

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ENGINEERING AND COMPLIANCE DIVISION PERMIT APPLICATION EVALUATION AND CALCULATIONS	PAGES 11	PAGE 1
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Permit to Operate (Administrative Change)

Applicant Eastern Municipal Water District (EMWD) –Temecula Valley Regional Water Reclamation Facility (TVRWRF)

Mailing Address 2270 Trumble Road,
P.O. Box 8300
Perris, CA 92572

Equipment Location 42565 Avenida Alvarado
Temecula, CA 92590

Equipment Description

APPLICATION 518817, FACILITY ID 001703

INTERNAL COMBUSTION ENGINE, CATERPILLAR, MODEL, NO. G379 SI-TA-HCR, NATURAL GAS FIRED WITH LPG STANDBY, TURBOCHARGED, AFTERCOOLED, RICH BURN, 8 CYLINDER, 465 BHP, WITH A MIRATECH, MODEL SP-IQS-22X3-08-EC2, NON-SELECTIVE CATALYTIC CONVERTER, AND AIR TO FUEL RATIO CONTROLLER, ALTRONIC, MODEL EPC 100E, DRIVING AN AERATION BLOWER.

Background/Process Description

The above application was submitted on February 11, 2011 as an Administrative Change application type to replace the catalytic converter for an existing non-emergency natural gas fueled engine used to drive an aeration blower to ensure compliance with the emission limits in Rule 1110.2. The equipment will operate a maximum of 24 hr/day, 7 day/week, 52 weeks/year. The existing permit to operate is A/N 485848, Permit R-G5394. A/N 485848 will be superseded and replaced with permit to operate A/N 518817.

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). This engine (along with two other permitted digester gas ICES) is used as the source of air to the aeration tanks at the facility. The current wastewater influent throughput for the facility is 18 million gallons per day (MGD). There is no school within 1000 feet of emission source. No violations have been issued and no complaints have been received against the facility in the past 2 years.

Emission Calculations

Engine Specifications based on source test of Engine no. 118, A/N 485848 (4/1/2010)

Exhaust flow rate: 607 dscfm

Maximum natural gas consumption: 3,529 scfh

3,529 scfh x 1050Btu/scf = 3,705,450Btu/hr ~ 3.71mmBtu/hr

Oxygen 0.00%

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R1 = R2 is assumed for all emissions.

CO emissions

Emission based on Source Test 4/1/2010: = 0.111 ~0.11 lbs/hr = 0.24 lbs/day (NSR)

Previously permitted emission (BACT):

R2 = 0.6 g/bhp-hr x 465 bhp x 1lb/453.6g = 0.62 lbs/hr = 15 lbs/day (NSR)

Rule 1110.2 requirement: 250 ppmvd CO @ 15% O2(effective 7/1/2011):

250 ppmvd CO @ 15% O2 x (20.9 – 0.00)/(20.9 – 15) = 886 ppmvd

R2 = 886 ppmvd x 607 dscfm x 60 min/hr x lb-mole/379x10⁶ ft³ x 28 lbs/lb-mole
= 2.38 lbs/hr = 58.91 lbs/day (NSR)

Rule 1303 Modeling Requirement (>2, <5MMBTU), CO: 17.1 lbs/hr > 0.62 lbs/hr

NOx emissions

Emission based on Source Test 4/1/2010: = 0.0088 ~ 0.01 lbs/hr = 0.24 lbs/hr (NSR)

Previously permitted emission (BACT):

R2 = 0.15 g/bhp-hr x 465 bhp x 1lb/453.6g = 0.15 lbs/hr = 4 lbs/day (NSR)

Rule 1110.2 requirement: 11 ppmvd NOx @ 15% O2(effective 7/1/2011):

11 ppmvd CO @ 15% O2 x (20.9 – 0.00)/(20.9 – 15) = 39 ppmvd

R2 = 39 ppmvd x 607 dscfm x 60 min/hr x lb-mole/379x10⁶ ft³ x 46 lbs/lb-mole
= 0.17 lbs/hr = 4.14 lbs/day (NSR)

Rule 1303 Modeling Requirement (>2, <5MMBTU), NOx: 0.31 lbs/hr > 0.15 lbs/hr

ROG emissions

Emission based on Source Test 4/1/2010: 0.00589 ~ 0.01 lbs/hr = 0.24 lbs/hr (NSR)

Previously permitted emission (BACT):

R2 = 0.15 g/bhp-hr x 465 bhp x 1lb/453.6g = 0.15 lbs/hr = 4 lbs/day (NSR)

Rule 1110.2 requirement: 30 ppmvd ROG(as carbon) @ 15% O2(effective 7/1/2011):

30 ppmvd CO @ 15% O2 x (20.9 – 0.00)/(20.9 – 15) = 106 ppmvd

R2(as carbon) = 106 ppmvd x 607 dscfm x 60 min/hr x lb-mole/379x10⁶ ft³ x 16 lbs/lb-mole
= 16 lbs/hr = 3.89 lbs/day (NSR)

PM10 emissions

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

10.00 lb/MMscf* x MMscf/1E6scf x 3,529 scfh x 0.994PM10/PM
= 0.04 lbs/hr = 0.97 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

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$$0.0095 \text{ lb/MMBtu} \times 1 \text{ MMBtu/1E6Btu} \times 1050 \text{ Btu/scf} \times 3,529 \text{ scfh} = 0.04 \text{ lbs/hr} = 0.97 \text{ lbs/day (NSR)}$$

^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: 607 dscfm, 0.196 grains/dscf
 $0.196 \text{ grains/dscf} \times 607 \text{ dscfm} \times 60 \text{ min/hr} \times 1 \text{ lb/7000grains} = 1.02 \text{ lbs/hr} > 0.04 \text{ lbs/hr}$

Rule 1303 Modeling Requirement (>2, <5MMBTU), PM10: 1.9 lbs/hr > 0.04 lbs/hr

SOx emissions

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

$$0.60 \text{ lb/MMscf} \times \text{MMscf/1E6scf} \times 3,529 \text{ scfh} = 0.00 \text{ lbs/hr} = 0.00 \text{ lbs/day (NSR)}$$

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

$$0.000588 \text{ lb/MMBtu} \times 1 \text{ MMBtu/1E6Btu} \times 1050 \text{ Btu/scf} \times 3,529 \text{ scfh} = 0.00 \text{ lbs/hr} = 0.00 \text{ lbs/day (NSR)}$$

^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) $16 \text{ ppmv} \times 3,529 \text{ scfh} \times \text{lb-moleH}_2\text{S}/379 \times 10^6 \text{ ft}^3 \times \text{lbmoleSO}_2/\text{lbmoleH}_2\text{S} \times 64.07 \text{ lbsH}_2\text{S}/\text{lbmoleSO}_2 = 0.0095 \sim 0.01 \text{ lbs/hr SOx (as SO}_2\text{)}$
- 2) $5 \text{ lbs/day H}_2\text{S} \times \text{lb-mole}/34.08 \text{ lbsH}_2\text{S} \times 64.07 \text{ lbsSOx}/\text{lb-mole} = 9.40 \text{ lbs/day SOx (as SO}_2\text{)}$
 $= 0.39 \text{ lbs/hr SOx (as SO}_2\text{)}$

Annual Emissions (AER 2010) SOx emission: 0.118 tons/yr
 $0.118 \text{ tons/yr} \times 2000 \text{ lbs/ton} \times 1 \text{ yr}/365 \text{ days} = 0.647 \text{ lbs/day SOx}$
 $= 0.027 \text{ lbs/hr SOx}$

Toxic Risk Analysis

Nearest Residential Receptor Distance: 6,429 ft. (1,960 m)
 Nearest Commercial Receptor Distance: 572 ft. (174 m)
 Stack height: 23.70 ft. (7.23 m)
 Stack inner diameter: 8 in. (0.20 m)
 Rain cap: Yes
 Exhaust flow rate: 2083 acfm
 Exhaust stack temperature: 1100 F
 Building height: 23.70 ft. (7.23 m)
 Building dimensions: 76.5 ft. (23.3 m) x 42.7 ft. (13.0 m)

Compound	MW (lbs/lbmole)	Outlet emission (lb/hr)
Acetaldehyde	44.06	2.30E-04
Acrolein	56.06	2.17E-04

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Benzene	78.11	1.30E-04
1,3-Butadiene	54.09	5.46E-05
Carbon tetrachloride	153.24	1.46E-06
Chlorobenzene	112.56	1.06E-06
Chloroform	119.38	1.13E-06
1,1-Dichloroethane	98.96	9.31E-07
Ethyl benzene	106.16	2.04E-06
Ethylene dibromide	187.88	1.76E-06
Ethylene dichloride	98.96	9.31E-07
Formaldehyde	30.03	1.69E-03
Methanol	32.04	2.52E-04
Methylene chloride ¹	84.94	3.39E-06
PolyCyclic Aromatic Hydrocarbon (PAHs)	252.3	3.62E-06
Naphthalene	128.17	8.00E-06
Styrene	104.16	9.81E-07
1,1,2,2-Tetrachloroethane	167.86	2.08E-06
Toluene	92.13	4.60E-05
1,1,2-Trichloroethane	133.42	1.26E-06
Vinyl chloride	62.5	5.92E-07
Xylenes	106.2	1.61E-05

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 III analysis was used since the exhaust stack does have a rain cap. Tier III risk analysis was based on the emission rates listed in the above table. Building downwash calculations were based on a building dimensions listed above. The MICR values are determined to be 3.54×10^{-8} for residential and 1.18×10^{-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).

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- 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. No complaints have been received in the last four years against the facility.
- 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.
Rule 431.1(g)(8)- Any facility which emits less than 5 pounds per day total sulfur compounds, calculated as H₂S from the burning of gaseous fuels other than natural gas (not applicable to (c)(1)).
Compliance is expected.
- 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.
- Reg IX: 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.
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.
- Reg IX: 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 > 500 HP located at an area source of HAP emissions if commenced construction or rec

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onstruction before June 12, 2006. Previous application 166785 for the engine was to issue a permit to this previously Rule 219 exempt equipment. The PO was issued 3/1/1988. Therefore this engine does 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 Administer 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.

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 (9) Non-emergency, non-black start 4SRB stationary RICE ≤ 500 HP

(a)- Change oil and filter every 1,440 hours of operation or annually, whichever comes first;

(b)- Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and

(c)- Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.

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- There are no Initial Compliance With Emission Limitations and Operating Limitations requirements for these engines.

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

Table 3- There are no Subsequent Performance Tests required for these engines.

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

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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(e)(8)- If you own or operate an existing non-emergency, non-black start 4SRB stationary RICE with a site rating ≤ 500 HP located at an area source of HAP, must operate and maintain the stationary RICE and after-treatment control device according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

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, 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(j)- You have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. (see 63.6625(j) requirements) The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

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

63.6640(a)- You must 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

(9) Existing non-emergency 4SRB stationary RICE ≤ 500 HP located at an area source of HAP

(a)- Work or management practices

(i)- Operating and maintaining stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or

(ii)- Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

63.6640(b)- You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a, 1b, 2a, 2b, 2c, and 2d to this subpart that apply to you. These deviations must be reported according to the requirements in 63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values

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of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE. 63.6640(e)- You must report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. (see Table 8)

63.6645(a)- If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must submit all of the notifications in 63.7(b) & (c), (f)(4) & (6), 63.9(b) through (e) & (g) & (h) that apply to you 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 take 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.

63.7(f)(4)- If the Administrator finds reasonable grounds to dispute the results obtained by an alternative test method for the purposes of demonstrating compliance with a relevant standard, the Administrator may require the use of a test method specified in a relevant standard.

63.7(f)(6)- Neither the validation and approval process nor the failure to validate an alternative test method shall abrogate the owner or operator's responsibility to comply with the requirements of this part.

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).

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.

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

Table 7: There are no Requirements for Reports for these engines.

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)- 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)- 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)- Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

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

63.6655(a)(5)- 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 effective July 1, 2012: NO_x 11 ppmvd 15% O₂, VOC 30 ppmvd 15% O₂, CO 250 ppmvd 15% O₂.

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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)(III).

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)(III)- CEMS is not required for these engines.

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 NO_x, 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)(D)-I&M Plan application has been submitted. Determination has not yet been made for this application.

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 1110.2(f)(3)- All data, logs, test reports and other information required by this rule shall be maintained for at least five years and made available for inspection. Compliance with Rule 1110.2 is expected.

Rule 1147 NO_x 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. LAER/BACT from previous applications is already equipped, if it were not equipped, LAER/BACT would apply. LAER/BACT from previous applications: CO: 0.6 g/bhp-hr, NO_x: 0.15 g/bhp-hr, VOC: 0.15 g/bhp-hr.

Rule 1303(b)(1)- Modeling for VOC and SO_x is not required (1303 Appendix A). NO_x, 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

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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 three ICEs to replace the catalytic converter (A/N 518817) to comply with future Rule 1110.2 requirements and replace the air to fuel ratio controller (A/Ns 518818 & 518819) is considered a Title V Minor permit revision under Rule 3000(b)(12), since there is no emission increase and the modification of the 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 applications 518817. For Permit Conditions please see Sample Permit. A revised Title V permit is recommended after EPA review.