



JAN 24 2014

Fernando Ulloa
City of Manteca
1001 Center Street
Manteca, CA 95337

**Re Notice of Preliminary Decision - Authority to Construct
Facility Number N-8952
Project Number N-1133764**

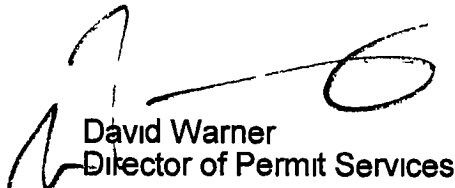
Dear Mr Ulloa

Enclosed for your review and comment is the District's analysis of City of Manteca's application for an Authority to Construct for a diesel fired IC engine that will power an emergency generator, at 1739 E Atherton Drive in Manteca, CA

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. After addressing all comments made during the 30-day public notice period, the District intends to issue the Authority to Construct. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr Mark Schonhoff of Permit Services at (209) 557- 6448.

Sincerely,



David Warner
Director of Permit Services

DW MJS

Enclosures

cc Mike Tollstrup, CARB (w/ enclosure) via email

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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Modesto CA 95356 8718
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Authority to Construct Application Review

Facility Name City of Manteca
Mailing Address 1001 West Center Street
 Manteca, CA 95337

Date January 21, 2014

Contact Person Derek LaMont
Telephone (209) 456-8420

Engineer Mark Schonhoff
Application # N-8952-1-0
Project # N-1133764
Deemed Complete December 20, 2013

I **Proposal**

The City of Manteca is proposing to install a 762 bhp Tier 2 certified diesel fired standby internal combustion (IC) engine that will power an electrical generator

II **Applicable Rules**

Rule 2201 New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410 Prevention of Significant Deterioration (June 16, 2011)
Rule 4001 New Source Performance Standards (4/14/99)
Rule 4002 National Emission Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101 Visible Emissions (2/17/05)
Rule 4102 Nuisance (12/17/92)
Rule 4201 Particulate Matter Concentration (12/17/92)
Rule 4701 Stationary Internal Combustion Engines – Phase 1 (8/21/03)
Rule 4702 Stationary Internal Combustion Engines (8/18/11)
Rule 4801 Sulfur Compounds (12/17/92)
CH&SC 41700 Health Risk Assessment
CH&SC 42301 6 School Notice
Title 17 CCR, Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines
California Environmental Quality Act (CEQA)
Public Resources Code 21000-21177 California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387
CEQA Guidelines

III Project Location

1739 East Atherton Drive
Manteca CA

The equipment will not be located within 1,000 feet of a K-12 school

IV Process Description

The emergency standby engine will power an electrical generator that will power an emergency drinking water system pump. Other than emergency standby operation, the engine may be operated up to 50 hours per year for maintenance and testing purposes.

V Equipment Listing

762 BHP GENERAC MODEL 2506C-E15TAG3 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR THAT POWERS A DRINKING WATER BOOSTER PUMP

VI Emission Control Technology Evaluation

The applicant has proposed to install a Tier 2 diesel fired IC engine that will be fired on very low-sulfur diesel fuel (0.0015% by weight sulfur maximum)

NO_x, CO, VOC and PM₁₀

The proposed engine does not meet the latest published Tier Certification requirements, however, compliance with both BACT and CARB's stationary ATCM requirements will be met as described below (see Appendix D for a copy of the emissions data sheet and/or the ARB/EPA executive order)

Although Tier 4i requirements for this category of engine went into effect in 2011, CARB regulations and District policy allows for the availability of Tier 4i units to be accounted for. CARB's Stationary ATCM exemption §93115.3(u) says, "If the Executive Officer or District finds, based on verifiable information from the engine manufacturer, distributor, or dealer, that current model year engines meeting the current emission standards are not available or not available in sufficient numbers or in a sufficient range of makes, models, and horsepower ratings, then the Executive Officer or the District may allow the sale, purchase, or installation of a new stock engine meeting the emission standards from the previous model year to meet the new stationary diesel-fueled engine emission standards pursuant to title 13 of the California Code of Regulations or 40 CFR part 89." The District has thoroughly investigated, with each of the common manufacturers', the availability of Tier 4i units in this size range, and has found them to be currently unavailable. Since Tier 4i units are not available, as described above, the installation of a 762 bhp Tier 2 unit is acceptable, as this standard is the prior published Tier in this engine's size range.

SO_x

The use of ultra-low-sulfur diesel fuel (0.0015% by weight sulfur maximum) reduces SO_x emissions by over 99% from standard diesel fuel

VII General Calculations

A Assumptions

Emergency operating schedule	24 hours/day
Non-emergency operating schedule	50 hours/year
Density of diesel fuel	7.1 lb/gal
EPA F-factor (adjusted to 60 °F)	9,051 dscf/MMBtu
Fuel heating value	137,000 Btu/gal
BHP to Btu/hr conversion	2,542.5 Btu/bhp-hr
Thermal efficiency of engine	commonly ≈ 35%
PM ₁₀ fraction of diesel exhaust	0.96 (CARB, 1988)

B Emission Factors

The NO_x + VOC, CO and PM₁₀ emissions are from the emission data sheet that is in Appendix D of this document

Per the manufacturer's documentation the engine will have NO_x + VOC emissions of 3.73 g/bhp-hr. It will be assumed the NO_x + VOC emission factor is split 95% NO_x and 5% VOC (per the District's Carl Moyer program)

$$\begin{aligned}EF_{NO_x} &= (3.73 \text{ g/bhp-hr})(0.95) = 3.54 \text{ g/bhp-hr} \\EF_{VOC} &= (3.73 \text{ g/bhp-hr})(0.05) = 0.19 \text{ g/bhp-hr} \\EF_{CO} &= 1.06 \text{ g/bhp-hr} \\EF_{PM_{10}} &= 0.05 \text{ g/bhp-hr} \\EF_{SO_x} &= 0.004 \text{ g/bhp-hr} - \text{see below}\end{aligned}$$

Sulfur Content of Diesel	15 ppmw
Density of Diesel	7.1 lb/gal
Fuel Use	31.2 gal/hr (applicant)
Engine Rating	762 bhp

$$EF_{SO_x} = [(15 \text{ lb S}/10^6 \text{ lb fuel})(7.1 \text{ lb fuel/gal})(31.2 \text{ gal/hr})(2 \text{ lb SO}_2/\text{lb S}) \times (453.6 \text{ g/lb})] / (762 \text{ bhp}) = 0.004 \text{ g/bhp-hr}$$

C Potential to Emit (PE)

1 Potential to Emit

Premodification

The engine is new, therefore, the premodification potential to emit (PE) is zero

Postmodification

All daily and annual emission values are reported to the precision specified in District Policy APR-1105

$$PE_{NOx} = (3.54 \text{ g/bhp-hr})(762 \text{ bhp})(1\text{b}/453.6 \text{ g})(24 \text{ hr/day}) = 142.7 \text{ lb/day}$$

$$PE_{NOx} = (3.54 \text{ g/bhp-hr})(762 \text{ bhp})(1\text{b}/453.6 \text{ g})(50 \text{ hr/yr}) = 297 \text{ lb/yr}$$

$$PE_{CO} = (1.06 \text{ g/bhp-hr})(762 \text{ bhp})(1\text{b}/453.6 \text{ g})(24 \text{ hr/day}) = 42.7 \text{ lb/day}$$

$$PE_{CO} = (1.06 \text{ g/bhp-hr})(762 \text{ bhp})(1\text{b}/453.6 \text{ g})(50 \text{ hr/yr}) = 89 \text{ lb/yr}$$

$$PE_{VOC} = (0.19 \text{ g/bhp-hr})(762 \text{ bhp})(1\text{b}/453.6 \text{ g})(24 \text{ hr/day}) = 7.7 \text{ lb/day}$$

$$PE_{VOC} = (0.19 \text{ g/bhp-hr})(762 \text{ bhp})(1\text{b}/453.6 \text{ g})(50 \text{ hr/yr}) = 16 \text{ lb/yr}$$

$$PE_{SOx} = (0.004 \text{ g/bhp-hr})(762 \text{ bhp})(1\text{b}/453.6 \text{ g})(24 \text{ hr/day}) = 0.2 \text{ lb/day}$$

$$PE_{SOx} = (0.004 \text{ g/bhp-hr})(762 \text{ bhp})(1\text{b}/453.6 \text{ g})(50 \text{ hr/yr}) = 0 \text{ lb/yr}$$

$$PE_{PM10} = (0.05 \text{ g/bhp-hr})(762 \text{ bhp})(1\text{b}/453.6 \text{ g})(24 \text{ hr/day}) = 2.0 \text{ lb/day}$$

$$PE_{PM10} = (0.05 \text{ g/bhp-hr})(762 \text{ bhp})(1\text{b}/453.6 \text{ g})(50 \text{ hr/yr}) = 4 \text{ lb/yr}$$

D Increase in Permitted Emissions (IPE)

1 Quarterly IPE

$$IPE_{NOx} = 297 \text{ lb/yr} - 0 \text{ lb/yr} = 297 \text{ lb/yr} (74.25 \text{ lb/qtr})$$

$$IPE_{CO} = 89 \text{ lb/yr} - 0 \text{ lb/yr} = 89 \text{ lb/yr} (22.25 \text{ lb/qtr})$$

$$IPE_{VOC} = 16 \text{ lb/yr} - 0 \text{ lb/yr} = 16 \text{ lb/yr} (4.0 \text{ lb/qtr})$$

$$IPE_{SOx} = 0 \text{ lb/yr} - 0 \text{ lb/yr} = 0 \text{ lb/yr} (0.0 \text{ lb/qtr})$$

$$IPE_{PM10} = 4 \text{ lb/yr} - 0 \text{ lb/yr} = 4 \text{ lb/yr} (1.0 \text{ lb/qtr})$$

The emission profile for this ATC will include the following

	NOx (lb)	SOx (lb)*	PM10 (lb)	CO (lb)	VOC (lb)
Annual PE	297	0	4	89	16
Daily PE	142.7	0.2	2.0	42.7	7.7
Δ PE (Qtr 1)	74	0	1	22	4
Δ PE (Qtr 2)	74	0	1	22	4
Δ PE (Qtr 3)	74	0	1	22	4
Δ PE (Qtr 4)	75	0	1	23	4

2 Adjusted Increase in Permitted Emissions (AIPE)

AIPE is used to determine whether or not Best Available Control Technology (BACT) is required for modified units. The unit currently under consideration is new, therefore AIPE calculations are not necessary.

E Facility Emissions

1 Pre Project Stationary Source Potential to Emit (SSPE1)

The facility is new, therefore, SSPE1 is zero for all pollutants.

2 Post Project Stationary Source Potential to Emit (SSPE2)

SSPE1 (lb/yr)					
Permit #	NO _x	CO	VOC	SO _x	PM ₁₀
N-8952-1-0	297	89	16	0	4
ERC's	0	0	0	0	0
Total	297	89	16	0	4

3 Stationary Source Increase in Permitted Emissions (SSIPE)

$$\text{SSIPE} = \text{SSPE2} - \text{SSPE1}$$

The SSPE1 and SSPE2 balances are from sections VII E 1 and VII E 2 of this document.

	SSPE2 (lb/yr)	SSPE1 (lb/yr)	SSIPE (lb/yr)
NO _x	297	0	297
CO	89	0	89
VOC	16	0	16
SO _x	0	0	0
PM ₁₀	4	0	4

4 Baseline Emissions

The equipment is new, therefore, the Baseline Emissions are zero.

F Major Source Determination

Rule 2201 Major Source Determination

The Major Source thresholds, the facility potentials to emit and whether or not the facility is a Major Source are presented on the following table. The Major Source thresholds are from Section 3 24 1. Since no emission reduction credits have been generated at this facility, the post-modification potential to emit is equivalent to the SSPE2.

Pollutant	Threshold (lb/yr)	Facility PE (lb/yr)	Major Source
NOx	20,000	297	No
CO	200,000	89	No
VOC	20,000	16	No
SOx	140,000	0	No
PM10	140,000	4	No

Rule 2410 Major Source Determination

The equipment currently under consideration is not a source category listed in 40 CFR Part 52 21(b)(1)(i), therefore, the applicable thresholds, and whether the facility is currently a Major Source for any pollutant are shown on the table below.

Pollutant	Threshold (tons/yr)	Current Facility PE (tons/yr)	Major Source
NOx	250	0	No
CO	250	0	No
VOC	250	0	No
SOx	250	0	No
PM	250	0	No
PM10	250	0	No
CO _{2e}	100,000	0	No

G Major Modification Determination

SB-288 Major Modification

The facility is not a Major Source for any pollutant, therefore, this permitting action is not an SB-288 Major Modification.

Federal Major Modification

The facility is not a Major Source for any pollutant, therefore, this permitting action is not a Federal Major Modification.

VIII Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A BACT

1 BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis for the following*

- a Any new emissions unit with a potential to emit exceeding 2.0 pounds per day,
- b The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding 2.0 pounds per day,
- c Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding 2.0 pounds per day, and/or
- d Any new or modified emissions unit, in a stationary source project, which results in an SB288 Major Modification or a Federal Major Modification, as defined by the rule

*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO

As shown in Section VII G of this document, this permitting action is not a Major Modification, therefore, whether or not BACT is required is based on the potential to emit of each pollutant and the SSPE2 balance for CO. The table below shows the potential to emit of each pollutant, the BACT threshold, the relevant SSPE2 information and whether or not BACT is required.

New Emissions Unit BACT Applicability				
Pollutant	Emissions (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/yr)	BACT Triggered?
NO _x	142.7	> 2.0	n/a	Yes
CO	42.7	> 2.0 and SSPE2 ≥ 200,000 lb/yr	89	No
VOC	7.7	> 2.0	n/a	Yes
SO _x	0.2	> 2.0	n/a	No
PM ₁₀	2.0	> 2.0	n/a	No

As shown above, BACT will be required for the NO_x and VOC emissions from this engine.

2 BACT Guideline

BACT Guideline 3.1.1, which is in Appendix B of this document, covers diesel-fired emergency IC engines.

3 Top Down BACT Analysis

Per District Policy APR 1305, Section IX, "A top-down BACT analysis shall be performed as a part of the Application Review for each application subject to the BACT

requirements pursuant to the District's NSR Rule for source categories or classes covered in the BACT Clearinghouse, relevant information under each of the following steps may be simply cited from the Clearinghouse without further analysis "

Pursuant to the attached Top-Down BACT Analysis, which appears in Appendix B of this report, BACT is satisfied with

NO_x Latest EPA Tier Certification level for applicable horsepower range
VOC Latest EPA Tier Certification level for applicable horsepower range

B OFFSETS

Since emergency IC engines are exempt from the offset requirements of Rule 2201, per Section 4 6 2, offsets are not required for this engine, and no offset calculations are required

C PUBLIC NOTIFICATION

1 Applicability

District Rule 2201 section 5 4 requires a public notification for the affected pollutants from the following types of projects

- a New Major Sources
- b Major Modifications
- c New emission units with a PE > 100 lb/day of any one pollutant (IPE Notifications)
- d Modifications with SSPE1 below an offset threshold and SSPE 2 above an offset threshold on a pollutant by pollutant basis (Existing Facility Offset Threshold Exceedence Notification)
- e New stationary sources with SSPE2 exceeding offset thresholds (New Facility Offset Threshold Exceedence Notification)
- f Any permitting action with a SSIPE exceeding 20 000 lb/yr for any one pollutant (SSIPE Notice)

a New Major Source Notice Determination

The facility is new, however, as shown in section VII E of this document, it will not become a Major Source Therefore, a New Major Source Determination notice is not required

b Major Modification Notice

As shown in section VII G of this document, this permitting action is not a Major Modification Therefore, a Major Modification notice is not required

c PE Notification

A notification is required for each new emission unit with the potential to emit more than 100 pounds per day of any one affected pollutant

As shown in section VII C 1 of this document, the PE of NOx will be in excess of 100 lb/day Therefore, a notification is required

d Existing Facility Offset Threshold Exceedence Notification

The facility is new, therefore a notification is not required

e New Facility Offset Threshold Exceedence Notification

As shown in sections VII E 1 and VII E 2 of this document, the potential to emit of no pollutant will go from below to above an offset threshold

f SSIPE Notification

A notification is required for any permitting action that results in an SSIPE of more than 20,000 lb/yr of any affected pollutant As shown in section VII E 3 of this document, the SSIPE of each pollutant will be less than 20,000 pounds per year An SSIPE notification is not required

2 Public Notice

As shown above, a public notification is required because this permitting action will include a new emission unit with the potential to emit more than 100 lb/day of a pollutant

D DAILY EMISSION LIMITS

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3 16 to restrict a unit's maximum daily emissions to a level at or below the emissions associated with the maximum design capacity Per Sections 3 16 1 and 3 16 2, the DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner on a daily basis Therefore, the following conditions will be listed on the ATC to ensure compliance

- Emissions from this IC engine shall not exceed any of the following limits 3 54 g-NOx/bhp-hr, 1 06 g-CO/bhp-hr, or 0 19 g-VOC/bhp-hr [District Rule 2201 and 17 CCR 93115]
- Emissions from this IC engine shall not exceed 0 05 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure [District Rules 2201 and 4102 and 17 CCR 93115]

- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used [District Rules 2201 and 4801 and 17 CCR 93115]

E Compliance Assurance

1 Source Testing

Pursuant to District Policy APR 1705, source testing is not required for emergency standby IC engines to demonstrate compliance with Rule 2201

2 Monitoring

Monitoring requirements, in accordance with District Rule 4702, will be discussed in Section VIII, *District Rule 4702*, of this evaluation

3 Record Keeping

Record keeping requirements, in accordance with District Rule 4702, will be discussed in Section VIII, *District Rule 4702*, of this evaluation

4 Reporting

As they apply to the equipment currently under consideration, no applicable rule or policy requires reporting

F Ambient Air Quality Analysis

Section 4.14.1 of this rule requires that an ambient air quality analysis (AAQA) be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The Technical Services Division of the SJVAPCD conducted the required analysis.

As shown by the AAQA summary sheet in Appendix C, the proposed equipment will not cause or make worse a violation of an air quality standard for NO_x, CO, PM₁₀, PM_{2.5} or SO_x.

Rule 2410 Prevention of Significant Deterioration

Rule 2410 applies to pollutants for which the District is in attainment or for unclassified pollutants. The pollutants addressed in the PSD applicability determination are listed as follows:

- NO₂ (as a primary pollutant)
- SO₂ (as a primary pollutant)
- CO
- PM
- PM₁₀
- Greenhouse gases (GHG) CO₂, N₂O, CH₄, HFCs, PFCs, and SF₆

The first step of this PSD applicability evaluation consists of determining whether the facility is an existing PSD Major Source. This facility is not an existing PSD Major source (See Section VII F of this document)

In the case that the facility is NOT an existing PSD Major Source, the second step of the PSD evaluation is to determine if the project, by itself, would be a PSD major source

Potential to Emit for All Emission Units at the Facility vs PSD Major Source Thresholds

As a screening tool, the potential to emit from all new and modified units at the facility is compared to the PSD major source threshold and if the total potential to emit from all new and modified units at the facility is below this threshold, no further analysis will be needed

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable

PSD Major Source Determination Potential to Emit (tons/year)							
	NO ₂	VOC	SO ₂	CO	PM	PM ₁₀	CO _{2e}
Total PE from New and Modified Units	0.15	0.008	0	0.045	0.002	0.002	7.9
PSD Major Source threshold	250	250	250	250	250	250	100,000
New PSD Major Source?	No	No	No	No	No	No	No

Project CO_{2e} Calculation

EF_{GHG} 0.000187 metric tons/bhp-hr (CARB greenhouse gas emission factor)
 Rating 762 bhp
 Schedule 50 hr/yr

$$PE_{GHG} = (0.000187 \text{ MT/bhp-hr})(762 \text{ bhp})(50 \text{ hr/yr})(2,205 \text{ lb/MT}) \times (\text{ton}/2000 \text{ lb}) = 7.9 \text{ tons/yr}$$

As demonstrated above, because the project has a total potential to emit from all new and modified emission units below the PSD significant emission increase thresholds, this project is not subject to the requirements of Rule 2410 due to a significant emission increase and no further discussion is required

- Rule 4001 New Source Performance Standards (NSPS)**
- Rule 4002 National Emission Standards for Hazardous Air Pollutants**

40 CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

40 CFR 63 Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Emissions (RICE)

The proposed engine is subject to the requirements of this subpart, however, the District has not yet obtained enforcement delegation from EPA. Therefore requirements of this subpart are not included in the permit at this time. The ATC and the PTO will include the following informational condition:

U S EPA administers the requirements of 40 CFR Part 60 Subpart IIII and 40 CFR Part 63 Subpart ZZZZ. The owner or operator shall comply with the emission and operating limitations, testing requirements, initial and continuous compliance requirements as specified in these subparts. The owner or operator shall submit all applicable notifications, reports, and records to the administrator by the required compliance dates [District Rules 4001 and 4002] N

Rule 4101 Visible Emissions

As long as the equipment is properly maintained and operated, the visible emissions are not expected to exceed 20% opacity for a period or periods aggregating more than 3 minutes in any one hour. Compliance with the provisions of this rule is expected.

Rule 4102 Nuisance

A California Health & Safety Code 41700 (Health Risk Analysis)

District Policy APR 1905 - Risk Management Policy for Permitting New and Modified Sources (dated 3/2/01) specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite. Therefore, a risk management review (RMR) was performed for this project. The RMR results are summarized in the following table, and can be seen in detail in Appendix C.

RMR Results				
Unit	Acute Hazard Index	Chronic Hazard Index	Cancer Risk	T BACT Required?
N-8952-1-0	N/A	N/A	3.64 in a million	Yes – PM10

B Toxics Best Available Control Technology (T-BACT)

As shown above, T-BACT is required for PM10. Per District Policy APR-1905, T-BACT is equivalent to New Source Review BACT. Therefore, a Top-Down BACT analysis for

PM10 was conducted and is in Appendix B of this document T-BACT was determined to be

PM₁₀ 0.15 g/hp-hr or the Latest EPA Tier Certification level for applicable horsepower range, whichever is more stringent (ATCM)

The proposed PM10 emissions are 0.05 g/bhp-hr therefore, T-BACT will be met

The following conditions will be listed on the ATC to ensure compliance with the RMR

- {1898} The exhaust stack shall vent vertically upward The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction [District Rule 4102]
- Emissions from this IC engine shall not exceed 0.05 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure [District Rules 2201 and 4102 and 17 CCR 93115]
- The engine shall be operated only for maintenance, testing and required regulatory purposes and during emergency situations Operation of the engine for maintenance, testing and required regulatory purposes shall not exceed 50 hours per year [District Rules 2201 and 4702 and 17 CCR 93115]

Rule 4201 Particulate Matter Concentration

Rule 4201 limits particulate matter emissions from any single source operation to 0.1 g/dscf, which, as calculated below, is equivalent to a PM₁₀ emission factor of 0.4 g-PM₁₀/bhp-hr

$$0.1 \frac{\text{grain-PM}}{\text{dscf}} \times \frac{\text{g}}{15.43 \text{ grain}} \times \frac{1 \text{ Btu}_{in}}{0.35 \text{ Btu}_{out}} \times \frac{9.051 \text{ dscf}}{10^6 \text{ Btu}} \times \frac{2,542.5 \text{ Btu}}{1 \text{ bhp-hr}} \times \frac{0.96 \text{ g-PM}_{10}}{1 \text{ g-PM}} = 0.4 \frac{\text{g-PM}_{10}}{\text{bhp-hr}}$$

The engine has a PM₁₀ emission factor less than 0.4 g/bhp-hr Therefore, compliance is expected and the following condition will be listed on the ATCs

- {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration [District Rule 4201]

Rule 4701 Internal Combustion Engines – Phase 1

The purpose of this rule is to limit the emissions of nitrogen oxides (NOx), carbon monoxide (CO), and volatile organic compounds (VOC) from internal combustion engines Except as provided in Section 4.0, the provisions of this rule apply to any internal combustion engine, rated greater than 50 bhp, that requires a PTO

The proposed engine is also subject to District Rule 4702, Internal Combustion Engines Since emissions limits of District Rule 4702 and all other requirements are equivalent or

more stringent than District Rule 4701 requirements compliance with District Rule 4702 requirements will satisfy requirements of District Rule 4701

Rule 4702 Internal Combustion Engines

The following table demonstrates how the proposed engine(s) will comply with the requirements of District Rule 4702

District Rule 4702 Requirements Emergency Standby IC Engines	Proposed Method of Compliance with District Rule 4702 Requirements
Operation of emergency standby engines is limited to 100 hours or less per calendar year for non-emergency purposes, verified through the use of a non-resettable elapsed operating time meter	The Air Toxic Control Measure for Stationary Compression Ignition Engines (Stationary ATCM) limits the engine maintenance and testing to 50 hours/year Thus compliance is expected
Emergency standby engines cannot be used to reduce the demand for electrical power when normal electrical power line service has not failed, or to produce power for the electrical distribution system or in conjunction with a voluntary utility demand reduction program or interruptible power contract	The following conditions will be included on the permits <ul style="list-style-type: none"> • {3807} An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee [District Rule 4702] • {3808} This engine shall not be used to produce power for the electrical distribution system as part of a voluntary utility demand reduction program or for an interruptible power contract [District Rule 4702]
The owner/operator must operate and maintain the engine(s) and any installed control devices according to the manufacturers written instructions	The ATC and PTO will include a condition enforcing this requirement
The owner/operator must monitor the operational characteristics of each engine as recommended by the engine manufacturer or emission control system supplier	The following condition will be included on the permits <ul style="list-style-type: none"> • {3478} During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example check engine fluid levels battery, cables and connections, change engine oil and filters replace engine coolant and/or other operational characteristics as recommended by the manufacturer or supplier) [District Rule 4702]
Records of the total hours of operation of the emergency standby engine type of fuel used, purpose for operating the engine, all hours of non-emergency and	The following conditions will be included on the permit <ul style="list-style-type: none"> • {3496} The permittee shall maintain monthly

emergency operation and support documentation must be maintained All records shall be retained for a period of at least five years shall be readily available and be made available to the APCO upon request

records of emergency and non-emergency operation Records shall include the number of hours of emergency operation the date and number of hours of all testing and maintenance operations the purpose of the operation (for example load testing weekly testing, rolling blackout general area power outage, etc) and records of operational characteristics monitoring For units with automated testing systems the operator may as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule [District Rules 4701 4702 and 17 CCR 93115]

- The permittee shall maintain monthly records of the type of fuel purchased [District Rule 4702 and 17 CCR 93115]
- {3475} All records shall be maintained and retained on-site for a minimum of five (5) years and shall be made available for District inspection upon request [District Rules 4701 4702 and 17 CCR 93115]

Rule 4801 Sulfur Compounds

Rule 4801 requires that sulfur compound emissions (as SO₂) shall not exceed 0.2% by volume Using the ideal gas equation the sulfur compound emissions are calculated as follows

$$\text{Volume SO}_2 = (n \times R \times T) / P$$

n = moles SO₂

T (standard temperature) = 60 °F or 520 °R

$$R \text{ (universal gas constant)} = \frac{10.73 \text{ psi ft}^3}{\text{lb mol } ^\circ\text{R}}$$

$$\frac{0.000015 \text{ lb-S}}{\text{lb-fuel}} \times \frac{7.1 \text{ lb}}{\text{gal}} \times \frac{64 \text{ lb-SO}_2}{32 \text{ lb-S}} \times \frac{1 \text{ MMBtu}}{9.051 \text{ scf}} \times \frac{1 \text{ gal}}{0.137 \text{ MMBtu}} \times \frac{\text{lb-mol}}{64 \text{ lb-SO}_2} \times \frac{10.73 \text{ psi-ft}^3}{\text{lb-mol-R}} \times \frac{520 \text{ R}}{14.7 \text{ psi}} \times 1,000,000 = 1.0 \text{ ppmv}$$

Title 17 California Code of Regulations (CCR), Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines

The following table demonstrates how the proposed engine(s) will comply with the requirements of Title 17 CCR Section 93115

<p>Title 17 CCR Section 93115 Requirements for New Emergency IC Engines Powering Electrical Generators</p>	<p>Proposed Method of Compliance with Title 17 CCR Section 93115 Requirements</p>
<p>Emergency engine(s) must be fired on CARB diesel fuel or an approved alternative diesel fuel</p>	<p>The applicant has proposed the use of CARB certified diesel fuel. The proposed permit condition requiring the use of CARB certified diesel fuel was included earlier in this evaluation.</p>
<p>Section 96115 6(a) – Table 1 limits the emissions to the following</p> <p>NMHC + NOx 4.8 g/bhp-hr CO 2.6 g/bhp-hr PM 0.15 g/bhp-hr</p>	<p>As shown in section VII B of this document, the emissions are expected to be</p> <p>NMHC + NOx 3.73 g/bhp-hr CO 1.06 g/bhp-hr PM 0.05 g/bhp-hr</p>
<p>The engine may not be operated more than 50 hours per year for maintenance and testing purposes.</p>	<p>The following condition will be included on the permits:</p> <ul style="list-style-type: none"> This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702 and 17 CCR 93115]
<p>Engines with PM10 emission rates greater than 0.01 g/bhp-hr and located at schools may not be operated for maintenance and testing whenever there is a school sponsored activity on the grounds. Additionally, engines located within 500 feet of school grounds may not be operated for maintenance and testing between 7:30 AM and 3:30 PM.</p>	<p>The District has verified that this engine is not located within 500 feet of a school.</p>
<p>An owner or operator shall maintain monthly records of the following: emergency use hours of operation, maintenance and testing hours of operation, hours of operation for emission testing, initial start-up testing hours, hours of operation for all other uses, and the type of fuel used. All records shall be retained for a minimum of 36 months.</p>	<p>Permit conditions enforcing these requirements were shown earlier in the evaluation.</p>

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The San Joaquin Valley Unified Air Pollution Control District (District) adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities
- Identify the ways that environmental damage can be avoided or significantly reduced
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved

The District performed an Engineering Evaluation (this document) for the proposed project and determined that the project qualifies for ministerial approval under the District's Guideline for Expedited Application Review (GEAR). Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which a public agency exercises only ministerial approval. Therefore, the District finds that this project is exempt from the provisions of CEQA.

California Health & Safety Code 42301.6 (School Notice)

The equipment will be located within 1,000 feet of a K-12 school, therefore, a school notice is required.

IX Recommendation

Issue an Authority-to-Construct permit subject to the conditions on the attached draft Authority to Construct after the required public notice is completed.

X Billing Information

Permit #	Description	Fee Schedule
N-8952-1-0	762 bhp	3020-10-D

Appendices

- Appendix A Draft ATC
- Appendix B BACT Guideline and BACT Analysis
- Appendix C RMR and AAQA Summaries
- Appendix D Emission Data Sheet

Appendix A
Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO N 8952 1 0

LEGAL OWNER OR OPERATOR CITY OF MANTECA
MAILING ADDRESS 1001 W CENTER ST
MANTECA CA 95337

LOCATION 1739 E ATHERTON DR
MANTECA CA

EQUIPMENT DESCRIPTION

762 BHP GENERAC MODEL 2506C E15TAG3 TIER 2 CERTIFIED DIESEL FIRED EMERGENCY STANDBY IC ENGINE
POWERING AN ELECTRICAL GENERATOR THAT POWERS A DRINKING WATER BOOSTER PUMP

CONDITIONS

- 1 {98} No air contaminant shall be released into the atmosphere which causes a public nuisance [District Rule 4102]
- 2 {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than Ringelmann 1 or 20% opacity [District Rule 4101]
- 3 {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration [District Rule 4201]
- 4 {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction [District Rule 4102]
- 5 This engine shall be equipped with an operational non resettable elapsed time meter or other APCO approved alternative [District Rule 4702 and 17 CCR 93115]
- 6 This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier [District Rule 4702]
- 7 Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used [District Rules 2201 and 4801 and 17 CCR 93115]
- 8 Emissions from this IC engine shall not exceed any of the following limits: 3.54 g NOx/bhp hr, 1.06 g CO/bhp hr, or 0.19 g VOC/bhp hr [District Rule 2201]
- 9 Emissions from this IC engine shall not exceed 0.05 g-PM10/bhp hr based on USEPA certification using ISO 8178 test procedure [District Rules 2201 and 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557 6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services

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- 10 This engine shall be operated only for testing and maintenance required regulatory purposes and during emergency situations. Operation of the engine for maintenance, testing and required regulatory purposes shall not exceed 50 hours per calendar year [District Rules 4102 and 4702 and 17 CCR 93115]
- 11 {3807} An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee [District Rule 4702]
- 12 {3808} This engine shall not be used to produce power for the electrical distribution system, as part of a voluntary utility demand reduction program or for an interruptible power contract [District Rule 4702]
- 13 {3478} During periods of operation for maintenance testing and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example check engine fluid levels, battery cables and connections, change engine oil and filters, replace engine coolant and/or other operational characteristics as recommended by the manufacturer or supplier) [District Rule 4702]
- 14 The permittee shall maintain monthly records of emergency and non emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example load testing, weekly testing, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule [District Rule 4702 and 17 CCR 93115]
- 15 {4263} The permittee shall maintain monthly records of the type of fuel purchased [District Rule 4702 and 17 CCR 93115]
- 16 {3475} All records shall be maintained and retained on site for a minimum of five (5) years, and shall be made available for District inspection upon request [District Rule 4702 and 17 CCR 93115]
- 17 U.S. EPA administers the requirements of 40 CFR Part 60 Subpart IIII and 40 CFR Part 63 Subpart ZZZZ. The owner or operator shall comply with the emission and operating limitations, testing requirements, initial and continuous compliance requirements as specified in these subparts. The owner or operator shall submit all applicable notifications, reports, and records to the administrator by the required compliance dates [District Rules 4001 and 4002]

DRAFT

Appendix B

BACT Guideline and BACT Analyses

San Joaquin Valley Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 3 1 1
Last Update 7/10/2009
Emergency Diesel IC Engine

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	Latest EPA Tier Certification level for applicable horsepower range		
NOX	Latest EPA Tier Certification level for applicable horsepower range		
PM10	0.15 g/hp-hr or the Latest EPA Tier Certification level for applicable horsepower range whichever is more stringent (ATCM)		
SOX	Very low sulfur diesel fuel (15 ppmw sulfur or less)		
VOC	Latest EPA Tier Certification level for applicable horsepower range		

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

Top Down BACT Analysis for the Emergency IC Engine

BACT Guideline 3 1 1 (July 10, 2009) applies to emergency diesel IC engines. In accordance with the District BACT policy, information from that guideline will be utilized without further analysis.

1 BACT Analysis for NO_x and VOC Emissions

a Step 1 - Identify all control technologies

BACT Guideline 3 1 1 identifies only the following option:

- *Latest EPA Tier Certification level for applicable horsepower range*

To determine the latest applicable Tier level, the following EPA and state regulations were consulted:

- 40 CFR Part 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
- 40 CFR Part 89 – Control of Emissions from New and In-Use Nonroad Compression – Ignition Engines
- 40 CFR Part 1039 – Control of Emissions from New and In-Use Nonroad Compression-Ignition Engines
- Title 17 CCR, Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines

40 CFR Parts 89 and 1039, which apply only to nonroad engines, do not directly apply because the proposed emergency engine(s) do not meet the definition of a nonroad engine. Therefore, only Title 17 CCR, Section 93115 and 40 CFR Part 60 Subpart IIII apply directly to the proposed emergency engine(s).

Title 17 CCR Section 93115 6(a)(3)(A) (CARB stationary diesel engine ATCM) applies to emergency standby diesel-fired engines and requires that such engines be certified to the emission levels in Table 1 (below). Please note that these levels are at least as stringent or more stringent than the emission levels in 40 CFR Subpart IIII.

Table 1 Emission Standards for New Stationary Emergency Standby Diesel-Fueled CI Engines g/bhp-hr (g/kW-hr)					
Maximum Engine Power	Tier	Model Year(s)	PM	NMHC+NOx	CO
50 ≤ HP < 75 (37 ≤ kW < 56)	2	2007	0.15 (0.20)	5.6 (7.5)	3.7 (5.0)
	4i	2008+		3.5 (4.7)	
75 ≤ HP < 100 (56 ≤ kW < 75)	2	2007	0.15 (0.20)	5.6 (7.5)	3.7 (5.0)
	3	2008+		3.5 (4.7)	
100 ≤ HP < 175 (75 ≤ kW < 130)	3	2007	0.15 (0.20)	3.0 (4.0)	3.7 (5.0)
		2008+			
175 ≤ HP < 300 (130 ≤ kW < 225)	3	2007	0.15 (0.20)	3.0 (4.0)	2.6 (3.5)
		2008+			
300 ≤ HP < 600 (225 ≤ kW < 450)	3	2007	0.15 (0.20)	3.0 (4.0)	2.6 (3.5)
		2008+			
600 ≤ HP ≤ 750 (450 ≤ kW ≤ 560)	3	2007	0.15 (0.20)	3.0 (4.0)	2.6 (3.5)
		2008+			
HP > 750 (kW > 560)	2	2007	0.15 (0.20)	4.8 (6.4)	2.6 (3.5)
		2008+			

Additionally, 40 CFR Subpart IIII establishes emission standards for emergency diesel IC engines. These emission standards are the same as those specified in the CARB ATCM, except for engines rated greater than or equal to 50 and less than 75 hp. For such IC engines, the CARB ATCM is more stringent.

Therefore, the most stringent applicable emission standards are those listed in the CARB ATCM (Table 1).

For IC engines rated greater than or equal to 50 hp and less than 75 hp the the highestst Tier required is Tier 4i. For IC engines rated greater than or equal to 75 hp and less than 750 hp the highest Tier required is Tier 3. For engines rated equal to or greater than 750 hp the highest Tier required is Tier 2.

Also, please note that neither the state ATCM nor the Code of Federal Regulations require the installation of IC engines meeting a higher Tier standard than those listed above for emergency applications, due to concerns regarding the effectiveness of the exhaust emissions controls during periods of short-term operation (such as testing operational readiness of an emergency engine).

The proposed engine is rated at 1,214 hp. Therefore, the applicable control technology option is EPA Tier 2 certification.

b Step 2 - Eliminate technologically infeasible options

The control option listed in Step 1 is not technologically infeasible.

c Step 3 - Rank remaining options by control effectiveness

No ranking needs to be done because there is only one control option listed in Step 1.

d Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control option remaining under consideration
Therefore, a cost effectiveness analysis is not required

e Step 5 - Select BACT

BACT for NOx and VOC will be the use of an EPA Tier 2 certified engine The applicant
is proposing such a unit Therefore, BACT will be satisfied

2 BACT Analysis for PM₁₀ Emissions

a Step 1 - Identify all control technologies

BACT Guideline 3.1.1 identifies only the following option

- *0.15 g/bhp-hr or the Latest EPA Tier Certification level for applicable horsepower range, whichever is more stringent (ATCM)*

The latest EPA Tier Certification level for an engine of the proposed model year and horsepower rating is Tier 2. Refer to the Top-Down BACT analysis for NO_x for a discussion regarding the determination of the EPA Tier level to be considered.

Please note Tier 2 or 3 IC engines do not have a PM emission standard that is more stringent than 0.15 g/hp-hr. Additionally, the ATCM requires a PM emission standard of 0.15 g/hp-hr for all new emergency diesel IC engines.

Therefore, a PM/PM₁₀ emission standard of 0.15 g/hp-hr is required as BACT.

b Step 2 - Eliminate technologically infeasible options

The control option listed in Step 1 is not technologically infeasible.

c Step 3 - Rank remaining options by control effectiveness

No ranking needs to be done because there is only one control option listed in Step 1.

d Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control option remaining under consideration. Therefore, a cost effectiveness analysis is not required.

e Step 5 - Select BACT

BACT for PM₁₀ is emissions of 0.15 g/hp-hr or less. The applicant is proposing an engine that meets this requirement. Therefore, BACT will be satisfied.

Appendix C

RMR and AAQA Summaries

San Joaquin Valley Air Pollution Control District Risk Management Review

To Mark Schonhoff - Permit Services
 From Kyle Melching Permit Services
 Date January 13 2014
 Facility Name City of Manteca
 Location 1730 E Atherton Dr Manteca
 Application #(s) N-8952 1-0
 Project # N 1133764

A RMR SUMMARY

RMR Summary			
Categories	Emergency Diesel ICE (Unit 1-0)	Project Totals	Facility Totals
Prioritization Score	N/A ¹	N/A ¹	>1
Acute Hazard Index	N/A ²	N/A ²	N/A
Chronic Hazard Index	0 00	0 00	0 00
Maximum Individual Cancer Risk	3 64E-06	3 64E-06	3 64E 06
T BACT Required?	Yes PM10		
Special Permit Conditions?	Yes		

- 1 Prioritization for this unit was not conducted since it has been determined that all diesel fired IC engines will result in a prioritization score greater than 1 0
- 2 Acute Hazard Indices were not calculated since there is no risk factor or the risk factor is so low that the risk has been determined to be insignificant for this type of unit.

Proposed Permit Conditions

To ensure that human health risks will not exceed District allowable levels the following permit conditions must be included for

Unit 1 0

- 1 The PM10 emissions rate shall not exceed 0 05 g/bhp-hr based on US EPA certification using ISO 8178 test procedure [District Rules 2201]
- 2 The exhaust stack shall vent vertically upward The vertical exhaust flow shall not be impeded by a rain cap (flapper ok) roof overhang or any other obstruction [District Rule 4102]
- 3 This engine shall be operated only for testing and maintenance of the engine required regulatory purposes and during emergency situations Operation of the engine for maintenance testing and required regulatory purposes shall not exceed 50 hours per calendar year [District Rule 4702 and 17 CCR 93115]

B RMR REPORT

I Project Description

Technical Services received a request on December 20 2013 to perform an Ambient Air Quality Analysis (AAQA) and a Risk Management Review (RMR) for one 762 bhp emergency diesel IC engine powering an electrical generator

II Analysis

For the diesel engine Technical Services used diesel exhaust emissions calculated using the District Diesel Exhaust Risk Screening Spreadsheet. Prioritization for this unit was not conducted since it has been determined that all diesel-fired IC engines will result in a prioritization score greater than 1.0 therefore a refined Health Risk Assessment was required and performed for the unit. AERMOD was used with point source parameters outlined below and concatenated 5 year meteorological data from Stockton to determine maximum dispersion factors at the nearest residential and business receptors. The dispersion factors were input into the HARP model to calculate the Carcinogenic Risk.

The following parameters were used for the review

Source Parameters For S-6878 1 0			
Source Type	Point	Location Type	Urban
Stack Height (m)	2.87	Closest Receptor (m)	237
Diameter (m)	0.15	Fuel Type	Diesel
Velocity (m/s)	102	PM10 Emissions (lb/yr)	4.2
Temperature (°K)	823		

Technical Services also performed modeling for criteria pollutants NO_x, CO, SO_x, and PM₁₀ as well as the RMR. For Unit 1-0 the emission rates used for criteria pollutant modeling were 297 lb/yr NO_x, 89 lb/yr CO, 0.3 lb/yr SO_x, and 4 lb/yr PM₁₀.

The results from the Criteria Pollutant Modeling are as follows

Criteria Pollutant Modeling Results*

Diesel ICE	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	NA ¹	X	NA ¹	X	X
NO _x	NA ¹	X	X	X	Pass
SO _x	NA ¹	NA ¹	X	NA ¹	Pass
PM ₁₀	X	X	X	NA ¹	Pass ²
PM _{2.5}	X	X	X	NA ¹	Pass ²

Results were taken from the attached PSD spreadsheet

¹The project is an intermittent source as defined in APR 1920. In accordance with APR 1920, compliance with short term (i.e., 1 hour, 3 hour, 8 hour, and 24 hour) standards is not required.

²The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

III Conclusions

The emissions from the proposed equipment will not cause or contribute significantly to a violation of the State and National AAQS

The cancer risk associated with the operation of the proposed diesel IC engine is **3.64E-06** which is greater than 1.0 in a million. In accordance with the District's Risk Management Policy, the project is approved with Toxic Best Available Control Technology (T-BACT) for PM10.

To ensure that human health risks will not exceed District allowable levels, the permit conditions listed on page 1 of this report must be included for the proposed unit.

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

IV Attachments

- A RMR request from the project engineer
- B Additional information from the applicant/project engineer
- C Stack Parameter Worksheet
- D DICE Screening Risk Tool
- E Facility Summary
- F AAQA Summary
- G AERMOD Non-Regulatory Option Checklist

Appendix D Emission Data Sheet

EXHAUST EMISSIONS DATA

STATEMENT OF EXHAUST EMISSIONS 2013 PERKINS DIESEL FUELED GENERATOR

The measured emissions values provided here are proprietary to Generac and its authorized dealers. This information may only be disseminated upon request to regulatory governmental bodies for emissions permitting purposes or to specifying organizations as submittal data when expressly required by project specifications and shall remain confidential and not open to public viewing. This information is not intended for compilation or sales purposes and may not be used as such nor may it be reproduced without the expressed written permission of Generac Power Systems Inc. The data provided shall not be meant to include information made public by Generac.

Generator Model	SD/MD500	EPA Certificate Number	DPKXL15 2TA2 015
kW _e Rating	500	CARB Certificate Number	Not Applicable
Engine Family	DPKXL15 2TA2	SCAQMD CEP Number	545376
Engine Model	2506C E15TAG3	Emission Standard Category	Tier 2
Rated Engine Power (BHP)*	762	Certification Type	Stationary Emergency CI (40 CFR Part 60 Subpart IIII)
Fuel Consumption (gal/hr)*	31.2		
Aspiration	Turbo/Aftercooled		
Rated RPM	1800		

*Engine Power and Fuel Consumption are declared by the Engine Manufacturer of Record and the U.S. EPA.

Emissions based on engine power of specific Engine Model (These values are actual composite weighted exhaust emissions results over the EPA 5 mode test cycle)			
CO	NOx + NMHC	PM	
1.43	5.02	0.07	Grams/kW hr
1.06	3.73	0.05	Grams/bhp hr

The stated values are actual exhaust emission test measurements obtained from an engine representative of the type described above. Values based on 5 mode testing are official data of record as submitted to regulatory agencies for certification purposes. Testing was conducted in accordance with prevailing EPA protocol which is typically accepted by SCAQMD and other regional authorities. No emissions values provided above are to be construed as guarantees of emission levels for any given Generac generator unit. Generac Power Systems Inc. reserves the right to revise this information without prior notice. Consult state and local regulatory agencies for specific permitting requirements. The emission performance data supplied by the equipment manufacturer is only one element required toward completion of the permitting and installation process. State and local regulations may vary on a case-by-case basis and local agencies must be consulted by the permit application/equipment owner prior to equipment purchase or installation. The data supplied herein by Generac Power Systems cannot be construed as a guarantee of installability of the generating set.