San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

DEC 18 2015

Bob Martin
Martin Brower Company
4704 Fite Court
Stockton, CA 95215

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: N-9226
Project Number: N-1153460

Dear Mr. Martin:

Enclosed for your review and comment is the District's analysis of Martin Brower Company's application for an Authority to Construct for the installation of two identical 909 horsepower Tier 2 certified diesel engines to power emergency power in the event of an electrical outage, at 4704 Fite Court in Stockton.

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. Wai-Man So of Permit Services at (209) 557-6449.

Sincerely,

Arnaud Marjollet
Director of Permit Services

AM:WMS

Enclosures

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

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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San Joaquin Valley Air Pollution Control District
Authority to Construct

Two emergency standby IC engines each powers an electrical generator

Facility Name:	Martin Brower Company	Date:	December 11, 2015
Mailing Address:	4704 Fite Court	Engineer:	Wai-Man So
	Stockton, CA 95215	Lead Engineer:	Nick Peirce
Contact Person:	Jacque Wallingford (Agent)		Joe Sanchez (Sales Engineer)
Telephone:	(209) 462 – 2292		(209) 870 – 1900
Email:	comgen@aol.com		joe@energysystem.net
Application #(s):	N-9226-3-0 & -4-0		
Project #:	N-1153460		
Deemed Complete:	December 7, 2015		

I. PROPOSAL

Martin Brower Company – Maintenance Shop (hereinafter MBC) is requesting Authority to Construct (ATC) permits for the installation of two identical 909 bhp Generac model SD600 Tier 2 certified diesel-fired emergency standby IC engines each powering an electrical generator.

II. APPLICABLE RULES

District Rule 2201	New and Modified Stationary Source Review Rule (04/21/11)
District Rule 2410	Prevention of Significant Deterioration (effective 11/26/12)
District Rule 2520	Federally Mandated Operating Permit (06/21/2001)
District Rule 4001	New Source Performance Standard (04/14/1999)
District Rule 4002	National Emission Standards for Hazardous Air Pollutants (05/20/04)
District Rule 4101	Visible Emissions (02/17/05)
District Rule 4102	Nuisance (12/17/92)
District Rule 4201	Particulate Matter Concentration (12/17/92)
District Rule 4701	Stationary Internal Combustion Engines – Phase 1 (08/21/2003)
District Rule 4702	Stationary Internal Combustion Engines – Phase 2 (11/14/2013)
District Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice

Title 17 California Code of Regulations (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

The equipment will be located at 4704 Fite Road in Stockton, California. The site is not located within 1,000 feet to the outer boundary of any K-12 school. Pursuant to California Health and Safety Code 42301.6, a school notification is not required.

IV. PROCESS DESCRIPTION

Each of the emergency standby engines powers an electrical generator. Other than emergency operation, each engine may be operated up to 50 hours per calendar year for maintenance and testing purposes.

V. EQUIPMENT LISTING

N-9226-3-0

909 BHP (INTERMITTENT) GENERAC MODEL SD600 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR (UNIT #1)

N-9226-4-0

909 BHP (INTERMITTENT) GENERAC MODEL SD600 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR (UNIT #2)

VI. EMISSION CONTROL TECHNOLOGY EVALUATION

N-9226-3-0 & -4-0

Each engine is a 2015 model year Tier 2 certified diesel-fired IC engine that is fired on very low-sulfur diesel fuel (0.0015% by weight sulfur maximum).

Per District Guidance Document FYI-324 and the District BACT Guideline 3.1.1, the facility is required to install the latest available tier certification standard for emergency engines as noted below. A new emergency engine shall meet the requirements as follows:

50 ≤ bhp < 75: Tier 4 Interim certification standards
75 ≤ bhp < 750: Tier 3 certification standards
≥ 750 bhp: Tier 2 certification standards

Each proposed unit is a 909 bhp Tier 2 certified emergency engine which meets the requirements of District Policy FYI-324 and BACT Guideline 3.1.1.

The use of very low-sulfur diesel fuel reduces SO_X emissions by over 99% from standard diesel fuel.

VII. GENERAL CALCULATIONS

A. Assumptions

N-9226-3-0 & -4-0

Emergency operating schedule:	24 hours/day
Non-emergency operating schedule:	50 hours/year (per ATCM)
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
PM10 fraction of diesel exhaust:	0.96 (CARB, 1988)

B. Emission Factors

Pre-Project Emission Factors (EF1)

N-9226-3-0 & -4-0

These are new emission units. Therefore, EF1 is equal to zero.

Post-Project Emission Factors (EF2)

N-9226-3-0 & -4-0

These are identical engines, except SOx, emissions factors are taken from the engine's manufacturer performance datasheet. See copy of the engine datasheet in Appendix II of this document. According to the engine datasheet, the NOx + VOC emissions factor is 3.88 g/bhp-hr. Per the District's Carl Moyer program, it will be assumed the NO_X + VOC emission factor is split 95% NO_X and 5% VOC.

Only California Air Resources Board (CARB) certified diesel fuel containing no more than 0.0015% sulfur by weight could be used. The emission factor for SO_X is calculated by following equation:

$$\frac{0.000015\ \text{lb-S}}{\text{lb-fuel}} \times \frac{7.1\ \text{lb-fuel}}{\text{gallon}} \times \frac{2\ \text{lb-SO}_2}{1\ \text{lb-S}} \times \frac{1\ \text{gal}}{137{,}000\ \text{Btu}} \times \frac{1\ \text{bhp input}}{0.35\ \text{bhp out}} \times \frac{2{,}542.5\ \text{Btu}}{\text{bhp-hr}} \times \frac{453.6\ \text{g}}{\text{lb}}$$

$$= 0.0051 \frac{\text{g-SO}_X}{\text{bhp-hr}}$$

These emission factors are summarized in the following table:

Pollutant	Post-Project Emission Factors (EF2)	Source
NO_X	3.686 g/hp-hr	Manufacturer Data Sheet
SO_X	0.0051 g/hp-hr	Mass balance equation above
PM_{10}	0.05 g/hp-hr	Manufacturer Data Sheet
CO	0.6 g/hp-hr	Manufacturer Data Sheet
VOC	0.194 g/hp-hr	Manufacturer Data Sheet

C. Potential to Emit (PE) Calculations

1. Daily and Annual PE

Pre-Project Potential to Emit (PE1)

N-9226-3-0 & -4-0

These are new emissions units. Therefore, PE1 is equal to zero.

Post-Project Potential to Emit (PE2)

N-9226-3-0 & -4-0

These are identical engines, so a single calculation will be performed. The PE2 for each pollutant is calculated as follow:

PE2 = EF2 (g/hp-hr) × Power Rating (hp) × Operating Schedule (hr/day or hr/year) ÷ Conversion (g/lb)

Daily PE2 = EF2 (g/hp-hr) × 909 (hp) × 24 (hr/day) ÷ 453.6 (g/lb)
Annual PE2 = EF2 (g/hp-hr) × 909 (hp) × 50 (hr/yr) ÷ 453.6 (g/lb)

Pollutant	Post-Project Potential to Emit (PE2)						
	EF2 (g/hp-hr)	Power Rating (hp)	Operating Schedule		Conversion (g/lb)	Daily PE2 (lb/day)	Annual PE2 (lb/yr)
			(hr/day)	(hr/yr)			
NO_X	3.686	909	24	50	453.6	177.3	369
SO_X	0.0051	909	24	50	453.6	0.2	1
PM_{10}	0.05	909	24	50	453.6	2.4	5
CO	0.6	909	24	50	453.6	28.9	60
VOC	0.194	909	24	50	453.6	9.3	19

2. Quarterly Net Emissions Change

The Quarterly Net Emissions Changes (QNEC) is calculated for each pollutant, for each unit, as the difference between the quarterly PE2 and the quarterly baseline emissions (BE). The annual emissions are evenly distributed throughout each quarter using the following equation:

QNEC (lb/quarter) = [Annual PE2 – Annual PE1] (lb/year) / 4 (quarter/year)

N-9226-3-0 & 4-0

Pollutant	Quarterly Net Emissions Change (QNEC)			
	1st Quarter (lb/quarter)	2nd Quarter (lb/quarter)	3rd Quarter (lb/quarter)	4thQuarter (lb/quarter)
NO_X	92	92	92	93
SO_X	0	0	0	1
PM_{10}	1	1	1	2
CO	15	15	15	15
VOC	4	5	5	5

3. Adjusted increase in Permitted Emissions (AIPE)

AIPE is used to determine if Best Available Control Technology (BACT) is required for emission units that are being modified.

These are new emission units. Therefore, AIPE calculations are not required.

D. Facility Emissions

1. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to District Rule 2201, the SSPE1 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site.

SSPE1 values were taken from engineering evaluation under project N-1153462.

Permit Number	Pollutants (lb/yr)				
	NO_X	SO_X	PM_{10}	CO	VOC
ATC N-9226-1-0	14	0	2	2	12
ATC N-9226-2-0	187	0	7	122	10
ERC	0	0	0	0	0
SSPE1	201	0	9	124	22

2. Post-Project Stationary Source Potential to Emit (SSPE2)

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

Permit Number	Pollutants (lb/yr)				
	NO_X	SO_X	PM_{10}	CO	VOC
ATC N-9226-1-0	14	0	2	2	12
ATC N-9226-2-0	187	0	7	122	10
ATC N-9226-3-0	***369***	***1***	***5***	***60***	***19***
ATC N-9226-4-0	***369***	***1***	***5***	***60***	***19***
ERC	0	0	0	0	0
SSPE2	939	2	19	244	60

3. Stationary Source Increase in Permitted Emissions (SSIPE)

SSIPE calculations are used to determine if the project triggers public notice pursuant to District Rule 2201. If SSIPE results greater than 20,000 lb/yr for any one pollutant then project requires public notification. At this time, it is District Practice to define the SSIPE as the difference of SSPE2 to SSPE1, and calculated by the following equation:

SSIPE (lb/yr) = SSPE2 (lb/yr) – SSPE1 (lb/yr)

SSIPE	Pollutants (lb/yr)				
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE2	939	2	19	244	60
SSPE1	201	0	9	124	22
SSIPE	738	2	10	120	38

As shown above, SSIPE is less than 20,000 pounds for each pollutant.

4. Major Source Determination

Rule 2201 Major Source Determination:

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. For the purposes of determining major source status the following shall not be included:

- any ERCs associated with the stationary source
- emissions from non-road IC engines (i.e. IC engines at a particular site at this facility for less than 12 months)

- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

There are no ERCs listed for this facility.

Rule 2201 Major Source Determination (lb/year)						
	NO_X	SO_X	PM10	PM2.5	CO	VOC
SSPE1	201	0	9	9	124	22
SSPE2	939	2	19	19	244	60
Major Source Threshold	20,000	140,000	140,000	200,000	200,000	20,000
Major Source	No	No	No	No	No	No

Note: PM2.5 assumed to be equal to PM10

As seen in the table above, the facility is not an existing Major Source, and is also not becoming a Major Source as a result of this project.

Rule 2410 Major Source Determination:

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)(iii). Therefore the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Estimated Facility PE before Project Increase	0.1	0.01	0	0.06	4.5E-3	4.5E-3
PSD Major Source Thresholds	250	250	250	250	250	250
Existing PSD Major Source ? (Y/N)	N	N	N	N	N	N

As shown above, the facility is not an existing major source for PSD for any pollutant. Therefore, the facility is not an existing major source for PSD.

5. Baseline Emissions (BE)

The BE calculation (in lb/year) is performed on a pollutant-by-pollutant basis to determine the amount of offsets required, where necessary, when the SSPE1 is greater than the offset threshold.

Pursuant to District Rule 2201, BE = PE1 for:
- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, Located at a Major Source.

Otherwise,
BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201

As shown in Section VII.D.4 above, the facility is not a major source for any pollutant. Therefore BE=PE1.

N-9226-3-0 & 4-0

Since these are new emissions units, BE = PE1 = 0 for all pollutants

6. SB 288 Major Modification

SB 288 Major Modification is defined in 40 CFR Part 51.165 as "any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act."

Since this facility is not a Major Source for any of the pollutants addressed in this project, this project does not constitute an SB 288 Major Modification.

7. Federal Major Modification

District Rule 2201 states that a Federal Major Modification is the same as a "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

Since this facility is not a Major Source for any pollutants, this project does not constitute a Federal Major Modification. Additionally, since the facility is not a major source for PM_{10} (140,000 lb/year), it is not a major source for PM2.5 (200,000 lb/year).

8. Rule 2410 – Prevention of Significant Deterioration (PSD) Applicability Determination

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV are: (See 52.21 (b) (23) definition of significant)

- NO2 (as a primary pollutant)
- SO2 (as a primary pollutant)
- CO
- PM
- PM10

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)(iii). The PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination: Potential to Emit (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Total PE from the new units·	0.37	0.02	1E-3	0.06	5E-3	5E-3
PSD Major Source Thresholds	250	250	250	250	250	250
New PSD Major Source ? (Y/N)	N	N	N	N	N	N

As shown in the table above, the project potential to emit for the project, by itself, does not exceed any PSD major source thresholds. Therefore Rule 2410 is not applicable and no further discussion is required.

VIII.COMPLIANCE

District Rule 2201 New and Modified Stationary Source Review Rule

1. Best Available Control Technology (BACT)

A. 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 two pounds per day,
b) The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
c) Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
d) Any new or modified emissions unit, in a stationary source project, which results in a Major Modification.

*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 discussed in Section I of this document, the facility is proposing to install two emergency standby IC engines. Additionally, as determined in Sections VII.D.6 and VII.D.7 of this document, this project does not result in an SB 288 Major Modification or Federal Major Modification. Therefore, BACT can only be triggered if the daily emissions exceed 2.0 lb/day for any pollutant.

N-9226-3-0 & -4-0

These are identical engines. The daily emission from each new unit is compared to the BACT threshold levels in the following table:

New Emissions Unit BACT Applicability				
Pollutant	Daily Emissions (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/yr)	BACT Triggered?
NO_X	177.3	> 2.0	n/a	Yes
SO_X	0.2	> 2.0	n/a	No
PM_{10}	2.4	> 2.0	n/a	Yes
CO	28.9	> 2.0 and SSPE2 ≥ 200,000 lb/yr	244	No
VOC	9.3	> 2.0	n/a	Yes

As shown above, BACT will be triggered for NO_X, PM10, and VOC emissions for each engine.

B. BACT Guideline

N-9226-3-0 & -4-0

BACT Guideline 3.1.1, which appears in Appendix III of this document, covers diesel-fired emergency IC engine powering electrical generator.

C. 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."

N-9226-3-0 & -4-0

The "Top-Down BACT Analysis" for NO_X, PM10 and VOC emissions is performed in Appendix III of this document. According to this analysis, BACT is satisfied with:

NO_X: Latest EPA Tier Certification level for applicable horsepower range
PM_{10}: 0.15 g/bhp or the Latest EPA Tier Certification level for applicable horsepower range, whichever is more stringent. (ATM)
VOC: Latest EPA Tier Certification level for applicable horsepower range

Each proposed engine meets the above requirements. Therefore, BACT is satisfied for NO_X, PM10 and VOC emissions.

2. 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.

3. Public Notification

District Rule 2201, § 5.4, requires a public notification for the affected pollutants from the following types of projects:

a. New Major Source, Federal Major Modification, and SB 288 Major Modification

This facility is not becoming a new major source, and the proposed project will trigger neither Federal Major Modification nor SB 288 Major Modification. Therefore, public noticing for these purposes is not required.

b. New emission unit with PE > 100 lb/day for any one pollutant

N-9226-3-0 & -4-0

These are identical units, and the potential emissions listed below represent each permit unit.

PE > 100 lb/day Public Notice Thresholds			
Pollutant	PE2 (lb/day)	Public Notice Threshold	Public Notice Triggered?
NO_X	177.3	100 lb/day	Yes
SO_X	0.2	100 lb/day	No
PM_{10}	2.4	100 lb/day	No
CO	28.9	100 lb/day	No
VOC	9.3	100 lb/day	No

As shown above, public noticing is required for this project for NO_X emissions in excess of 100 lb/day.

c. Modifications with SSPE1 below an Offset threshold and SSPE2 above an Offset threshold on a pollutant-by-pollutant basis

The proposed project does not result in SSPE from below offset threshold level to above offset threshold level for any one pollutant. Therefore, public noticing for this purpose is not required.

d. New stationary sources with SSPE2 exceeding Offset thresholds

There is no new stationary source with SSPE2 exceeding offset thresholds as a result of this project. Therefore, public noticing for this purpose is not required.

e. Any permitting action with an SSIPE exceeding 20,000 lb/yr for any one pollutant

The proposed project does not result in SSIPE exceeding 20,000 lb/yr for any one pollutant. Therefore, public noticing for this purpose is not required.

As discussed above, public noticing is required for this project for NO_X emissions in excess of 100 lb/day. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

4. Daily Emission Limits (DELs)

DELs and other enforceable conditions are required by Rule 2201 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. 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. DELs are also required to enforce the applicability of BACT:

N-9226-3-0 & -4-0

- *Emissions from this IC engine shall not exceed any of the following limits: 3.686 g-NO_X/bhp-hr, 0.6 g-CO/bhp-hr, or 0.194 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]*

In addition, the DEL for SO_X is established by the sulfur content of the fuel being combusted in the engine. Therefore, the following condition will be listed on the permit to ensure compliance:

- *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]*

5. Compliance Assurance

a. Source Testing

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

b. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

c. Recordkeeping

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

d. Reporting

No reporting is required to ensure compliance with Rule 2201.

6. Ambient Air Quality Analysis

An AAQA shall 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 District's Technical Services Division conducted the required analysis. Refer to Appendix IV of this document for the AAQA summary sheet.

The proposed location is in an attainment area for NO_X, CO, and SO_X. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO_X, CO, or SO_X. The proposed location is in a non-attainment area for the state's PM_{10} as well as federal and state $PM_{2.5}$ thresholds. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for PM_{10} and $PM_{2.5}$.

Compliance with the requirements of this rule is expected.

District Rule 2410 Prevention of Significant Deterioration

The provisions of this rule shall apply to any source and the owner or operator of any source subject to any requirements under Title 40 Code of Federal Regulations (40 CFR) Part 52.21 as incorporated into this rule.

As demonstrated in Section VII.D.8 of this document, the proposed project is not subject to the requirements of Rule 2410; therefore no further discussion is required.

District Rule 2520 Federally Mandated Operating Permit

Since this facility's potential to emit does not exceed any major source thresholds of Rule 2201, this facility is not a major source, and Rule 2520 does not apply.

District Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60.

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

Pursuant to §60.4200 of this Subpart, these engines are subject to this federal regulation. However, the District has not been delegated the authority to implement the requirement of this regulation for non-Major Sources. Therefore, the following condition will be listed on the permits:

- *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]*

District Rule 4002 National Emission Standards for Hazardous Air Pollutants

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63.

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

Pursuant to §63.6585 of this Subpart, these engines are subject to this federal regulation. However, the District has not been delegated the authority to implement the requirement of this regulation for non-Major Sources. Therefore, the following condition will be listed on the permits:

- *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]*

District Rule 4101 Visible Emissions

District Rule 4101, Section 5.0, indicates that 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 dark or darker than Ringlemann 1 or equivalent to 20% opacity. The following condition will be listed on the permits to ensure compliance:

- *{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]*

District Rule 4102 Nuisance

Section 4.0 prohibits discharge of air contaminants, which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. The following condition will be listed on the permits to ensure compliance:

- *{98} No air contaminant shall be released into the atmosphere, which causes a public nuisance. [District Rule 4102]*

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905 – *Risk Management Policy for Permitting New and Modified Sources* 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.

An HRA is not required for a project with a total facility prioritization score of less than one. According to the Technical Services Memo for this project, in the Appendix IV of this document, the total facility prioritization score including this project was greater than one. Therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project.

The cancer risk for this project is shown below:

HRA Summary		
Unit	Cancer Risk	T-BACT Required
N-9226-3-0	8.0E-07	No
N-9226-4-0	8.0E-07	No

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million. As demonstrated above, T-BACT is not required for this project because the HRA indicates that the risk is not above the District's thresholds for triggering T-BACT requirements; therefore, compliance with the District's Risk Management Policy and Rule 4102 is expected.

District Rule 4201 Particulate Matter Concentration

Section 3.0 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot, which, as calculated below, is equivalent to a PM_{10} emission factor of 0.4 g-PM_{10}/bhp-hr.

$$0.1 \frac{grain-PM}{dscf} \times \frac{g}{15.43 grain} \times \frac{1 Btu_{in}}{0.35 Btu_{out}} \times \frac{9{,}051 dscf}{10^6 Btu} \times \frac{2{,}542.5 Btu}{1 bhp-hr} \times \frac{0.96 g-PM_{10}}{1 g-PM} = 0.4 \frac{g-PM_{10}}{bhp-hr}$$

Each engine has a PM_{10} emission factor less than 0.4 g/bhp-hr. Therefore, compliance with District Rule 4201 requirements is expected and a permit condition will be listed on the permits as follows:

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

District 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 which requires a PTO.

The proposed engines are 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.

District Rule 4702 Internal Combustion Engines – Phase 2

The following table demonstrates how the proposed engines 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. The Air Toxic Control Measure for Stationary Compression Ignition Engines (Stationary ATCM) limits diesel-fired engine maintenance and testing to 50 hours per year.	The following conditions will be included on the permits: • {4777} This engine shall be operated only for maintenance, testing, 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]

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: • {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 following condition will be included on the permits: • {4621} 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]
Install and operate a non-resettable elapsed time meter. In lieu of installing a non-resettable elapsed time meter, the operator may use an alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO & EPA and is allowed by Permit to Operate condition. The operator shall properly maintain & operate the non-resettable elapsed time meter or alternative device in accordance with the manufacturer's instructions.	The following condition will be included on the permits: • {4749} This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 4702 and 17 CCR 93115]
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: • {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 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.	The following conditions will be included on the permits: • {3496} 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, 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 Rule 4702 and 17 CCR 93115] • {4263} 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 Rule 4702 and 17 CCR 93115]

District Rule 4801 Sulfur Compounds

Rule 4801 requires that sulfur compound emissions (as SO_2) shall not exceed 0.2% by volume. Using the ideal gas equation, the sulfur compound emissions are calculated as follows:

Volume SO_2 = (n x R x T) ÷ P
n = moles SO_2
T (standard temperature) = 60 °F or 520 °R
R (universal gas constant) = $\frac{10.73\,\text{psi}\cdot\text{ft}^3}{\text{lb}\cdot\text{mol}\cdot{}^\circ\text{R}}$

N-9226-3-0 & -4-0

$$\frac{0.000015\,lb-S}{lb-fuel}\times\frac{7.1\,\text{lb}}{\text{gal}}\times\frac{64\,\text{lb}-SO_2}{32\,\text{lb}-S}\times\frac{1\,\text{MMBtu}}{9{,}051\,\text{scf}}\times\frac{1\,\text{gal}}{0.137\,\text{MMBtu}}\times\frac{\text{lb}-\text{mol}}{64\,\text{lb}-SO_2}\times\frac{10.73\,\text{psi}-\text{ft}^3}{\text{lb}-\text{mol}-{}^\circ\text{R}}\times\frac{520{}^\circ\text{R}}{14.7\,\text{psi}}\times 1{,}000{,}000 = 1.0\ \text{ppmv}$$

Since 1.0 ppmv is ≤ 2,000 ppmv, these engines are expected to comply with Rule 4801. Therefore, the following condition will be listed on the permits to ensure compliance:

- *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]*

California Health & Safety Code 42301.6 (School Notice)

As discussed in Section III of this document, a school notice is not required for this project.

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 engines will comply with the requirements of Title 17 CCR Section 93115.

Title 17 CCR Section 93115 Requirements for New Emergency IC Engines Powering Fire Pump	Proposed Method of Compliance with Title 17 CCR Section 93115 Requirements
Emergency engine(s) must be fired on CARB diesel fuel, or an approved alternative diesel fuel.	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.
The engine(s) must meet the emission standards in Table 1 of the ATCM for the specific power rating and model year of the proposed engine	The applicant has proposed the use of engine(s) that are certified to the latest EPA Tier Certification standards for the applicable horsepower range, guaranteeing compliance with the emission standards of the ATCM. Additionally, the proposed diesel PM emissions rate is less than or equal to 0.15 g/bhp-hr.
The engine may not be operated more than 50 hours per year for maintenance and testing purposes.	The following condition will be included on the permit: • {4777} 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 Rules 2201 and 4702, and 17 CCR 93115]
New stationary emergency standby diesel-fueled CI engines (> 50 bhp) must meet the standards for off-road engines of the same model year and maximum rated power as specified in the Off-Road Compression Ignition Engine Standards (title 13, CCR, section 2423).	The applicant has proposed the use of engine(s) that are certified to the latest EPA Tier Certification level for the applicable horsepower range.

Engines, with a PM10 emissions rate 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	The District has verified that this engine is not located within 500 feet of a school.
A non-resettable hour meter with a minimum display capability of 9,999 hours shall be installed upon engine installation, or by no later than January 1, 2005, on all engines subject to all or part of the requirements of sections 93115.6, 93115.7, or 93115.8(a) unless the District determines on a case-by-case basis that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history.	The following condition will be included on the permit: • {4749} This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 4702 and 17 CCR 93115]
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.	Permit conditions enforcing these requirements were shown earlier in the evaluation.

California Environmental Quality Act (CEQA)

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 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; and
- 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.

IX. RECOMMENDATION

Compliance with all applicable rules and regulations is expected. Issue Authorities to Construct N-9226-3-0 and N-9226-4-0 subject to the permit conditions listed on the attached draft Authorities to Construct in Appendix I.

X. BILLING INFORMATION

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
N-9226-3-0	3020-10-E	909 bhp	$631
N-9226-4-0	(800 or Greater but less Than 1,000 bhp)	909 bhp	$631

APPENDICES

Appendix I: Draft Authorities to Construct (ATC)
Appendix II: Engines Specification Sheet
Appendix III: BACT Guideline & Top-Down BACT Analyses
Appendix IV: RMR & AAQA Summaries

APPENDIX I

Draft Authorities to Construct (ATC)

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: N-9226-3-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: MARTIN BROWER COMPANY - MAINTENANCE SHOP
MAILING ADDRESS: 4704 FITE CT
STOCKTON, CA 95215

LOCATION: 4704 FITE CT
STOCKTON, CA 95215

EQUIPMENT DESCRIPTION:
909 BHP (INTERMITTENT) GENERAC MODEL SD600 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR (UNIT #1)

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. {4749} This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 4702 and 17 CCR 93115]
5. {4258} 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]
6. Emissions from this IC engine shall not exceed any of the following limits: 3.686 g-NOx/bhp-hr, 0.6 g-CO/bhp-hr, or 0.194 g-VOC/bhp-hr. [District Rule 2201 and 17 CCR 93115]
7. 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]
8. {4261} 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]

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

Arnaud Marjollet, Director of Permit Services
N-9226-3-0 Dec 11 2015 7:38AM – SOW Joint Inspection NOT Required

9. {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]

10. {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]

11. {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]

12. {3496} 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, 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 Rule 4702 and 17 CCR 93115]

13. {4777} 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 Rules 2201 and 4702, and 17 CCR 93115]

14. {4263} The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93115]

15. {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]

16. 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]

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-9226-4-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: MARTIN BROWER COMPANY - MAINTENANCE SHOP
MAILING ADDRESS: 4704 FITE CT
STOCKTON, CA 95215

LOCATION: 4704 FITE CT
STOCKTON, CA 95215

EQUIPMENT DESCRIPTION:
909 BHP (INTERMITTENT) GENERAC MODEL SD600 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR (UNIT #2)

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. {4749} This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 4702 and 17 CCR 93115]
5. {4258} 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]
6. Emissions from this IC engine shall not exceed any of the following limits: 3.686 g-NOx/bhp-hr, 0.6 g-CO/bhp-hr, or 0.194 g-VOC/bhp-hr. [District Rule 2201 and 17 CCR 93115]
7. 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]
8. {4261} 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]

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

DRAFT

Arnaud Marjollet, Director of Permit Services

N-9226-4-0 Dec 11 2015 7:30AM – SOW Joint Inspection NOT Required

9. {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]
10. {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]
11. {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]
12. {3496} 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, 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 Rule 4702 and 17 CCR 93115]
13. {4777} 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 Rules 2201 and 4702, and 17 CCR 93115]
14. {4263} The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93115]
15. {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]
16. 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]

APPENDIX II

Engines Specification Sheet

GENERAC | INDUSTRIAL POWER

STATEMENT OF EXHAUST EMISSIONS
2015 PERKINS DIESEL FUELED GENERATOR

The measured emissions values provided here are proprietary to Generac and it's 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:	**SD600**	EPA Certificate Number:	**FCPXL18.1NYS-003**
kW_e Rating:	**600**	CARB Certificate Number:	**Not Applicable**
Engine Family:	**FCPXL18.1NYS**	SCAQMD CEP Number:	**545379**
Engine Model:	**2806C-E18TAG3**	Emission Standard Category:	**Tier 2**
Rated Engine Power (BHP) :*	**909**	Certification Type:	**Stationary Emergency CI (40 CFR Part 60 Subpart IIII)**
Fuel Consumption (gal/hr)*:	**41.4**		
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	
0.80	**5.20**	**0.07**	Grams/kW-hr
0.60	**3.88**	**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.

APPENDIX III

BACT Guideline & Top-Down 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 ppmv sulfur or less)		
VOC	Latest EPA Tier Certification level for applicable horsepower range*		

*Note: The certification requirements are as follows: for emergency engines 50 ≤ bhp < 75 - Tier 4 Interim; for emergency engines 75 ≤ bhp < 750 - Tier 3; for emergency engines ≥ 750 bhp - Tier 2.

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.

N-9226-3-0 & -4-0

Top-Down BACT Analysis for NO_X & VOC emissions

BACT Guideline 3.1.1 (September 10, 2013) applies to emergency diesel-fired IC engines. In accordance with the District BACT policy, information from that guideline will be utilized without further analysis:

Step 1 - Identify all control technologies

Achieved in Practice or contained in the SIP:

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 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).

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+			

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 higherst Tier required is Tier 4i. For IC engines rated greater than or equal to 75 hp and less than 750 hp the highest Tier reqired 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).

Each proposed engine is rated at 909 hp. As discussed in section VI of this document, the applicable control technology option is EPA Tier 2 certification level.

Technologically Feasible:

There is no technologically feasible control technoology listed on this guideline.

Alternate Basic Equipment:

There is no alternate basic equipment listed on this guideline.

Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options that can be eliminated from step 1.

Step 3 - Rank remaining options by control effectiveness

Ranking of the control technologies is not required since the applicant has proposed utilize the only control technology, achieved in practice control technology listed on this guideline.

Step 4 - Cost Effectiveness Analysis

Pursuant to District BACT Policy APR 1305 IX.D.3 (11/99), a cost-effective analysis is not required since the applicant has proposed utilize the most stringent control technology option listed in Step 3. Therefore, the cost effectiveness analysis is not required.

Step 5 - Select BACT

BACT for NO_X and VOC will be the use of an EPA Tier 2 certified engine. The applicant is proposing such units. Therefore, BACT will be satisfied.

N-9226-3-0 & -4-0

Top-Down BACT Analysis for PM10 emissions

BACT Guideline 3.1.1 applies to emergency diesel-fired IC engines. In accordance with the District BACT policy, information from that guideline will be utilized without further analysis:

Step 1 - Identify all control technologies

Achieved in Practice or contained in the SIP:

PM10: 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 NOx for a discussion regarding the determination of the EPA Tier level to be considered.

Please note Tier 2 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.

Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options that can be eliminated from step 1.

Step 3 - Rank remaining options by control effectiveness

Ranking of the control technologies is not required since the applicant has proposed utilize the only control technology, achieved in practice control technology listed on this guideline.

Step 4 - Cost Effectiveness Analysis

Pursuant to District BACT Policy APR 1305 IX.D.3 (11/99), a cost-effective analysis is not required since the applicant has proposed utilize the most stringent control technology option listed in Step 3. Therefore, the cost effectiveness analysis is not required.

Step 5 - Select BACT

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

APPENDIX VI

RMR & AAQA Summaries

San Joaquin Valley Air Pollution Control District
Risk Management Review

To:	Wai-Man So - Permit Services
From:	Cheryl Lawler - Permit Services
Date:	December 9, 2015
Facility Name:	Martin Brower Company
Location:	4704 Fite Court, Stockton
Application #(s):	N-9226-3-0 & 4-0
Project #:	N-1153460

A. RMR SUMMARY

RMR Summary				
Categories	**Emergency Diesel ICE (Unit 3-0)**	**Emergency Diesel ICE (Unit 4-0)**	**Project Totals**	**Facility Totals**
Prioritization Score	N/A[1]	N/A[1]	N/A[1]	>1
Acute Hazard Index	N/A[2]	N/A[2]	N/A[2]	0.02
Chronic Hazard Index	N/A[2]	N/A[2]	N/A[2]	0.00
Maximum Individual Cancer Risk	**8.0E-07**	**8.0E-07**	1.6E-06	2.43E-06
T-BACT Required?	**No**	**No**		
Special Permit Conditions?	**Yes**	**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 and Chronic 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:

Units 3-0 & 4-0

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 7, 2015, to perform an Ambient Air Quality Analysis (AAQA) and a Risk Management Review (RMR) for two identical 909 bhp emergency diesel IC engines each powering an electrical generator.

II. Analysis

Technical Services performed a screening level Health Risk Assessment using the District developed DICE database.

The following parameters were used for the review:

Analysis Parameters (each unit) Units 3-0 & 4-0			
Source Type	Point	**Location Type**	Rural
BHP	909	**PM_{10} g/hp-hr**	0.05
Closest Receptor (m)	40.84	**Quad**	2
Max Hours per Year	50	**Type of Receptor**	Business

Technical Services performed modeling for criteria pollutants NOx, SOx and PM_{10}; as well as a RMR. The emission rates used for criteria pollutant modeling were provided by the processing engineer.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

Diesel ICEs	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.
[1]The 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.
[2]The 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 Risks associated with the operation of the proposed diesel IC engines are each less than 1.0 in a million. In accordance with the District's Risk Management Policy, the project is approved **without** 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 units.

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.

Attachments

RMR Request Form & Attachments
Project Related Email
DICE Screening Risk Tool
AAQA Results
Facility Summary