



April 6, 2022

Ms. Deedee Antypas  
Stockton RWCF  
2500 Navy Drive  
Stockton, CA 95206

**Re: Proposed ATC / Certificate of Conformity (Significant Mod)**  
**Facility Number: N-811**  
**Project Number: N-1212743**

Dear Ms. Antypas:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. This project is proposing to install a 4,332 bhp Tier 2 emergency standby engine powering an electrical generator.

The notice of preliminary decision for this project has been posted on the District's website ([www.valleyair.org](http://www.valleyair.org)). After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authority to Construct with a Certificate of Conformity. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Nick Peirce, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,

Brian Clements  
Director of Permit Services

Enclosures

cc: Courtney Graham, CARB (w/enclosure) via email  
cc: Laura Yannayon, EPA (w/enclosure) via EPS

**Samir Sheikh**  
Executive Director/Air Pollution Control Officer

**Northern Region**  
4800 Enterprise Way  
Modesto, CA 95356-8718  
Tel: (209) 557-6400 FAX: (209) 557-6475

**Central Region (Main Office)**  
1990 E. Gettysburg Avenue  
Fresno, CA 93726-0244  
Tel: (559) 230-6000 FAX: (559) 230-6061

**Southern Region**  
34946 Flyover Court  
Bakersfield, CA 93308-9725  
Tel: (661) 392-5500 FAX: (661) 392-5585

# San Joaquin Valley Air Pollution Control District

## Authority to Construct

### Application Review

Diesel-Fired Emergency Standby IC Engine

Facility Name:	Stockton RWCF	Date:	March 29, 2022
Mailing Address:	2500 Navy Drive Stockton, CA	Engineer:	Shobhit Mehrotra
Contact Person:	Deedee Antypas	Lead Engineer:	James Harader
Telephone:	(209) 937 - 7425		
E-mail:	deedee.antypas@stocktonca.gov		
Application #:	N-811-28-0		
Project #:	N1212743		
Deemed Complete:	November 1, 2021		

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#### I. Proposal

City of Stockton – Regional Waste Water Treatment Facility (Stockton RWCF) is proposing to install a 4,332 bhp Tier 2 (intermittent) diesel-fired emergency standby internal combustion (IC) engine powering an electrical generator.

Stockton RWCF operates under a TV permit. This modification can be classified as a Title V significant modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Stockton RWCF must apply to administratively amend their Title V permit.

#### II. Applicable Rules

Rule 2201 New and Modified Stationary Source Review Rule (8/15/19)  
Rule 2410 Prevention of Significant Deterioration (6/16/11)  
Rule 2520 Federally Mandated Operating Permits (8/15/19)  
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 Internal Combustion Engines - Phase 1 (8/21/03)  
Rule 4702 Internal Combustion Engines (8/19/21)  
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  
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 2500 Navy Drive in Stockton, CA.

The District has verified that the equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

### **IV. Process Description**

The emergency standby engine powers an electrical generator. Other than emergency standby operation, the engine may be operated up to 30 hours per year for maintenance and testing purposes.

### **V. Equipment Listing**

**N-811-28-0:** 4,332 BHP (INTERMITTENT) KOHLER MODEL KD83V16 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

### **VI. Emission Control Technology Evaluation**

The applicant has proposed to install a Tier 2 certified diesel-fired IC engine that is fired on very low-sulfur diesel fuel.

The proposed engine meets the latest available Tier Certification requirements for emergency standby engines; therefore, the engine meets the latest available ARB/EPA emissions standards for diesel particulate matter, hydrocarbons, nitrogen oxides, and carbon monoxide (see Appendix C for a copy of the emissions data sheet).

The use of CARB certified diesel fuel (0.0015% by weight sulfur maximum) reduces SO<sub>x</sub> emissions by over 99% from standard diesel fuel.

## VII. General Calculations

### A. Assumptions

Emergency operating schedule:	24 hours/day
Non-emergency operating schedule:	30 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 <sub>10</sub> fraction of diesel exhaust:	0.96 (CARB, 1988)
Conversion factor:	1.34 bhp/kw

### B. Emission Factors

<b>Emission Factors</b>			
<b>Pollutant</b>	<b>Emission Factor (g/bhp-hr)</b>	<b>Emission Factor (g/kw-hr)</b>	<b>Source</b>
NO <sub>x</sub>	3.89	5.22	Engine Manufacturer
SO <sub>x</sub>	0.0051	0.0068	Mass Balance Equation Below
PM <sub>10</sub>	0.082	0.11	ARB/EPA Certification
CO	0.77	1.03	ARB/EPA Certification
VOC	0.43	0.58	Engine Manufacturer

$$\frac{0.000015 \text{ lb} - S}{\text{lb} - \text{fuel}} \times \frac{7.1 \text{ lb} - \text{fuel}}{\text{gallon}} \times \frac{2 \text{ lb} - SO_2}{1 \text{ lb} - S} \times \frac{1 \text{ gal}}{137,000 \text{ Btu}} \times \frac{1 \text{ bhp input}}{0.35 \text{ bhp out}} \times \frac{2,542.5 \text{ Btu}}{\text{bhp} - \text{hr}} \times \frac{453.6 \text{ g}}{\text{lb}} = 0.0051 \frac{\text{g} - SO_x}{\text{bhp} - \text{hr}}$$

### C. Calculations

#### 1. Pre-Project Potential to Emit (PE1)

Since this is a new emissions unit, PE1 = 0.

#### 2. Post-Project Potential to Emit (PE2)

The daily and annual PE2 are calculated as follows:

$$\text{Daily PE2 (lb-pollutant/day)} = \text{EF (g-pollutant/bhp-hr)} \times \text{rating (bhp)} \times \text{operation (hr/day)} / 453.6 \text{ g/lb}$$

$$\text{Annual PE2 (lb-pollutant/yr)} = \text{EF (g-pollutant/bhp-hr)} \times \text{rating (bhp)} \times \text{operation (hr/yr)} / 453.6 \text{ g/lb}$$

<b>Post Project Emissions (PE2)</b>						
<b>Pollutant</b>	<b>Emissions Factor (g/bhp-hr)</b>	<b>Rating (bhp)</b>	<b>Daily Hours of Operation (hrs/day)</b>	<b>Annual Hours of Operation (hrs/year)</b>	<b>Daily PE2 (lb/day)</b>	<b>Annual PE2 (lb/yr)</b>
NO <sub>x</sub>	3.89	4,332	24	30	<b>891.6</b>	<b>1,115</b>
SO <sub>x</sub>	0.0051	4,332	24	30	<b>1.2</b>	<b>1</b>
PM <sub>10</sub>	0.082	4,332	24	30	<b>18.8</b>	<b>23</b>
CO	0.77	4,332	24	30	<b>176.5</b>	<b>221</b>
VOC	0.43	4,332	24	30	<b>98.6</b>	<b>123</b>

### 3. 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 (ATCs) or Permits to Operate (PTOs) at the Stationary Source and the quantity of Emission Reduction Credits (ERCs) 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 is summarized in the following table. See Appendix F for detailed SSPE calculations.

<b>SSPE1 (lb/year)</b>					
	<b>NO<sub>x</sub></b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>CO</b>	<b>VOC</b>
<b>SSPE1</b>	78,941	3,679	8,417	218,834	65,696

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

Pursuant to District Rule 2201, the Post-Project Stationary Source Potential to Emit (SSPE2) is the PE from all units with valid ATCs or PTOs, except for emissions units proposed to be shut down as part of the Stationary Project, 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.

For this project the change in emissions for the facility is due to the installation of the new emergency standby IC engine. Thus:

<b>SSPE2 (lb/year)</b>					
<b>Permit Unit</b>	<b>NO<sub>x</sub></b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>CO</b>	<b>VOC</b>
SSPE1	78,941	3,679	8,417	218,834	65,696
N-811-28-0	1,115	1	23	221	123
<b>SSPE2</b>	<b>80,056</b>	<b>3,680</b>	<b>8,440</b>	<b>219,055</b>	<b>65,819</b>

## 5. 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 the facility for less than 12 months)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

<b>Rule 2201 Major Source Determination (lb/year)</b>					
	<b>NO<sub>x</sub></b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>CO</b>	<b>VOC</b>
SSPE1	78,941	3,679	8,417	218,834	65,696
SSPE2	80,056	3,680	8,440	219,055	65,819
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	Yes	No	No	Yes	Yes

This source is an existing Major Source for NO<sub>x</sub>, CO, and VOC emissions and will remain a Major Source for NO<sub>x</sub>, CO, and VOC.

### 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)						
	NO <sub>2</sub>	VOC	SO <sub>2</sub>	CO	PM	PM <sub>10</sub>
Estimated Facility PE before Project Increase	40	33	2	110	4	4
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source?	No	No	No	No	No	No

As shown above, the facility is not an existing PSD major source for any regulated NSR pollutant expected to be emitted at this facility.

## 6. Baseline Emissions (BE)

BE = Pre Project Potential to Emit 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

Since this is a new emissions unit, BE = PE1 = 0 for all pollutants.

## 7. 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 a major source for NO<sub>x</sub> and VOC, the project's PE2 is compared to the SB 288 Major Modification Thresholds in the following table in order to determine if further SB 288 Major Modification calculation is required.

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO <sub>x</sub>	1,115	50,000	No
SO <sub>x</sub>	1	80,000	No
PM <sub>10</sub>	23	30,000	No
VOC	123	50,000	No

Since none of the SB 288 Major Modification Thresholds are surpassed with this project, this project does not constitute an SB 288 Major Modification and no further discussion is required.

## 8. 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.

As defined in 40 CFR 51.165, Section (a)(1)(v) and part D of Title I of the CAA, a Federal Major Modification is 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. The significant net emission increase threshold for each criteria pollutant is included in Rule 2201.

The determination of Federal Major Modification is based on a two-step test. For the first step, only the emission *increases* are counted. In step 1, emission decreases can not cancel out the increases. Step 2 allows consideration of the project’s net emissions increase as described in 40 CFR 51.165 and the Federal Clean Air Act Section 182 (e), as applicable. However, step 2 may not be used for NO<sub>x</sub> or VOC, since the District designated as extreme non-attainment for ozone.

Non-road engines shall not be considered in determining whether a project is a Federal Major Modification. The Federal CAA reserves the regulation of non-road engines to Title II (National Emission Standards) of the CAA.

### Step 1: Project Emissions Increase

For new emissions units, the increase in emissions is equal to the PE2 for each new unit included in this project:

$$\text{Emission Increase} = \text{PE2}$$



Project Emissions Increase

In conclusion, the project's combined total emission increases are summarized and are compared to the Federal Major Modification Thresholds in the following table.

<b>Federal Major Modification Thresholds for Emission Increases</b>			
<b>Pollutant</b>	<b>Total Emissions Increases (lb/yr)</b>	<b>Thresholds (lb/yr)</b>	<b>Federal Major Modification?</b>
NO <sub>x</sub>	1,115	0	Yes
VOC <sup>1</sup>	0	0	No
PM <sub>10</sub>	23	30,000	No
PM <sub>2.5</sub>	23	20,000	No
SO <sub>x</sub>	1	80,000	No

Since there is an increase in NO<sub>x</sub> emissions above the threshold, this project constitutes a Federal Major Modification for NO<sub>x</sub> emissions. Consequently, as discussed below in the offset section of this evaluation, pursuant to Section 7.4.2.1 of District Rule 2201, NO<sub>x</sub> Emission Reduction Credits (ERCs) used to satisfy the offset quantity required under District Rule 2201 must surplus at the time of use (ATC issuance).

Separately, Federal Offset Quantity is calculated below.

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<sup>1</sup> Per District Policy APR 1150, for purposes of determining if a new or modified emission unit is part of a Federal Major Modification, if the annual emission increase for the emission unit when divided by 365 is less than or equal to 0.5 lb./day, such an increase shall be rounded to 0. The sum of the emission increases from new or modified emission units involved in this project that round to 0 shall not constitute a Federal Major Modification for those units.

The annual VOC emissions increase calculated in the table above when divided by 365 is:

$$123 \text{ lb-VOC/year} \div 365 \text{ days/year} = 0.34 \text{ lb-VOC/day.}$$

Therefore, as discussed above, according to District Policy APR 1150, the total annual VOC emission increase is rounded to 0 for VOC.

### **Federal Offset Quantity Calculation**

The Federal Offset Quantity (FOQ) is only calculated for the pollutants for which a project is a Federal Major Modification or a New Major Source as determined above.

Pursuant to 40 CFR 51.165(a)(3)(ii)(J), the federal offset quantity is the sum of the annual emission changes for all new and modified emission units in a project calculated as the potential to emit after the modification (PE2) minus the actual emissions (AE) for each emission unit times the applicable federal offset ratio.

$$\text{FOQ} = \sum(\text{PE2} - \text{AE}) \times \text{Federal offset ratio}$$

#### Actual Emissions

As described in 40 CFR 51.165(a)(1)(xii), actual emissions (AE), as of a particular date, shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a consecutive 24-month period which precedes the particular date and which is representative of normal source operation. The reviewing authority shall allow the use of a different time period upon a determination that it is more representative of normal source operation.

Since this is a new unit,  $\text{AE} = 0$

#### Federal Offset Ratio

The Federal offset ratio requirement is contained in the Federal Clean Air Act (CAA), Section 182.

According to the CAA 182(e), the federal offset ratio for NOx is 1.5 to 1 (due to the District extreme non-attainment status for ozone).

#### Federal Offset Quantity (FOQ)

Since this project only include new unit(s)

$$\text{FOQ} = \text{PE2} \times \text{Federal offset ratio}$$

Therefore,

$$\text{FOQ} = [\sum \text{PE2}_{\text{All New Units}}] \times \text{Federal offset ratio}$$

NOx		Federal Offset Ratio	1.5
Permit No.	Post-Project Potential to Emit (PE2) (lb/year)	Actual Emissions (lb/year)	Emissions Change (lb/yr)
N-811-28-0	1,115	0	1,115
$\sum(PE2 - AE)$ (lb/year):			1,115
Federal Offset Quantity (lb/year): $\sum(PE2 - AE) \times 1.5$			1,673
Federal Offset Quantity (tons/year): $\sum(PE2 - AE) \times 1.5 \div 2,000$			0.84

### 9. Rule 2410 - Prevention of Significant Deterioration (PSD) Applicability Determination

The project potential to emit, by itself, will not exceed any PSD major source thresholds. Therefore Rule 2410 is not applicable and no further discussion is required.

### 10. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. Detailed QNEC calculations are included in Appendix E.

## VIII. Compliance

### Rule 2201 New and Modified Stationary Source Review Rule

#### A. Best Available Control Technology (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<sup>2</sup>:

- a. Any new emissions unit with a potential to emit exceeding two pounds per day,

As seen in Section VII.C.2 above, the applicant is proposing to install a new diesel-fired IC engine with a PE greater than 2 lb/day for NO<sub>x</sub>, PM<sub>10</sub>, CO, and

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<sup>2</sup> 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.

VOC. BACT is triggered for NO<sub>x</sub>, CO, PM<sub>10</sub>, and VOC only since the PEs are greater than 2 lb/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,

As discussed in Section I above, there are no emissions units being relocated from one stationary source to another; therefore BACT is not triggered.

- c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day,

As discussed in Section I above, there are no modified emissions units associated with this project. Therefore BACT is not triggered.

- 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.

As discussed in Sections VII.C.7 and VII.C.8 above, this project does constitute an SB 288 and/or Federal Major Modification for NO<sub>x</sub> emissions. Therefore BACT is triggered for NO<sub>x</sub> for all emissions units in the project for which there is an emission increase.

The daily emissions from the new engine are compared to the BACT threshold levels in the following table:

<b>New Emissions Unit BACT Applicability</b>				
<b>Pollutant</b>	<b>Daily Emissions for the new unit (lb/day)</b>	<b>BACT Threshold (lb/day)</b>	<b>SSPE2 (lb/yr)</b>	<b>BACT Triggered ?</b>
NO <sub>x</sub>	891.6	> 2.0	n/a	Yes
SO <sub>x</sub>	1.2	> 2.0	n/a	No
PM <sub>10</sub>	18.8	> 2.0	n/a	Yes
CO	176.5	> 2.0 and SSPE2 ≥ 200,000 lb/yr	219,055	Yes
VOC	98.6	> 2.0	n/a	Yes

As shown above, BACT will be triggered for NO<sub>x</sub>, CO, PM<sub>10</sub>, and VOC emissions from the engine for this project.

## **2. BACT Guideline**

BACT Guideline 3.1.1, which appears in Appendix B of this report, 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<sub>x</sub>: Latest Available Tier Certification level for applicable horsepower  
CO: Latest Available Tier Certification level for applicable horsepower  
VOC: Latest Available Tier Certification level for applicable horsepower  
PM<sub>10</sub>: 0.15 g/bhp-hr

The facility has proposed to install a 4,332 bhp Tier 2 certified IC engine (with a PM<sub>10</sub> emissions rate of 0.082 g/bhp-hr). Therefore, BACT is satisfied for NO<sub>x</sub>, CO, VOC, and PM<sub>10</sub>.

## **B. Offsets**

### **1. Offset Applicability**

Pursuant to Section 4.6.2 of this rule, offsets are not required for emergency IC engines. The engine in this project is an emergency IC engine; therefore, this exemption is applicable to this project.

However, even when there is an applicable exemption, the SSPE2 values are compared to the offset threshold to determine if offsets are triggered. In its PAS database, the District keeps track of facilities where offsets are triggered but an exemption applies. The SSPE2 values are compared to the offset trigger thresholds in the following table:

<b>Offset Determination (lb/year)</b>					
	<b>NOx</b>	<b>SOx</b>	<b>PM<sub>10</sub></b>	<b>CO</b>	<b>VOC</b>
SSPE2	80,056	3,680	8,440	219,055	65,819
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets Triggered?	Yes	No	No	Yes	Yes

## 2. Quantity of Offsets Required

As demonstrated above, District offsets are triggered for NOx, CO, and VOC under NSR. However, since this project only involves an emergency IC engine, the offset exemption from Section 4.6.2 of District Rule 2201 is applicable to this project. Therefore, District offsets are not required for this project and District offset calculations are not necessary.

### District and Federal Offset Quantities Comparison

As discussed above, District offsets are triggered but not required for NOx under District Rule 2201. However, as demonstrated earlier, this project does trigger Federal Major Modification requirements for NOx emissions and federal offset quantities are required for this project for NOx. Pursuant to Section 7.4.2.1 of District Rule 2201, emission reduction credits used to satisfy federal offset quantities for NOx must be creditable and surplus at the time of use (ATC issuance).

### Surplus at the Time Of Use Emission Reduction Credits

The applicant has stated that the facility plans to use ERC certificate N-1518-2 to satisfy the federal offset quantities for NOx required for this project. Pursuant to the ERC surplus analysis in Appendix H, the District has verified that the credits from the ERC certificate(s) provided by the applicant are sufficient to satisfy the federal offset quantities for NOx required for this project.

### Quarterly Quantity of Federal Offsets Required

$$\begin{aligned} \text{Quarterly offsets required (lb/qtr)} &= (1,673 \text{ lb-NO}_x\text{/year}) \div (4 \text{ quarters/year}) \\ &= 418.25 \text{ lb-NO}_x\text{/qtr} \end{aligned}$$

As demonstrated in the calculation above, the quarterly amount of offsets required for this project, when evenly distributed to each quarter, results in fractional pounds of offsets being required each quarter. Since offsets are required to be withdrawn as whole pounds, the quarterly amounts of offsets need to be adjusted to ensure the quarterly values sum to the total annual amount of offsets required.

To adjust the quarterly amount of offsets required, the fractional amount of offsets required in each quarter will be summed and redistributed to each quarter based on the number of days in each quarter. The redistribution is based on the Quarter 1 having the fewest days and the Quarters 3 and 4 having the most days. The redistribution method is summarized in the following table:

<b>Redistribution of Required Quarterly Offsets</b>				
<i>(where X is the annual amount of offsets, and <math>X \div 4 = Y.z</math>)</i>				
<b>Value of z</b>	<b>Quarter 1</b>	<b>Quarter 2</b>	<b>Quarter 3</b>	<b>Quarter 4</b>
0.0	Y	Y	Y	Y
0.25	Y	Y	Y	Y+1
0.5	Y	Y	Y+1	Y+1
0.75	Y	Y+1	Y+1	Y+1

Therefore the appropriate quarterly emissions to be offset are as follows:

<u>1<sup>st</sup> Quarter</u>	<u>2<sup>nd</sup> Quarter</u>	<u>3<sup>rd</sup> Quarter</u>	<u>4<sup>th</sup> Quarter</u>	<u><b>Total Annual</b></u>
418	418	418	419	<b>1,673</b>

The applicant has proposed to use the following emission reduction certificates:

	<u>1<sup>st</sup> Quarter</u>	<u>2<sup>nd</sup> Quarter</u>	<u>3<sup>rd</sup> Quarter</u>	<u>4<sup>th</sup> Quarter</u>
ERC #N-1518-2	500	500	500	500

As discussed above, the facility has sufficient credits to fully offset the quarterly NO<sub>x</sub> emissions increases associated with this project.

**Proposed Offset Permit Conditions**

The following permit conditions will be added to the Authority to Construct:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender NO<sub>x</sub> emission reduction credits for the following quantity of emissions: 1st quarter - 418 lb, 2nd quarter - 418 lb, 3rd quarter - 418 lb, and fourth quarter - 419 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201]

- {GC# 1983} ERC Certificate Number N-1518-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

### 3. ERC Withdrawal Calculations

The applicant must identify the ERC Certificate(s) to be used to offset the increase of NOx emissions for the project. As indicated in previous section, the applicant is proposing to use ERC certificate #N-1518-2 to mitigate the increases of NOx emissions associated with this project. See Appendix I for detailed ERC Withdrawal Calculations.

## C. Public Notification

### 1. Applicability

Public noticing is required for:

- New Major Sources, SB288 Major Modifications, and Federal Major Modifications

As demonstrated in Section VII.C.7 of this evaluation, this project is a Federal Major Modification. Therefore, public noticing is required for this project for Federal Major Modification purposes.

- Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any pollutant

The PE2 for this new unit is compared to the daily PE Public Notice thresholds in the following table:

PE > 100 lb/day Public Notice Thresholds			
Pollutant	PE2 (lb/day)	Public Notice Threshold	Public Notice Triggered?
NO <sub>x</sub>	<b>891.6</b>	100 lb/day	Yes
SO <sub>x</sub>	<b>1.2</b>	100 lb/day	No
PM <sub>10</sub>	<b>18.8</b>	100 lb/day	No
CO	<b>176.5</b>	100 lb/day	Yes
VOC	<b>98.6</b>	100 lb/day	No



c. Any project which results in the offset thresholds being surpassed

Public notification is required if the pre-project Stationary Source Potential to Emit (SSPE1) is increased to a level exceeding the offset threshold levels. The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

The SSPE1 and SSPE2 are compared to the offset thresholds in the following table.

<b>Offset Thresholds</b>				
<b>Pollutant</b>	<b>SSPE1 (lb/year)</b>	<b>SSPE2 (lb/year)</b>	<b>Offset Threshold</b>	<b>Public Notice Required?</b>
NO <sub>x</sub>	78,941	80,056	20,000 lb/year	No
SO <sub>x</sub>	3,679	3,680	54,750 lb/year	No
PM <sub>10</sub>	8,417	8,440	29,200 lb/year	No
CO	218,834	219,055	200,000 lb/year	No
VOC	65,696	65,819	20,000 lb/year	No

As detailed above, offset thresholds were surpassed for NO<sub>x</sub> with this project; therefore public noticing is required for offset purposes.

d. Any project with a Stationary Source Project Increase in Permitted Emissions (SSIPE) greater than 20,000 lb/year for any pollutant

For this project, the proposed engine is the only emissions unit that will generate an increase in Potential to Emit. Since the proposed engine emissions are well below 20,000 lb/year for all pollutants (See Section VII.C.2), the SSIPE for this project will be below the public notice threshold.

e. Any project which results in a Title V significant permit modification

As shown in the Discussion of Rule 2520 below, this project constitutes a Title V significant modification. Therefore, public noticing for Title V significant modifications is required for this project.

## **2. Public Notice Action**

As demonstrated above, this project will require public noticing. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB), the US Environmental Protection Agency (EPA), and a public notice will be electronically published on the District's website prior to the issuance of the ATC for this equipment.

## **D. Daily Emissions Limits**

Daily Emissions Limitations (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. Therefore, the following conditions will be listed on the ATC as a mechanism to ensure compliance:

- Emissions from this IC engine shall not exceed any of the following limits: 3.89 g-NO<sub>x</sub>/bhp-hr, 0.77 g-CO/bhp-hr, or 0.43 g-VOC/bhp-hr. [District Rule 2201, 17 CCR 93115, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ]
- Emissions from this IC engine shall not exceed 0.082 g-PM<sub>10</sub>/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ]
- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, 17 CCR 93115, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ]

## **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 District Rule 2201.

### **2. Monitoring**

No monitoring is required to demonstrate compliance with District Rule 2201.

### **3. Recordkeeping**

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

#### **4. Reporting**

No reporting is required to ensure compliance with District Rule 2201.

#### **F. Ambient Air Quality Analysis (AAQA)**

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 D of this document for the AAQA summary sheet.

The proposed location is in an attainment area for NO<sub>x</sub>, CO, and SO<sub>x</sub>. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO<sub>x</sub>, CO, or SO<sub>x</sub>.

The proposed location is in a non-attainment area for the state's PM<sub>10</sub> as well as federal and state PM<sub>2.5</sub> thresholds. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for PM<sub>10</sub> and PM<sub>2.5</sub>.

#### **G. Compliance Certification**

Section 4.15.2 of this Rule requires the owner of a New Major Source or a source undergoing a Federal Major Modification to demonstrate to the satisfaction of the District that all other Major Sources owned by such person and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards. As discussed in Section VIII above, this facility and this project does constitute a Federal Major Modification, therefore this requirement is applicable. Stockton RWCF's compliance certification is included in Appendix G.

#### **H. Alternate Siting Analysis**

The current project occurs at an existing facility. The applicant proposes to install an emergency diesel fired engine powering an electrical generator.

Since the project will provide electricity in case of power outages at the same location, the existing site will result in the least possible impact from the project. Alternative sites would involve the relocation and/or construction of various support structures on a much greater scale, and would therefore result in a much greater impact.

#### **Rule 2410 Prevention of Significant Deterioration**

As shown in Section VII.C.9 above, this project does not result in a new PSD major source or PSD major modification. No further discussion is required.

## **Rule 2520 Federally Mandated Operating Permits**

This facility is subject to this Rule, and has received their Title V Operating Permit. A significant permit modification is defined as a “permit amendment that does not qualify as a minor permit modification or administrative amendment.”

As shown above, the proposed project triggers a Federal Major Modification for NOx. Moreover, this project involves the installation of a new emission unit that is subject to an NSPS requirement; therefore, the proposed project is considered to be a modification under the Federal Clean Air Act. As a result, the proposed project constitutes a Significant Modification to the Title V Permit.

As discussed above, the facility has applied for a Certificate of Conformity (COC); therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility shall not implement the changes requested until the final permit is issued.

## **Rule 4001 New Source Performance Standards (NSPS)**

### **40 CFR 60 Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines**

#### §60.4200 - Applicability

This subpart is applicable to owners and operators of stationary compression ignited internal combustion engines that commence construction after July 11, 2005, where the engines are:

- 1) Manufactured after April 1, 2006, if not a fire pump engine.
- 2) Manufactured as a National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.

Since the proposed engine will be installed after July 11, 2005 and was manufactured after April 1, 2006, this subpart applies.

Sections 60.4201 through 60.4203 apply to engine manufacturers. Section 60.4204 applies only to owners and operators of non-emergency engines. Therefore, these sections will not be discussed unless they are referenced later by another section of this subpart.

#### §60.4205 – Emission Standards

Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power greater than

2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in sections 60.4202, for the same model year and maximum engine power for their 2007 model year and later emergency stationary ICE. The engine in this project has a displacement less than 10 liters per cylinder. Section 60.4202(b)(2) requires the use of a Tier 2 emission standards for an engine with a maximum engine power greater than 3000 HP.

- Emissions from this IC engine shall not exceed any of the following limits: 3.89 g-NOx/bhp-hr, 0.77 g-CO/bhp-hr, or 0.43 g-VOC/bhp-hr. [District Rule 2201, 17 CCR 93115, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ]
- Emissions from this IC engine shall not exceed 0.082 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ]

#### §60.4206 – Timeframe for Meeting Emission Standards

Section 60.4206 states that owners or operators of CI engines must meet the applicable emission standards for the entire life of the engines. The Tier 2 level emissions for the proposed engine will be listed on the permit as emission factors, ensuring that the emission standards are met over the entire life of the engine.

#### §60.4207 – Fuel Requirements

Section 60.4207(b) states that beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 10900.305 for non-road diesel fuel. Section 10900.305(b) states that the sulfur content for all non-road diesel fuel shall not exceed 15 ppm. The proposed engine will be required by the following permit condition to use CARB certified diesel fuel, which meets all of the fuel requirements listed in Subpart IIII.

- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, 17 CCR 93115, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ]

#### §60.4208 – Deadline for Improving or Installing Stationary ICE from Previous Model Years

Section 60.4208 lists deadline dates for importing or installing stationary CI engines produced in the previous model year, by engine power. Section 60.4208(a) states that after December 31, 2008, owners and operators may not install ICE that do not meet the applicable requirements for 2007 model year engines. The remainder of the requirements are applicable to smaller engines or non-emergency engines. The proposed engine is a Model Year 2021 engine that meets tier certification requirements; and therefore, meets this requirement.

#### §60.4209 – Monitoring Requirements

Section 60.4209 applies to emergency stationary CI engines that do not meet the applicable standards and stationary CI engines equipped with a diesel particulate filter. The proposed engine in this project does not fall under either of these two categories. Therefore, this section does not apply.

#### §60.4210 – Compliance Requirements for Manufacturers

Section 60.4210 applies only to engine manufacturers. Therefore, this section will not be discussed unless it is referenced later by another section of this subpart.

#### §60.4211 – Compliance Requirements for Owners

Section 60.4211(a) states that owners or operators who comply with the emission standards specified in this subpart must operate and maintain the stationary CI engine and control device according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. The following condition will be added to the ATC to ensure compliance:

- 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, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ]

Section 60.4211(b) applies to pre-2007 model year engines. Therefore, this section does not apply.

Section 60.4211(c) states that if you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in Section 60.4204(b) or Section 60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in Section 60.4205(c), you must comply by purchasing an engine certified to the emission standards in Section 60.4204(b), or Section 60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's specifications. The applicant has proposed a Tier 2 emissions level engine that complies with the emission standards in Section 60.4205(b) and will be installed according to the manufacturer's specifications. Therefore, this section is satisfied.

Section 60.4211(d) applies to owners or operators who must comply with the emission standards specified in Section 60.4204(c) or Section 60.4205(d). The proposed engine is not subject to the emission standards specified in Sections 60.4204(c) or 60.4205(d). Therefore, this section does not apply.

Section 60.4211(e) applies to owners or operators of modified or reconstructed stationary CI internal combustion engines. Therefore, this section does not apply.

Section 60.4211(f) applies to owners or operators of an emergency stationary ICE. This section states you must operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3). In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines. The following condition will be added to the ATC to ensure compliance:

- 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 30 hours per calendar year. [District Rules 2201, 4102, and 4702, 17 CCR 93115, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ]

#### §60.4212 – Test Methods and Other Procedures for Engines < 30 Liters/Cylinder

Section 60.4212 applies to owners or operators of a stationary CI engine with a displacement of less than 30 liters per cylinder and required to conduct performance tests pursuant to Section 60.4211(b). Section 60.4211(b) does not apply to this engine. Therefore, performance tests are not required and this section does not apply.

#### §60.4213 – Test Methods and Other Procedures for Engines 30 Liters/Cylinder or Greater

Section 60.4213 applies to owners or operators of CI engines with a displacement of greater than or equal to 30 liters per cylinder. Per the CARB/EPA emissions data sheet for the proposed engine, the displacement is less than 30 liters per cylinder. Therefore, this section does not apply.

#### §60.4214 – Notification, Reporting, and Recordkeeping Requirements

Section 60.4214(a) states owners and operators of non-emergency stationary CI engines that are greater than 3,000 hp, or have a displacement of greater than or equal to 10 liters per cylinder, or are pre-2007 model year engines that are greater than 175 hp and not certified, must meet the requirements of paragraphs (a)(1) and (2) of this section. The proposed engine is an emergency engine powering an electrical generator. Therefore, this section does not apply.

Section 60.4214(b) states that if the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time. Since the engine in this project meets the applicable standards, this section does not apply.

Section 60.4214(c) applies to stationary CI engines equipped with a diesel particulate filter. Therefore, this section does not apply.

#### §60.4215 and 60.4216 – Requirements for Engines at Specific Locations

Sections 60.4215 and 60.4216 apply to engines operated outside the continental United States. Therefore, these sections do not apply.

#### §60.4217– Requirements for Engines Fired on Special Fuels

Section 60.4217 applies to engines that use special fuels and cannot meet the emission limits that the engine was originally certified to. This section does not apply as the proposed engine is diesel-fired and meets the emission limits that the engine was originally certified to.

As demonstrated above, the proposed engine meets the requirement of this subpart.

### **Rule 4002 National Emission Standards for Hazardous Air Pollutants**

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

In accordance with Section 63.6590(c) the engine in this project must meet the requirements of 40 CFR 63, Subpart ZZZZ, by meeting the requirements of 40 CFR 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*. No further requirements apply.

As demonstrated above the proposed engine meets the requirements of 40 CFR 60 Subpart IIII. Therefore, the engine meets the requirements of 40 CFR 63 Subpart ZZZZ.

### **Rule 4101 Visible Emissions**

Rule 4101 states 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 as dark



as, or darker than, Ringelmann 1 or 20% opacity. Therefore, the following condition will be listed on the ATC as a mechanism 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]

**Rule 4102 Nuisance**

Rule 4102 states that no air contaminant shall be released into the atmosphere which causes a public nuisance. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, the following condition will be listed on the ATC as a mechanism 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 (Appendix D), 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.

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
28-0	13.3	NA <sup>1</sup>	0.00	1.16E-07	No	Yes
<b>Project Totals</b>	13.3	NA <sup>1</sup>	0.00	1.16E-07		
<b>Facility Totals</b>	>1	0.08	0.01	1.80E-06		

Notes:

1. Acute Hazard Index was not calculated for Unit 28-0 since there is no risk factor or the risk factor is so low that it has been determined to be insignificant for this type of unit.

**Discussion of T-BACT**

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 is expected.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification not have acute or chronic indices, or a cancer risk greater than the District's significance levels (i.e. acute and/or chronic indices greater than 1 and a cancer risk greater than 20 in a million). As outlined by the Technical Services Memo in Appendix D of this report, the emissions increases for this project were determined to be less than significant.

The following conditions will be listed on the ATC as a mechanism to ensure compliance with the RMR:

1. The PM<sub>10</sub> emissions rate shall not exceed 0.082 g/bhp-hr based on US EPA certification using ISO 8178 test procedure.
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.
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 30 hours per calendar year.

#### 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 PM<sub>10</sub> emission factor of 0.4 g-PM<sub>10</sub>/bhp-hr.

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

The new engine has a PM<sub>10</sub> emission factor less than 0.4 g/bhp-hr. Therefore, compliance is expected and the following condition will be listed on the ATC as a mechanism to ensure compliance:

- {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 (NO<sub>x</sub>), 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 for emergency engines, compliance with District Rule 4702 requirements will satisfy requirements of District Rule 4701.

### **Rule 4702 Internal Combustion Engines**

The purpose of this rule is to limit the emissions of nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), and volatile organic compounds (VOC) from internal combustion engines.

This rule applies to any internal combustion engine with a rated brake horsepower greater than 50 horsepower.

The engine under this project is rated over 50 bhp; therefore, the engine are subject to the requirements of this rule.

Emergency standby engines are subject to District Rule 4702 requirements. Emergency standby engines are defined in Section 3.0 of District Rule 4702 as follows:

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

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 permit:

- {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, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ]

- {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 and 17 CCR 93115]

The 100 hour requirement is less stringent than the Air Toxic Control Measure operating limitations for emergency standby engines. Therefore, compliance with the applicable Air Toxic Control Measure requirements ensures compliance with the 100 hour requirement.

Operation of emergency standby engines are 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 this engine's maintenance and testing to 50 hours/year. The applicant is limiting the engine's maintenance and testing time to 30 hours/year; therefore, compliance is expected. The following conditions will be included on the permit:

- {4920} 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 30 hours per calendar year. [District Rules 2201, 4102, and 4702, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ]

The following exemption in Section 4.2 of District Rule 4702 applies to emergency standby engines:

*4.2 Except for the requirements of Section 5.9 and Section 6.2.3, the requirements of this rule shall not apply to:*

*4.2.1 An emergency standby engine as defined in Section 3.0 of this rule, and provided that it is operated with a nonresettable elapsed operating time meter. In lieu of a nonresettable time meter, the owner of an emergency engine may use an alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO. The owner of the engine shall properly maintain and operate the time meter or alternative device in accordance with the manufacturer's instructions.*

Pursuant to the exemption in Section 4.2, the following requirements of Section 5.9 are applicable to emergency standby engines

Section 5.9 requires the owner to:

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

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

*5.9.4 Install and operate a nonresettable elapsed operating time meter. In lieu of installing a nonresettable time meter, the owner of an engine may use an alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO and is allowed by Permit-to-Operate or Permit-Exempt Equipment Registration condition. The owner of the engine shall properly maintain and operate the time meter or alternative device in accordance with the manufacturer's instructions.*

Properly operate and maintain each engine as recommended by the engine manufacturer or emission control system supplier. The following condition will be included on the permit:

- 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, 17 CCR 93115, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ]

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 permit:

- 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, 17 CCR 93115, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ]

Install and operate a nonresettable elapsed time meter. In lieu of installing a nonresettable elapsed time meter, the operator may use an alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO and EPA and is allowed by Permit-to-Operate condition. The operator shall properly maintain and operate the nonresettable elapsed time meter or alternative device in accordance with the manufacturer's instructions. The following condition will be included on the permit:

- 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, 17 CCR 93115, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ]

The exemption in Rule 4702 Section 4.2 for emergency standby engines requires the engines to comply with Section 6.2.3, shown below.

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

*6.2.3.1 Total hours of operation,*

*6.2.3.2 The type of fuel used,*

*6.2.3.3 The purpose for operating the engine,*

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

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

Records of the total hours of operation, type of fuel used, purpose for operating the engine, all hours of non-emergency and emergency operation, and other 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 permit:

- {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, 17 CCR 93115, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ]
- {4263} The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702, 17 CCR 93115, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ]
- {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, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ]

## Rule 4801 Sulfur Compounds

Rule 4801 requires that sulfur compound emissions (as SO<sub>2</sub>) shall not exceed 0.2% by volume. Using the ideal gas equation, the sulfur compound emissions are calculated as follows:

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

n = moles SO<sub>2</sub>

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

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

$$\frac{0.000015 \text{ lb} - \text{S}}{\text{lb} - \text{fuel}} \times \frac{7.1 \text{ lb}}{\text{gal}} \times \frac{64 \text{ lb} - \text{SO}_2}{32 \text{ lb} - \text{S}} \times \frac{1 \text{ MMBtu}}{9,051 \text{ scf}} \times \frac{1 \text{ gal}}{0.137 \text{ MMBtu}} \times \frac{\text{lb} - \text{mol}}{64 \text{ lb} - \text{SO}_2} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} - \text{mol} \cdot \text{°R}} \times \frac{520 \text{°R}}{14.7 \text{ psi}} \times 1,000,000 = 1.0 \text{ ppmv}$$

Since 1.0 ppmv is ≤ 2,000 ppmv, this engine is expected to comply with Rule 4801. Therefore, the following condition will be listed on the ATC as a mechanism to ensure compliance:

- {4258} Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801,17 CCR 93115, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ]

## California Health & Safety Code 42301.6 (School Notice)

The District has verified that this engine is not located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

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

The following requirements apply to new engines (those installed after 1/1/05):

### §93115.5 - Fuel and Fuel Additive Requirements for New and In-Use Stationary CI Engines That Have a Rated Brake Horsepower of Greater than 50 (>50 bhp)

This regulation also stipulates that as of January 1, 2006 an owner or operator of a new or in-use stationary diesel-fueled CI emergency standby engine shall fuel the engine with CARB Diesel Fuel.

Since the engines involved in this project is a new stationary diesel-fueled CI emergency standby engines, these fuel requirements are applicable. Therefore, the following condition(s) (previously proposed in this engineering evaluation) will be included in the permits:

- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, 17 CCR 93115, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ]

§93115.6 Emergency Standby Diesel-Fueled CI Engine (>50 bhp) Operating Requirements and Emission Standards

Section (a)(3)(A), Emissions Standards and Hours of Operating Requirements

1. New Stationary emergency standby diesel-fueled engines (>50 bhp) shall:
  - a. meet the applicable emissions standards for all pollutants as specified in Table 1 Emissions Standards for New Stationary Emergency Standby Diesel-Fueled CI Engines, in effect on the date of acquisition or submittal, as defined in section 93115.4, and
  - b. after December 31, 2008, be certified to the new non-road compression-ignition (CI) engine emission standards for all pollutants for 2007 and later model year engines as specified in 40 CFR, Part 60, Subpart IIII-Standards of Performance for Stationary Compression Ignition Internal Combustion Engine; and
  - c. not operate more than 50 hours per year for maintenance and testing purposes, except as provided in 93115.6(a)(3)(A)2. This subsection does not limit engine operation for emergency use and for emission testing to show compliance with 93115.6(a)(3).



**Table 1: Emission Standards for New Stationary Emergency Standby Diesel-Fueled CI Engines g/bhp-hr (g/kW-hr)**

Maximum Engine Power	Model year(s)	PM	NMHC+NOx	CO
50 ≤ HP < 75 (37 ≤ kW < 56)	2007	0.15 (0.20)	5.6 (7.5) 3.5 (4.7)	3.7 (5.0)
	2008+			
75 ≤ HP < 100 (56 ≤ kW < 75)	2007	0.15 (0.20)	5.6 (7.5) 3.5 (4.7)	3.7 (5.0)
	2008+			
100 ≤ HP < 175 (75 ≤ kW < 130)	2007	0.15 (0.20)	3.0 (4.0)	3.7 (5.0)
	2008+			
175 ≤ HP < 300 (130 ≤ kW < 225)	2007	0.15 (0.20)	3.0 (4.0)	2.6 (3.5)
	2008+			
300 ≤ HP < 600 (225 ≤ kW < 450)	2007	0.15 (0.20)	3.0 (4.0)	2.6 (3.5)
	2008+			
600 ≤ HP < 750 (450 ≤ kW < 560)	2007	0.15 (0.20)	3.0 (4.0)	2.6 (3.5)
	2008+			
HP > 750 (kW > 560)	2007	0.15 (0.20)	4.8 (6.4)	2.6 (3.5)
	2008+			

1. May be subject to additional emission limitations as specified in current applicable district rules, regulations or policies.

The proposed 4,332 bhp diesel-fueled emergency IC engine is 2021 year model Tier 2 certified engine. The certified emission rates are 4.32 g/bhp-hr of NOx + NMHC, 0.082 g/bhp-hr of PM emissions, and 0.77 g/bhp-hr of CO emissions. These emissions rates are below the required emission standards of 4.8 g/bhp-hr of NOx+NMHC, 0.15 g/bhp-hr of PM emissions, and 2.6 g/bhp of CO (stated in the above table). Therefore, compliance is expected with item a of Section (a)(3)(A)(1).

40 CFR Part 60 Subpart IIII-Standards of Performance for Stationary Compression Ignition Internal Combustion Engine, Section 60.4205(b), requires that 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new non-road CI engines in §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE. Furthermore, section 60.4202(a) states Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (b)(2) of this section.

- (1) For 2011 model year and later, the Tier 2 emission standards as described in 40 CFR part 1039, appendix I, for all pollutants and the smoke standards as specified in 40 CFR 1039.105.

40 CFR Part 1039, Appendix I, Table 2, does not list standards for engines with starting model year 2001 rated greater than 450 kW (>600 bhp) engines. The proposed engine is 4,332 bhp and still meets the more stringent emission standards as shown in Table 2. Furthermore, section 40 CFR 1039.105 (b) lists smoke emission standards including exhaust opacity not to exceed 20% during acceleration mode, 15% during the lugging mode and 50% during the peaks in either the acceleration or lugging modes.

The proposed engine is an EPA certified engine. Therefore, compliance is expected with item b of (a)(3)(A)(1).

The proposed engine will be permitted to operate up to 30 hours per year for non-emergency (i.e., primarily maintenance and testing) operation. Therefore, compliance is expected with item c of (a)(3)(A)(1).

The following condition(s) will be included in the permit N-811-28-0:

- {4771} Emissions from this IC engine shall not exceed any of the following limits: 3.89 g-NOx/bhp-hr, 0.77 g-CO/bhp-hr, or 0.43 g-VOC/bhp-hr. [District Rule 2201, 17 CCR 93115, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ]
  - {4772} Emissions from this IC engine shall not exceed 0.082 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ]
2. The District may allow a new stationary emergency standby diesel-fueled CI engine (>50 bhp) to operate up to 100 hours per year for maintenance and testing purposes on a site-specific basis, provided the diesel PM emission rate is less than or equal to 0.01 g/bhp-hr.
- The District practice is to allow up to 50 hours per year for non-emergency operation (i.e., for testing, maintenance, system readiness, or other similar operation) for emergency standby gen-set engines similar to ones proposed in this project.
- Section (a)(3) (B), the District:
1. May establish more stringent diesel PM, NMHC+NOx, HC, NOx, and CO emission rate standards; and
  2. May establish more stringent limits on hours of maintenance and testing on a site-specific basis; and
  3. Shall determine an appropriate limit on the number of hours of operation for demonstrating compliance with other District rules and initial start-up testing.

The emission rates for the proposed engine are established based on the information provided in the application package, and are equal to or stringent than the current District

requirements. The proposed engine will be permitted to operate up to 30 hours per year for maintenance and testing purposes.

### **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.

### **Indemnification Agreement/Letter of Credit Determination**

According to District Policy APR 2010 (CEQA Implementation Policy), when the District is the Lead or Responsible Agency for CEQA purposes, an indemnification agreement and/or a letter of credit may be required. The decision to require an indemnity agreement and/or a letter of credit is based on a case-by-case analysis of a particular project's potential for litigation risk, which in turn may be based on a project's potential to generate public concern, its potential for significant impacts, and the project proponent's ability to pay for the costs of litigation without a letter of credit, among other factors.

As described above, the project requires only ministerial approval, and is exempt from the provisions of CEQA. As such, an Indemnification Agreement or a Letter of Credit will not be required for this project in the absence of expressed public concern.

## IX. Recommendation

Pending a successful NSR public noticing period, issue Authority to Construct N-811-28-0 subject to the permit conditions on the attached draft ATC in Appendix A.

## X. Billing Information

<b>Billing Schedule</b>			
<b>Permit Number</b>	<b>Fee Schedule</b>	<b>Fee Description</b>	<b>Fee Amount</b>
N-811-28-0	3020-10-F	4,332 bhp IC engine	\$900

## Appendixes

- A. Draft ATC
- B. BACT Guideline and BACT Analysis
- C. Emissions Data Sheet
- D. RMR and AAQA
- E. QNEC Calculations
- F. SSPE1 Calculations
- G. Compliance Certification
- H. ERC Surplus Analysis
- I. ERC Withdrawal Calculations

Appendix A  
Draft ATC

*San Joaquin Valley  
Air Pollution Control District*

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** N-811-28-0

**LEGAL OWNER OR OPERATOR:** STOCKTON RWCF  
**MAILING ADDRESS:** 2500 NAVY DRIVE  
STOCKTON, CA 95206

**LOCATION:** 2500 NAVY DR  
STOCKTON, CA 95206

**EQUIPMENT DESCRIPTION:**

4332 BHP KOHLER MODEL KD83V16 DIESEL-FIRED EMERGENCY ENGINE (TIER 2 CERTIFIED) POWERING A 3000 KW ELECTRICAL GENERATOR

## CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 418 lb, 2nd quarter - 418 lb, 3rd quarter - 418 lb, and 4th quarter - 419 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Number N-1518-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct [District Rule 2201] Federally Enforceable Through Title V Permit
5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 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.

Samir Sheikh, Executive Director / APCCO

**Brian Clements, Director of Permit Services**

N-811-28-0 : Apr 1 2022 7:12AM -- MEHROTTS : Joint Inspection NOT Required

6. 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] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
8. {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]
9. 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, 17 CCR 93115, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
10. Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, 17 CCR 93115, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
11. Emissions from this IC engine shall not exceed any of the following limits: 3.89 g-NOx/bhp-hr, 0.77 g-CO/bhp-hr, or 0.43 g-VOC/bhp-hr. [District Rule 2201 17 CCR 93115, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
12. Emissions from this IC engine shall not exceed 0.082 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
13. 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, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
14. 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, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
15. 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 and 17 CCR 93115] Federally Enforceable Through Title V Permit
16. 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 and 17 CCR 93115] Federally Enforceable Through Title V Permit
17. 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, 17 CCR 93115, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
18. 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 30 hours per calendar year. [District Rules 2201, 4102, and 4702, 17 CCR 93115, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
19. The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702, 17 CCR 93115, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

20. 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, 17 CCR 93115, 40 CFR 60 Subpart III, and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

DRAFT



Appendix B  
BACT Guideline and BACT Analysis

# San Joaquin Valley Unified Air Pollution Control District

<b>Best Last Emergency Diesel IC Engine</b>	<b>Available Control</b>	<b>Technology Update:</b>	<b>(BACT)</b>	<b>Guideline</b>	<b>3.1.1 6/13/2019</b>
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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/bhp-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

This application was deemed complete on November 1, 2021. Therefore, BACT Guideline 3.1.1 (June 13, 2019) was in effect at the time the project was deemed complete and will be used for this emergency diesel IC engine. In accordance with the District BACT policy, information from that guideline will be utilized without further analysis.

### 1. BACT Analysis for NOx, VOC and CO 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 steps were taken:

- Conduct a survey of the major IC engine manufacturers/genset vendors to determine the latest EPA Tier certification level that is readily available for the proposed engine size and use
- Review Title 17 CCR, Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines to determine the latest Tier certification level required in California for the proposed engine size

#### Survey of IC Engine Manufacturers/Genset Vendors:

Based on the latest survey of the major IC engine/genset manufacturers and vendors (Cummins, Caterpillar, Kohler, MQ Power, etc.) to determine the availability of Tier 4F certified units in the size range associated with the proposed project that are suitable for stationary emergency standby applications. Although the availability of Tier 4F is increasing as supply chains normalize, the lead time for a Tier 4F rated greater than 3000 bhp is extremely long. Since this engine is used to power an emergency electrical generator at a wastewater treatment plant, the applicant has stated that they have an immediate need for the unit in order to provide continuity of service to their municipality. The District concluded that no Tier 4F certified unit is readily available for stationary emergency standby use in the size range appropriate for the proposed project, thus the Tier 2 engine proposed meets BACT.

#### Stationary ATCM:

Table 1 of the CARB Stationary Air Toxic Control Measure (ATCM) for stationary emergency standby diesel-fired IC engines requires a Tier 2 certification level for IC engines rated greater than 750 bhp. The ATCM does not require a Tier certification level higher than Tier 2 for engines rated greater than 750 bhp. As discussed in Section VIII of

the Engineering Evaluation for this project, the proposed engine is in compliance with ATCM emission standards.

Summary:

The proposed emergency IC engine is rated at 4,332 bhp. Moreover, according to the engine manufacturers and genset vendors contacted, a Tier 2 certification level is the latest that is readily available for a 4,332 bhp emergency standby diesel-fired IC engine powering a generator.

Based on the above analysis, the District finds that a Tier 4F emergency IC engine/generator with a rating of approximately 4,332 bhp is not readily available.

Consequently, the District considers a Tier 2 certification level to be the latest available Tier certification level for the proposed engine size. Furthermore, a Tier 2 certification level satisfies the stationary ATCM requirement for emergency standby IC engines rated greater than 750 bhp.

**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**

Ranking is not necessary since 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 NO<sub>x</sub> 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.

### **3. BACT Analysis for PM<sub>10</sub> 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 that is readily available for an engine of the proposed model year and horsepower rating is Tier 2. Refer to the Top-Down BACT analysis for NO<sub>x</sub> for a discussion regarding the determination of the EPA Tier level to be considered.

Please note the proposed Tier 2 IC engine has a PM emission factor of 0.082 g/hp-hr. Additionally, the ATCM requires a PM emission standard of 0.15 g/hp-hr for all new emergency standby diesel IC engines.

Therefore, the proposed PM/PM<sub>10</sub> emission factor of 0.082 g/hp-hr meets BACT requirements, and also satisfies the stationary ATCM requirement for new emergency standby diesel IC engines.

#### **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 PM<sub>10</sub> is emissions of 0.15 g/hp-hr or less. The applicant is proposing an engine certified at 0.082 g/bhp-hr. Therefore, BACT will be satisfied.

Appendix C  
Emissions Data Sheet



# KD3000

## 60 Hz. Diesel Generator Set Tier 2 EPA Certified for Stationary Emergency Applications EMISSION OPTIMIZED DATA SHEET

### ENGINE INFORMATION

Model:	KD83V16	Bore:	175 mm (6.89 in.)
Nameplate kW @ 1800 RPM:	3230	Stroke:	215 mm (8.46 in.)
Type:	4-Cycle, 16-V Cylinder	Displacement:	83 L (5048 cu. in.)
Aspiration:	Turbocharged, Intercooled	EPA Family:	MLHAL103.ESP
Compression ratio:	16:0:1	EPA Certificate:	MLHAL103.ESP-001
Emission Control Device:	Direct Diesel Injection, Engine Control Module, Turbocharger, Charge Air Cooler		

### EXHAUST EMISSION DATA:

### EPA D2 Cycle 5-mode weighted

HC	0.58 g/kWh
NO <sub>x</sub> (Oxides of Nitrogen as NO <sub>2</sub> )	5.22 g/kWh
CO (Carbon Monoxide)	1.03 g/kWh
PM (Particulate Matter)	0.11 g/kWh

### TEST METHODS AND CONDITIONS

#### Test Methods:

Steady-State emissions recorded per EPA CFR 40 Part 89, and ISO8178-1 during operation at rated engine speed (+/-2%) and stated constant load (+/-2%) with engine temperatures, pressures and emission rates stabilized.

#### Fuel Specification:

40-48 Cetane Number, 0.05 Wt. % max. Sulfur; Reference ISO8178-5, 40CFR86.1313-98 Type 2-D and ASTM D975 No. 2-D.

#### Reference Conditions:

25 °C (77 °F) Air Inlet Temperature, 40 °C (104 °F) Fuel Inlet Temperature, 100 kPa (29.53 in Hg) Barometric Pressure; 10.7 g/kg (75 grains H<sub>2</sub>O/lb.) of dry air Humidity (required for NO<sub>x</sub> correction); Intake Restriction set to maximum allowable limit for clean filter; Exhaust Back pressure set to maximum allowable limit.

Data was taken from a single engine test according to the test methods, fuel specification and reference conditions stated above and is subjected to instrumentation and engine-to-engine variability. Tests conducted with alternate test methods, instrumentation, fuel or reference conditions can yield different results.

Data and specifications subject to change without notice.

Appendix D  
Technical Services Memo and AAQA



# San Joaquin Valley Air Pollution Control District

## Risk Management Review and Ambient Air Quality Analysis

To: Shobhit Mehrotra – Permit Services  
 From: Keanu Morin– Technical Services  
 Date: March 21, 2022  
 Facility Name: Stockton RWCF  
 Location: 2500 Navy Dr., Stockton, CA  
 Application #(s): N-811-28-0  
 Project #: N-1212743

### 1. Summary

#### 1.1 RMR

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
28-0	13.3	NA <sup>1</sup>	0.00	1.16E-07	No	Yes
<b>Project Totals</b>	13.3	NA <sup>1</sup>	0.00	1.16E-07		
<b>Facility Totals</b>	>1	0.08	0.01	1.80E-06		

Notes:

- Acute Hazard Index was not calculated for Unit 28-0 since there is no risk factor or the risk factor is so low that it has been determined to be insignificant for this type of unit.

#### 1.2 AAQA

Pollutant	Air Quality Standard (State/Federal)				
	1 Hour	3 Hours	8 Hours	24 Hours	Annual
<b>CO</b>	NA <sup>2</sup>		NA <sup>2</sup>		
<b>NO<sub>x</sub></b>	NA <sup>2</sup>				Pass
<b>SO<sub>x</sub></b>	NA <sup>2</sup>	NA <sup>2</sup>		NA <sup>2</sup>	Pass
<b>PM10</b>				NA <sup>2</sup>	Pass <sup>4</sup>
<b>PM2.5</b>				NA <sup>2</sup>	Pass <sup>5</sup>

Notes:

- Results were taken from the attached AAQA Report.
- 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.
- The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2) unless otherwise noted below.
- Modeled PM10 concentrations were below the District SIL for non-fugitive sources of 1 µg/m<sup>3</sup> for the annual concentration.
- Modeled PM2.5 concentrations were below the District SIL for non-fugitive sources of 0.2 µg/m<sup>3</sup> for the annual concentration.

To ensure that human health risks will not exceed District allowable levels; the following shall be included as requirements for:

Unit # 28-0

1. The PM<sub>10</sub> emissions rate shall not exceed 0.082 g/bhp-hr based on US EPA certification using ISO 8178 test procedure.
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.
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 30 hours per calendar year.

## **2. Project Description**

Technical Services received a request on March 4, 2022 to perform a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) for the following:

Unit -28-0: 4332 BHP KOHLER MODEL KD83V16 DIESEL-FIRED EMERGENCY ENGINE (TIER 2 CERTIFIED) POWERING A 3000 KW ELECTRICAL GENERATOR

## **3. RMR Report**

### **3.1 Analysis**

The District performed an analysis pursuant to the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015) to determine the possible cancer and non-cancer health impact to the nearest resident or worksite. This policy requires that an assessment be performed on a unit by unit basis, project basis, and on a facility-wide basis. If a preliminary prioritization analysis demonstrates that:

- A unit's prioritization score is less than the District's significance threshold and;
- The project's prioritization score is less than the District's significance threshold and;
- The facility's total prioritization score is less than the District's significance threshold

Then, generally no further analysis is required.

The District's significant prioritization score threshold is defined as being equal to or greater than 1.0. If a preliminary analysis demonstrates that either the unit(s) or the project's or the facility's total prioritization score is greater than the District threshold, a screening or a refined assessment is required

If a refined assessment is greater than one in a million but less than 20 in one million for carcinogenic impacts (Cancer Risk) and less than 1.0 for the Acute and Chronic hazard indices (Non-Carcinogenic) on a unit by unit basis, project basis and on a facility-wide basis the proposed application is considered less than significant. For unit's that exceed a cancer risk of 1 in one million, Toxic Best Available Control Technology (TBACT) must be implemented.

Toxic emissions for this project were calculated using the following methods:

- Toxic emissions for the proposed unit were calculated and provided by the processing engineer.

These emissions were input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy, risks from the proposed unit's toxic emissions were prioritized using the procedure in the 2016 CAPCOA Facility Prioritization Guidelines. The prioritization score for this proposed facility was greater than 1.0 (see RMR Summary Table). Therefore, a refined health risk assessment was required.

The AERMOD model was used, with the parameters outlined below and meteorological data for 2013-2017 from Stockton (rural dispersion coefficient selected) to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Source Process Rates					
Unit ID	Process ID	Process Material	Process Units	Hourly Process Rate	Annual Process Rate
28-0	1	PM <sub>10</sub>	Lbs.	0.78	23

Point Source Parameters						
Unit ID	Unit Description	Release Height (m)	Temp. (°K)	Exit Velocity (m/sec)	Stack Diameter (m)	Vertical/Horizontal/Capped
28-0	4,332 BHP DICE	6.40	751	55.50	0.51	Vertical

#### 4. AAQA Report

The District modeled the impact of the proposed project on the National Ambient Air Quality Standard (NAAQS) and/or California Ambient Air Quality Standard (CAAQS) in accordance with District Policy APR-1925 (Policy for District Rule 2201 AAQA Modeling) and EPA's Guideline for Air Quality Modeling (Appendix W of 40 CFR Part 51). The District uses a progressive three level approach to perform AAQAs. The first level (Level 1) uses a very conservative approach. If this analysis indicates a likely exceedance of an AAQS or Significant Impact Level (SIL), the analysis proceeds to the second level (Level 2) which implements a more refined approach. For the 1-hour NO<sub>2</sub> standard, there is also a third level that can be implemented if the Level 2 analysis indicates a likely exceedance of an AAQS or SIL.

The modeling analyses predicts the maximum air quality impacts using the appropriate emissions for each standard's averaging period. Required model inputs for a refined AAQA include background ambient air quality data, land characteristics, meteorological inputs, a receptor grid, and source parameters including emissions. These inputs are described in the sections that follow.

Ambient air concentrations of criteria pollutants are recorded at monitoring stations throughout the San Joaquin Valley. Monitoring stations may not measure all necessary pollutants, so background data may need to be collected from multiple sources. The following stations were used for this evaluation:

Monitoring Stations				
Pollutant	Station Name	County	City	Measurement Year
CO	HAZELTON-HD, STOCKTON	San Joaquin	Stockton	2018
NOx	HAZELTON-HD, STOCKTON	San Joaquin	Stockton	2018
PM10	HAZELTON-HD, STOCKTON	San Joaquin	Stockton	2018
PM2.5	HAZELTON-HD, STOCKTON	San Joaquin	Stockton	2018
SOx	Fresno - Garland	Fresno	Fresno	2018

Technical Services performed modeling for directly emitted criteria pollutants with the emission rates below:

Emission Rates (lbs/year)						
Unit ID	Process	NOx	SOx	CO	PM10	PM2.5
28-0	1	1,115	2	220	23	23

The AERMOD model was used to determine if emissions from the project would cause or contribute to an exceedance of any state of federal air quality standard. The parameters outlined below and meteorological data for 2013-2017 from Stockton (rural dispersion coefficient selected) were used for the analysis:

The following parameters were used for the review:

Point Source Parameters						
Unit ID	Unit Description	Release Height (m)	Temp. (°K)	Exit Velocity (m/sec)	Stack Diameter (m)	Vertical/Horizontal/Capped
28-0	4,332 BHP DICE	6.40	751	55.50	0.51	Vertical

## 5. Conclusion

### 5.1 RMR

The cumulative acute and chronic indices for this facility, including this project, are below 1.0; and the cumulative cancer risk for this facility, including this project, is less than 20 in a million. In addition, the cancer risk for each unit in this project is 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).**

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

## **5.2 AAQA**

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

## **6. Attachments**

- A. Modeling request from the project engineer
- B. Additional information from the applicant/project engineer
- C. Prioritization score w/ toxic emissions summary
- D. Facility Summary
- E. AAQA results

# Appendix E

## QNEC Calculations

## Quarterly Net Emissions Change (QNEC)

The Quarterly Net Emissions Change is used to complete the emission profile screen for the District's PAS database. The QNEC shall be calculated as follows:

$QNEC = PE2 - PE1$ , where:

- QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr
- PE2 = Post-Project Potential to Emit for each emissions unit, lb/qtr
- PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr

Since this is a new unit,  $PE1 = 0$  for all pollutants. Thus,  $QNEC = PE2$  (lb/qtr).

Using the PE2 (lb/yr) values calculated in Section VII.C.2, Quarterly PE2 is calculated as follows:

$$PE2_{\text{quarterly}} = PE2 \text{ (lb/yr)} \div 4 \text{ quarters/year} = QNEC$$

QNEC		
Pollutant	PE2 Total (lb/yr)	Quarterly PE2 (lb/qtr)
NO <sub>x</sub>	1,115	278.8
SO <sub>x</sub>	1	0.3
PM <sub>10</sub>	23	5.8
CO	221	55.3
VOC	123	30.8

## Appendix F

### SSPE1 Calculations



The last full SSPE calculations were performed in 2004 for Project N-1041402.

Permit	NOx (lb/yr)	CO (lb/yr)	VOC (lb/yr)	SOx (PM10)	PM10 (lb/yr)
N-811-10	363	63	2	0	1
N-811-11	2,790	601	222	33	79
N-811-12	2,790	601	222	33	79
N-811-13	0	0	1,135	0	0
N-811-18	432	2,160	216	576	144
N-811-19	2,726	589	213	135	70
N-811-21	23,657	72,058	20,394	3,807	2,719
N-811-22	23,657	72,058	20,394	3,807	2,719
N-811-23	23,657	72,058	20,394	3,807	2,719
N-811-25	6,980	380	380	160	100
N-811-26	0	0	3,176	0	0

However, several permitting and administrative actions have taken place since that time; therefore, the following adjustments will be made to to reflect the changes that have taken place since 2004:

1. Permits N-811-10 and N-811-19 were cancelled thus the PE = 0 for those units
2. Maintenance and testing hours for unit N-811-11-6, '-12-6 were administratiely reduced from 200 hours to 20 hours. Emissions from the previous table from project N-1041402 were reduced by a factor of 10 to determine the following adjusted emission rates:

Permit Unit 11

Pollutant	Annual Emissions (lb/year)
NOx	279
CO	60
VOC	22
SOx	3
PM10	8

Permit Unit 12

Pollutant	Annual Emissions (lb/year)
NOx	279
CO	60
VOC	22
SOx	3
PM10	8

3. The VOC emission rate for permit unit 13, a gasoline dispensing operations, was reduced in Project N-1141150. The post-project VOC emissions are as follows:

Permit Unit 13

Pollutant	Annual Emissions (lb/year)
NOx	0
CO	0
VOC	698
SOx	0
PM10	0

4. The fuel sulfur content was adjusted under TV Renewal N-1172358 for full-time IC engines N-811-21, '-22, and '-23. The SOx emissions were reduced and the revised emission rates were as follows:

Permit Unit 21

Pollutant	Annual Emissions (lb/year)
NOx	23,657
CO	72,058
VOC	20,394
SOx	979
PM10	2,719

Permit Unit 22

Pollutant	Annual Emissions (lb/year)
NOx	23,657
CO	72,058
VOC	20,394
SOx	979
PM10	2,719

Permit Unit 23

Pollutant	Annual Emissions (lb/year)
NOx	23,657
CO	72,058
VOC	20,394
SOx	979
PM10	2,719

After factoring in the above changes, SSPE1 for this current project is shown below:

<b>SSPE1</b>					
<b>Permit</b>	<b>NOx (lb/yr)</b>	<b>CO (lb/yr)</b>	<b>VOC (lb/yr)</b>	<b>SOx (PM10)</b>	<b>PM10 (lb/yr)</b>
N-811-11-6	279	60	22	3	8
N-811-12-6	279	60	22	3	8
N-811-13	0	0	698	0	0
N-811-18	432	2,160	216	576	144
N-811-21	23,657	72,058	20,394	979	2,719
N-811-22	23,657	72,058	20,394	979	2,719
N-811-23	23,657	72,058	20,394	979	2,719
N-811-25	6,980	380	380	160	100
N-811-26	0	0	3,176	0	0
<b>Total</b>	<b>78,941</b>	<b>218,834</b>	<b>65,696</b>	<b>3,679</b>	<b>8,417</b>

Appendix G  
Compliance Certification



# San Joaquin Valley Air Pollution Control District



## TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

### I. TYPE OF PERMIT ACTION (Check appropriate box)

ADMINISTRATIVE AMENDMENT     MINOR MODIFICATION     SIGNIFICANT MODIFICATION

COMPANY NAME: City of Stockton, Municipal Utilities Department, Regional Wastewater Control Facility	FACILITY ID: N-811
1. Type of Organization: <input type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input checked="" type="checkbox"/> Utility	
2. Owner's Name: City of Stockton	
3. Agent to the Owner: Deedee A. Antypas	

### II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial applicable circles for confirmation):

- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).
- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.
- Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
- Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true, accurate, and complete.
- For minor modifications, this application meets the criteria for use of minor permit modification procedures pursuant to District Rule 2520.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

Deedee A. Antypas  
Signature of Responsible Official

7-15-2021  
Date

Deedee A. Antypas  
Name of Responsible Official (please print)

Deputy Director of Wastewater Operations  
Title of Responsible Official (please print)

Appendix H  
ERC Surplus Analysis

# San Joaquin Valley Air Pollution Control District

## Surplus ERC Analysis

**Requester/Facility Name:** Stockton RWCF **Date:** March 15, 2022  
**Mailing Address:** 2500 Navy Drive **Engineer:** Shobhit Mehrotra  
Stockton, CA 95206 **Lead Engineer:** James Harader  
**Contact Person:** Deedee Antypas  
**Telephone:** (209) 937-7425  
**ERC Certificate(s) #:** N-1518-2  
**Project #:** N-1220628

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### I. Proposal

Stockton RWCF has requested the District to perform an analysis of the current surplus value of the following Emission Reduction Credit (ERC) certificate:

Proposed ERC Certificate(s)	
Certificate #	Criteria Pollutant
N-1518-2	NOx

The purpose of this analysis is to ensure that the emission reductions on this ERC certificate are surplus of all applicable Federal requirements; therefore, this analysis establishes the surplus value of the ERC certificate as of the date of this analysis. The current face value and surplus value of the ERC certificate evaluated in this analysis is summarized in the following table:

#### Criteria Pollutant Summary: NOx

ERC Certificate N-1518-2				
Pollutant	1 <sup>st</sup> Qtr. (lb/qtr)	2 <sup>nd</sup> Qtr. (lb/qtr)	3 <sup>rd</sup> Qtr. (lb/qtr)	4 <sup>th</sup> Qtr. (lb/qtr)
Current Value	500	500	500	500
Surplus Value	500	500	500	500

**II. Individual ERC Certificate Analysis**

**ERC Certificate N-1518-2**

**A. ERC Background**

**Criteria Pollutant: NOx**

ERC Certificate N-1518-2 is a certificate that was split out from parent ERC Certificate N-1086-2. Original ERC Certificate N-1086-2 was issued to facility N-802 on January 6, 2014 under project N-1122754. The ERCs were generated from the shutdown of emission units at solid fuel-fired power plant, facility ID N-802, which included a coal-fired circulating fluidized bed boiler (permit N-802-1) and various auxiliary equipment (permits N-802-2 through N-802-8, N-802-10 through N-802-14, N-802-16, N-802-17, and N-802-19). Of the units shut down, N-802-1 was the only source of NOx emissions. The following table summarizes the values of the original parent certificate and the current value of the subject certificate:

<b>ERC Certificate N-1518-2</b>				
<b>Pollutant</b>	<b>1<sup>st</sup> Qtr. (lb/qtr)</b>	<b>2<sup>nd</sup> Qtr. (lb/qtr)</b>	<b>3<sup>rd</sup> Qtr. (lb/qtr)</b>	<b>4<sup>th</sup> Qtr. (lb/qtr)</b>
Original Value of Parent Certificate N-1086-2	38,860	26,235	34,589	37,804
Current Value of ERC Certificate N-1518-2	500	500	500	500

**B. Applicable Rules and Regulations at Time of Original Banking Project**

Based on the application review for the original ERC banking project, the following rules and regulations were evaluated to determine the surplus value of actual emission reductions of NOx generated by the reduction project.

**1. District Rules**

Rule 2201 – New and Modified Stationary Source Review Rule (8/15/19)

The application review for the original ERC banking project demonstrated that the emission reductions were surplus of all Rule 2201 limits. Since this rule is only applicable to new and modified units, there are no new or additional requirements that could affect the surplus value of the original reductions.



Rule 2301 - Emission Reduction Credit Banking (12/17/92)

The application review for the original ERC banking project demonstrated that the ERC credit complied with District Rule 2301 requirements at the time it was issued.

Rule 4352 Solid Fuel Fired Boilers, Steam Generators and Process Heaters (12/15/2011)

The application review for the original ERC banking project demonstrated that the solid fuel-fired boiler had NOx emissions that were lower than the Rule 4352 limit. Therefore, the original NOx emission reductions were surplus of all applicable District Rule requirements at the time the ERC was originally banked.

**2. Federal Rules and Regulations**

40 CFR Part 60 Subpart Da - Standards of Performance for Electric Utility Steam Generating Units

The application review for the original ERC banking project demonstrated that the boiler had a NOx limit that was below the limit in this subpart. Therefore, the NOx emission reductions were surplus of the requirements of any applicable federal rules or regulations at the time the ERC was originally banked.

**C. New or Modified Rule and Regulations Applicable to the Original Banking Project**

All District and federal rules and regulations that have been adopted or amended since the date the original banking project was finalized will be evaluated below:

**1. District Rules:**

Rule 4352 Solid Fuel Fired Boilers, Steam Generators and Process Heaters (12/16/2021)

The application review for the original ERC banking project demonstrated that the emission reductions were surplus of all Rule 4352 limits, specifically this unit was subject to the NOx limit of 65 ppmv corrected to 3% O<sub>2</sub> for “other” units. Rule 4352 was recently amended on 12/16/21; however, the NOx limit for “other” units was not modified and continues to be 65 ppmv corrected to 3% O<sub>2</sub>. Therefore, the original NOx emission reductions continue to be surplus of District rule requirements.

There are no other new or modified District rules that would affect the NOx emission reductions from the solid fuel-fired boiler that generated the emission reductions associated with this ERC certificate.

**2. Federal Rules and Regulations:**

40 CFR Part 60 Subpart Da - Standards of Performance for Electric Utility Steam Generating Units

The application review for the original ERC banking project demonstrated that the boiler had a NO<sub>x</sub> limit that was below the limit in the subpart; furthermore, the requirements of this subpart have not changed since the date of the original banking action. Therefore, the emission reductions continue to be surplus of the requirements of this subpart.

There are no new or modified federal rules or regulations that would affect the NO<sub>x</sub> emission reductions from the solid fuel-fired boiler that generated the emission reductions associated with this ERC certificate.

**D. Surplus at Time of Use Adjustments to ERC Quantities**

As demonstrated in the section above, the emissions reductions from permit units in the original banking project continue to be surplus of all applicable District and Federal Rules and Regulations. Therefore, no discounting to the ERC values are necessary for surplus at time of use considerations.

**E. Surplus Value of ERC Certificate**

The emissions continue to be surplus of all District and federal rules and regulations; therefore, no adjustments to the ERC values are necessary.

ERC Certificate N-1518-2 – Criteria Pollutant NO <sub>x</sub>					
		1 <sup>st</sup> Qtr. (lb/qtr)	2 <sup>nd</sup> Qtr. (lb/qtr)	3 <sup>rd</sup> Qtr. (lb/qtr)	4 <sup>th</sup> Qtr. (lb/qtr)
(A)	Current ERC Quantity	500	500	500	500
(B)	Percent Discount	0%	0%	0%	0%
(C) = (A) x [1 – (B)]	<b>Surplus Value</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>500</b>

Appendix I  
ERC Withdrawal Calculations

<b>NO<sub>x</sub></b>	<b>1<sup>st</sup> Quarter (lb)</b>	<b>2<sup>nd</sup> Quarter (lb)</b>	<b>3<sup>rd</sup> Quarter (lb)</b>	<b>4<sup>th</sup> Quarter (lb)</b>
ERC N-1518-2	500	500	500	500
Offsets Required (Includes distance offset ratio)	418	418	418	419
Amount Remaining	82	82	82	81
Credits reissued under ERC N-YYYY-2	82	82	82	81