4.2 When new or amended rules are adopted which regulate the emissions from the engines; or

8.4.3 When the NOx emission factor established by the engine operator for an engine pursuant to Section 8.2 is modified.

8.5 In addition to the records kept pursuant to Section 6.2, the operator shall maintain records, on a daily basis, of the parameters needed to demonstrate compliance with the applicable NOx emission limits when operating under the AECP. These records shall be retained for at least five years, shall be readily available, and be made available to the APCO upon request. The records shall include, but are not limited to, the following for each engine unless otherwise indicated:

8.5.1 Total hours of operation,

8.5.2 Type and quantity (cubic feet of gas or gallons of liquid) of fuel used,

8.5.3 The actual NOx emissions limits to be included in the calculation of AE_{Actual} pursuant to Section 8.1.1,

8.5.4 The actual aggregate NOx emissions (AE_{Actual}) for all the engines in the AECP calculated pursuant to Section 8.1.1,

8.5.5 The estimated NOx emissions limits to be included in the calculation of AE_{Limit} pursuant to Section 8.1.2,

8.5.6 The estimated aggregate NOx emissions (AE_{Limit}) for all the engines in the AECP calculated pursuant to Section 8.1.2,

8.5.7 The comparison of the actual aggregate NOx emissions (AE_{Actual}) for all the engines in the AECP and 90 percent of the estimated aggregate NOx emissions (AE_{Limit}) for all the engines in the AECP to demonstrate compliance with Section 8.1, and

8.5.8 Any other parameters needed to demonstrate daily compliance with the applicable NOx emission limits when operating under the AECP.

8.6 For the purpose of determining the quantity of spark-ignited engines in compliance pursuant to Section 7.5, a spark-ignited engine in an AECP shall not be considered to be in compliance until all spark-ignited engines in the AECP that have been designated to meet more stringent NOx emission factors pursuant to Section 8.2 are in compliance with the rule.

9.0 Exhaust Control System Certification Requirements

9.1 To be considered for APCO certification, the manufacturer or operator shall comply with all of the following requirements:

9.1.1 Certification shall be based upon the emission source testing results of a specific exhaust control system,

9.1.2 A source testing protocol shall be submitted in accordance with the provisions of Rule 1081 (Source Sampling) for approval by the APCO prior to conducting the source test. The source testing protocol approved by the APCO shall be strictly adhered to during certification source testing,

9.1.3 Source testing shall be conducted over the range of operating parameters for which the unit(s) will be operated,

9.1.4 The source testing results shall demonstrate compliance with the emission limits of this rule for each model of exhaust control system(s) to be certified,

9.1.5 The source testing procedure and reports shall be prepared by an ARB-approved independent testing laboratory, and shall contain all the elements identified in the APCO-approved source testing protocol,

9.1.6 Source testing shall be conducted no more than 90 days prior to the date of submission of request for certification by the APCO, and

9.1.7 Any additional supporting information required by the APCO to address other performance parameters.

9.2 The manufacturer or operator requesting certification shall submit to the APCO the following information:

9.2.1 Copies of the source testing results conducted pursuant to the requirements of Section 9.1, and other pertinent technical data to demonstrate compliance with the emission limits of this rule,

9.2.2 The applicant shall sign and date the statement attesting to the accuracy of all information in the statement, and

9.2.3 Name and address of the exhaust control system manufacturer or operator, brand name of the exhaust control unit, model number, and description of model of system(s) being certified.

9.3 The APCO will only approve an application for certification to the extent that the requirements of Sections 9.1 through 9.2 are met and the source testing results demonstrate that the emission limits of this rule are met.

9.4 The APCO-approved certification is valid only for the range of operating parameters and conditions for which certification is issued.

9.5 The APCO shall publish a list of certified exhaust control systems after the certification process is completed.

Appendix H – Santa Barbara County Rule 333

RULE 333. CONTROL OF EMISSIONS FROM RECIPROCATING INTERNAL COMBUSTION ENGINES. (Adopted 12/03/1991, revised 12/10/1991, 4/17/1997, and 6/19/2008)

A. Applicability

The provisions of this rule shall apply to any engine with a rated brake horsepower of 50 or greater.

B. Exemptions

1. The requirements of this rule shall not apply to:

   a. Spark ignition engines operating on gaseous fuel consisting of 75 percent or more of landfill gas on a volume basis determined by annual fuel use. To qualify for this exemption written documentation shall be submitted with the Authority to Construct application and approved by the Control Officer. The documentation must describe the fuel meters used, the level of accuracy of the fuel meters, and calculations to correct volumes to standard conditions to demonstrate compliance. Separate fuel meters shall be used that measure the volumes (cubic feet) of landfill gas and of all other gaseous fuel used. Fuel usage records shall be maintained identifying the volume of landfill gas and the volume of all other gaseous fuel used annually. The following method shall be used to determine the landfill gas percentage on a volume basis:

$$\text{Landfill Gas Percentage} = \frac{\text{Volume in cubic feet of landfill gas consumed annually} \times 100}{\text{Total Volume in cubic feet of all gaseous fuel consumed annually}}$$

   The volumes in the above equation shall be corrected for standard conditions.

   b. Engines that are exempt from permit under the provisions of Rule 202, Exemptions to Rule 201.

   c. Any derated engine having a maximum allowable and enforceable output rating of less than 50 brake horsepower, provided such rating is specified by the District in an Authority to Construct or Permit to Operate and accepted by the engine owner or operator.

   d. Any compression ignition emergency standby engines, as defined under California Code of Regulations, Title 17, Section 93115, Airborne Toxic Control Measure for Stationary Compression Ignition (CI) Engines.

2. Any engine that has a total aggregated operational period less than 200 hours per calendar year is exempt from the requirements of this rule, with the exception of the engine identification requirement in Section D.1, the elapsed operating time meter requirement in Section D.2, the recordkeeping provisions in Section J.3, and the compliance schedules for these provisions specified in Section K. The hours per year operating period of a relocated engine that performs the same function as the engine it displaced will be included in calculating the total aggregated operating period for determining applicability of this exemption.

3. Section G requirements for a Compliance Plan shall not be applicable to any compression ignition engines that are subject to an exhaust emission standard in the:

   a. California Code of Regulations, Title 13, Section 2423, for off-road engines, or

   b. 40 CFR, Part 89, for nonroad compression ignition engines.

C. Definitions

See Rule 102 for definitions not limited to this rule. For the purposes of this rule, the following definitions shall apply:

"Air-balanced pumping engine" means a noncyclically-loaded engine powering a well pump, with the pump using compressed air in a cylinder under the front of the walking beam to offset the weight of the column of rods and fluid in the well, eliminating the need for counterweights.

"Beam-balanced pumping engine" means a cyclically-loaded engine powering a well pump, with the pump counterweight on the back end of the walking beam. The counterweight is moved mechanically without a cylinder supplying air pressure.

"Crank-balanced pumping engine" means a cyclically-loaded engine powering a well pump, with the pump counterweight attached to a gearbox which is attached to the walking beam with a pitman arm. The counterweight is moved mechanically, in a circular motion, without a cylinder supplying air pressure.

"**Cyclically-loaded engine**" means an engine that under normal operating conditions has an external load that varies by 40 percent or more of rated brake horsepower during any load cycle or is used to power a well reciprocating pump including beam-balanced or crank-balanced pumps. Engines powering air-balanced pumps are noncyclically-loaded engines.

"Engine" means any spark or compression ignition engine in which the pistons are contained within a cylinder and move back and forth in a straight line.

"Exhaust controls" means any device or technique used to treat an engine's exhaust to reduce emissions, and include (but are not limited) to catalysts, afterburners, reaction chambers, and chemical injectors.

"**Existing engine**" means an engine that by June 19, 2008;

1. has been issued a valid Authority to Construct, Permit to Operate, or Exemption to a Permit to Operate (or listed as *exempt* on an Authority to Construct or Permit to Operate) pursuant to District rules and regulations; or

2. has been identified in an application for an Authority to Construct submitted to and deemed complete by the District; or

3. has been operated in Santa Barbara County as exempt and now requires a Permit to Operate because of a Rule 202 exemption change effective June 19, 2008.

"Four-stroke engine" means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

"**Lean-burn engine**" means any two-stroke or four-stroke engine where the manufacturer's recommended operating air-to-fuel ratio divided by the stoichiometric air-to-fuel ratio is greater than 1.1. Any existing engine where there are no manufacturer's recommendations regarding the air-to-fuel ratio will be considered a lean-burn engine if the excess oxygen content of the exhaust at full load conditions is greater than 2 percent by volume. Where exhaust control is employed on such an existing engine, the exhaust gas oxygen content shall be determined from the uncontrolled exhaust stream. Any engine modification that changes any rich-burn engine to a lean-burn engine or vice versa requires approval from the Control Officer in the form of a permit modification.

"**New engine**" is an engine that is not an existing engine.

"**Noncyclically-loaded engine**" means any engine which is not a cyclically-loaded engine.

"ppmv" means parts per million by volume, dry.

"Rich-burn engine" means any spark ignition, four-stroke engine where the manufacturer-recommended operating air-to-fuel ratio divided by the stoichiometric air-to-fuel ratio is less than or equal to 1.1. Any existing engine where there are no manufacturer's recommendations regarding the air-to-fuel ratio will be considered a rich-burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent by volume. Where exhaust control is employed on such an existing engine, the exhaust gas oxygen content shall be determined from the uncontrolled exhaust stream. Any engine modification that changes any rich-burn engine to a lean-burn engine or vice versa requires approval from the Control Officer in the form of a permit modification.

"Stoichiometric air-to-fuel ratio" means the chemically correct air-to-fuel ratio where all fuel and all oxygen in the air and fuel mixture will be consumed.

"Two-stroke engine" means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of the stoichiometric air-to-fuel ratio.

D. Requirements – Engine Identification, Meters, and Continuous Monitoring Systems

The owner or operator of any engine subject to this rule shall ensure each engine meets the following requirements in accordance with the compliance schedule specified in Section K.

1. Any engine subject to this rule shall have a permanently affixed plate, tag, or marking listing:

   a. the engine's make, model, and serial number; or

   b. the owner's or operator's unique identification number.

   The plate, tag, or marking shall be made accessible and legible.

2. Each engine shall be equipped with a nonresettable elapsed operating time meter and the meter shall be maintained in proper operating condition.

3. Each engine shall be equipped with a nonresettable fuel meter or, where approved by the Control Officer in writing, an alternative device, method, or technique for determining fuel consumption. The fuel meter shall be calibrated periodically pursuant to the recommendations of the manufacturer and shall be maintained in proper operating condition.

4. Engines in the following category shall be equipped with a continuous oxides of nitrogen, carbon monoxide, and oxygen monitoring system approved by the Control Officer pursuant to an Authority to Construct:

   New engines rated at 1,000 brake horsepower or greater that:

   a. are installed on or after June 19, 2008, and

   b. are subject to the emission limits specified in Section E, and

   c. have Permits to Operate allowing operations in excess of 2,000 hours per year.

This system shall determine and record exhaust gas oxides of nitrogen concentrations and carbon monoxide in parts per million by volume (dry), corrected to 15 percent oxygen. The continuous monitoring system may be a continuous emissions monitoring system or an alternative approved by the Control Officer. Alternatives to a continuous emissions monitoring system must be submitted to and approved by the Control Officer. Continuous emission monitoring systems shall meet the District Continuous Emission Monitoring Protocol (1992) and applicable federal requirements described in 40 CFR Part 60. These include the performance specifications found in Appendix B, Specification 2, the quality assurance requirements found in Appendix F, and the reporting requirements of Parts 60.7(c), 60.7(d), and 60.13.

The monitoring system shall have data gathering and retrieval capability as approved by the Control Officer. All data collected by the monitoring system shall be maintained for at least two years and made available for inspection by the Control Officer. Any Control Officer approved continuous monitoring system for oxides of nitrogen, carbon monoxide, and oxygen shall suffice in lieu of the quarterly monitoring required in Section F.3.

E. Requirements - Emission Limits

Owners or operators of engines shall meet the following requirements in accordance with the compliance schedule set forth in Section K:

1. Rich-Burn Noncyclically-Loaded Spark Ignition Engines

   a. The emission concentrations, corrected for oxygen, from any such engine shall not exceed the following limits:

Pollutant	**Limit (ppmv at 15 percent oxygen)**
NOx	50
ROC	250
CO	4,500

   b. Engines using either combustion modifications or exhaust controls shall meet the oxides of nitrogen limit specified above, or the oxides of nitrogen shall be reduced by at least 90 percent by mass of the uncontrolled emissions. For engines with exhaust controls, the percent control shall be determined by measuring concurrently the oxides of nitrogen concentration upstream and downstream from the exhaust control. For engines without external control devices, the percent control shall be based on source test results for the uncontrolled engine and the same engine after the control device or technique has been employed. In this situation, the engine's typical operating parameters, loading, and duty cycle shall be documented and repeated at each successive post-control source test to ensure that the engine is meeting the percent reduction limit. The parts per million by volume (dry) limits for reactive organic compounds and carbon monoxide apply to all engines.

2. Lean-Burn Spark Ignition Engines

a. The emission concentrations, corrected for oxygen, from any such engine shall not exceed the following limits:

Any engine with a rated brake horsepower of 50 or greater but less than 100:

Pollutant	Limit (ppmv at 15 percent oxygen)
NOx	200
ROC	750
CO	4,500

Any engine with a rated brake horsepower of 100 or greater:

Pollutant	Limit (ppmv at 15 percent oxygen)
NOx	125
ROC	750
CO	4,500

b. Any engine with a rated brake horsepower of 100 or greater using either combustion modifications or exhaust controls shall meet the oxides of nitrogen requirements specified above, or the oxides of nitrogen shall be reduced by at least 80 percent by mass of the uncontrolled emissions . For engines with exhaust controls, the percent control shall be determined by measuring concurrently the oxides of nitrogen concentration upstream and downstream from the exhaust control. For engines without external control devices, the percent control shall be based on source test results for the uncontrolled engine and the same engine after the control device or technique has been employed. In this situation, the engine's typical operating parameters, loading, and duty cycle shall be documented and repeated at each successive post-control source test to ensure that the engine is meeting the percent reduction limit. The parts per million by volume (dry) limits for reactive organic compounds and carbon monoxide apply to all engines.

3. Rich-Burn Cyclically-Loaded Spark Ignition Engines

The emission concentrations, corrected for oxygen, from any such engine shall not exceed the following limits:

Pollutant	Limit (ppmv at 15 percent oxygen)
NOx	300
ROC	250
CO	4,500

4. Compression Ignition Engines and Dual-Fuel Engines

a. The emission concentrations, corrected for oxygen, from any such engine shall not exceed the following limits:

Pollutant	Limit (ppmv at 15 percent oxygen)
NOx	700
ROC	750
CO	4,500

b. Engines using either combustion modifications or exhaust controls shall meet the oxides of nitrogen limit specified above, or the oxides of nitrogen shall be reduced by at least 40 percent by mass of the uncontrolled emissions. For engines with exhaust controls, the percent control shall be determined by measuring concurrently the oxides of nitrogen concentration upstream and downstream from the exhaust control. For engines without external control devices, the percent control shall be based on source test results for the uncontrolled engine and the same engine after the control device or technique has been employed. In this situation, the engine's typical operating parameters, loading, and duty cycle shall be documented and repeated at each successive post-control source test to ensure that the engine is meeting the percent reduction limit. The parts per million by volume (dry) limits for reactive organic compounds and carbon monoxide apply to all engines.

5. The use of anhydrous ammonia to meet the requirements of this rule is prohibited unless case-specific analysis indicates that the use is acceptable to the Control Officer.

F. Requirements - Owner or Operator Engine Inspection and Maintenance Plan

Any engine subject to the requirements of Section E shall be inspected by the engine owner or operator in accordance with a District-approved Engine Inspection and Maintenance Plan for each stationary source. The owner or operator shall meet the following requirements for the Plan in accordance with the compliance schedule specified in Section K:

1. Obtain the Control Officer's approval of the Plan. An Inspection and Maintenance Plan for each stationary source shall be submitted to the District in a format approved by the Control Officer.

2. List all engines by engine classification (rich-burn noncyclically-loaded spark ignition, rich-burn cyclically-loaded spark ignition, lean-burn spark ignition, compression ignition, or dual-fuel) and identify the method, engine and control equipment operating parameter ranges, and compliance values, including engine exhaust oxygen concentration ranges, to be used to verify compliance with Section E.

3. A portable emissions analyzer shall be used to take oxides of nitrogen and carbon monoxide emission readings and engine exhaust oxygen concentration readings to determine compliance with the emission limits or percent control specified in Section E during any quarter (or month, if performing monthly monitoring) in which a source test is not performed under Section I and an engine is operated in excess of 20 hours per quarter. If such an engine cannot be operated for portable analyzer emissions testing due to mechanical failure or lack of fuel, the monitoring requirement may be waived provided written Control Officer approval is obtained prior to the end of the quarter (or month, if performing monthly monitoring). All emission readings shall be taken at an engine's typical duty cycle. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a Control Officer approved protocol. The applicable control equipment parameters and engine operating parameters will be inspected and monitored in conformance with a regular inspection schedule listed in the Plan. A portable analyzer

instrument reading in excess of the emission compliance values shall not be considered a violation, so long as the engine is brought into compliance and a follow-up inspection is conducted within 15 days of the initial out-of-compliance reading. If an engine owner or operator or District staff find an engine to be operating outside the acceptable range for control equipment parameters, engine operating parameters, engine exhaust oxides of nitrogen or carbon monoxide concentrations, the owner or operator shall bring the engine into compliance within 15 days. Also, when there has been a portable analyzer instrument reading in excess of the emission compliance values or a source test result in excess of an emission limit or less than the percent control requirement, the inspection and maintenance monitoring schedule will be performed on a monthly basis and continue to be monthly until Rule 333 compliance is demonstrated in three consecutive months (by portable analyzer or source tests).

The results and readings for each engine and control equipment operating parameter identified in the Inspection and Maintenance Plan, the analyzer instrument readings, a description of the corrective actions taken, a determination of whether or not the engine is in compliance, and the name of the person recording the information shall be recorded in an inspection log consistent with the recordkeeping provisions specified in Section J.1.

4. Include preventive and corrective maintenance procedures. Before any change in operations can be implemented, the Plan must be revised as necessary, and the revised Plan must be submitted to and approved by the Control Officer.

G. Requirements - Compliance Plan

The owner or operator of any engine subject to the emission limits in Section E shall submit and obtain the Control Officer's approval of a Compliance Plan. A new or revised Compliance Plan for each stationary source shall be submitted to the District in a format approved by the Control Officer in accordance with the time schedule specified in Section K unless otherwise specified by the Control Officer. The Compliance Plan shall describe all actions, including a schedule of increments of progress, which will be taken to meet the applicable emissions limitations in Section E and the compliance schedule in Section K. The owner or operator shall ensure that the Compliance Plan meets the following requirements:

1. List of all engines by classification (rich-burn noncyclically-loaded spark ignition, rich-burn cyclically-loaded spark ignition, lean-burn spark ignition, compression ignition, or dual-fuel), make, model, serial number (or owner's/operator's ID number), rated brake horsepower, type of fuel (including higher heating value and percent or parts per million by volume (dry) sulfur), engine application, total hours of operation in the previous year, typical daily operating schedule, fuel consumption (cubic feet of gas or gallons of liquid) for the previous one year period, engine location and engine Permit to Operate number.

2. List manufacturer-tested typical emission rates or source test values, if available or documentation showing existing emissions of oxides of nitrogen, reactive organic compounds, and carbon monoxide.

3. List the applicable emission limits.

4. List the type of emission control device or method for each engine, and the temperature and flow rate of the exhaust gas, and any auxiliary devices used with the main control device (i.e., air-to-fuel ratio controller, exhaust gas monitor, etc.), the proposed installation completion date for each engine to be controlled, stack modifications to facilitate continuous in-stack monitoring and source testing.

5. An Engine Inspection and Maintenance Plan, as specified in Section F, or at a minimum, a reference to and a statement incorporating the Engine Inspection and Maintenance Plan into the Compliance Plan.

6. List of all existing engines planned for shutdown or electrification and the proposed date of shutdown or electrification.

An owner or operator may modify a Compliance Plan by submitting a modified Plan to the District at least 30 days prior to modifying the equipment or control method for any engine.

Approval of a Compliance Plan does not relieve the owner or operator of engine(s) from the permitting requirements of District Rule 201.

H. [Reserved]

I. Requirements - Source Testing

The owner or operator of any engine subject to the requirements of Section E shall comply with the following:

1. Except as otherwise provided in Section I.8, an initial emissions source test shall be performed on each stationary internal combustion engine to verify compliance with Section E. After the initial source test, source tests shall be performed biennially to demonstrate compliance with Section E. These source tests shall be performed within 30 days of the anniversary date of the initial source test, unless the Control Officer approves a period longer than 30 days. Emissions source testing shall be conducted at an engine's maximum achievable load or, at a minimum, under the engine's typical duty cycle as demonstrated by historical operational data. Source test loads shall be finalized in the source test plan approved by the District per Section I.2. For facilities with more than 20 engines subject to Section E requirements, the Control Officer may, on a case-by-base basis, approve a source's written request to exclude one or more engines from biennial testing. Such a request shall be submitted with the Plan required in Section I.2.

2. A Source Test Plan shall be submitted to the District and the Control Officer's approval shall be obtained prior to the start of a source test. The approved Plan shall be filed with the District at least 30 days before the start of each source test. The District shall be notified of the date for source testing an engine at least 14 days prior to testing to arrange a mutually agreeable test date. In addition to other information, the Source Test Plan shall describe which critical parameters will be measured for those parameters specified in the Engine Inspection and Maintenance Plan described in Section F.

3. Source testing shall be performed by a source test contractor certified by the Air Resources Board. District required source testing shall not be performed by a source owner or operator unless approved by the Control Officer.

4. For each source test performed, a Source Test Report shall be submitted to the District within 45 days of completing the test. Reactive organic compounds, oxides of nitrogen, and carbon monoxide concentrations shall be reported in parts per million by volume, corrected to 15 percent oxygen. For engines using either combustion modifications or exhaust controls, oxides of nitrogen shall be reported as a percent reduction from the combustion modification or control device.

5. For any engine that is found not to be in compliance with Section E as a result of source testing, the following shall apply:

    a. Repeat a source test to demonstrate compliance with Section E within the time period specified by the District.

    b. Notwithstanding the provisions of SectionI.1, annual source tests shall be conducted on any noncompliant engine until two consecutive annual tests demonstrate the engine is in compliance with Section E. When the engine is demonstrated to be in compliance with Section E by two consecutive annual source tests, the engine shall comply with the provisions of SectionI.1.

6. Engine operating parameters (e.g., timing, manifold vacuum pressure, valve set points, etc.) shall be established using the results of the source test carried out pursuant to Section I.1.

7. Test Methods

   a. Source testing shall be performed in accordance with the following procedures:

      i. Stack gas oxygen: Environmental Protection Agency Method 3A or Air Resources Board Method 100.

      ii. Nitrogen oxides: Environmental Protection Agency Method 7E or Air Resources Board Method 100.

      iii. Carbon monoxide: Environmental Protection Agency Method 10 or Air Resources Board Method 100.

      iv. Reactive organic compounds: Environmental Protection Agency Method 18 with gas chromatography-flame ionization detection speciation analysis for C1, C2, C3, C4, C5, C6+ species.

      v. Pollutant Mass Emission Rate (e.g., pounds per hour): Calculated from stack flow rate data obtained by either 1) the Environmental Protection Agency Methods 1 through 4, or 2) the Environmental Protection Agency Method 19 stack flow rate F factor (ratio of combustion gas volume to heat input), using fuel flow and fuel composition data.

      vi. Fuel rate: District-approved metering system, calibrated within 60 days of the test date. Public utility company regulated utility fuel meters relied on by operators for testing may be allowed an alternative calibration schedule per the Control Officer's discretion. Results must be corrected for standard conditions.

      vii. Determination of the Fuel Composition and Higher Heating Value: The following applicable standards developed by the ASTM International:

         1) ASTM D 1945-03, "Standard Test Method for Analysis of Natural Gas by Gas Chromatography," ASTM International,

         2) ASTM D 3588-98 (2003), "Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels," ASTM International,

         3) ASTM D 107206, "Standard Test Method for Total Sulfur in Fuel Gases," ASTM International,

         4) ASTM D 240-02 (2007), "Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter," ASTM International,

         5) ASTM D 4809-06, "Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method)," ASTM International, and

         6) ASTM D 1826-94 (2003), "Standard Test Method for Calorific (Heating) Value of Gases in Natural Gas Range by Continuous Recording Calorimeter," ASTM International.

The Control Officer may approve in writing alternative methods for determining the fuel composition or fuel higher heating value.

b. The Control Officer may approve in writing an alternative source test method provided that such method is comparable in accuracy to the procedure in I.7.a and has been approved by the Air Resources Board and the Environmental Protection Agency.

c. At a minimum, three 30 minute test runs shall be performed, and the average concentration from the three runs shall be used for determining compliance unless alternative provisions are specified in an approved source testing plan.

8. Initial and biennial source testing requirements shall not be applicable to any compression ignition engines that are subject to an exhaust emission standard in the:

a. California Code of Regulations, Title 13, Section 2423, for off-road engines, or

b. 40 CFR, Part 89, for nonroad compression ignition engines.

However, a source test shall be triggered for such engine if the result from a portable analyzer emissions monitoring reading (e.g., a result obtained during the monitoring required by Section F.3) exceeds a threshold of 560 parts per million of oxides of nitrogen at 15 percent oxygen, unless the engine is brought into compliance with this threshold value and a follow-up portable analyzer monitoring inspection is conducted within 15 days of the initial over-the-threshold reading.

The owner or operator of the engine shall provide written notification to the Control Officer within two business days of a portable analyzer emissions monitoring reading in excess of the 560 parts per million of oxides of nitrogen at 15 percent oxygen threshold. In addition, portable analyzer monitoring results shall be reported to the APCD within three business days of any follow-up quarterly portable analyzer monitoring.

Source testing of a Tier 1, 2, 3 or 4 engine, if triggered per the above criteria, shall be completed within 60 days of the initial over-the-threshold reading and shall comply with Sections I.2, I.3, I.4, I.5.a, and I.7.

Any compression ignition engine that triggers a source test, and demonstrates compliance with the oxides of nitrogen standard in Section E.4, shall not be subject to another source test for two years from the date of the initial compliant source test. Any compression ignition engine that does not comply with the oxides of nitrogen standard in Section E.4 based on any source test, shall thereafter be subject to source testing on a biennial schedule starting from the date of the initial failed source test.

J. Recordkeeping

1. The owner or operator of any engine subject to the requirements of Section E shall maintain a written Engine Operation, Inspection, and Maintenance Log containing the following information for each engine subject to an emission limit:

a. Engine classification (rich-burn noncyclically-loaded spark ignition, rich-burn cyclically-loaded spark ignition, lean-burn spark ignition, compression ignition, or dual-fuel), make, model, and serial number or the owner's or operator's unique identification number.

b. Hours of operation, as determined by a nonresettable elapsed operating time meter, since the last inspection.

c. Location of operation of the engine.

d. A summary of any maintenance performed on an emission control device.

e. A summary of any maintenance performed on an engine that affects the emission control device.

f. Observations made during each monthly or quarterly inspection, pursuant to the requirements of Section F.3.

g. Date of each log entry and the printed or typed name of the person entering the log information.

h. For every engine that has been relocated, a notation to that effect identifying both the present and prior location, the reason(s) for the engine relocation, and the elapsed operating time meter readings for both the relocated engine and the engine being displaced.

2. Copies of all Engine Operation, Inspection, and Maintenance Logs shall be retained for a minimum of 2 years after the date of the last entry and shall be available to the District upon request. Thereafter, the Logs shall be retained for an additional 3 years either at the stationary source or in a readily available location that allows for expeditious District inspection and review.

3. For any exemption claimed under Section B.2, maintain a written Engine Exemption Log containing the following information for each engine subject of the claim in accordance with the compliance schedule in Section K:

a. Engine's classification (rich-burn noncyclically-loaded spark ignition, rich-burn cyclically-loaded spark ignition, lean-burn spark ignition, compression ignition, or dual-fuel), make, model, and serial number or the owner's or operator's unique identification number.

b. Hours of operation per quarter (or more often at the owner's or operator's discretion), as determined by a nonresettable elapsed operating time meter.

c. Location of operation of the engine.

d. Date of each log entry and the printed or typed name of the person entering the log information.

e. For every engine that has been relocated, a notation to that effect identifying both the present and prior location, the reason(s) for the engine relocation, and the elapsed operating time meter readings for both the relocated engine and the engine being displaced.

At a minimum, entries in the Engine Exemption Log shall be performed on the first day the engine is operated in a new quarter and when any engine is relocated. Copies of all such Logs shall be retained at the stationary source for a minimum of 2 years after the date of the last entry and shall be available to the District upon request. Thereafter, the Logs shall be retained for an additional 3 years either at the stationary source or in a readily available location that allows for expeditious District inspection and review.

K. Compliance Schedule

The owner or operator of any engine subject to this rule shall meet the following compliance schedule:

1. New engines:

   Commencing June 19, 2008, any new engine shall comply with this rule the first time it is operated in the District or the outer continental shelf for which the District is the corresponding onshore area.

2. Existing Engines:

   a. For any engine subject to an emission limit:

      The Rule 333 June 19, 2008 revisions resulted in changes in the oxides of nitrogen (NOx) emission limits and the addition of reactive organic compound (ROC) and carbon monoxide emission limits as summarized in the attached Tables 1 and 2.

      Any engine previously subject to any emission limit in the April 17, 1997 adopted Rule 333, shall continue to comply with the emission limit(s) until such time that compliance with a revised emission limit is required. Further, any engine subject to a revised emission limit, as indicated in attached Tables 1 or 2, shall comply with the Rule 333 Section E emission limits by June 19, 2010 unless the engine is permanently removed.

      Any engine that was previously exempt from Rule 333, but became subject to Rule 333 emission limits through the June 19, 2008 Rule 202 revisions shall comply with the Rule 333 Section E emission limits by June 19, 2010 unless the engine is permanently removed.

      An initial source test demonstrating compliance with a new or revised emission limit shall be completed in accordance with Section I prior to June 19, 2010. The owner or operator of any engine to be modified or replaced to comply with the Section E emission limits shall submit an Authority to Construct application to the Control Officer by June 19, 2009.

   b. For any engine that will be permanently removed from service:

      i. by July 19, 2008, comply with the engine identification requirements in Section D.1;

      ii. by December 19, 2008, submit a statement to the Control Officer identifying the engine to be removed; and

      iii. by June 19, 2010, remove the engine.

   c. For any engine subject to the exemption in Section B.2 (operating less than 200 hours per year):

      i. by July 19, 2008, comply with the engine identification requirements in Section D.1 and the recordkeeping provisions in Section J.3; and

      ii. by December 19, 2008, install and comply with the metering requirements in Sections D.2.

   d. For any engine subject to engine identification, plans, or metering requirements in Section D:

      i. by July 19, 2008, comply with the engine identification requirements in Section D.1 and the recordkeeping provisions in Section J;

ii. by December 19, 2008:

1) submit a new/revised Engine Inspection and Maintenance Plan for the Control Officer's approval pursuant to Section F. Any previously approved Engine Inspection and Maintenance Plan will continue to be in force until the Control Officer approves a revised plan; and

2) except as specified in Section B.3, submit a new/revised Compliance Plan for the Control Officer's approval pursuant to Section G. Previously approved Compliance Plans will continue to be in force until the Control Officer approves a revised Compliance Plan; and

iii. by March 19, 2009, install and comply with the metering requirements in Sections D.2 and D.3.

Table 1: Summarized Oxides of Nitrogen Emission Limit Changes Resulting from the June 19, 2008 Rule 333 Revision

Engine Type	Category Number	April 17, 1997 Adopted Rule 333 NOx Limits		June 19, 2008 Adopted Rule 333 NOx Limits		Effect of Change
		% Control	ppmv (at 15% O2)	% Control	ppmv (at 15% O2)	
Rich-Burn Noncyclically-Loaded Spark Ignition Engines	1	90	50	90	50	No change
Lean-Burn Spark Ignition Engines in the 50 to less than 100 bhp Range	2	80	125	-	200	Increased emission limit
Lean-Burn Spark Ignition Engines Rated 100 bhp or Greater	3	80	125	80	125	No change
Rich-Burn Cyclically-Loaded Spark Ignition Engines	4	90	50	-	300	Increased emission limit
Compression Ignition Engines and Dual-Fuel Engines	5	-	797	40	700	Decreased emission limit

Table 2: Summarized Reactive Organic Compound and Carbon Monoxide Emission Limit Changes Resulting from the June 19, 2008 Rule 333 Revision

Engine Type	Category Number	April 17, 1997 Adopted Rule 333 Limits, ppmv (at 15% O2)		June 19, 2008 Adopted Rule 333 Limits, ppmv (at 15% O2)		Effect of Change
		ROC	CO	ROC	CO	
Rich-Burn Noncyclically-Loaded Spark Ignition Engines	1	250	4,500	250	4,500	No change
Lean-Burn Spark Ignition Engines in the 50 to less than 100 bhp Range	2	750	4,500	750	4,500	No change
Lean-Burn Spark Ignition Engines Rated 100 bhp or Greater	3	750	4,500	750	4,500	No change
Rich-Burn Cyclically-Loaded Spark Ignition Engines	4	250	4,500	250	4,500	No change
Compression Ignition Engines and Dual-Fuel Engines	5	-	-	750	4,500	New emission limits

Appendix I – South Coast AQMD Rule 1110.2

CONCENTRATION LIMITS EFFECTIVE JULY 1, 2011		
NO_x (ppmvd)[1]	VOC (ppmvd)[2]	CO (ppmvd)[1]
11	30	250

[1] Parts per million by volume, corrected to 15% oxygen on a dry basis and averaged over 15 minutes.

[2] Parts per million by volume, measured as carbon, corrected to 15% oxygen on a dry basis and averaged over the sampling time required by the test method.

The concentration limits effective on and after July 1, 2010 shall not apply to engines that operate less than 500 hours per year or use less than 1 x 10^9 British Thermal Units (Btus) per year (higher heating value) of fuel.

If the operator of a two-stroke engine equipped with an oxidation catalyst and insulated exhaust ducts and catalyst housing demonstrates that the CO and VOC limits effective on and after July 1, 2010 are not achievable, then the Executive Officer may, with United States Environmental Protection Agency (EPA) approval, establish technologically achievable, case-by-case CO and VOC limits in place of the concentration limits effective on and after July 1, 2010. The case-by-case limits shall not exceed 250 ppmvd VOC and 2000 ppmvd CO.

If the operator of an engine that uses non-pipeline quality natural gas demonstrates that due to the varying heating value of the gas a longer averaging time is necessary, the Executive Officer may establish for the engine a longer averaging time, not to exceed six hours, for any of the concentration limits of Table II. Non-pipeline quality natural gas is a gas that does not meet the gas specifications of the local gas utility and is not supplied to the local gas utility.

(C) Notwithstanding the provisions in subparagraph (d)(1)(B), the operator of any stationary engine fired by landfill or digestor gas (biogas) shall not operate the engine in a manner that exceeds the emission concentration limits of Table III, provided that the facility

Appendix J – Ventura County APCD Rule 74.9

VENTURA COUNTY AIR POLLUTION CONTROL DISTRICT

RULE 74.9 - STATIONARY INTERNAL COMBUSTION ENGINES
(Adopted 7/21/81, Revised 7/2/85, 9/5/89, 12/3/91, 12/21/93, 11/14/00, 11/8/05)

A. Applicability

This rule applies to any stationary spark-ignited or diesel internal combustion engine rated at 50 or more horsepower, operated on any gaseous fuel, including liquid petroleum gas (LPG), or liquid fuel, and not subject to the provisions of Rule 74.16.

B. Requirements

1. Except as noted in Subsection B.1.a, the owner or operator of a stationary internal combustion engine to which this rule is applicable shall limit emissions from that engine to no more than the following:

Engine Type	NOx (ppmv)	ROC (ppmv)	CO (ppmv)
Rich-burn, general	25	250	4500
Lean-burn, general	45	750	4500
Diesel	80	750	4500
Rich-burn, waste gas	50	250	4500
Lean-burn, waste gas	125	750	4500

where ppmv = parts per million by volume at 15 percent oxygen on a dry basis
NOx = oxides of nitrogen
ROC = reactive organic compounds
CO = carbon monoxide

a. Carbon monoxide emissions from any engine installed after November 8, 2005, shall be limited to 2000 ppm by volume at 15 percent oxygen on a dry basis.

2. In lieu of compliance with a NOx emission limit in Subsection B.1, engines may achieve and maintain a percent NOx reduction by weight limit specified below, as measured concurrently across an emission control device:

Rich-burn, general	96 percent
Lean-burn, general	94 percent
Diesel	90 percent

3. No person shall allow the discharge into the atmosphere of ammonia (NH_3) in excess of 20 ppmv from any emission control device installed and operated pursuant to the requirements of Subsections B.1 or B.2 above.

4. The owner or operator of a stationary internal combustion engine shall perform a biennial source test to verify compliance with all applicable emission limits. A source test shall consist of the average of three (3) runs, with data from each run averaged over 15 consecutive minutes.

5. The owner or operator of a stationary internal combustion engine shall perform a screening analysis of NOx and CO emissions on a quarterly basis unless:

   a. the biennial source test specified in Subsection B.4 is required, or

   b. the engine operated less than 32 hours in each of the three months of the applicable quarter, as measured by a non-resettable elapsed operating hour meter.

   The operator shall notify the APCD by telephone 24 hours prior to any quarterly screening analysis.

C. Engine Operator Inspection Plan

The operator of an engine subject to the provisions of Subsection B.1 or B.2 of this rule shall submit to the District an Engine Operator Inspection Plan for review and approval by the Air Pollution Control Officer in writing. The plan shall be updated after any change in operation. For new engines and modifications to existing engines, issuance of the Permit to Operate shall be contingent on approval of the plan. The operator may request a change to the plan at any time.

The Plan shall include the following:

1. The manufacturer, model number, rated horsepower, and combustion method (i.e., rich-burn, lean-burn or diesel) of the engine.

2. A description of the NOx control system installed on the engine (if any), including type (e.g., nonselective catalyst, "clean-burn" combustion) and manufacturer, as well as a description of any ancillary equipment related to the control of emissions (e.g., automatic air/fuel ratio controller, fuel valves).

3. The company identification number and the location of the engine by a schematic of the affected facilities.

4. A specific emission inspection procedure to assure that the engine is operated in continual compliance with the provisions of this rule. The procedure shall include an inspection schedule. At a minimum, inspections shall be conducted quarterly unless the engine operated less than 32 hours in each of the three months of the applicable quarter, as measured by a non-resettable elapsed operating hour meter.

5. Each preventative or corrective maintenance procedure or practice that will be used to maintain the engine and NOx control system in continual compliance with the

provisions of this rule, including the response time for both corrective action and reinspection.

D. Exemptions

The provisions of Sections B, C and E of this rule shall not apply to the operation of stationary internal combustion engines used under the following conditions:

1. Engines rated at less than 50 brake horsepower.

2. Engines operated less than 200 hours per calendar year. Engines claiming this exemption shall be required to install and operate a non-resettable elapsed operating hour meter.

3. Emergency standby engines operated during either an emergency or maintenance operation. Maintenance operation is limited to 50 hours per calendar year. Engines claiming this exemption shall be required to install and operate a non-resettable elapsed operating hour meter.

4. Engines used in research or teaching programs.

5. Engines used directly and exclusively for agricultural operations necessary for the growing of crops or the raising of fowl or animals.

6. Engine test stands used for evaluating engine performance.

7. All engines rated at less than 100 horsepower, emitting NOx at not more than 5 gm/bhp-hr (shaft), and utilized as a qualified cogeneration facility permanently displacing the use of a specified boiler or boilers. This exemption shall apply to only those engines installed prior to December 31, 1988. A qualified cogeneration facility is one meeting the requirements of 18 CFR Part 292 Subpart B Section 292.205.

8. Diesel engines with a permitted capacity factor of 15 percent or less.

9. Diesel engines used to power cranes and welding equipment.

10. Diesel engines operated on San Nicolas island and Anacapa Island.

E. Recordkeeping Requirements

1. The owner or operator of any engine subject to the provisions of Section B of this rule shall maintain an inspection log containing, at a minimum, the following data:

   a. Identification and location of each engine subject to the provisions of this rule,

   b. Date and results of each screening analysis and inspection,

c. A summary of any emissions corrective maintenance taken, and

d. Any additional information required in the Engine Operator Inspection Plan.

The operator shall maintain the inspection log for a period of 2 years after the date of each entry. The log shall be available for inspection by the District upon request.

2. For each engine exempt from quarterly screening analysis pursuant to Subsection B.5.b and inspection pursuant to Subsection C.4, the owner or operator shall record total hours of operation each month. Records shall be maintained for a period of 2 years after the date of each entry.

F. Reporting Requirements

1. Within 45 days of the end date of each permit renewal period, the operator of a permitted engine subject to the provisions of this rule shall provide the District with the following information:

a. Engine manufacturer, model number, operator identification number, and location.

b. A summary of maintenance reports during the renewal period, including quarterly screening data if applicable.

2. For each engine exempt pursuant to Subsection D.2, total annual operating hours shall be reported annually. For each engine exempt pursuant to Subsection D.3, total annual hours of maintenance operation shall be reported annually. Reports shall be provided to the District after every calendar year by February 15.

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G. Test Methods

1. Oxides of nitrogen emissions for compliance source tests shall be determined by using ARB Method 100.

2. Carbon monoxide emissions for compliance source tests shall be determined by using ARB Method 100.

3. Reactive organic compound emissions for compliance source tests shall be determined by using EPA Method 25 or EPA Method 18, referenced to methane.

4. Oxygen content for compliance source tests shall be determined by using ARB Method 100.

5. Screening analyses shall be performed using a portable analyzer either verified by the Environmental Protection Agency or approved in writing by the APCO. The

portable analyzer shall be calibrated, maintained and operated in accordance with the recommendations of the manufacturer.

6. Ammonia emissions shall be determined using Bay Area Air Quality Management District Method ST-1B, dated 1/20/82.

7. Non-resettable elapsed operating hour meters shall be maintained in accordance with the recommendations of the manufacturer.

H. Violations

1. Failure to comply with any provision of this Rule shall constitute a violation of this rule.

2. It is the responsibility of the engine operator to demonstrate to the satisfaction of the Air Pollution Control Officer that an engine subject to the provisions of this rule is being operated in continuous compliance with all applicable provisions of this rule.

   An engine shall be in violation if it is operated out of compliance with an approved Engine Operator Inspection Plan. However, if data from a source test of the engine operating under identical conditions indicates that the engine is in compliance with the requirements of this rule, then a violation will not have occurred. The source test shall be conducted at the engine operator's expense.

I. Definitions

1. "Diesel Engine": A compression ignited two or four-stroke engine in which liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition.

2. "Emergency Standby Engine": An internal combustion engine used only as follows:

   a. When normal power line or natural gas service fails.
   b. For the emergency pumping of water for either fire protection or flood relief.

   An emergency standby engine may not be operated to supplement a primary power source when the load capacity or rating of the primary power source has been either reached or exceeded.

3. "Engine Rating": The output of an engine as determined by the engine manufacturer and listed on the nameplate of the unit, regardless of any derating.

4. "Lean-burn Engine": Any two or four-stroke spark-ignited engine that is not a rich-burn engine.

5. "Maintenance Operation": The use of an emergency standby engine and fuel system during testing, repair and routine maintenance to verify its readiness for emergency standby use, or to facilitate the training of personnel on emergency activities.

6. "Oxides of Nitrogen": The sum of nitric oxide (NO) and nitrogen dioxide (NO_2) in flue gas, collectively expressed as nitrogen dioxide.

7. "Permitted Capacity Factor": The annual permitted fuel use divided by the manufacturers specified maximum hourly fuel consumption times 8760 hours per year.

8. "Rich-burn Engine": A two or four-stroke spark-ignited engine where the manufacturers original recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio is less than or equal to 1.1.

9. "Stationary Internal Combustion Engine": Any internal combustion engine of the reciprocating type that is operated at a site for more than one year or is attached to a foundation.

10. "Stoichiometric Air/Fuel Ratio": The chemically correct air/fuel ratio where all fuel and all oxygen in the air/fuel mixture will be consumed.

11. "Waste Gas": Fuel gas produced at either waste water/sewage treatment facilities or landfills containing no more than 25 percent by volume supplemental gas.

Appendix K – San Diego County APCD Rules 69.4 and 69.4.1

RULE 69.4. STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES - REASONABLY AVAILABLE CONTROL TECHNOLOGY

(Adopted 9/27/94; Rev. Effective11/15/00; Rev. Effective 7/30/03)

(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 July 30, 2003, 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 July 30, 2003, 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.

RULE 69.4.1. STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES - BEST AVAILABLE RETROFIT CONTROL TECHNOLOGY (BARCT) (Adopted & Effective 11/15/00)

(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.

(2) An engine subject to this rule and located at a major stationary source of oxides of nitrogen (NOx) is also subject to the applicable requirements of Rule 69.4.

(3) An engine subject to 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.

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

(2) The provisions of Subsections (d)(1) through (d)(3), (e)(1), (e)(2), (f)(1), (f)(3), (g)(3), (g)(4), (g)(5) and (i)(1) of this rule shall not apply to the following:

(i) Any existing engine which operates less than 200 hours per calendar year, as determined by a non-resettable meter that measures elapsed operating time.

(ii) Any existing emergency standby engine provided that operation of the engine for non-emergency purposes does not exceed 52 hours per calendar year. Operation for testing or maintenance purposes may be allowed for not more than 100 hours per year, with written authorization from the Air Pollution Control Officer, provided that an owner or operator demonstrates to the satisfaction of the Air Pollution Control Officer that such additional operation is necessary.

(iii) Any existing 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.

(3) The provisions of Subsections (e)(1), (e)(2), (f)(1), (g)(3), (g)(4), (g)(5) and (i)(1) of this rule shall not apply to:

(i) Any new or replacement emergency standby engine, provided that operation of the engine for non-emergency purposes does not exceed 52 hours per calendar year. Operation for testing or maintenance purposes may be allowed for not more than 100 hours per year, with written authorization from the Air Pollution Control Officer, provided that an owner or operator demonstrates to the satisfaction of the Air Pollution Control Officer that such additional operation is necessary.

(ii) Any new or replacement engine which operates less than 200 hours per calendar year, as determined by a non-resettable meter that measures elapsed operating time.

(4) The provisions of Subsections (d)(1) through (d)(3) of this rule shall not apply to existing low-use diesel engines equipped with any two of the following: turbocharger, aftercooler, or injection timing retard by 4 degrees.

An owner or operator of an engine who is claiming an exemption pursuant to Sub-sections (b)(2), (b)(3) or (b)(4) shall maintain records in accordance with Subsections (g)(1) and (g)(2) of this rule.

(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) **"Best Available Retrofit Control Technology (BARCT)"** means an emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of source.

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

(4) **"Calendar Year"** means the same as defined in Rule 2.

(5) **"California Diesel Fuel"** means any fuel that is commonly or commercially known, sold or represented as diesel fuel No. 1-D or No. 2-D, and which meets the requirements specified in Sections 2281 and 2282 of Title 13 of the California Code of Regulations.

(6) **"Capacity Factor"** means the ratio, expressed as a percentage, of the annual fuel consumption to the manufacturer's specified maximum annual fuel consumption or manufacturer's specified maximum hourly fuel consumption times 8760 hours, whichever is less.

(7) **"Certified Engine"** means an engine certified to comply with the Tier 1, Tier 2, or Tier 3 emission standards specified in Section 89.112 of the Code of Federal Regulations (40 CFR Part 89) - Control of Emissions of Air Pollution from Non-Road Diesel Engines or with the Tier 1, Tier 2, or Tier 3 emission standards specified in Section 2423 of Title 13 of the California Code of Regulations - California Regulations for New 1996 and Later Off-Road Compression-Ignition Engines.

(8) **"Cyclic Engine"** means an engine, such as gantry cranes, having an external load which varies by approximately 40 percent or more of rated capacity under normal operating conditions during any load cycle.

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

(10) **"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.

(11) **"Engine Family"** means a group of engines expected to have similar emission and other characteristics throughout their useful life as specified in Section 89.116, 40 CFR 89.

(12) **"Engine Tampering"** means removing or rendering inoperative any device or design element of the engine or its emission control system; or the manufacturing or installation of a part or a component which objective is to bypass, defeat, or render inoperative a device or design element of the engine or its emission control system.

(13) **"Existing Engine"** means an engine which commenced operation in San Diego County on or before November 15, 2000.

(14) **"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.

(15) **"High-use Engine"** means an engine operating at a capacity factor of greater than 15%.

(16) **"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.

(17) **"Load Cycle"** means the time interval between consecutive commencement of application of external load to an engine.

(18) **"Low-use Engine"** means an engine operating at a capacity factor of 15% or less.

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

(20) **"New Engine"** means an engine which commenced operation in San Diego County after November 15, 2000.

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

(22) **"Replacement Engine"** means an engine that meets the definition of a replacement emission unit in Rule 20.1.

(23) **"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.

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

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

(26) **"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.

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

(28) **"Volatile Organic Compound (VOC)"** means the same as defined in Rule 2.

(29) **"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:

	Weight Percent Engine Category Reduction
Rich-burn engines using fossil derived gaseous fuel or gasoline	96
Lean-burn engines using fossil derived gaseous fuel	90
Engines using exclusively waste derived gaseous fuel	90
Engines using diesel or kerosene fuel	90

or

(ii) The emissions 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, as indicated, are not greater than the following:

Engine Category	Concentration of NOx
Rich-burn engines using fossil derived gaseous fuel or gasoline	25 ppmv
Rich-burn engines using exclusively waste derived gaseous fuel	50 ppmv
Lean-burn engines using gaseous fuel	65 ppmv
Existing low-use engines using diesel or kerosene fuel	9.0 g/bhp-hr or 700 ppmv
Existing cyclic engines using diesel or kerosene fuel	9.0 g/bhp-hr or 700 ppmv
High-use engines using diesel or kerosene fuel	6.9 g/bhp-hr or 535 ppmv
New or replacement low-use engines using diesel or kerosene fuel	6.9 g/bhp-hr or 535 ppmv
New or replacement cyclic engines using diesel or kerosene fuel	6.9 g/bhp-hr or 535 ppmv

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

(3) For all rich-burn engines subject to Subsection (d)(1) of this rule, emissions of VOC, calculated as methane at 15% oxygen on a dry basis, shall not exceed 250 ppmv.

(4) Any engine subject to this rule and operating on diesel fuel shall use only California Diesel Fuel.

(e) **MONITORING REQUIREMENTS**

(1) An owner or operator of an engine without add-on control equipment, except engines specified in Subsections (b)(2) or (b)(3), shall monitor the operating parameters recommended by the engine manufacturer and any additional operating parameters identified by the Air Pollution Control Officer. Such operating parameters may include, but are not limited to:

(i) engine air-to-fuel ratio;

(ii) engine inlet manifold temperature and pressure; and

(iii) oxygen content of the exhaust gas.

Where the Air Pollution Control Officer determines that it is not feasible to monitor operating parameters of an engine or such monitoring may not be indicative of air contaminant emissions, the requirements of this subsection may be waived provided that periodic inspection and maintenance are conducted as specified in Section (f).

(2) An owner or operator of an engine with add-on control equipment shall install, operate and maintain in calibration, devices that continuously monitor the operational characteristics of the engine and any NOx emission reduction system as determined necessary to ensure compliance by the Air Pollution Control Officer. Such operational characteristics may include, but are not limited to:

(i) engine air-to-fuel ratio;

(ii) temperature of exhaust gas at the inlet and outlet of the add-on control equipment;

(iii) oxygen content of exhaust gas at the inlet and outlet of the add-on control equipment; and

(iv) flow rate of NOx reducing agent added to the engine exhaust gas.

(3) An owner or operator of an engine subject to this rule shall install a non-resettable totalizing fuel meter and/or non-resettable meter that measures elapsed operating time as determined appropriate by the Air Pollution Control Officer.

(f) **INSPECTION AND MAINTENANCE REQUIREMENTS**

(1) An owner or operator of an engine subject to this rule, except engines specified in Subsections (b)(2) or (b)(3), shall conduct periodic inspections of the engine and any add-on control equipment, as applicable, to ensure that the engine and control equipment is operated in compliance with the provisions of this rule. Inspections shall be conducted at least once every 4000 hours of operation, or every six months, whichever is less.

(2) An owner or operator of an engine subject to this rule shall conduct periodic maintenance of the engine and any add-on control equipment, as applicable, as recommended by the engine and control equipment manufacturers or as specified by any other maintenance procedure approved in writing by the Air Pollution Control Officer. The periodic maintenance shall be conducted at least once each calendar year.

(3) Notwithstanding the frequencies specified in Subsections (f)(1)and (f)(2), the Air Pollution Control Officer may require an owner or operator of an engine to conduct inspections and/or maintenance of the engine and any associated add-on control equipment more frequently if deemed necessary to assure compliance with this rule.

(g) **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 rating;

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

(iv) fuel type;

(v) California Diesel Fuel certification, if applicable; and

(vi) 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.

Where the information specified in Subsections (g)(1)(i) through (g)(1)(iv) is contained in a District Permit to Operate or Certificate of Registration, and is the most current information, an additional record of this information shall not be required.

(2) An owner or operator of an engine exempt pursuant to Subsections (b)(2) or (b)(3) 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;

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

(iii) records of periodic engine maintenance, including dates maintenance was performed.

The records specified in Subsection (g)(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) An owner or operator of an engine subject to this rule, except engines specified in Subsections (b)(2) or (b)(3), shall maintain a log containing at a minimum, the following:

(i) records of engine inspection, including dates an inspection was performed; and

(ii) records of engine maintenance, including dates maintenance was performed and the nature of the maintenance.

(4) An owner or operator of an engine subject to this rule, except engines specified in Subsections (b)(2) or (b)(3), shall measure and record at least once each calendar month the applicable operating parameters identified pursuant to Subsections (e)(1) or (e)(2).

(5) An owner or operator of a low-use engine operating on diesel or kerosene fuel and subject to the requirements of Section (d)(1) shall maintain records of total cumulative hours of operation or total fuel consumption per calendar year, as applicable.

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

(h) **TEST METHODS**

(1) All testing performed to determine compliance with the emission limits of Subsections (d)(1), (d)(2) and/or (d)(3), except as provided in Subsection (h)(3), shall be conducted in accordance with the following procedures:

(i) Measurement of NOx, CO, carbon dioxide (CO_2) and oxygen content of exhaust gas shall be determined in accordance with the 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.

(ii) Measurement of VOC emissions shall be determined in accordance with EPA Test Methods 25A and/or 18.

(iii) NOx, VOC, and CO emission concentrations shall be calculated as an average of three subtests. 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 unless otherwise specified in writing by the Air Pollution Control Officer.

(2) Specifications for California Diesel Fuel, if not provided by a vendor, shall be determined by the test methods specified in Sections 2281 and 2282 of Title 13 of the California Code of Regulations.

(3) For an engine operating on diesel or kerosene fuel without add-on control equipment and certified by EPA or ARB at an emission rate equal to or below the applicable emission rate limits of Section (d), measurements of NOx, CO, CO_2, and oxygen content of exhaust gas shall be conducted in accordance with a test method approved by the District and ARB. Until such test method is approved, such engine shall be deemed in compliance with the emission rate limits of Section (d), provided the requirements of Subsection (i)(4) are met.

(4) If a portable emission analyzer is used to provide emission data, the analyzer shall be calibrated and operated in accordance with a protocol approved in writing by the Air Pollution Control Officer.

(i) **SOURCE TEST REQUIREMENTS**

Except as provided in Subsection (i)(4), source tests shall be conducted according to the following:

(1) After initial compliance has been determined, any engine subject to the requirements of Subsections (d)(1), (d)(2) and/or (d)(3), except engines specified in Subsection (b)(3), shall be source tested at least once every 24 months, unless otherwise specified in writing by the Air Pollution Control Officer.

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

(3) 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.

(4) Notwithstanding the requirements of Subsection (i)(1), any engine operating on diesel or kerosene fuel without add-on control and certified by EPA or ARB at emission rates equal to or below the applicable emission rate limits of Section (d) shall not require an initial or periodic source test, until an appropriate test method is approved by the District and ARB, provided the following requirements are met:

(i) The engine family has been tested and certified according to an EPA or ARB approved procedure, and the certification documents are provided to the District.

(ii) The engine family does not participate in the federal ABT program specified in 40 CFR 89, Subpart C and adopted by reference by ARB.

(iii) The engine and its emission control system are maintained as specified in Section (f).

(iv) There is no evidence of engine tampering.

(j) **COMPLIANCE SCHEDULE**

(1) For an engine operating on diesel fuel, comply with the requirements of Subsection (d)(4) by May 15, 2001.

(2) The owner or operator of an existing engine subject to the requirements of this rule shall meet the following increments of progress:

(i) By May 15, 2001, submit to the Air Pollution Control Officer an application to modify conditions on the Permit to Operate or to convert a Certificate of Registration to a Permit to Operate, as necessary to comply with the applicable requirements of this rule. The application shall include the following information for the engine that will be evaluated for compliance with this rule:

(A) The information required by Section (g)(1),

(B) emission rate data and source of such data, and

(C) description of how compliance will be achieved (e.g. retrofit, replacement).

(ii) By November 15, 2002, submit to the Air Pollution Control Officer documentation which demonstrates that the engine is in compliance with the Section (d)(1) through (d)(3) emission limits for NOx, CO and VOC, and all other applicable requirements of this rule.

(3) For a new or replacement engine, including a new or replacement engine operating less than 200 hours per calendar year or a new or replacement emergency standby engine, comply with all applicable requirements of this rule upon installation and startup.

Appendix L – MDAQMD Rule 1160.1

(**Adopted:** mm/dd/yy)

RULE 1160.1
Internal Combustion Engines in Agricultural Operations[1]

(A) General

(1) Purpose:

(a) The purpose of this rule is to limit the emissions of oxides of nitrogen (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC) from Internal Combustion Engines used in Agricultural Operations.

(2) Applicability:

(a) This rule applies to any Internal Combustion Engine used in an Agricultural Operation with a Rated Brake Horsepower of fifty (50) or more.

(B) Definitions

(1) "Agreement to Electrify" – A binding, non-cancelable contract written by the APCO and signed by the operator and the APCO within sixty (60) days of the date of adoption of this rule that commits the operator to complying with the requirements of subsection (C)(1)(a) or subsection (C)(1)(b) of this rule by electrifying.

(2) "Agricultural Operation" – The growing and harvesting of crops or the raising of fowl or animals for the primary purpose of making a profit, providing a livelihood, or conducting agricultural research or instruction by an educational institution. Agricultural Operations do not include activities involving the processing or distribution of crops or fowl. *[Derived from 17 CCR §93115.4(a)(1)]*

(3) "Air Pollution Control Officer (APCO)" – The person appointed to the position of Air Pollution Control Officer of the District pursuant to the provisions of California Health and Safety Code §40750 and his or her designee. *[Derived from District Rule 1301(E)]*

(4) "Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines" – The most recent version of the ATCM contained in title 17 of the California Code of Regulations §§93115 through 93115.15.

(5) "California Air Resources Board (CARB)" – The California State Air Resources Board, the powers and duties of which are described in Part 2 of Division 26 of

1 The majority of this rule is derived from SJVUAPCD Rule 4702 – *Internal Combustion Engines - Phase 2 (as adopted 01/18/07)* unless otherwise indicated.

the California Health & Safety Code (commencing with section 39500). [*Derived from Rule 1301 – Definitions*]

(6) "California Reformulated Gasoline" – Gasoline meeting CARB requirements for motor vehicle fuel in accordance with California Code of Regulations, Chapter 5, Article 1, Subarticle 2 - Standards for gasoline sold beginning March 1, 1996.

(7) "Certified Compression-Ignited Engine" – A Tier 1, Tier 2, Tier 3, or Tier 4 compression-ignited engine that is United States Environmental Protection Agency (USEPA) certified as specified in Title 40 Code of Federal Regulations Part 89 or in Title 40 Code of Federal Regulations Part 1039.

(8) "Certified Spark-Ignited Engine" – A Spark-Ignited engine that is used exclusively in Agricultural Operations and that is California Air Resources Board (CARB) certified as specified in Title 13, Division 3, Chapter 9, Article 4.5, Section 2433 of the California Code of Regulations and that has been certified to meet a Certification Level for hydrocarbon plus NO_x emissions of 0.6 grams/bhp-hr (40.2 ppmv) or less.

(9) "CO" –Carbon monoxide.

(10) "Compression-Ignited (CI) Internal Combustion Engine" – An engine that uses the heat of compression to initiate combustion.

(11) "Cyclic Loaded Engine" – An Internal Combustion Engine that, under normal operating conditions, varies in shaft load by forty (40) percent or more of Rated Brake Horsepower during recurrent periods of thirty (30) seconds or less or is used to power an oil well reciprocating pump unit.

(12) "De-rated Engine" – An Internal Combustion Engine which has been physically limited and restricted by permit condition to an operational level of less than fifty (50) horsepower.

(13) "Diesel Engine" – A Compression-Ignited Internal Combustion Engine.

(14) "Disaster or State of Emergency" – A fire, Flood, earthquake, or other similar natural catastrophe.

(15) "Distributed Generation (DG)" – Relatively small power plants, such as Internal Combustion Engine generator sets, which are used to generate electrical power that is either fed into the power grid or used on-site. DG units are located throughout the grid and are usually sited in or close to load centers or utility customers' sites. Distributed Generation also refers to a mechanical drive system consisting of one or more Internal Combustion Engines and electric motors, where use of the Internal Combustion Engines or electric motors is interchangeable.

(16) "Emergency Standby Engine" – An Internal Combustion Engine which operates as a temporary replacement for primary mechanical or electrical power during an

unscheduled outage caused by sudden and reasonably unforeseen natural Disasters or sudden and reasonably unforeseen events beyond the control of the operator.

(a) An engine shall be considered to be an Emergency Standby Engine if it is used only for the following purposes:

(i) Periodic maintenance, periodic readiness testing, or readiness testing during and after repair work;
(ii) Un-scheduled outages, or to supply power while maintenance is performed or repairs are made to the primary power supply; and
(iii) If it is limited to operate one-hundred (100) hours or less per calendar year for non-emergency purposes.

(b) An engine shall not be considered to be an Emergency Standby Engine if it is used:

(i) To reduce the demand for electrical power when normal electrical power line service has not failed;
(ii) To produce power for the utility electrical distribution system; or
(iii) In conjunction with a voluntary utility demand reduction program or interruptible power contract.

(17) "Emissions Unit" - Any article, machine, equipment, other contrivance or combination thereof which emits or has the potential to emit any Regulated Air Pollutant.

(18) "Exhaust Control" – Device or technique used to treat an engine's exhaust to reduce NO_x, VOC, or CO emissions, and includes, but is not limited to, catalysts, afterburners, reaction chambers, and chemical injectors.

(19) "Facility" - Any building, structure, Emissions Unit, combination of Emissions Units, or installation which emits or may emit a Regulated Air Pollutant and which is:

(a) Located on one or more Contiguous or adjacent properties within the District;

(b) Under the control of the same person (or by persons under common control); and

(c) Belong to the same industrial grouping, as determined by being within the same two digit Standard Industrial Classification Code (SICC).

(d) For the purpose of this regulation, such above-described grouping, remotely located but connected only by land carrying a pipeline, shall not be considered one Facility as defined in Rule 1301 - *Definitions*.

(20) "Flood" – A sudden and reasonably unforeseen rising and overflowing of a body of water especially onto normally dry land.

(21) "Gaseous Fuel" – A fuel which is a gas at standard conditions including but not limited to natural gas, methane, ethane, propane, butane and liquefied petroleum gas (LPG).

(22) "Installation Date" – The date that an Internal Combustion Engine is initially placed at a Location in order to be operated for the first time in its lifetime.

(23) "Internal Combustion Engine" – Any spark- or compression-ignited reciprocating engine.

(24) "Lean-Burn Engine" – Any Spark-Ignited Internal Combustion Engine that is operated with an exhaust stream oxygen concentration of four (4) percent by volume, or greater prior to any exhaust stream control device.

(25) "Location" – Any single site at a building, structure, facility, or installation.

(26) "Military Tactical Equipment" – A transportable engine operated by the United States armed forces or National Guard which is designed specifically for military use in an off-road, dense terrain; hostile environment; or aboard military combat vessels.

(27) "Mobile Agricultural Equipment" – Equipment at an Agricultural Operation which is towed or mounted on a vehicle and is continuously moved during the operation of the equipment. Mobile Agricultural Equipment includes, but is not limited to sprayers, balers, and harvest equipment.

(28) "NO_x" – Oxides of nitrogen, calculated as equivalent nitrogen dioxide (NO_2).

(29) "Public Utilities Commission (PUC) Quality Natural Gas" – PUC Quality Natural Gas means high methane gas (at least eighty (80) percent methane by volume) as specified in PUC General order 58-A.

(30) "Rated Brake Horsepower" – The continuous brake horsepower rating specified for the engine by the manufacturer or listed on the nameplate of the unit, unless otherwise physically limited and specified by a condition on the engine's permit or Rule 114 registration.

(31) "Regulated Air Pollutant" - Any of the following Air Pollutants:

(a) Any air pollutant, and its precursors, for which an Ambient Air Quality Standard has been promulgated.

(b) Any air pollutant that is subject to a standard under 42 U.S.C. §7411, Standards of Performance for New Stationary Sources (Federal Clean Air Act §111) or the regulations promulgated thereunder.

(c) Any substance which has been designated a Class I or Class II substance under 42 U.S.C. §7671a (Federal Clean Air Act §602) or the regulations promulgated thereunder.

(d) Any Air Pollutant subject to a standard or other requirement established pursuant to 42 U.S.C. §7412, Hazardous Air Pollutants (Federal Clean Air Act §112) or the regulations promulgated thereunder.

(32) "Replacement Engine" – An engine that is installed to replace an engine that was in place as of June 16, 2005 and that such replacement is performed solely for the purpose of complying with the requirements of subsection (C)(1) of this rule.

(33) "Rich-Burn Engine" – Any Spark-Ignited Internal Combustion Engine that is operated with an exhaust stream oxygen concentration of less than four (4) percent by volume prior to any exhaust stream control device.

(34) "Spark-Ignited Internal Combustion Engine" – A liquid or Gaseous Fueled engine designed to ignite its air/fuel mixture by a spark across a spark plug.

(35) "Tier 1 Engine, Tier 2 Engine, Tier 3 Engine, and Tier 4 Engine" – A CI engine that is certified to meet the Tier 1, Tier 2, Tier 3, or Tier 4 Off-Road CI Certification Standards as specified in Title 13, California Code of Regulations, section 2423. [Title 17 CCR §93115.4 ATCM for Stationary CI Engines – Definitions]

(36) "United States Environmental Protection Agency (USEPA)" – The United States Environmental Protection Agency, the Administrator of the USEPA and his or her authorized representative.

(37) "Volatile Organic Compound (VOC)" – Any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions other than those compounds listed in 40 CFR 51.100(s)(1).

(38) "Waste Gas" – An untreated, raw gas derived through a natural process, such as anaerobic digestion, from the decomposition of organic waste at municipal solid waste landfills or publicly owned wastewater treatment facility. Waste Gas includes landfill gas which is generated at landfills, digester gas which is generated at sewage treatment facilities, or a combination of the two.

(39) "Wind Machine" – A machine consisting of a large fan mounted on a tower powered by an Internal Combustion Engine, used exclusively to provide protection to crops, including, but not limited to oranges, lemons, and grapes, from cold weather by effecting a heat transfer by moving warmer atmospheric air downward and mixing it with the colder air surrounding a crop.

(C) Requirements

(1) Engine Emission Standards and Compliance Schedules

(a) Spark-Ignited Internal Combustion Engines

(i) Emission Limits/Standards:

The owner of a Spark-Ignited Internal Combustion Engine shall not operate it in such a manner that results in emissions exceeding the limits in Table 1 below.

Table 1
Emission Limits/Standards and Compliance Schedule for a Spark-Ignited Internal Combustion Engine (corrected to fifteen (15) percent oxygen on a dry basis)

Engine Type	NO_x	CO	VOC
Rich Burn	90 ppmv or 80% reduction	2000 ppmv	250 ppmv
Lean Burn	150 ppmv or 70% reduction	2000 ppmv	750 ppmv

(ii) Replacement Restriction:

a. The owner of a Spark-Ignited Internal Combustion Engine shall not replace such engine with an engine that emits more emissions of NO_x, VOC, and CO, on a ppmv basis, (corrected to fifteen (15) percent oxygen on a dry basis) than the engine being replaced.

(iii) Compliance Schedule:

a. The owner of a Spark-Ignited Internal Combustion Engine that is subject to the requirements of this rule shall be in full compliance with this rule not later than six (6) months after the date of adoption of this rule; or

b. If the owner has an Agreement to Electrify, the owner shall be in full compliance with the requirements of this rule not later than eighteen (18) months after the date of adoption of this rule.

(iv) Fuel Requirement:

a. California Reformulated Gasoline shall be used as the fuel for all gasoline-fired, Spark-Ignited Internal Combustion Engines.

(b) Compression-Ignited Internal Combustion Engines

(i) Emission Limits/Standards and Compliance Schedules:

a. The owner of a Compression-Ignited Internal Combustion Engine shall repower, replace or control the engine to comply with the applicable limits/standards and compliance dates in the Airborne

Toxic Control Measures for Stationary Compression Ignition Engines.

(ii) Replacement Restriction:

a. The owner of a Compression-Ignited Internal Combustion Engine that is subject to the requirements of subection (C)(1) shall not replace such engine with an engine, that emits more emissions of NO_x, VOC, and CO, on a ppmv basis, (corrected to fifteen (15) percent oxygen on a dry basis) than the engine being replaced.

(iii) Fuel Requirement:

a. California Ultra Low Sulfur Diesel or the equivalent shall be used as the fuel for all liquid fired compression ignited engines.

(2) Submission of Emission Control Plan (ECP), Alternative Emission Control Plan (AECP), Inspection and Monitoring (I&M) Plan, and/or Authority to Construct Application

(a) The owner of an engine that is required to submit an authority to construct application, an ECP required pursuant to subsection (D)(2), AECP required pursuant to subsection (D)(3), or I&M Plan required pursuant to subsection (D)(4), shall submit the required document(s) no later sixty (60) days of the date of adoption of this rule, or within sixty (60) days of becoming subject to this rule.

(D) Administrative Requirements

(1) Permanent Removal of an Engine

The owner of an engine who elects to permanently remove the engine from service shall comply with all of the following conditions:

(a) Comply with all applicable requirements of this rule until the engine is permanently removed from service;

(b) Submit a letter to the APCO no later than fourteen (14) days before the engine is permanently removed from service, stating the intent to permanently remove the engine from service. The engine removal letter can be submitted with the emission control plan for the Replacement Engine, if any; and

(c) Permanently remove the engine from service and officially surrender the permit or Rule 114 registration, if any, to the APCO no later than thirty (30) days after the engine is permanently removed from service.

(2) Emission Control Plan (ECP)

The owner of an engine subject to the requirements of subsection (C)(1), of this rule shall submit to the APCO an APCO-approvable emission control plan of all

actions to be taken to satisfy the emission requirements of subsection (C)(1) within sixty (60) days of the engine becoming subject to this rule.

(a) The requirement to submit an ECP shall not apply to an engine specified below:

(i) A Certified Spark-Ignited Engine that has not been retrofitted with an Exhaust Control or catalytic emission control device and is in compliance with the requirements of subsection (C)(1)(a);
(ii) A Certified Compression-Ignited Engine that has not been retrofitted with an Exhaust Control and is in compliance with the requirements of subsection (C)(1)(b); or
(iii) An engine with an operating Exhaust Control system that has been certified in accordance with subsection (D)(5) Exhaust Control System Certification Requirements.

(b) An ECP shall contain the following information, as applicable for each engine:

(i) Permit number, or Rule 114 registration number;
(ii) Engine manufacturer;
(iii) Model designation and engine serial number;
(iv) Rated Brake Horsepower;
(v) Type of fuel and type of ignition;
(vi) Combustion type: rich-burn or lean-burn;
(vii) Total hours of operation in the previous one-year period, including typical daily operating schedule;
(viii) Fuel consumption (cubic feet for gas or gallons for liquid) for the previous one-year period;
(ix) Stack modifications to facilitate continuous in-stack monitoring and to facilitate source testing;
(x) Type of control to be applied, including in-stack monitoring specifications;
(xi) Applicable emission limits;
(xii) Documentation showing existing emissions of NO_x, VOC, and CO; and
(xiii) Date that the engine will be in full compliance with this rule.
(xiv) The ECP shall identify the type of emission control device or technique to be applied to each engine and a construction/removal schedule, or shall provide support documentation sufficient to demonstrate that the engine is in compliance with the emission requirements of this rule.
(xv) For an engine being permanently removed from service, the ECP shall include a letter of intent pursuant to subsection (D)(1).

[Moved to new section (C)(2)]

(3) Alternative Emission Control Plan (AECP)

An owner may comply with the NO_x emission requirements of subsection (C)(1) for a group of engines by meeting the requirements below. An engine that is not subject to subsection (C)(1) is not eligible for inclusion in an AECP.

(a) The owner may submit the AECP in lieu of an ECP. The AECP shall:

(i) Not be implemented prior to APCO approval.
(ii) Be enforceable on a daily basis by the District.
(iii) Contain any information necessary to determine eligibility of the engines for alternative emission control, including, but not limited to:
a. A list of engines subject to the AECP. All engines in an AECP shall be under the operational control of a single owner and shall be located at a single Facility.
b. The NO_x emission factor established by the engine owner for each engine pursuant to subsection (D)(3)(b).
c. The estimated aggregate NOx emissions calculated according to subsection (D)(3)(c).
(iv) Present the methodology for determining equivalency of actual NO_x emissions under the proposed AECP as compared to the estimated NO_x emissions allowed by this rule.
(v) Detail the method of recording and verifying daily compliance with the AECP.
(vi) Demonstrate to the satisfaction of the APCO that the difference between the NO_x emission limits of this rule and any lower actual NO_x emissions will not be used to increase emissions from the same or another source.
(vii) Demonstrate that the engines subject to the requirements of subsection (C)(1) are in compliance with or on an approved schedule for compliance with all applicable District rules.

(b) The owner shall establish a NO_x emission factor limit for each engine. The established NO_x emission factor of an engine shall be not less than the NO_x emission factor of the engine from the emission factor established pursuant to subsection (D)(2) and approved by the APCO. The owner shall not operate an AECP engine in such a manner that NO_x emissions exceed the established NO_x emission factor of the engine.

(c) During any seven (7) consecutive calendar day period, the owner shall operate all engines in the AECP to achieve an actual aggregate NO_x emission level that is not greater than ninety (90) percent of the NO_x emissions that would be obtained by controlling the engines to comply individually with the NO_x limits in subsection (C)(1). The owner shall operate engines in the AECP such that:

$$AE_{Actual} \leq 0.90\ (AE_{Limit})$$

and shall notify the APCO within twenty-four (24) hours of any violation of this subsection.

(i) The actual aggregate NO_x emissions (AE_{Actual}) is the sum of the actual NO_x emissions, over a seven (7) consecutive calendar day period, from all engines in the AECP which were actually operated during that period. AE_{Actual} shall be calculated as follows:

$$AE_{Actual} = \sum_i (EF_i)(F_i)(k_i)$$

where:

i identifies each engine in the AECP.
EF_i is the NO_x emission factor of the engine established pursuant to subsection (D)(3)(b) and approved by the APCO.
F_i is the actual total fuel used by the engine during the seven (7) consecutive calendar day period.
k_i is a constant used to convert an engine's fuel use and NO_x emission factor to the amount of NO_x emitted. k_i is dependent on the engine and the pollutant emitted. Calculation of k_i shall be accomplished using 40 CFR Part 60, Appendix A, Method 19, or an equivalent method approved by USEPA, CARB and the APCO.

(ii) The estimated aggregate NO_x emissions limit (AE_{Limit}) is the sum of the NO_x emissions, over a seven (7) consecutive calendar day period, for the same engines in the AECP which were actually operated during the same period as considered in subsection (D)(3)(c), calculated with the NO_x limits of subsection (C)(1) and the actual fuel usage during that seven (7) consecutive calendar day period. AE_{Limit} shall be calculated as follows:

$$AE_{Limit} = \sum_i (EL_i)(F_i)(k_i)$$

where:

i identifies each engine in the AECP.
EL_i is the NO_x emission limit from subsection (C)(1) for each engine.
F_i is the actual total fuel used by the engine during the seven (7) consecutive calendar day period.
k_i is a constant used to convert an engine's fuel use and NO_x emission limit to the amount of NO_x emitted. k_i is dependent on the engine and the pollutant emitted. Calculation of k_i shall be

accomplished using 40 CFR Part 60, Appendix A, Method 19, or an equivalent method approved by USEPA, CARB and the APCO.

(iii) Only engines in the AECP which were operated during the seven (7) consecutive calendar day period shall be included in the calculations of AE_{Limit} and AE_{Actual}.

(iv) The owner shall, at least one (1) time each day the AECP is used, calculate and record the actual aggregate NO_x emissions (AE_{Actual}) and the aggregate NO_x emission limit (AE_{Limit}) for the preceding seven (7) consecutive calendar day period.

(d) The owner shall submit an updated or modified AECP for approval by the APCO prior to any of the following:

(i) Modification of the engine(s) which would require an application for an authority to construct.

(ii) When new or amended rules are adopted which regulate the emissions from the engines.

(iii) When the NO_x emission factor established by the engine owner for an engine pursuant to subsection (D)(3)(b) is modified.

(e) In addition to the records kept pursuant to section (F), the owner shall maintain records, on a daily basis, of the parameters needed to demonstrate compliance with the applicable NO_x emission limits when operating under the AECP. These records shall be retained for at least five (5) years, shall be readily available, and be made available to the APCO upon request. The records shall include, but are not limited to, the following for each engine unless otherwise indicated:

(i) Total hours of operation.

(ii) Type and quantity (cubic feet of gas or gallons of liquid) of fuel used.

(iii) The actual NO_x emissions limits to be included in the calculation of AE_{Actual} pursuant to subsection (D)(3)(c).

(iv) The actual aggregate NO_x emissions (AE_{Actual}) for all the engines in the AECP calculated pursuant to subsection (D)(3)(c).

(v) The estimated NO_x emissions limits to be included in the calculation of AE_{Limit} pursuant to subsection (D)(3)(c).

(vi) The estimated aggregate NO_x emissions (AE_{Limit}) for all the engines in the AECP calculated pursuant to subsection (D)(3)(c).

(vii) The comparison of the actual aggregate NO_x emissions (AE_{Actual}) for all the engines in the AECP and ninety (90) percent of the estimated aggregate NO_x emissions (AE_{Limit}) for all the engines in the AECP to demonstrate compliance with subsection (D)(3)(c).

(viii) Any other parameters needed to demonstrate daily compliance with the applicable NO_x emission limits when operating under the AECP.

(4) Inspection and Monitoring (I&M) Plan

The owner of an engine that is subject to the requirements of subsection (C)(1), shall submit to the APCO for approval, an I&M Plan. The actions to be identified in the I&M Plan shall include, but are not limited to, the information specified below:

(a) The following engines are not required to submit I&M Plans:

(i) A Certified Engine that has not been retrofitted with an Exhaust Control and is in compliance with the requirements of subsection (C)(1).

(ii) An engine with an operating Exhaust Control system that has been certified in accordance with subsection (D)(5) Exhaust Control System Certification Requirements.

(b) Procedures requiring the owner or operator to establish ranges for control equipment parameters, engine operating parameters, and engine exhaust oxygen concentrations that source testing has shown result in pollutant concentrations within the rule limits.

(c) Procedures for monthly inspections as approved by the APCO. The applicable control equipment parameters and engine operating parameters will be inspected and monitored monthly in conformance with a regular inspection schedule listed in the I&M Plan.

(d) Procedures for the corrective actions on the noncompliant parameter(s) that the owner or operator will take when an engine is found to be operating outside the acceptable range for control equipment parameters, engine operating parameters, and engine exhaust NO_x, CO, VOC, or oxygen concentrations.

(e) Procedures for the owner or operator to notify the APCO when an engine is found to be operating outside the acceptable range for control equipment parameters, engine operating parameters, and engine exhaust NO_x, CO, VOC, or oxygen concentrations.

(f) Procedures for preventive and corrective maintenance performed for the purpose of maintaining an engine in proper operating condition.

(g) Procedures and a schedule for using a portable NO_x analyzer to take NO_x emission readings pursuant to subsection (F)(6)(a)(iii).

(h) Procedures for collecting and recording required data and other information in a form approved by the APCO including, but not limited to, data collected through the I&M Plan and the monitoring systems described in section (F). Data collected through the I&M Plan shall have retrieval capabilities as approved by the APCO.

(i) Procedures for revising the I&M Plan. The I&M Plan shall be updated to reflect any change in operation. The I&M Plan shall be updated prior to any planned change in operation. An engine owner that changes significant I&M Plan elements must notify the District no later than seven (7) days after the change and must submit an updated I&M Plan to the APCO no later than fourteen (14) days after the change for approval. The date and time of the change to the I&M Plan shall be recorded in the engine operating log. For new engines and modifications to existing engines, the I&M Plan shall be submitted to and approved by the APCO prior to issuance of the permit or Rule 114 registration. The owner of an engine may request a change to the I&M Plan at any time.

(5) Exhaust Control System Certification Requirements

(a) A system not certified by CARB or the USEPA shall be certified by the APCO and comply with the requirements of subsections (D)(5)(b) through (D)(5)(c).

(b) To be considered for APCO certification, the manufacturer or operator shall comply with all of the following requirements:

(i) Certification shall be based upon the emission source testing results of a specific Exhaust Control System.
(ii) A source testing protocol shall be submitted for approval by the APCO prior to conducting the source test. The source testing protocol approved by the APCO shall be strictly adhered to during certification source testing.
(iii) Source testing shall be conducted over the range of operating parameters for which the unit(s) will be operated.
(iv) The source testing results shall demonstrate compliance with the emission limits of this rule for each model of Exhaust Control System(s) to be certified.
(v) The source testing procedure and reports shall be prepared by a CARB approved independent testing laboratory, and shall contain all the elements identified in the APCO-approved source testing protocol.
(vi) Source testing shall be conducted no more than ninety (90) days prior to the date of submission of request for certification by the APCO.
(vii) Any additional supporting information required by the APCO to address other performance parameters.

(c) The manufacturer or operator requesting certification shall submit to the APCO the following information:

(i) Copies of the source testing results conducted pursuant to the requirements of subsection (D)(5)(a), and other pertinent technical

data to demonstrate compliance with the emission limits of this rule.

(ii) The applicant shall sign and date the statement attesting to the accuracy of all information in the statement.

(iii) Name and address of the Exhaust Control System manufacturer or operator, brand name of the Exhaust Control unit, model number, and description of model of system(s) being certified.

(d) The APCO will only approve an application for certification to the extent that the requirements of subsections (D)(5)(b) through (D)(5)(c) are met and the source testing results demonstrate that the emission limits of this rule are met.

(e) The APCO-approved certification is valid only for the range of operating parameters and conditions for which certification is issued.

(f) The APCO shall publish a list of certified Exhaust Control Systems after the certification process is completed.

(E) Exemptions

(1) The requirements of this rule shall not apply to the following engines:

(a) An engine used to propel implements of husbandry, as that term is defined in section 36000 of the California Vehicle Code, as that section existed on January 1, 2003.

(b) An engine used exclusively to power a Wind Machine.

(c) A engine de-rated to less than 50 horsepower, provided the de-rating occurred before June 1, 2005

(d) An engine used exclusively to power Mobile Agricultural Equipment.

(2) Except for the requirements of subsection (F)(4), the requirements of this rule shall not apply to an Emergency Standby Engine provided that it is operated with a functional non-resettable hour meter. In lieu of a non-resettable hour meter, the owner of an emergency engine may use an alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO. The owner of the engine shall properly maintain and operate the hour meter or alternative device in accordance with the manufacturer's instructions.

(3) Except for the administrative requirements of subsection (F)(5)(b), the requirements of this rule shall not apply to an Internal Combustion Engine registered as a portable emissions unit under the Statewide Portable Equipment Registration Program pursuant to sections 2450-2465, Article 5, Title 13, California Code of Regulations.

(4) Loss of Exemption

The owner of an engine which becomes subject to the emission limits/standards of this rule through loss of exemption shall not operate the subject engine, except as required for obtaining a new or modified permit or Rule 114 registration for the engine, until the owner demonstrates that the subject engine is in full compliance with the requirements of this rule.

(F) Monitoring and Recordkeeping Requirements

(1) Continuous Emissions Monitoring Systems (CEMS)

(a) All CEMS emissions measurements shall be averaged over a period of fifteen (15) consecutive minutes. Any fifteen (15) consecutive minute block average CEMS measurement exceeding the applicable emission limits of this rule shall constitute a violation of this rule.

(2) Percent emission reductions, if used to comply with the NO_x emission limits of subsection (C)(1), shall be calculated as follows:

(a) For engines with external control devices that are not operated in combination with a second emission control device or technique, percent reduction shall be calculated using emission samples taken at the inlet and outlet of the control device.

(b) For engines without external control devices and for engines with an external control device in combination with a second emission control device or technique, percent reduction shall be based on source test results for the uncontrolled engine and the engine after the control device or technique has been employed. In this situation, the engine's typical operating parameters, loading, and duty cycle shall be documented and repeated at each successive post-control source test to ensure that the engine is meeting the percent reduction limit. When representative source sampling prior to the application of an emissions control technology or technique is not available, the APCO may approve the use of a manufacturer's uncontrolled emissions information or source sampling from a similar, uncontrolled engine.

(3) The owner of an Internal Combustion Engine that uses percent emission reduction to comply with the NO_x emission limits of subsection (C)(1) shall provide an accessible inlet and outlet on the external control device or the engine as appropriate for taking emission samples and as approved by the APCO.

(4) Engine Monitoring Requirements

The owner of any engine subject to this rule shall:

(a) Properly operate and maintain each engine as recommended by the engine manufacturer or emission control system supplier.

(b) Monitor the operational characteristics of each engine as recommended by the engine manufacturer or emission control system supplier.

(c) Install and operate a non-resettable hour meter. In lieu of installing a non-resettable hour meter, the owner of an engine may use an alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO and is allowed by permit or Rule 114 registration condition. The owner of the engine shall properly maintain and operate the hour meter or alternative device in accordance with the manufacturer's instructions.

(d) The owner of an Spark-Ignited Internal Combustion Engine that has been retrofitted with a NO_x Exhaust Control that has not been certified in accordance with subsection (C)(5) Exhaust Control System Certification Requirements, or a compression-ignited engine that has been retrofitted with a NO_x Exhaust Control shall use a portable NO_x analyzer to take NO_x emission readings to demonstrate compliance with the emission requirements of subsection (C)(1), in compliance with the following:

(i) The owner of a compression-ignited engine that is subject to the limits/standards of subsection (C)(1), shall use a portable NO_x analyzer to take NO_x emission readings at least once every six (6) months that the engine is operated.

(ii) The owner of any other engine that has been retrofitted with a NO_x Exhaust Control shall use a portable NO_x analyzer to take NO_x emission readings at least once every twenty-four (24) months that the engine is operated.

(iii) All emission readings shall be taken with the engine operating either at conditions representative of normal operations or conditions specified in the permit or Rule 114 registration.

(iv) The NO_x analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO.

(v) All NO_x emissions readings shall be reported to the APCO in a manner approved by the APCO.

(vi) NO_x emission readings taken pursuant to this section shall be averaged over a fifteen (15) consecutive-minute period by either taking a cumulative fifteen (15) consecutive-minute sample reading or by taking at least five (5) readings evenly spaced out over the fifteen (15) consecutive-minute period.

(5) Recordkeeping

(a) The owner of an engine subject to the requirements of subsection (C)(1) of this rule shall maintain an engine operating log to demonstrate compliance

with this rule. This information shall be retained for a period of at least five (5) years, shall be readily available, and be made available to the APCO upon request. The engine operating log shall include, on a monthly basis, the following information:

(i) Total hours of operation;
(ii) Type of fuel used;
(iii) Maintenance or modifications performed;
(iv) Monitoring data;
(v) Compliance source test results;
(vi) Any other information necessary to demonstrate compliance with this rule; and
(vii) The quantity (cubic feet of gas or gallons of liquid) of fuel used on a daily basis.

(b) An owner claiming an exemption under subsection (E)(2) or subsection (E)(3) shall maintain annual operating records. This information shall be retained for at least five (5) years, shall be readily available, and provided to the APCO upon request. The records shall include, but are not limited to, the following:

(i) Total hours of operation;
(ii) The type of fuel used;
(iii) The purpose for operating the engine;
(iv) For Emergency Standby Engines, all hours of non-emergency and emergency operation shall be reported; and
(v) Other support documentation necessary to demonstrate claim to the exemption.

(6) Compliance Testing

The owner of an engine subject to the requirements of subsection (C)(1), shall comply with the following requirements, except for an engine specified in subsection (D)(2)(a):

(a) Demonstrate compliance with applicable limits, ppmv or percent reduction, in accordance with the test methods in section (G), as specified below:

(i) By the applicable date specified in subsection (C)(1)(a), subsection (C)(1)(b), and at least once every twenty-four (24) months thereafter.
(ii) By the applicable date specified in subsection (C)(1)(a), subsection (C)(1)(b), and at least once every sixty (60) months thereafter, for a Spark-Ignited engine that has been retrofitted with a catalytic emission control device.
(iii) A portable NO_x analyzer may be used to show initial compliance with the applicable limits/standards in subsection (C)(1) for spark ignited engines, provided the following criteria are met, and a

source test is conducted within twelve (12) months from the required compliance date.

a. A minimum of fifteen (15) minutes of runtime must be measured with data recorded at a minimum of fifteen (15), evenly spaced time intervals. Compliance is to be determined with the arithmetic average of the oxygen-corrected data.

b. The NO_x analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Analyzer calibration records shall be made available at the District's request.

c. The NO_x analyzer shall be checked with USEPA protocol span gas at the beginning and end of each test day. The results of these checks shall be recorded and copies submitted to the District with each engine test. If the NO_x analyzer exhibits more than a ten (10) percent deviation from the span check, the instrument must be re-calibrated. Any analysis performed prior to an end-of-day span check failure shall be void.

d. The test results of each engine, including span check results, shall be submitted to the District within thirty (30) days of the test date. Test results shall clearly identify the engine tested including owner, Location, permit or registration number, manufacturer, model, and serial number.

e. The NO_x analyzer utilized for each check shall be clearly identified in the material submitted with the test results. Identification shall include manufacturer and serial number of the analyzer used, and the last calibration date.

(b) Conduct emissions source testing with the engine operating either at conditions representative of normal operations or conditions specified in the permit or Rule 114 registration. For emissions source testing performed pursuant to subsection (F)(6) for the purpose of determining compliance with an applicable standard or numerical limitation, the arithmetic average of three (3) – thirty (30) – consecutive minute test runs shall apply. If two (2) of three (3) runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to fifteen (15) percent oxygen. For engines that comply with a percent reduction limit in Table 1, the percent reduction of NO_x emissions shall also be reported.

(c) In addition to other information, the source test protocol shall describe which critical parameters will be measured and how the appropriate range for these parameters shall be established. The range for these parameters shall be incorporated into the I&M Plan.

(d) Engines that are limited by permitor Rule 114 registration condition to be fueled exclusively with PUC quality natural gas shall not be subject to the reoccurring source test requirements of subsection (F)(6) for VOC emissions.

(e) Representative Testing

For Spark-Ignited Compression Ignition Engines, in lieu of compliance with the applicable requirements of subsection (F)(6), compliance with the applicable emission limits in subsection (C)(1) shall be demonstrated by submittal of annual emission test results, within thirty (30) days of the test date, to the District, from a unit or units that represents a specified group of units, provided all of the following are requirements are satisfied:

(i) The units are located at the same Facility;
(ii) The units were produced by the same manufacturer, have the same model number or other manufacturer's designation in common, and have the same rated capacity and operating specifications;
(iii) The units are operated and maintained in a similar manner; and
(iv) At least twenty (20) percent of the total number of units are tested during each annual test cycle.
(v) The District, based on documentation submitted by the Facility:
  a. Determines that the margin of compliance for the identical units tested is significant and can be maintained on an on-going basis; or
  b. Determines based on a review of sufficient emissions data that, though the margin of compliance is not substantial, other factors allow for the determination that the variability of emissions for identical tested units is low enough for confidence that the untested unit will be in compliance. These factors may include, but are not limited to, the following:
    1. Historical records at the tested unit showing consistent invariant load;
    2. Fuel characteristics yielding low variability and therefore assurance that emissions will be constant and below allowable levels; and/or
    3. Statistical analysis of a robust emissions data set demonstrates sufficiently low variability to convey assurance that the margin of compliance, though small, is reliable.

(f) Should any of the representative units exceed the required emission limits, or if the District notifies the operator that the criteria in subsection (F)(6)(e) has not been fulfilled, each of the units in the group shall individually demonstrate compliance by emissions testing. Failure to complete emissions testing within ninety (90) days of the failed test shall result in the untested units being in violation of this rule. After

compliance with the requirements of subsection (F)(6)(e) has been demonstrated, subsequent source testing shall be performed pursuant to subsections (F)(6)(a) or (F)(6)(e).

(G) Test Methods

Compliance with the requirements of subsection (C)(1) shall be determined, as required, in accordance with the following test procedures or any other method approved by USEPA and the APCO:

(1) Oxides of nitrogen - EPA Method 7E, or ARB Method 100.

(2) Carbon monoxide - EPA Method 10, or ARB Method 100.

(3) Stack gas oxygen - EPA Method 3 or 3A, or ARB Method 100.

(4) Volatile organic compounds - EPA Method 25A or 25B, or ARB Method 100.

(5) Operating horsepower determination - any method approved by EPA and the APCO.

[SIP: Submitted as amended mm/dd/yy on mm/dd/yy]

Appendix M – North Needles-B000301

Southern California Gas Company

A Sempra Energy utility

Zach Muepo
Sr. Environmental Specialist

Environmental Services
16G3
BOX 513249
Los Angeles, CA 90051

(213) 244-5822
Fax: (213) 244-2046
Mobile: (213) 272-8474
E-mail: zmuepo@semprautilities.com

July 12, 2010

Mojave Desert Air Quality Management District
Attn: Alan De Salvio, Supervising Air Quality Engineer
14306 Park Avenue
Victorville, CA 92392

Subject: Southern California Gas Company Pilot Project Applications, North Needles and South Needles Compressor Stations

Mr. De Salvio:

Southern California Gas Company (SCG) is submitting these applications for modification of the #1 compressor engines at North and South Needles Compressor Stations. The purpose of these modifications is to investigate the efficacy of Precombustion Chambers (PCC) and Electronic Precombustion Chamber Controls (ePCC) on lean burn two stroke engines. SCG hopes that PCCs and ePCCs will improve combustion on these engines, and will improve emissions from these engines. This pilot project is being conducted in anticipation of expected rule changes of MDAQMD Rule 1160 and EPA Subpart ZZZZ.

If you have any question please feel free to contact me.

Regards

Zach Muepo

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
14306 Park Avenue, Victorville, CA 92392-2310
(760) 245-1661 Facsimile: (760) 245-2022
www.mdaqmd.ca.gov
Eldon Heaston
Executive Director

APPLICATION FOR INTERNAL COMBUSTION ENGINE (I.C.E.) ONLY

Page 1 of 2: please type or print

REMIT $226.00 WITH THIS DOCUMENT ($129.00 FOR CHANGE OF OWNER)

1. Permit To Be Issued To (company name to receive permit): Southern California Gas Company		1a. Federal Tax ID No.:
2. Mailing/Billing Address (for above company name): P.O. Box 2300, Chatsworth CA 91313		
3. Facility or Business License Name (for equipment location): North Needles Compressor Station		
4. Facility Address - Location of Equipment (if same as for company, enter "Same"): 4500 Needles Hwy, Needles, CA 92363		Facility UTM or Lat/Long:
5. Contact Name/Title: Jim Boyle	Email Address:	Phone/Fax Nos.: (760) 243-6561
6. Application is hereby made for Authority To Construct (ATC) and Permit To Operate (PTO) the following equipment: Ingersoll Rand 4,000 bhp natural gas fueled piston IC engines driving natural gas compressor #1 install PCC and ePCC		
7. Application is for: [ ] New Construction [X] Modification* [ ] Change of Owner*		For modification or change of owner: *Current Permit Number: 3100069
8. Type of Organization (check one): [ ] Individual Owner [ ] Partnership [X] Corporation [ ] Utility [ ] Local Agency [ ] State Agency [ ] Federal Agency		
9. Distances (feet and direction to closest): 200 Fenceline 1766 Residence 1560 Business 26685 School		
10. General Nature of Business: Public Utility	11. Principal Product: Natural Gas	
12. Facility Annual Throughput by Quarters (percent): 25 % Jan-Mar 25 % Apr-Jun 25 % Jul-Sep 25 % Oct-Dec	13. Expected Operating Hours of IC Engine: 24 Hrs/Day 7 Days/Wk 52 Wks/Yr 8760 Total Hrs/Yr	
14. Do you claim Confidentiality of Data (if yes, state nature of data in attachment)? [ ] Yes [ ] No		
15. Signature of Responsible Official:	Official Title: Field Operations Manager	
Typed or Printed Name of Responsible Official: Claus Langer	Phone Number: 760-243-6500	Date Signed:

- For District Use Only -

Application Number:	*Invoice Number:*	*Permit Number:*	*Company/Facility Number:*

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
I.C.E. APPLICATION, continued

16. INFORMATION ON I.C.E.:

Manufacturer: Ingersoll Rand

Model No.: KVT Serial No.: 1 3 4

Number of Cylinders: 1 6 Year of Manufacture: 1 9 6 4

Rating: 4 0 0 0 BHP Speed: 330 RPM

I.C.E. is? [ ] New [X] Existing Date Installed (MM/YYYY): 1 9 6 4

Prime [X] Standby [ ] Emergency [ ] Portable (Yes or No)?: ____

CARB engine certification: Family: N A Certification EO#: ____

Is this engine included in a Demand Response plan?: Yes [ ] No [X]

Type of Fuel(s): Natural Gas [X] Digester Gas [ ] Ethanol [ ] Landfill Gas [ ]

Propane [ ] CARB Diesel [ ] Methanol [ ] Other: ____

Max fuel usage per hour: 22.69 Fuel units (ft^3, gal, etc.): MMscf

Engine Lat/Long or UTM Coordinates: ____

Exhaust Stack Height (feet): 3 4 Inside Diameter (inches): 2 4 Y/N: Vertical? Y Capped? n o

Is this I.C.E. (select all that apply):

Direct Injected? [ ] After Cooled? [ ]

Turbo Charged? [X] Inter Cooled? [ ]

Timing Retarded? [ ] Other - Please specify: ____

17. EMISSION RATES:

Pollutant	at Max.Load	Units	Origin of Emission Rate data: Manufacturer	or Source Test
Oxides of Nitrogen (NOx)				
Oxides of Sulfur (SOx)				
Carbon Monoxide (CO)				
Particulates (PM10)				
Total Hydrocarbons (VOC)				

18. EMISSION CONTROL EQUIPMENT: Add on emission control equipment? [ ] Yes [X] No

If yes: Manufacturer: ____ Model No.: ____

Serial No.: ____ *CARB EO#: ____

Type: SCR: [ ] Particulate Trap*: [ ] Ammonia Injection: [ ] Water Injection: [ ]

Non-S CR: [ ] Exhaust Gas Recirc*: [ ] Oxidation Catalyst*: [ ]

Other - Please specify: ____

19. INFORMATION OF ITEM BEING POWERED: This I.C.E. is used to power:

Electrical Generator [ ] Compressor [X] Pump [ ]

Paint Spray Gun [ ] Conveyor or Drive [ ] Fire Pump [ ]

Other - Please specify: ____

Manufacturer: Ingersoll Rand

Model No.: KVT Serial No.: ____

Type, Size or Rating: 4000 BHP

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
14306 Park Avenue, Victorville, CA 92392-2310
(760) 245-1661 Facsimile: (760) 245-2022
www.mdaqmd.ca.gov
Eldon Heaston
Executive Director

APPLICATION FOR INTERNAL COMBUSTION ENGINE (I.C.E.) ONLY

Page 1 of 2: please type or print

REMIT $226.00 WITH THIS DOCUMENT ($129.00 FOR CHANGE OF OWNER)

1. Permit To Be Issued To (company name to receive permit): Southern California Gas Company		1a. Federal Tax ID No.:
2. Mailing/Billing Address (for above company name): P.O. Box 2300, Chatsworth CA 91313		
3. Facility or Business License Name (for equipment location): South Needles Compressor Station		
4. Facility Address - Location of Equipment (if same as for company, enter "Same"): 11 miles south of Needles, CA on Hwy. 95, 92363 (East side of Hwy 95)		Facility UTM or Lat/Long:
5. Contact Name/Title: Jim Boyle	Email Address:	Phone/Fax Nos.: (760) 243-6561
6. Application is hereby made for Authority To Construct (ATC) and Permit To Operate (PTO) the following equipment: Clark Model TLA6 2000 bhp natural gas fueled piston IC engine, driving natural gas compressor install PCC and ePCC		
7. Application is for: [ ] New Construction [X] Modification* [ ] Change of Owner*		For modification or change of owner: *Current Permit Number: 3100068
8. Type of Organization (check one): [ ] Individual Owner [ ] Partnership [X] Corporation [ ] Utility [ ] Local Agency [ ] State Agency [ ] Federal Agency		
9. Distances (feet and direction to closest): 100 Fenceline 116160 Residence 116160 Business 116160 School		
10. General Nature of Business: Public Utility	11. Principal Product: Natural Gas	
12. Facility Annual Throughput by Quarters (percent): 25 % Jan-Mar 25 % Apr-Jun 25 % Jul-Sep 25 % Oct-Dec	13. Expected Operating Hours of IC Engine: 24 Hrs/Day 7 Days/Wk 52 Wks/Yr 8760 Total Hrs/Yr	
14. Do you claim Confidentiality of Data (if yes, state nature of data in attachment)? [ ] Yes [ ] No		
15. Signature of Responsible Official:	Official Title: Field Operations Manager	
Typed or Printed Name of Responsible Official: Claus Langer	Phone Number: 760-243-6500	Date Signed:

- For District Use Only -

Application Number:	*Invoice Number:*	*Permit Number:*	*Company/Facility Number:*

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
I.C.E. APPLICATION, continued

16. INFORMATION ON I.C.E.:

Manufacturer: Clark

Model No.: TLA-6 Serial No.: 7 3 6 1 8

Number of Cylinders: 6 Year of Manufacture: 1 9 5 7

Rating: 2 0 0 0 BHP Speed: 300 RPM

I.C.E. is? [ ] New [X] Existing Date Installed (MM/YYYY): 1 9 5 8

Prime [X] Standby [ ] Emergency [ ] Portable (Yes or No)?: [ ]

CARB engine certification: Family: N A Certification EO#: [ ]

Is this engine included in a Demand Response plan?: Yes [ ] No [X]

Type of Fuel(s): Natural Gas [X] Digester Gas [ ] Ethanol [ ] Landfill Gas [ ]

Propane [ ] CARB Diesel [ ] Methanol [ ] Other: [ ]

Max fuel usage per hour: 15.12 Fuel units (ft^3, gal, etc.): MMscf

Engine Lat/Long or UTM Coordinates: [ ]

Exhaust Stack Height (feet): 2 6 Inside Diameter (inches): 1 8 Y/N: Vertical? Y Capped? n o

Is this I.C.E. (select all that apply):

Direct Injected? [ ] After Cooled? [ ]

Turbo Charged? [X] Inter Cooled? [ ]

Timing Retarded? [ ] Other - Please specify: [ ]

17. EMISSION RATES:

Pollutant	at Max.Load	Units	Origin of Emission Rate data: Manufacturer	or Source Test
Oxides of Nitrogen (NOx)				
Oxides of Sulfur (SOx)				
Carbon Monoxide (CO)				
Particulates (PM10)				
Total Hydrocarbons (VOC)				

18. EMISSION CONTROL EQUIPMENT: Add on emission control equipment? [ ] Yes [X] No

If yes: Manufacturer: [ ] Model No.: [ ]

Serial No.: [ ] *CARB EO#: [ ]

Type: SCR: [ ] Particulate Trap*: [ ] Ammonia Injection: [ ] Water Injection: [ ]

Non-S CR: [ ] Exhaust Gas Recirc*: [ ] Oxidation Catalyst*: [ ]

Other - Please specify: [ ]

19. INFORMATION OF ITEM BEING POWERED: This I.C.E. is used to power:

Electrical Generator [ ] Compressor [X] Pump [ ]

Paint Spray Gun [ ] Conveyor or Drive [ ] Fire Pump [ ]

Other - Please specify: [ ]

Manufacturer: Ingersoll Rand

Model No.: TLA-6 Serial No.: [ ]

Type, Size or Rating: 2 0 0 0 B H P

THIS CHECK CONTAINS MULTIPLE FRAUD DETERRENT SECURITY FEATURES. DO NOT ACCEPT UNLESS BLUE AND GREEN ARE PRESENT.

The Gas Company

A Sempra Energy utility™

P.O. Box 30777 Los Angeles, CA 90030-0777

ACCOUNTS PAYABLE

Wachovia Bank, N.A.
Savannah, GA 31603

64-975
612

VENDOR NO	CHECK NO	DATE	AMOUNT
67408	1056341	06/09/10	*******$219.00

PAY: TWO HUNDRED NINETEEN USD

TO THE ORDER OF:
MOJAVE DESERT AIR QUALITY
MANAGEMENT DISTRICT
14306 PARK AVENUE
VICTORVILLE CA 92392-2310

VOID

VOID AFTER SIX MONTHS

THE BACK OF THIS DOCUMENT HAS A WATERMARK - HOLD AT ANGLE TO VIEW

⑈01056341⑈ ⑆061209756⑆ 20799004 20230⑈

The Gas Company

A Sempra Energy utility™ P.O. Box 30777 Los Angeles, CA 90030-0777

PLEASE RETAIN THIS STATEMENT FOR YOUR RECORDS

ACCOUNTS PAYABLE

NAME	Vendor No	Check No	Date	Amount
MOJAVE DESERT AIR QUALITY	67408	1056341	06/09/10	******$219.00

YOUR REFERENCE	DATE	PO	ITEM	VOUCHER	GROSS	DISCOUNT	AMOUNT PAID
APP FILING FEE	06/01/10			1900844673	219.00	0.00	219.00

THIS CHECK CONTAINS MULTIPLE FRAUD DETERRENT SECURITY FEATURES. DO NOT ACCEPT UNLESS BLUE AND GREEN ARE PRESENT.

The Gas Company

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P.O. Box 30777 Los Angeles, CA 90030-0777

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67408	1056342	06/09/10	*******$219.00

PAY: TWO HUNDRED NINETEEN USD

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MOJAVE DESERT AIR QUALITY
MANAGEMENT DISTRICT
14306 PARK AVENUE
VICTORVILLE CA 92392-2310

VOID

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⑈01056342⑈ ⑆061209756⑆ 20799004 20230⑈

The Gas Company

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ACCOUNTS PAYABLE

A Sempra Energy utility™ P.O. Box 30777 Los Angeles, CA 90030-0777

NAME	Vendor No	Check No	Date	Amount
MOJAVE DESERT AIR QUALITY	67408	1056342	06/09/10	******$219.00

YOUR REFERENCE	DATE	PO	ITEM	VOUCHER	GROSS	DISCOUNT	AMOUNT PAID
APP FILING FEE	06/02/10			1900844748	219.00	0.00	219.00

From: Origin ID: EMTA (213) 244-5822
Zach Muepo
Southern California Gas Company
555 W. Fifth St.
M.L. GT16G3
Los Angeles, CA 90013

FedEx Express

J102010905250225

Ship Date: 12JUL10
ActWgt: 0.2 LB
CAD: 2378668/INET3060

Delivery Address Bar Code

SHIP TO: (760) 245-1661 X 6726 BILL SENDER
Alan De Salvio
Mojave Desert A.Q.M.D.
14306 Park Avenue

Victorville, CA 92392

Ref #
Invoice #
PO #
Dept #

TRK# 0201 7988 4037 1472

TUE - 13 JUL A2
STANDARD OVERNIGHT
ASR

92392
CA-US
ONT

WM DAGA

508G1/8807/9A24

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic valueof the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Mojave Desert AQMD
14306 Park Avenue, Victorville, CA 92392-2310 (760) 245-1661

AUTHORITY TO CONSTRUCT

B000298

If construction is not completed by the expiration date of this permit, it may be renewed for one additional year upon payment of applicable fees. Any additional extension will require the written approval of the Air Pollution Control Officer. This Authority to Construct may serve as a temporary Permit to Operate provided the APCO is given prior notice of intent to operate and the Permit to Operate is not specifically denied.

EXPIRES LAST DAY OF: OCTOBER 2011

OWNER OR OPERATOR (0031)
Southern California Gas - MDAQMD
9400 Oakdale Avenue
Chatsworth, CA 91313

EQUIPMENT LOCATION: (00068)
SCG - South Needles
on Hwy 95, 11 miles South of
Needles, CA 92363

DESCRIPTION:
SEVEN NATURAL GAS IC ENGINES, COMPRESSORS consisting of:

Seven Clark Model TLA6 2000 bhp natural gas fueled piston IC engines, driving natural gas compressors one through seven. Rating equivalent to 117.6 MMBTU/hr.

Capacity	Equipment Description
2000.0	S/N 73618, driving compressor No. 1
2000.0	S/N 73574, driving compressor No. 2
2000.0	S/N 73606, driving compressor No. 3
2000.0	S/N 73575, driving compressor No. 4
2000.0	S/N 73573, driving compressor No. 5
2000.0	S/N 73650, driving compressor No. 6
2000.0	S/N 73681, driving compressor No. 7
14000.0	

CONDITIONS:

1. The owner/operator (o/o) shall operate this equipment in strict accord with the manufacturer's specification and/or sound engineering principles.
2. The o/o shall maintain a record of repairs and maintenance on this equipment and submit it to the MDAQMD on request. The record shall be retained for a minimum period of two years.
3. CONDITIONS 4 THROUGH 10 APPLY ONLY TO ENGINE SERIAL NUMBER 73618 AS PART OF AN EFFORT TO ASSESS EMISSION REDUCTION ENGINE MODIFICATIONS

Fee Schedule: 1(d) Rating: 14000.0 SIC: 4922 SCC: 20200202 Location/UTM(Km): 718E/3858N

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

Southern California Gas - MDAQMD
PO Box 2300 /Norma Cobb SC 9314
Chatsworth, CA 91313-2300

BY: Copy
Eldon Heaston
Air Pollution Control Officer

DATE: 10/13/2010

SCG Doc#260314

DRH-9-M

4. A detailed record of the engine modifications conducted shall be maintained; including engine model and serial number, modifications description, manufacturer data, and any other pertinent information that will ensure subsequent modifications can be accurately described and replicated.

5. The o/o shall conduct baseline source test for NOx, VOC, and CO before the installation of the Precombustion Chambers (PCCs) pursuant to test protocol dated September 10, 2010.

6. Not later than 90 days after the emission modifications have been completed, the o/o shall perform subsequent source testing on the modified engine pursuant to test protocol dated September 10, 2010. These test results are anticipated to be used to determine emission concentrations for expected rule changes to MDAQMD Rule 1160.

7. Tests shall be conducted in accordance with the following test methods:
   a) Flow rate in accordance with EPA Method 19; no current limit exists
   b) Fuel analysis in accordance with ASTM D3588; limit no applicable
   c) O2, and CO2 in accordance with EPA Method 3A
   d) *NOx, per USEPA Methods 7E; shall not exceed 1500 ppm as tested
   e) *CO, as tested per USEPA Method 10; shall not exceed 2000 ppm
   f) VOC, shall be tested per EPA Method 18/GC-FID Analyses; no current limit exists

   * Quantities shall be corrected to 15% oxygen.

8. If the modified engine is found to exceed 1500 PPM NOx @ 15% O2 or 2000 PPM CO @ 15%, then the Operator shall be given 15 calendar days to correct the problem while continuing to operate that engine. If the problem cannot be corrected within 15 days, then that engine must be shut down and kept out of operation until such time as it can be repaired and its compliance with either the NOx limit or CO limit is confirmed by a either an emissions analysis or a certified source test.

9. Source test results and emission analyses performed by the o/o shall be used only for the evaluation of the PCC equipment, or for rule-making purposes, and not be used for enforcement or compliance purposes.

10. The o/o shall notify the MDAQMD at the conclusion of the engine modification and source test plan, as to whether the facility will remove the PCC or maintain the PCC permanently.

Mojave Desert AQMD
14306 Park Avenue, Victorville, CA 92392-2310 (760) 245-1661

PERMIT TO OPERATE

B000301

Operation under this permit must be conducted in compliance with all information included with the initial application,initial permit condition, and conditions contained herein. The equipment must be maintained and kept in good operating condition at all times. This Permit to Operate or copy must be posted on or within 8 meters of equipment. If copy is posted, original must be maintained on site, available for inspection at all times.

EXPIRES LAST DAY OF: OCTOBER 2011

OWNER OR OPERATOR (0031)
Southern California Gas - MDAQMD
9400 Oakdale Avenue
Chatsworth, CA 91313

EQUIPMENT LOCATION: (00069)
SCG - No Needles Compressor Station
4500 Needles Highway
Needles, CA 92363

DESCRIPTION:
THREE NATURAL GAS IC ENGINES, COMPRESSORS consisting of:

Three Ingersol Rand 4,000 bhp natural gas fueled piston IC engines driving natural gas compressors one through three. The 12,000 total bhp is equivalent to 75.6 MMBTU/hr.

CONDITIONS:

1. The owner/operator (o/o) shall operate this equipment in strict accord with the manufacturer's specifications and/or sound engineering principles.
2. The o/o shall maintain a log of all inspections, repairs, and maintenance on this equipment and submit it to the MDAQMD upon request. The log shall be kept for a minimum period of two (2) years.
3. CONDITIONS 3 THROUGH 10 APPLY ONLY TO ENGINE SERIAL NUMBER 616KVT134 AS PART OF AN EFFORT TO ASSESS EMISSION REDUCTION ENGINE MODIFICATIONS
4. A detailed record of the engine modifications conducted shall be maintained; including engine model and serial number, modifications description, manufacturer data, and any other pertinent information that will ensure subsequent modifications can be accurately described and replicated.
5. The o/o shall conduct baseline source test for NOx , VOC, and CO before the installation of the Precombustion Chambers (PCCs) pursuant to test protocol dated September 10, 2010.
6. Not later than 90 days after the emission modifications have been completed, the o/o shall perform subsequent source testing on the modified engine pursuant to test protocol dated September 10, 2010. These test results are anticipated to be used to determine emission concentrations for expected rule changes to MDAQMD Rule 1160.

Fee Schedule: 1(d) Rating: 12000.0 SIC: 4922 SCC: 20200202 Location/UTM(Km): 716E/3863N

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

BY: Copy DATE: 10/13/2010
Eldon Heaston
Air Pollution Control Officer

Southern California Gas - MDAQMD
PO Box 2300 /Norma Cobb SC 9314
Chatsworth, CA 91313-2300
SCG Doc#260314

DRH-11-M

CONDITIONS continued:

7. Tests shall be conducted in accordance with the following test methods:
   a) Flow rate in accordance with EPA Method 19; no current limit exists
   b) Fuel analysis in accordance with ASTM D3588; limit no applicable
   c) O2, and CO2 in accordance with EPA Method 3A
   d) *NOx, per USEPA Methods 7E; shall not exceed 1500 ppm as tested
   e) *CO, as tested per USEPA Method 10; shall not exceed 2000 ppm
   f) VOC, shall be tested per EPA Method 18/GC-FID Analyses; no current limit exists

   * Quantities shall be corrected to 15% oxygen.

8. If the modified engine is found to exceed 1500 PPM NOx @ 15% O2 or 2000 PPM CO @ 15%, then the Operator shall be given 15 calendar days to correct the problem while continuing to operate that engine. If the problem cannot be corrected within 15 days, then that engine must be shut down and kept out of operation until such time as it can be repaired and its compliance with either the NOx limit or CO limit is confirmed by a either an emissions analysis or a certified source test.

9. Source test results and emission analyses performed by the o/o shall be used only for the evaluation of the PCC equipment, or for rule-making purposes, and not be used for enforcement or compliance purposes.

10. The o/o shall notify the MDAQMD at the conclusion of the engine modification and source test plan, as to whether the facility will remove the PCC or maintain the PCC permanently.

Appendix N – South Needles-B000298

Southern California Gas Company

A Sempra Energy utility

Zach Muepo
Sr. Environmental Specialist

Environmental Services
16G3
BOX 513249
Los Angeles, CA 90051

(213) 244-5822
Fax: (213) 244-2046
Mobile: (213) 272-8474
E-mail: zmuepo@semprautilities.com

July 12, 2010

Mojave Desert Air Quality Management District
Attn: Alan De Salvio, Supervising Air Quality Engineer
14306 Park Avenue
Victorville, CA 92392

Subject: Southern California Gas Company Pilot Project Applications,
North Needles and South Needles Compressor Stations

Mr. De Salvio:

Southern California Gas Company (SCG) is submitting these applications for modification of the #1 compressor engines at North and South Needles Compressor Stations. The purpose of these modifications is to investigate the efficacy of Precombustion Chambers (PCC) and Electronic Precombustion Chamber Controls (ePCC) on lean burn two stroke engines. SCG hopes that PCCs and ePCCs will improve combustion on these engines, and will improve emissions from these engines. This pilot project is being conducted in anticipation of expected rule changes of MDAQMD Rule 1160 and EPA Subpart ZZZZ.

If you have any question please feel free to contact me.

Regards

Zach Muepo

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
14306 Park Avenue, Victorville, CA 92392-2310
(760) 245-1661 Facsimile: (760) 245-2022
www.mdaqmd.ca.gov
Eldon Heaston
Executive Director

APPLICATION FOR INTERNAL COMBUSTION ENGINE (I.C.E.) ONLY

Page 1 of 2: please type or print

REMIT $226.00 WITH THIS DOCUMENT ($129.00 FOR CHANGE OF OWNER)

1. Permit To Be Issued To (company name to receive permit): Southern California Gas Company			1a. Federal Tax ID No.:
2. Mailing/Billing Address (for above company name): P.O. Box 2300, Chatsworth CA 91313			
3. Facility or Business License Name (for equipment location): South Needles Compressor Station			
4. Facility Address - Location of Equipment (if same as for company, enter "Same"): 11 miles south of Needles, CA on Hwy. 95, 92363 (East side of Hwy 95)			Facility UTM or Lat/Long:
5. Contact Name/Title: Jim Boyle	Email Address:		Phone/Fax Nos.: (760) 243-6561
6. Application is hereby made for Authority To Construct (ATC) and Permit To Operate (PTO) the following equipment: Clark Model TLA6 2000 bhp natural gas fueled piston IC engine, driving natural gas compressor install PCC and ePCC			
7. Application is for: [ ] New Construction [X] Modification* [ ] Change of Owner*			For modification or change of owner: *Current Permit Number: 3100068
8. Type of Organization (check one): [ ] Individual Owner [ ] Partnership [X] Corporation [ ] Utility [ ] Local Agency [ ] State Agency [ ] Federal Agency			
9. Distances (feet and direction to closest): 100 Fenceline 116160 Residence 116160 Business 116160 School			
10. General Nature of Business: Public Utility		11. Principal Product: Natural Gas	
12. Facility Annual Throughput by Quarters (percent): 25 % Jan-Mar; 25 % Apr-Jun; 25 % Jul-Sep; 25 % Oct-Dec		13. Expected Operating Hours of IC Engine: 24 Hrs/Day; 7 Days/Wk; 52 Wks/Yr; 8760 Total Hrs/Yr	
14. Do you claim Confidentiality of Data (if yes, state nature of data in attachment)? [ ] Yes [ ] No			
15. Signature of Responsible Official:		Official Title: Field Operations Manager	
Typed or Printed Name of Responsible Official: Claus Langer		Phone Number: 760-243-6500	Date Signed:
- For District Use Only -			
Application Number:	*Invoice Number:*	*Permit Number:*	*Company/Facility Number:*

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
I.C.E. APPLICATION, continued

16. INFORMATION ON I.C.E.:

Manufacturer: Clark

Model No.: TLA-6 Serial No.: 7 3 6 1 8

Number of Cylinders: 6 Year of Manufacture: 1 9 5 7

Rating: 2 0 0 0 BHP Speed: 300 RPM

I.C.E. is? [ ] New [X] Existing Date Installed (MM/YYYY): 1 9 5 8

Prime [X] Standby [ ] Emergency [ ] Portable (Yes or No)?: ____

CARB engine certification: Family: N A Certification EO#: ____

Is this engine included in a Demand Response plan?: Yes [ ] No [X]

Type of Fuel(s): Natural Gas [X] Digester Gas [ ] Ethanol [ ] Landfill Gas [ ]

Propane [ ] CARB Diesel [ ] Methanol [ ] Other: ____

Max fuel usage per hour: 15.12 Fuel units (ft^3, gal, etc.): MMscf

Engine Lat/Long or UTM Coordinates: ____

Exhaust Stack Height (feet): 2 6 Inside Diameter (inches): 1 8 Y/N: Vertical? Y Capped? n o

Is this I.C.E. (select all that apply):

Direct Injected?	[ ]	After Cooled?	[ ]
Turbo Charged?	[X]	Inter Cooled?	[ ]
Timing Retarded?	[ ]	Other - Please specify:	____

17. EMISSION RATES:

Pollutant	at Max.Load	Units	Origin of Emission Rate data: Manufacturer	or Source Test
Oxides of Nitrogen (NOx)				
Oxides of Sulfur (SOx)				
Carbon Monoxide (CO)				
Particulates (PM10)				
Total Hydrocarbons (VOC)				

18. EMISSION CONTROL EQUIPMENT: Add on emission control equipment? [ ] Yes [X] No

If yes: Manufacturer: ____ Model No.: ____

Serial No.: ____ *CARB EO#: ____

Type: SCR: [ ] Particulate Trap*: [ ] Ammonia Injection: [ ] Water Injection: [ ]

Non-S CR: [ ] Exhaust Gas Recirc*: [ ] Oxidation Catalyst*: [ ]

Other - Please specify: ____

19. INFORMATION OF ITEM BEING POWERED: This I.C.E. is used to power:

Electrical Generator	[ ]	Compressor	[X]	Pump	[ ]
Paint Spray Gun	[ ]	Conveyor or Drive	[ ]	Fire Pump	[ ]

Other - Please specify: ____

Manufacturer: Ingersoll Rand

Model No.: TLA-6 Serial No.: ____

Type, Size or Rating: 2 0 0 0 B H P

THIS CHECK CONTAINS MULTIPLE FRAUD DETERRENT SECURITY FEATURES. DO NOT ACCEPT UNLESS BLUE AND GREEN ARE PRESENT.

The Gas Company

A Sempra Energy utility™

P.O. Box 30777 Los Angeles, CA 90030-0777

ACCOUNTS PAYABLE

Wachovia Bank, N.A.
Savannah, GA 31603

64-975
612

VENDOR NO	CHECK NO	DATE	AMOUNT
67408	1056342	06/09/10	*******$219.00

VOID

PAY: TWO HUNDRED NINETEEN USD

TO THE ORDER OF:
MOJAVE DESERT AIR QUALITY
MANAGEMENT DISTRICT
14306 PARK AVENUE
VICTORVILLE CA 92392-2310

VOID AFTER SIX MONTHS

THE BACK OF THIS DOCUMENT HAS A WATERMARK - HOLD AT ANGLE TO VIEW

⑈0105634 2⑈ ⑆061209756⑆ 20799004 20230⑈

The Gas Company

A Sempra Energy utility™ P.O. Box 30777 Los Angeles, CA 90030-0777

PLEASE RETAIN THIS STATEMENT FOR YOUR RECORDS

ACCOUNTS PAYABLE

NAME	Vendor No	Check No	Date	Amount
MOJAVE DESERT AIR QUALITY	67408	1056342	06/09/10	******$219.00

YOUR REFERENCE	DATE	PO	ITEM	VOUCHER	GROSS	DISCOUNT	AMOUNT PAID
APP FILING FEE	06/02/10			1900844748	219.00	0.00	219.00

From: Origin ID: EMTA (213) 244-5822
Zach Muepo
Southern California Gas Company
555 W. Fifth St.
M.L. GT16G3
Los Angeles, CA 90013

FedEx Express

J102010905250225

Ship Date: 12JUL10
ActWgt: 0.2 LB
CAD: 2378668/INET3060

Delivery Address Bar Code

SHIP TO: (760) 245-1661 X 6726 BILL SENDER
Alan De Salvio
Mojave Desert A.Q.M.D.
14306 Park Avenue

Victorville, CA 92392

Ref #
Invoice #
PO #
Dept #

TRK# 0201 7988 4037 1472

TUE - 13 JUL A2
STANDARD OVERNIGHT
ASR

92392
CA-US
ONT

WM DAGA

508G1/8807/9A24

After printing this label:
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2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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Mojave Desert AQMD
14306 Park Avenue, Victorville, CA 92392-2310 (760) 245-1661

AUTHORITY TO CONSTRUCT

B000298

If construction is not completed by the expiration date of this permit, it may be renewed for one additional year upon payment of applicable fees. Any additional extension will require the written approval of the Air Pollution Control Officer. This Authority to Construct may serve as a temporary Permit to Operate provided the APCO is given prior notice of intent to operate and the Permit to Operate is not specifically denied.

EXPIRES LAST DAY OF: OCTOBER 2011

OWNER OR OPERATOR (0031)
Southern California Gas - MDAQMD
9400 Oakdale Avenue
Chatsworth, CA 91313

EQUIPMENT LOCATION: (00068)
SCG - South Needles
on Hwy 95, 11 miles South of
Needles, CA 92363

DESCRIPTION:
SEVEN NATURAL GAS IC ENGINES, COMPRESSORS consisting of:

Seven Clark Model TLA6 2000 bhp natural gas fueled piston IC engines, driving natural gas compressors one through seven. Rating equivalent to 117.6 MMBTU/hr.

Capacity	Equipment Description
2000.0	S/N 73618, driving compressor No. 1
2000.0	S/N 73574, driving compressor No. 2
2000.0	S/N 73606, driving compressor No. 3
2000.0	S/N 73575, driving compressor No. 4
2000.0	S/N 73573, driving compressor No. 5
2000.0	S/N 73650, driving compressor No. 6
2000.0	S/N 73681, driving compressor No. 7
14000.0	

CONDITIONS:

1. The owner/operator (o/o) shall operate this equipment in strict accord with the manufacturer's specification and/or sound engineering principles.
2. The o/o shall maintain a record of repairs and maintenance on this equipment and submit it to the MDAQMD on request. The record shall be retained for a minimum period of two years.
3. CONDITIONS 4 THROUGH 10 APPLY ONLY TO ENGINE SERIAL NUMBER 73618 AS PART OF AN EFFORT TO ASSESS EMISSION REDUCTION ENGINE MODIFICATIONS

Fee Schedule: 1(d) Rating: 14000.0 SIC: 4922 SCC: 20200202 Location/UTM(Km): 718E/3858N

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

Southern California Gas - MDAQMD
PO Box 2300 /Norma Cobb SC 9314
Chatsworth, CA 91313-2300

BY: Copy
Eldon Heaston
Air Pollution Control Officer

DATE: 10/13/2010

SCG Doc#260314 DRH-6-N

CONDITIONS continued:

4. A detailed record of the engine modifications conducted shall be maintained; including engine model and serial number, modifications description, manufacturer data, and any other pertinent information that will ensure subsequent modifications can be accurately described and replicated.

5. The o/o shall conduct baseline source test for NOx, VOC, and CO before the installation of the Precombustion Chambers (PCCs) pursuant to test protocol dated September 10, 2010.

6. Not later than 90 days after the emission modifications have been completed, the o/o shall perform subsequent source testing on the modified engine pursuant to test protocol dated September 10, 2010. These test results are anticipated to be used to determine emission concentrations for expected rule changes to MDAQMD Rule 1160.

7. Tests shall be conducted in accordance with the following test methods:
   a) Flow rate in accordance with EPA Method 19; no current limit exists
   b) Fuel analysis in accordance with ASTM D3588; limit no applicable
   c) O2, and CO2 in accordance with EPA Method 3A
   d) *NOx, per USEPA Methods 7E; shall not exceed 1500 ppm as tested
   e) *CO, as tested per USEPA Method 10; shall not exceed 2000 ppm
   f) VOC, shall be tested per EPA Method 18/GC-FID Analyses; no current limit exists

   * Quantities shall be corrected to 15% oxygen.

8. If the modified engine is found to exceed 1500 PPM NOx @ 15% O2 or 2000 PPM CO @ 15%, then the Operator shall be given 15 calendar days to correct the problem while continuing to operate that engine. If the problem cannot be corrected within 15 days, then that engine must be shut down and kept out of operation until such time as it can be repaired and its compliance with either the NOx limit or CO limit is confirmed by a either an emissions analysis or a certified source test.

9. Source test results and emission analyses performed by the o/o shall be used only for the evaluation of the PCC equipment, or for rule-making purposes, and not be used for enforcement or compliance purposes.

10. The o/o shall notify the MDAQMD at the conclusion of the engine modification and source test plan, as to whether the facility will remove the PCC or maintain the PCC permanently.

Appendix O – MDAQMD Rule 1160 Project Summary

Southern California Gas Company
North Needles Transmission MDAQMD Rule 1160 Pilot Project

The year-to-date 2011 spending on the North Needles Mojave Desert Air Quality Management District (MDAQMD) Rule 1160 pilot project is a follows:

SUMMARY:

Company Labor: $ 174,545.96
Contract: $ 53,027.86
Material: $ 337,414.06
Other: $ 26,025.17

TOTAL: $ 591,012.95

- Company Labor: The bulk of the company labor was for installing the pre-combustion chambers, the associated cooling water system, and troubleshooting the pre-combustion chamber fuel control valve system after startup and commissioning. These charges reflect the numerous short notice callouts associated with the frequent engine shutdowns and the extensive labor involved in providing technical assistance to manufacturer in solving the issues with the pre-combustions chamber system. Other labor charges include assisting in the pre and post source testing and administrative costs in managing the project.

- Contract Expenses: The contract expenses were for engineering, installation, start up and commissioning of the system by Hoerbiger International.

- Materials: The material purchased year-to-date in 2011 for Unit 1 consists of the following:

	Item	Quantity
1.	Pre-Combustion Chambers	(34)
2.	Hoerbiger pre-combustion chambers	(34)
3.	Solenoid Driver with Controller	(1)
4.	Special spark plug boots	(32)
5.	Circulating Pumps	(2)
6.	Pipe, Fittings, Valves, Braided Hoses, Misc hardware	(Assorted)
7.	Pressure switches, Sight Glasses & Temperature devices	(2 of each)

- Other Charges: The other direct charges include lead-based paint removal and lab analysis of the building before starting construction, permit fees and electrical conduit installation.