

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ENGINEERING AND COMPLIANCE DIVISION PERMIT APPLICATION EVALUATION AND CALCULATIONS	PAGES 15	PAGE 1
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Permit to Construct (Alteration/modification)

Applicant's Name Eastern Municipal Water District (EMWD)
Temecula Valley Regional Water Reclamation Facility (TVRWRF)

Mailing Address 2270 Trumble Road
Perris, CA 92572-8300

Equipment Location 42565 Avenida Alvarado
Temecula, CA 92590

Equipment Description
APPLICATION 534092, FACILITY ID 001703
ALTERATION OF:

INTERNAL COMBUSTION ENGINE, CATERPILLAR, MODEL NO. G3512 SITA SCAC, TURBOCHARGED, AFTERCOOLED, 814 BHP, RICH-BURN, NATURAL GAS FIRED, WITH A DCL CATALYST, MODEL NO. DLC 2-DC74-10, AND AN AIR/FUEL RATIO CONTROLLER, ALTRONIC EPC-100E, DRIVING A WATER PUMP.

BY ADDITION OF:

SPARK IGNITION
12 CYLINDERS
MIRATECH NON-SELECTIVE CATALYTIC CONVERTER, MODEL SP-IQ2SX3-26-10-EC2

BY REMOVAL OF:

DCL CATALYST, MODEL NO. DLC 2-DC74-10

Background/Process Description

The above application for alteration/modifications to an internal combustion engine (ICE) to replace the catalytic converter was submitted on March 6, 2012. The ICE is a non-emergency natural gas fired engine currently permitted under A/N 486643, Permit G11846. The engine is used to drive a water pump (no. 5) at the Eastern Municipal Water District sewage treatment plant located at the Temecula Valley Regional Water Reclamation Facility (TVRWRF). The catalytic converter on the engine is to be replaced to meet the emission standards pursuant to Rule 1110.2. There will be no increase in emissions. The operating schedule is 24 hours/day, 7 days/week, 52 weeks/year.

The facility is a municipal water district which accepts and treats municipal sewage at Eastern Municipal Water District Temecula Valley Regional Water Reclamation Facility (EMWD-TVRWRF). There is no school within 1000 feet of any of the emission source(s). In the last two years no Notices to Comply, Notices of Violation, or complaints were issued to the above facility.

Emission Calculations

Bold emissions are to be used for NSR purposes.

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Engine Specifications

Displacement (per applicant): 51.8L or 4.317L/cylinder
 Model year (built per applicant): 1994 (this engine has an application history since 2000)
 Maximum NG consumption (based on 11/23/2010 source test): 103.33 scfm = 6,199.8 scfh
 Maximum NG consumption (per Miratech): 7852 BTU/bhp-hr x 814 BHP / 1050BTU/scf = 6,087 scfh
 Heat Rate (based on 11/23/2010 source test): 6.51 mmBtu/hr
 Heat rate (per Miratech): 7852 BTU/bhp-hr x 814 BHP = 6.39 mmBtu/hr
 Exhaust flow rate (based on 11/23/2010 source test): 985 dscfm
 Maximum exhaust flow rate (per Miratech): 72,784.6 scfh = 1,213.1 ~ 1,213 scfm
 $(v_s/T_s) \times T_a = v_a$
 $1,213 \text{scfm} \times (460 + 947)^\circ\text{R} / (460 + 60)^\circ\text{R} = 3282 \text{acfm}$
 Oxygen (based on 11/23/2010 source test): 0.19%

CO emissions

Source Test (11/23/2010) maximum emission (Engine no. 151): 0.43 lbs/hr

Previously permitted emission limit (BACT): 86 ppmv @ 15% O2, dry basis
 $86 \text{ ppmv @ 15\% O}_2, \text{ dry basis} \times (20.9 - 0.19) / (20.9 - 15) = 301.87 \text{ ppmv}$
 $R2 = 301.87 \text{ ppmv} \times 1,213 \text{ dscfm} \times 60 \text{ min/hr} \times \text{lb-mole} / 379 \times 10^6 \text{ ft}^3 \times 28 \text{ lbs/lb-mole}$
 $= 1.62 \text{ lb/hr} \qquad \qquad \qquad = 39.42 \text{ lbs/day (NSR)}$

A/N 486643 NSR emission, BACT emission:
 $R2 = 0.60 \text{ grams/bhp-hr} \times 814 \text{ bhp} \times 1/453.6 \text{ grams} = 1.08 \text{ lbs/hr} \qquad \qquad \qquad = 26 \text{ lbs/day (NSR)}$

Rule 1110.2 requirement: 250 ppmvd CO @ 15% O2:
 $2000 \text{ ppmvd CO @ 15\% O}_2 \times (20.9 - 0.19) / (20.9 - 15) = 7020 \text{ ppmvd}$
 $R2 = 7020 \text{ ppmvd} \times 1,213 \text{ dscfm} \times 60 \text{ min/hr} \times \text{lb-mole} / 379 \times 10^6 \text{ ft}^3 \times 28 \text{ lbs/lb-mole}$
 $= 37.75 \text{ lbs/hr} \qquad \qquad \qquad = 918.58 \text{ lbs/day (NSR)}$

Rule 1303 Modeling Requirement ($> 5 < 10 \text{MMBtu/hr}$), CO: 25.9 lbs/hr $> 1.08 \text{ lbs/hr}$

NOx emissions

Source Test (11/23/2010) maximum emission (Engine no. 151): 0.22 lbs/hr

Previously permitted emission (BACT): 11 ppmv @ 15% O2, dry basis
 $11 \text{ ppmvd CO @ 15\% O}_2 \times (20.9 - 0.19) / (20.9 - 15) = 39 \text{ ppmvd}$
 $R2 = 39 \text{ ppmvd} \times 1,213 \text{ dscfm} \times 60 \text{ min/hr} \times \text{lb-mole} / 379 \times 10^6 \text{ ft}^3 \times 46 \text{ lbs/lb-mole}$
 $= 0.34 \text{ lbs/hr} \qquad \qquad \qquad = 8.27 \text{ lbs/day (NSR)}$

A/N 486643 NSR emission, BACT emission:
 $R2 = 0.15 \text{ g/bhp-hr} \times 814 \text{ bhp} \times 1/453.6 \text{ g} = 0.27 \text{ lbs/hr} \qquad \qquad \qquad = 7 \text{ lbs/day (NSR)}$

Rule 1110.2 requirement: 36 ppmvd NOx @ 15% O2:
 $36 \text{ ppmv @ 15\% O}_2, \text{ dry basis} \times (20.9 - 0.19) / (20.9 - 15) = 126 \text{ ppmv}$
 $R2 = 126 \text{ ppmv} \times 1,213 \text{ dscfm} \times 60 \text{ min/hr} \times \text{lb-mole} / 379 \times 10^6 \text{ ft}^3 \times 46 \text{ lbs/lb-mole}$
 $= 1.11 \text{ lb/hr} \qquad \qquad \qquad = 27.01 \text{ lbs/day (NSR)}$

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Rule 1303 Modeling requirement ($> 5 < 10$ MMBtu/hr), NOx: 0.47 lbs/hr > 0.27 lbs/hr

ROG emissions

Source Test (11/23/2010) maximum emission (Engine no. 151): 0.03 lbs/hr

Previously permitted emission (BACT): 37 ppmv @ 15% O₂, dry basis

37 ppmvd ROG @ 15% O₂ x (20.9 - 0.19)/(20.9 - 15) = 130 ppmvd

R2 = 130 ppmvd(as carbon) x 1,213 dscfm x 60 min/hr x lb-mole/379x10⁶ ft³ x 16 lbs/lb-mole
= 0.40 lbs/hr = 5.84 lbs/day (NSR)

A/N 486643 NSR emission, BACT emission:

R2 = 0.15 g/bhp-hr x 814 bhp x 1lb/453.6g = 0.27 lbs/hr = 7 lbs/day (NSR)

Rule 1110.2 requirement: 250 ppmvd NOx @ 15% O₂:

250 ppmv @ 15% O₂, dry basis x (20.9-0.19)/(20.9-15) = 878 ppmv

R2 = 878 ppmv x 1,213 dscfm x 60 min/hr x lb-mole/379x10⁶ ft³ x 16 lbs/lb-mole
= 2.70 lb/hr = 65.70 lbs/day (NSR)

PM10 emissions

A/N 486643 NSR emission: = 0.11 lbs/hr = 3 lbs/day (NSR)

LAER/BACT: Clean Fuels Policy (NG & LPG are clean fuels)

10.00 lb/MMscf* x MMscf/1E6scf x 6,199.8 x 0.994PM10/PM**
= 0.06 lbs/hr = 1.46 lbs/day (NSR)

*Based on SCAQMD AER Emission Factors (PM) for Natural Gas, 4-stroke, rich burn ICE.

**Weight fraction for particulate matter for stationary ICE-gas

0.0095 lb/MMBtu^ x 1MMBtu/1E6Btu x 1050Btu/scf x 6,199.8 scfh
= 0.06 lbs/hr = 1.46 lbs/day (NSR)

^Based on EPA AP-42, July 2000 Uncontrolled Emission Factors (PM10) for 4-Stroke Rich-Burn Engines (assuming sulfur content in NG is 2,000 gr/1E6scf).

Rule 404 requirement: Exhaust flow rate: 1,213 dscfm, 0.174 grains/dscf

0.174 grains/dscf x 1,213 dscfm x 60min/hr x 1lb/7000grains = 1.81 lbs/hr > 0.06 lbs/hr

Rule 1303 Modeling requirement ($> 5 < 10$ MMBtu/hr), PM10: 2.8 lbs/hr > 0.06 lbs/hr

SOx emissions

A/N 486643 NSR emission: = 0.01 lbs/hr = 0 lbs/day (NSR)

LAER/BACT: Clean Fuels Policy (NG & LPG are clean fuels)

0.60 lb/MMscf* x MMscf/1E6scf x 6,199.8 scfh = 0.00 lbs/hr = 0.00 lbs/day (NSR)

*Based on SCAQMD AER Emission Factors (SO₂) for Natural Gas, 4-stroke, rich burn ICE.

0.000588 lb/MMBtu^ x 1MMBtu/1E6Btu x 1050Btu/scf x 6,199.8scfh

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= 0.00 lbs/hr = 0.00 lbs/day (NSR)

^Based on EPA AP-42, July 2000 Uncontrolled Emission Factors (SO₂) for 4-Stroke Rich-Burn Engines (assuming sulfur content in NG is 2,000 gr/1E6scf).

BACT requirement: Rule 431.1 compliance: 1) Natural gas ≤ 16 ppmv, 2) Facility wide emission < 5 lbs/day

- 1) 16 ppmv x 1,213 dscfm x 60 min/hr x lb-moleH₂S/379x10⁶ ft³ x lbmoleSO₂/lbmoleH₂S x 64.07 lbsH₂S/lbmole SO₂ = 0.20 lbs/hr SO_x (as SO₂)
- 2) 5 lbs/day H₂S x lb-mole/34.08 lbsH₂S x 64.07 lbsSO_x/lb-mole = 9.40 lbs/day SO_x (as SO₂)
= 0.39 lbs/hr SO_x (as SO₂)

Annual Emissions (AER 2011) SO_x emission: 0.213 tons/yr
0.213 tons/yr x 2000lbs/ton x 1yr/365days = 1.167 lbs/day SO_x
= 0.049 lbs/hr SO_x

Toxic Risk Analysis

Nearest Residential Receptor Distance: 3280 ft. (1,000 m)
Nearest Commercial Receptor Distance: 82 ft. (25 m)
Stack height: 15 ft. (4.6 m)
Stack inner diameter: 10 in. (0.25 m)
Rain cap: No
Exhaust flow rate: 3,378 acfm (per Form 400-PS)
Exhaust stack temperature: 947 F
Building height: 22 ft. (6.71 m)
Building dimensions 34 ft. (10.4 m) x 39 ft. (11.9 m), 1,326 sq.ft.

Compound	MW (lbs/lbmole)	Outlet emission (lb/hr)
Acetaldehyde	44.06	4.02E-4
Acrolein	56.06	3.79 E-4
Benzene	78.11	2.28E-4
1,3-Butadiene	54.09	9.56E-5
Carbon tetrachloride	153.24	2.55E-6
Chlorobenzene	112.56	1.86E-6
Chloroform	119.38	1.98E-6
1,1-Dichloroethane	98.96	1.63E-6
Ethyl benzene	106.16	3.58E-6
Ethylene dibromide	187.88	3.07E-6
Ethylene dichloride	98.96	1.63E-6
Formaldehyde	30.03	2.96E-3
Methanol	32.04	4.41E-4
Methylene chloride ¹	84.94	5.94E-6
PolyCyclic Aromatic Hydrocarbon (PAHs)	252.3	6.33E-6
Naphthalene	128.17	1.40E-5
Styrene	104.16	1.72E-6
1,1,2,2-Tetrachloroethane	167.86	3.65E-6

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Toluene	92.13	8.05E-5
1,1,2-Trichloroethane	133.42	2.21E-6
Vinyl chloride	62.5	1.04E-6
Xylenes	106.2	2.81E-5

The emission rates for the toxic air contaminants (TACs) are based on Emission Factors for the Rich Burn Engine Data used in Rule 1401 calculation spreadsheet.

¹ Exempt compounds that are not considered as VOCs by Rule 102.

Tier II analysis was used since the receptor distance is greater than 25 m and the exhaust stack does not have a rain cap. Tier II risk analysis was based on the emission rates listed in the above table. The MICR values are determined to be 5.33×10^{-8} for residential and 2.28×10^{-7} for commercial receptors. HIA and HIC were less than 1. Cancer Burden was less than 0.5.

Rules Evaluation

- Rule 212: Rule 212 (c)(1)- There is no school within 1000 feet of the facility.
Rule 212 (c)(2)- On-site emission increases does not exceed the following:
- | | |
|----------------------------|-------------|
| Volatile Organic Compounds | 30 lbs/day |
| Nitrogen Oxides | 40 lbs/day |
| PM10 | 30 lbs/day |
| Sulfur Dioxide | 60 lbs/day |
| Carbon Monoxide | 220 lbs/day |
| Lead | 3 lbs/day |
- Rule 212(c)(3)(A)(i)- MICR is below 1 in a million.
Public Notice is not required.
- Rule 401: Visible Emissions
No violations are expected, limits are listed under Rule 401(b)(1).
- Rule 402: Nuisance
Nuisance is not expected with proper operation, monitoring and maintenance. Based on previous operation of the facility for the last two years, compliance is expected.
- Rule 404: Particulate Matter
No violations are expected limits are listed under Rule 404 Table 404(a).
- Rule 407: Liquid and Gaseous Air Contaminants
Rule 407 (b)- Provisions of this rule shall not apply to emissions from stationary ICEs.
- Rule 409: Combustion Contaminants
Provisions of this rule shall not apply to emissions from ICEs.
- Rule 431.1: Sulfur Content of Gaseous Fuels
Rule 431.1(c)(1)- Natural gas contains ≤ 16 ppmv sulfur compounds as H₂S.
Compliance is expected.

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Rule 53A: Riverside County – Specific Contaminants (Contained in Addendum to Reg IV)
 Rule 53(a)- Sulfur compound emission limit, as SO₂ 50,000 ppmv. Compliance can be expected based on other similar category ICE permits issued in SCAQMD.
 Rule 53(b)- Fluorine compounds to be controlled to the maximum degree technically feasible. No fluorine potential emission from this equipment. Compliance is expected.

NSPS: Standards of Performance for New Stationary Sources
 Part 60, Chapter I, Title 40 of Code of Federal Regulations, Subpart JJJJ Standards of Performance for Stationary Spark Ignition Internal Combustion Engines
 60.4230-Applicability: not applicable.
 60.4230(a)- Construction for these ICEs did not commence nor was the ICE modified or reconstructed after June 12, 2006. Installed: 7/5/02, start-up: 9/26/2002.
 60.4230(b)-These ICEs is not being tested at an engine test cell/stand.
 60.4230(f)- These ICEs is not a temporary unit.

NESHAPs: Part 63, Chapter I, Title 40 of Code of Federal Regulations, Subpart ZZZZ- National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
 63.6585- Applicability: Applicable. Engines are stationary RICE at an area source of HAP emissions.
 63.6590(a)- An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source or HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.
 63.6590(a)(1)(iii)- Existing stationary RICE: stationary RICE located at an area source of HAP emissions if commenced construction or reconstruction before June 12, 2006. Installed: 7/5/02, start-up: 9/26/2002.
 Previous A/N 373968 was to install the engine; the PC was issued 9/26/2000. A/N 454578 was to allow operation with different AFRC, since the engine failed to meet emission limits under A/N 373968 with the then installed; the PC was issued 4/14/2006. Therefore these engines do not meet the definition of reconstruction see below.
 Note Part 63 CFR 40 Subpart A: Reconstruction means the replacement of components of an affected or a previously nonaffected source to such an extent that:
 1) The fixed capital cost of the new components exceeds 50% of the fixed capital cost that would be required to construct a comparable new source, and
 2) It is technologically and economically feasible for the reconstructed source to meet the relevant standards established by the Administrator pursuant to section 112 of the Act. Upon reconstruction, an affected source, or a stationary source that becomes an affected source, is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source.
 63.6595(a)(1)- Existing stationary SI RICE located at an area source of HAP shall comply with the applicable emission limitations and operating limitations no later than October 19, 2013.
 63.6595(c)- Must meet applicable notification requirements in 63.6645 and in 40CFR63, subpart A.

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63.6603(a)- Existing stationary RICE at an area source of HAP, must comply with requirements in Table 2d to this subpart and operating limitations in Table 2b to this subpart which apply to you.

Table 2d Requirements for existing RICE located at Area Sources of HAP Emissions (10) Non-emergency, non-black start 4SRB stationary RICE >500 HP:

(a)- Limit concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd at 15%O₂; or

(b)- Reduce formaldehyde emissions by 76% or more.

Table 2b- There are no operating limitations for these engines.

63.6612(a)- Existing stationary RICE located at area source of HAP must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply within 180 days after the compliance date (October 19, 2013) that is specified for your stationary RICE in 63.6595 and according to 63.7(a)(2).

Table 4: Requirements for Performance Tests

(2)(a)- 4SRB stationary RICE: Reduce formaldehyde emissions

(3)(a)- Stationary RICE: Limit the concentration of formaldehyde or CO in the stationary RICE exhaust.

Table 5- Initial Compliance With Emission Limitations and Operating Limitations

(4)(a)- Existing non-emergency 4SRB stationary RICE > 500 HP located at an area source of HAP that operates more than 24 hours per calendar year: Reduce formaldehyde emission using NSCR.

(6)(a)- Existing non-emergency 4SRB stationary RICE > 500HP: Limit concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR.

63.6615- Conduct subsequent performance tests as specified in Table 3.

Table 3- Existing non-emergency, non-black start 4SRB stationary RICE at an area source of HAP >500 HP that operate more than 24 hours and are not limited use RICE:

(4)- Limit or reduce CO or formaldehyde emission. Conduct subsequent tests every 8,760 hours or 3 years, whichever comes first.

63.6620(d)- Conduct three separate test runs for each performance test required in this section, as specified in 63.7(e)(3). Each test run must last at least 1 hour.

63.6620(i)- The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The written report must include: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.

63.6625(h)- Minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine,

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- not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d. (see Table 2d requirements above)
- 63.6625(k)(1)- Locate temperature sensor that provides representative temperature.
- 63.6625(k)(2)- Temperature sensor minimum tolerance 5 F or 1.0% of temperature value, whichever is larger for noncryogenic temperatures.
- 63.6625(k)(3)- Temperature sensor minimum tolerance 5 F or 2.8% of temperature value, whichever is larger for cryogenic temperatures.
- 63.6625(k)(4)- Temperature measurement device calibration at least every 3 months.
- 63.6630(a)- Demonstrate initial compliance with each emission and operating limitation that applies according to Table 5.
- 63.6630(b)- During initial performance test, establish each operating limitation in Tables 1b & 2b that apply.

Table 1b Operating Limitations for 4SRB stationary RICE

(1) complying w/ reduction of formaldehyde by 76% or more(or by 75% or more, if applicable) and using NSCR; or complying w/ concentration limit of formaldehyde in exhaust to 350 ppbvd or less at 15%O2 using NSCR; or concentration limit of formaldehyde in exhaust to 2.7 ppmvd or less @15%O2 using NSCR:

(a)- maintain catalyst pressure drop so it does not change by more than 2 in. W.C. @100% load +/- 10% from the pressure drop across the catalyst during the initial performance test; and

(b)- maintain temperature of exhaust so the catalyst inlet temperature ≥ 750 F, ≤ 1250 F.

63.6630(c)- Submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in 63.6645.

63.6640(a)- Demonstrate continuous compliance with each emission limitation and operating limitation in Tables 1a, 1b, 2a, 2b, 2c, and 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.

Table 6: Continuous Compliance with Emission Limitations, Operating Limitations, Work Practices, and Management Practices

(10) Existing 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year and aren't limited use:

(a)- Reduce CO or formaldehyde emissions, or limit the concentration of formaldehyde or CO in exhaust using oxidation catalyst or NSCR.

(i)-Performance test every 8,760 hours or 3 years, whichever occurs first, to demonstrate CO or formaldehyde % reduction is achieved or the emissions are below limit; and

(ii)- Collect catalyst inlet temperature data (63.6625(b)); and

(iii)- Reducing these data to 4-hr rolling averages; and

(iv)- Maintaining 4-hr rolling averages within operating limitations for catalyst inlet temperature; and

(v)- Measure pressure drop across the catalyst once per month and demonstrating the pressure drop is operating within limitation during performance test.

63.6640(b)- Report each instance which did not meet each emission limitation or operating limitation in Tables 1a, 1b, 2a, 2b, 2c, and 2d to this subpart that apply. These deviations must be reported per 63.6650. If the catalyst is changed, must reestablish the

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values of the operating parameters measured during the initial performance test. When the values of operating parameters are reestablished, must conduct a performance test to demonstrate the required emission limitations are met.

63.6640(e)- Report each instance which did not meet the requirements in Table 8 to this subpart that apply. (see Table 8)

63.6645(a)- Existing stationary RICE located at an area source of HAP emissions, must submit all of the notifications in 63.7(b) & (c), 63.8(e), (f)(4) & (f)(6), 63.9(b) through (e) & (g) & (h) that apply by the dates specified.

63.7(b)(1)- Written notification of source test shall be submitted at least 60 days before the test to approve the test plan and have an observer present.

63.7(b)(2)- If the performance test will not occur as indicated in the notification, the owner or operator shall notify the Administrator as soon as possible and indicate the rescheduled date.

63.7(c)(1)- Results of the QA program will be used to determine validity of the performance test.

63.7(c)(2)(i)- Owner or operator shall submit a test plan for approval, including a test program summary, test schedule, data quality objectives, and both internal and external QA program.

63.7(c)(2)(ii)- Internal QA program shall include, activities planned by routine operators and analysts to provide an assessment of test data precision.

63.7(c)(2)(iii)- Test shall include a test method performance audit (PA) during the test. PAs consist of blind audit samples supplied by an accredited audit sample provider and analyzed during the test for a measure of test data bias.

63.7(c)(3)- The Administrator will notify owner or operator of approval or intention to deny the test plan within 30 days after receipt of the plan and within 30 days after any supplemental information is submitted.

63.8(e)(2)- Owner or operator shall notify the Administrator in writing of the date of the performance evaluation simultaneously with the notification of the performance test date required under 63.7(b) or at least 60 days prior to the date the performance evaluation is scheduled to begin if no performance test is required.

63.8(e)(3)(i-iii)- Submit a performance evaluation test plan at least 60 days before the test to the Administrator for approval including program objectives, summary, schedule, data quality objectives- pre-evaluation expectations of precision, accuracy, and completeness of data, internal and external QA program- activities planned by routine operators and analysts to provide an assessment of performance and systems audits including opportunity for on-site evaluation by the Administrator of instrument calibration, data validation, sample logging, and documentation of quality control data and field maintenance activities.

63.8(e)(4)- Conduct a performance evaluation of a required CMS during any performance test required under 63.7 according to relevant standard.

63.8(e)(5)- A copy of the written report of the results of the performance evaluation and test as required under 63.7 or within 60 days of completion of the evaluation if no test is required, unless specified in relevant standard.

63.8(f)(4)- If owner or operator want to use an alternative monitoring procedure, must submit an application to the Administrator containing a description of the

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alternative monitoring system which addresses indicators of performance, measurement techniques, monitoring frequency and averaging time (63.2-monitoring) a performance evaluation test plan, and information justifying the request at least 60 days before the performance evaluation is scheduled to begin. Minor changes may be made in the site-specific performance evaluation plan.

63.8(f)(6)- Alternative to the relative accuracy test for CEMS may be requested for affected sources with emission rates less than 50% of the relevant standard. May petition the Administrator to substitute the relative accuracy test in section 7 of Performance Specification 2 with section 10 if emissions are less than 50% of relevant standard. Petition shall include detailed description of procedures, location and procedure for conducting the alternative, concentration or response levels or the alternative materials and other equipment checks included in the alternative. Administrator may rescind approval of alternative if the CEMS data shows that emissions have exceeded 70% of relevant standard. Owner or operator shall notify Administrator within 10 days of such occurrence.

63.9(b)(2)- An affected source with an initial startup before the effective date of a relevant standard shall notify the Administrator in writing that the source is subject to a relevant standard. Notification shall be submitted not later than 120 calendar days after the effective date of the relative standard or after the source becomes subject to the relevant standard.

63.9(c)- If owner or operator cannot comply with a relevant standard by the applicable compliance dates for that source, they may submit to Administrator or the State w/ an approved permit program a request for an extension of compliance (see 63.6(i)(4) through (6)).

63.9(h)(2)(i)- When an affected source become subject to a relevant standard the notification shall list:

- (A)- Methods used to determine compliance
- (B)- Results of performance tests, opacity, visible emission observations, CMS performance evaluations, and/or other monitoring procedures or methods that were conducted.
- (C)- Methods used to determine continuing compliance, description of monitoring and reporting requirements and test methods.
- (D)- Type and quantity of HAPs by the source, in units and averaging times per test methods indicated.
- (F)- Description of APC equipment for each emission point for HAP and control efficiency per control device.
- (G)- Statement by the owner or operator of the source whether the source has complied with the relevant standard or other requirements.

63.9(h)(2)(ii)- The notification must be sent before the close of business on the 60th day following the completion of the relevant compliance demonstration activity specified in the relevant standard (unless a different reporting period is specified in the standard, in which case the letter must be sent before the close of business on the day the report of the relevant testing or monitoring results is required to be delivered or postmarked). For example, the notification shall be sent before close of business on the 60th (or other required) day following completion of the initial performance test and again before the close of business

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on the 60th (or other required) day following the completion of any subsequent required performance test. Notifications may be combined as long as the due date requirement for each notification is met.

63.9(h)(3)- After Title V permit has been issued, shall comply with all requirements for compliance status reports. Each time a notification of compliance status is required under this part, shall submit it to permitting authority after completion of compliance demonstration activity in the relevant standard.

63.6645(g)- If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in 63.7(b)(1).

63.6645(h)- If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to 63.9(h)(2)(ii), see above.

63.6645(h)(1)- For each initial compliance demonstration required in Table 5 that does not include a performance test, must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.

63.6645(h)(2)- For each initial compliance demonstration required in Table 5 that includes a performance test conducted according to the requirements in Table 3, must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to 63.10(d)(2).

63.6650(a)- Submit each report in Table 7 of this subpart that applies to you.

Table 7: Requirements for Reports

(1)- Existing non-emergency, non-black start 4SRB stationary RICE > 500 HP located at an area source of HAP and operated more than 24 hours per calendar year: Submit a compliance report

(a)- Statement that no deviations from emission limitations or operating limitations during the reporting period. Statement there were no periods which a CMS was out of control (63.8(c)(7)) during the reporting period.

(i)- Submit the report semiannually per 63.6650(b)(1)-(5) for not limited use RICE w/ numerical emission limitations;

(b)- Information in 63.6650(d) if had a deviation from emission limitations or operating limitations during the reporting period. Information in 63.6650(e) if a CMS was out of control during the reporting period.

(i)- Submit the report semiannually per 63.6650(b).

(c)- Information in 63.6650(c)(4) if there was a malfunction during the reporting period.

(i)- Submit the report semiannually per 63.6650(b).

63.6650(b)(1)- For semiannual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified in 63.6595 and ending on June 30 or December 31, whichever is the first date following the end of the first calendar half after the compliance date that is specified in 63.6595.

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63.6650(b)(2)- For semiannual Compliance reports, the first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified in 63.6595.

63.6650(b)(3)- For semiannual Compliance reports, each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

63.6650(b)(4)- For semiannual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

63.6650(b)(5)- For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (b)(4) of this section.

63.6650(c)- Compliance reports shall contain:

63.6650(c)(1)- Company name and address.

63.6650(c)(2)- Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

63.6650(c)(3)- Date of report and beginning and ending dates of the reporting period.

63.6650(c)(4)- If there was a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with 63.6605(b), including actions taken to correct a malfunction.

63.6650(c)(5)- If there are no deviations from any emission or operating limitations, a statement that there were no deviations from the emission or operating limitations during the reporting period.

63.6650(d)- For each deviation for a RICE not using a CMS, the Compliance report must contain the information in (c)(1)-(4) and (d)(1)-(2)

63.6650(f)- Each affected source that has obtained a Title V operating permit must report all deviations in the semiannual monitoring report.

63.6655(a)(1)- Keep a copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in §63.10(b)(2)(xiv).

63.6655(a)(2)- Keep records of the occurrence and duration of each malfunction of operation (*i.e.*, process equipment) or the air pollution control and monitoring equipment.

63.6655(a)(3)- Keep records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

63.6655(a)(4)- Keep records of all required maintenance performed on the air pollution control and monitoring equipment.

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63.6655(a)(5)- Keep records of actions taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

63.6655(d)- Keep records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

63.6655(e)(3)-You must keep records of the maintenance conducted on the existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device according to your own maintenance plan.

63.6660(a)- Your records must be in a form suitable and readily available for expeditious review according to 63.10(b)(1).

63.6660(b)- Keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report or record.

63.6660(c)- Keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of the occurrence, measurement, maintenance, corrective action, report, or record.

Compliance with this Regulation is expected.

Rule 1110.2: Emissions From Gaseous and Liquid-Fueled Engines

Rule 1110.2(d)(1)(B)- Stationary engines shall not exceed concentration limits: NOx 11 ppmvd 15% O2, VOC 30 ppmvd 15% O2, CO 250 ppmvd 15% O2.

Rule 1110.2(d)(1)(E)-Engine without Rule 218 approved CEMS shall equip and maintain engine w/ air-to-fuel ratio controller with an oxygen sensor and feedback control, or equivalent technology approved by the Executive Officer, CARB and EPA. AFRC is equipped on the engines.

Rule 1110.2(e)(3)- Stationary Engine CEMS

Rule 1110.2(e)(3)(B)- CEMS is not required, see Rule 1110.2(f)(1)(A)(ii)(VI).

Rule 1110.2(e)(4)- Stationary Engine Inspection and Monitoring (I&M) Plans: I&M plan application has been submitted. Determination has not yet been made for this application.

Rule 1110.2(f)(1)(A)(ii)(I)- CEMS is not required for these engines pursuant to Rule 1110.2(f)(1)(A)(ii)(VI). EMWD conducts weekly emission checks for NOx and CO.

Rule 1110.2(f)(1)(B)- Maintain operational non-resettable totalizing time meter to determine engine elapsed operating time.

Rule 1110.2(f)(1)(C)(i)-Effective August 1, 2008 shall conduct source test for NOx, VOC as carbon, and CO (ppmvd, 15% O2) every two years. Or every three years if engine operated less than 2000 hours since last test. If engine has not operated within 3 months of required source test date, source test shall be conducted when operation resumes for 7 consecutive days or 15 cumulative days.

Rule 1110.2(f)(1)(C)(ii)- Conduct source test for at least 30 minutes normal operation.

Rule 1110.2(f)(1)(C)(iii)- Use a LAP approved contractor to conduct source testing.

Rule 1110.2(f)(1)(C)(iv)- Source test protocol shall be submitted at least 60 days before scheduled date of the test.

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Rule 1110.2(f)(1)(C)(v)- Provide at least 30 days prior notice of source test to have an observer present. Notify Executive Officer asap of any delay in test date and provide 7 days notice to rescheduled date.

Rule 1110.2(f)(1)(C)(vi)- Submit all source test reports within 60 days of completion of tests.

Rule 1110.2(f)(1)(C)(vii)- Provide (I) Sample ports, stack/duct, (II) Sampling platforms, scaffolding, mechanical lifts, and (III) Utilities for sampling and testing equipment.

Rule 1110.2(f)(1)(D)-I&M Plan application has been submitted. Determination has not yet been made for this application.

Rule 1110.2(f)(1)(D)(ix)- Before any change in I&M plan operations can be implemented, the revised I&M plan shall be submitted to and approved by the Executive Officer. The operator shall apply for a plan revision prior to any change in emission limits or control equipment.

Rule 1110.2(f)(1)(E)- Maintain a monthly engine operating log that includes: (i) Total hours of operation, (ii) Types of liquid and/or type of gaseous fuel, (iii) fuel consumption (cubic feet of gas and gallons of liquid), and (iv) Cumulative hours of operation since the last source test required in (f)(1)(C).

Rule 1147 NOx Reductions From Miscellaneous Sources

Rule 1147(a)- Applicability: not applicable to internal combustion engines subject to District Rule 1110.2.

Reg XIII: Rule 1303(a)- There is no increase of emissions, BACT is not required. BACT from previous applications is already equipped, if it were not equipped, BACT would apply. BACT from previous applications: CO: 0.6 g/bhp-hr, NOx: 0.15 g/bhp-hr, VOC: 0.15 g/bhp-hr.

Rule 1303(b)(1)- Modeling for VOC and SOx is not required (1303 Appendix A). NOx, CO and PM10 are less than the allowable emissions in Table A-1, no further analysis is required (1301 Appendix A).

Rule 1303(b)(2)- There is no increase of emissions for these engines. Although, since the facility is an essential public service, any required offsets shall be provided through priority reserve.

Compliance with Regulation XIII is expected.

Rule 1401: Toxic Air Contaminants

Rule 1401(d)(1)(A)- MICR less than 1.0×10^{-6} .

Rule 1401(d)(1)(C)- Cancer burden is less than 0.5.

Rule 1401(d)(2) and Rule 1401(d)(3)- HIC and HIA values are estimated to be less than 1 respectively.

Compliance is expected

Rule 1401.1: Rule 1401.1(b)- Equipment is exempt since it is located at an existing facility.

Reg. XXX: The modification of the natural gas ICE to replace the catalytic converter to comply with Rule 1110.2 requirements is considered a Title V Minor permit revision under Rule 3000(b)(15), since there is no emission increase and the modification of the

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equipment does not result in new or additional NSPS or NESHAP requirements and will be subject to an EPA review (Rule 3003 (j)). A public notice is not required. Compliance is expected.

Conclusions & Recommendations

The equipment is in compliance with the Rules and Regulations of the SCAQMD. A Permit to Construct is recommended for application 534092. For Permit Conditions please see Sample Permit. A revised Title V permit is recommended after EPA review.