



JAN 13 2010

Thomas Rosenberger
Franklin Templeton Companies, LLC
P O Box 2258
Rancho Cordova, CA 95741

Re: Notice of Preliminary Decision – Authorities to Construct
Project Number: N-1094424

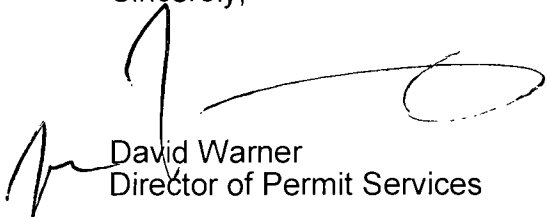
Dear Mr. Rosenberger:

Enclosed for your review and comment is the District's analysis of Franklin Templeton Companies, LLC's application for Authorities to Construct for the installation of two 2,937 bhp diesel-fired emergency engines, located at 4103 B Street, Stockton, CA.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Fred Cruz of Permit Services at (209) 557-6456.

Sincerely,



David Warner
Director of Permit Services

DW:FJC/cm

Enclosures

Seyed Sadredin
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
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Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585



JAN 13 2010

Mike Tollstrup, Chief
Project Assessment Branch
Stationary Source Division
California Air Resources Board
PO Box 2815
Sacramento, CA 95812-2815

Re: Notice of Preliminary Decision - Authorities to Construct
Project Number: N-1094424

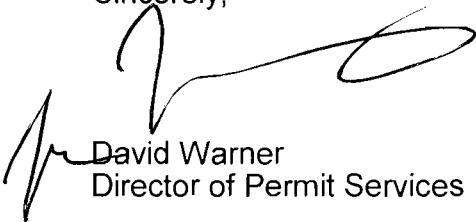
Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of Franklin Templeton Companies, LLC's application for Authorities to Construct for the installation of two 2,937 bhp diesel-fired emergency engines, at 4103 B Street, Stockton, CA.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Fred Cruz of Permit Services at (209) 557-6456.

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Stockton Record
Stockton Record

**NOTICE OF PRELIMINARY DECISION
FOR THE PROPOSED ISSUANCE OF
AN AUTHORITY TO CONSTRUCT**

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Authorities to Construct to Franklin Templeton Companies, LLC for the installation of two 2,937 bhp diesel-fired emergency engines, at 4103 B Street, Stockton, CA.

The analysis of the regulatory basis for this proposed action, Project #N-1094424, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. Written comments on this project must be submitted within 30 days of the publication date of this notice to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 4800 ENTERPRISE WAY, MODESTO, CA 95356.**

San Joaquin Valley Air Pollution Control District
ATC Application Review
Diesel Fired Emergency IC Engine

Facility Name: Franklin Templeton Companies, LLC Date: December 21, 2009
Mailing Address: P O Box 2258 Engineer: Fred Cruz
Rancho Cordova, CA 95741 Lead Engineer: Nick Peirce
Contact Person: Robert Conklin (Project manager – SCEC)
Telephone: (714) 282-8240
FAX: (714) 282-8247
Email: bconklin@scec.com
Application Nos: N-8119-1-0 and N-8119-2-0
Project No: N-1094424
Deemed Complete: December 1, 2009

I. PROPOSAL:

Franklin Templeton Companies, LLC, submitted Authority to Construct applications to install two 2,937 bhp diesel fired emergency internal combustion (IC) engines each powering an electrical generator.

II. APPLICABLE RULES:

Rule 2201 New and Modified Stationary Source Review Rule (Amended 9/21/2006)
Rule 4101 Visible Emissions (Amended 2/17/2005)
Rule 4102 Nuisance (Amended 12/17/1992)
Rule 4201 Particulate Matter Concentration (Amended 12/17/1992)
Rule 4701 Stationary Internal Combustion Engines – Phase 1 (Amended 8/21/2003)
Rule 4702 Stationary Internal Combustion Engines – Phase 2 (Amended 1/18/2007)
Rule 4801 Sulfur Compounds (Amended 12/17/1992)
CH&SC 42301.6 School Notice
Title 13 California Code of Regulations (CCR), Section 2423 – Exhaust Emission Standards and Test Procedures, Off-Road Compression-Ignition Engines and Equipment
Title 17 CCR, Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines
California Environmental Quality Act (CEQA)

III. PROJECT LOCATION:

The equipment is located at 4103 B Street, Stockton, CA. Based on the site information, the equipment is not located within 1,000 feet of the outer boundary of a K-12 school (see site map). Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. PROCESS DESCRIPTION:

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

V. EQUIPMENT LISTING:

N-8119-1-0: 2937 BHP CATERPILLAR MODEL 3516 DITA DIESEL FIRED EMERGENCY ENGINE (TIER 2 CERTIFIED) POWERING AN ELECTRICAL GENERATOR (ENGINE #1).

N-8119-2-0: 2937 BHP CATERPILLAR MODEL 3516 DITA DIESEL FIRED EMERGENCY ENGINE (TIER 2 CERTIFIED) POWERING AN ELECTRICAL GENERATOR (ENGINE #2).

VI. EMISSION CONTROL TECHNOLOGY EVALUATION:

Each engine is equipped with:

- Turbocharger
- Intercooler/aftercooler
- Injection timing retard (or equivalent per District Policy SSP-1805, dated 8/14/1996)
- Positive Crankcase Ventilation (PCV) or 90% efficient control device
- This engine is required to be, and is UL certified
- Catalytic particulate filter
- Very Low (0.0015%) sulfur diesel

The emission control devices/technologies and their effect on diesel engine emissions detailed below are from *Non-catalytic NO_x Control of Stationary Diesel Engines*, by Don Koeberlein, CARB.

The turbocharger reduces the NO_x emission rate from the engine by approximately 10% by increasing the efficiency and promoting more complete burning of the fuel.

The intercooler/aftercooler functions in conjunction with the turbocharger to reduce the inlet air temperature. By reducing the inlet air temperature, the peak combustion temperature is lowered, which reduces the formation of thermal NO_x. NO_x emissions are reduced by approximately 15% with this control technology.

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

VII. General Calculations

A. Assumptions:

Operating schedule: 24 hours/day, 50 hours/year ¹
 Density of diesel fuel: 7.1 lb/gal
 EPA F-factor: 9051 dscf/MMBtu (corrected to 60° F)
 Fuel heating value: 137,000 Btu/gal
 BHP to Btu/hr conversion: 2542.5 Btu/hp-hr
 Thermal efficiency of engine commonly ≈ 35%
 Fuel rate: 138.9 gal/hr @ 100% load (engine data sheet)
 PM₁₀ fraction of diesel exhaust is 96% (CARB, 1988)

The applicant has supplied an emissions factor for NO_x and VOC emissions combined (NMHC + NO_x). Therefore, the District will use data from the EPA document "Exhaust and Crankcase Emission Factors for Non-road Engine modeling – Compression Ignition", dated April 2004 and presented in Table 2.

B. Emission Factors

The applicant provided the following emission factors for the proposed engine, as certified by CARB on December 21, 2007.

CARB-Certified Emission Factors			
Engines	Exhaust (g/kW-hr)		
	NMHC + NO _x	CO	PM
Caterpillar 3516 DITA	5.3	0.9	0.10

Emission factors for CO and PM may be readily calculated from the above entries.

$$EF_{CO} = (0.9 \text{ g/kW-hr}) \times (0.746 \text{ kW/bhp}) = 0.67 \text{ g/bhp-hr}$$

$$EF_{PM10} = (0.10 \text{ g/kW-hr}) \times (0.746 \text{ kW/bhp}) \times (0.96) = 0.07 \text{ g/bhp-hr}$$

VOC and NO_x emissions are lumped together as non-methane hydrocarbons + NO_x on the engine emissions certification. They may be separated into VOC and NO_x components using the procedure described in EPA Document "Exhaust and Crankcase Emission Factors for Non-road Engine Modeling – Compression Ignition", dated April 2004. Each proposed engine is a Tier 2 engine with a maximum data plate power output of 2,937 bhp per engine, so the applicable combined and pollutant-specific emission factors are:

¹ The current CARB ATCM for new emergency diesel fired IC engines limits the non-emergency hours of operation to no more than 50 hours per calendar year if the PM₁₀ emission factor is greater than 0.01 g/bhp-hr but less than or equal to 0.15 g/bhp-hr. The PM₁₀ emission factor for each engine is 0.07 g/bhp-hr, as calculated above. See the certification emissions data sheet from Caterpillar concerning these engines (EPA engine family certificate number 8CPXL78.1T2E).

NO_x and VOC Emissions			
Horsepower Range (bhp)	Combined Standard, NO _x + VOC (g/bhp-hr)	Estimated NO _x Emissions (g/bhp-hr)	Estimated VOC Emissions (g/bhp-hr)
	Tier 2	Tier 2	Tier 2
> 750.4	4.8	4.5	0.3

$$EF_{VOC} = (5.3 \text{ g/kW-hr}) \times (0.746 \text{ kW/bhp}) \times [(0.3 \text{ g/bhp-hr}) \div (4.8 \text{ g/bhp-hr})]$$

$$EF_{VOC} = 0.25 \text{ g/bhp-hr}$$

$$EF_{NO_x} = (5.3 \text{ g/kW-hr}) \times (0.746 \text{ kW/bhp}) \times [(4.5 \text{ g/bhp-hr}) \div (4.8 \text{ g/bhp-hr})]$$

$$EF_{NO_x} = 3.71 \text{ g/bhp-hr}$$

The emission factor for SO_x is calculated based on the equation below.

$$\frac{0.000015 \text{ lb} - S}{\text{lb} - \text{fuel}} \times \frac{7.1 \text{ lb} - \text{fuel}}{\text{gallon}} \times \frac{2 \text{ lb} - SO_2}{1 \text{ lb} - S} \times \frac{1 \text{ gal}}{137,000 \text{ Btu}} \times \frac{1 \text{ bhp input}}{0.35 \text{ bhp out}} \times \frac{2,542.5 \text{ Btu}}{\text{bhp} - \text{hr}} \times \frac{453.6 \text{ g}}{\text{lb}} = 0.005 \frac{\text{g} - SO_x}{\text{bhp} - \text{hr}}$$

Emission factors for each engine are summarized in the following table.

Emission Factors					
EF (g/bhp-hr)	Pollutant				
	NO _x	PM ₁₀	SO _x	CO	VOC
		3.71	0.07	0.005	0.67

C. Emission Calculations

1. Pre-Project Potential to Emit (PE1)

These are new emission units, PE1 is zero for each pollutant for each engine.

2. Post-Project Potential to Emit (PE2)

The post-project potential emissions can be calculated using the emission factors from this document and the engine's maximum power rating of 2,937 bhp.

For NO_x:

$$PE2_{\text{daily}} = (3.71 \text{ g/bhp-hr}) \times (2,937 \text{ bhp}) \times (24 \text{ hr/day}) \div (453.6 \text{ g/lb})$$

$$= 576.5 \text{ lb/day}$$

$$PE2_{\text{annual}} = (3.71 \text{ g/bhp-hr}) \times (2,937 \text{ bhp}) \times (50 \text{ hr/yr}) \div (453.6 \text{ g/lb})$$

$$= 1,201 \text{ lb/yr}$$

For SO_x:

$$PE2_{\text{daily}} = (0.005 \text{ g/bhp-hr}) \times (2,937 \text{ bhp}) \times (24 \text{ hr/day}) \div (453.6 \text{ g/lb})$$

$$= 0.8 \text{ lb/day}$$

$$PE2_{\text{annual}} = (0.005 \text{ g/bhp-hr}) \times (2,937 \text{ bhp}) \times (50 \text{ hr/yr}) \div (453.6 \text{ g/lb})$$

$$= 1.6 \text{ lb/yr}$$

$$= 2 \text{ lb/yr}$$

For PM₁₀:

$$\text{PE2}_{\text{daily}} = (0.07 \text{ g/bhp-hr}) \times (2,937 \text{ bhp}) \times (24 \text{ hr/day}) \div (453.6 \text{ g/lb})$$

$$= 10.9 \text{ lb/day}$$

$$\text{PE2}_{\text{annual}} = (0.07 \text{ g/bhp-hr}) \times (2,937 \text{ bhp}) \times (50 \text{ hr/yr}) \div (453.6 \text{ g/lb})$$

$$= 23 \text{ lb/yr}$$

For CO:

$$\text{PE2}_{\text{daily}} = (0.67 \text{ g/bhp-hr}) \times (2,937 \text{ bhp}) \times (24 \text{ hr/day}) \div (453.6 \text{ g/lb})$$

$$= 104.1 \text{ lb/day}$$

$$\text{PE2}_{\text{annual}} = (0.67 \text{ g/bhp-hr}) \times (2,937 \text{ bhp}) \times (50 \text{ hr/yr}) \div (453.6 \text{ g/lb})$$

$$= 217 \text{ lb/yr}$$

For VOC:

$$\text{PE2}_{\text{daily}} = (0.25 \text{ g/bhp-hr}) \times (2,937 \text{ bhp}) \times (24 \text{ hr/day}) \div (453.6 \text{ g/lb})$$

$$= 38.8 \text{ lb/day}$$

$$\text{PE2}_{\text{annual}} = (0.25 \text{ g/bhp-hr}) \times (2,937 \text{ bhp}) \times (50 \text{ hr/yr}) \div (453.6 \text{ g/lb})$$

$$= 81 \text{ lb/yr}$$

The daily and annual potential emissions are summarized in the following table:

Post-Project Potential to Emit (PE2)		
Pollutant	Daily (lb/day)	Annual (lb/yr)
NO _x	576.5	1,201
SO _x	0.8	2
PM ₁₀	10.9	23
CO	104.1	217
VOC	38.8	81

2. Facility Emissions:

Pre Project Stationary Source Potential to Emit (SSPE1):

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all emission units with valid ATCs or 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 that have occurred at the source, and which have not been used on-site. This is a new facility and SSPE1 will equal zero for each pollutant.

Post Project Stationary Source Potential to Emit (SSPE2):

Pursuant to Section 4.10 of District Rule 2201, the Post-project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all emission units with valid ATCs or 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 that have occurred at the source, and which have not been used on-site.

Post Project Stationary Source Potential to Emit (SSPE2) (lb/year)					
Permit No.	NOx	CO	VOC	PM ₁₀	SOx
N-8119-1-0	1,201	217	81	23	2
N-8819-2-0	1,201	217	81	23	2
Total	2,402	434	162	46	4
Major Source Threshold	50,000	200,000	50,000	140,000	140,000
Existing Major Source?	No	No	No	No	No

3. Major Source Determination

A Major Source is a source with an SSPE2² that equals or exceeds any of the following Major Source thresholds. The following table compares the pre-project and post-project facility-wide annual emissions to determine if the facility is an existing Major Source or if the facility becomes a Major Source as the result of this project. This facility does not contain ERCs, which have been banked at the source. Therefore, no adjustment to SSPE2 is necessary.

Major Source Determination					
Pollutant	SSPE1 (lb/yr)	SSPE2 (lb/yr)	Major Source Threshold (lb/yr)	Existing Major Source?	Becoming a Major Source?
NO _x	0	2,402	50,000	No	No
SO _x	0	4	140,000	No	No
PM ₁₀	0	46	140,000	No	No
CO	0	434	200,000	No	No
VOC	0	162	50,000	No	No

² Section 3.24.2 of District Rule 2201 states, "for the purposes of determining major source status, the SSPE2 shall not include the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

4. Baseline Emissions (BE)

Pursuant to Rule 2201, Section 3.7, the Baseline Emissions (BE) for a given pollutant is the sum of the following:

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 Rule 2201, Section 3.22

Based on the SSPE1 and SSPE2 calculations in the above section, the facility is a non-major source for any pollutant. Per Rule 2201, Section 3.7.1.1, for a non-major source, the Baseline Emissions (BE) for a given pollutant are equal to the sum of the pre-project Potential to Emit for all emission units affected by this proposed project.

5. 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 B.

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:

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

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

a. New emissions units – PE > 2.0 lb/day

Since these engines are each new emission units, the daily emissions are compared to the BACT thresholds in the following table:

New Emissions Unit BACT Applicability				
Pollutant	Daily Emissions for unit -1-0 & -2-0 (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/yr)	BACT Triggered?
NO _x	576.5	> 2.0	N/A	Yes
SO _x	1.7	> 2.0	N/A	No
PM ₁₀	10.9	> 2.0	N/A	Yes
CO	104.1	> 2.0 and SSPE2 ≥ 200,000 lb/yr	434	No
VOC	38.8	> 2.0	N/A	Yes

The PEs for NO_x, PM₁₀ and VOC emissions are each greater than 2.0 lb/day. Therefore, BACT is triggered for NO_x, PM₁₀ and VOC. See Appendix C for BACT analysis.

2. BACT Guideline

BACT Guideline 3.1.1 4th quarter 2009, which appears in Appendix C 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 ATC 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." Appendix C contains the top-down BACT Analysis for these two diesel fired emergency engines and the following satisfies BACT:

NO_x: Use of latest EPA Tier Certified diesel-fired engine based on the engine's horsepower rating (see Title 13 California Code of Regulations [CCR], Section 2423 compliance section of this document)

PM₁₀: 0.15 g/bhp-hr or the latest EPA Tier Certified diesel-fired engine based on the engine's horsepower rating, whichever is more stringent

VOC: Use of latest EPA Tier Certified diesel-fired engine based on the engine's horsepower rating (see Title 13 California Code of Regulations [CCR], Section 2423 compliance section of this document)

B. Offsets

Per Section 4.6.2 of Rule 2201, emergency IC engines are exempt from the offset requirements. Therefore, offset calculations are not required.

C. Public Notification

1. Applicability

Public noticing is required for:

- a. New Major Sources,
- b. Major Modifications of an existing Stationary Source,
- c. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- d. Any project which results in the offset thresholds being reached or surpassed, and/or
- e. Any project with an SSPE of greater than 20,000 lb/year for any pollutant.

a. New Major Source

New Major Sources are new facilities, which also become Major Sources. As previously demonstrated, SSPE2 is not greater than the Major Source threshold for any criteria pollutant. Therefore, public noticing is not required for this project for new Major Source purposes.

b. Major Modification

This facility does not become a major source as a result of this project. For non-major sources, the Major Modification threshold levels are equivalent to the major source threshold levels. Therefore public noticing is not required for this project.

c. PE > 100 lb/day:

The PE for NOx and CO emissions exceeds the 100 lb/day threshold for each engine. Therefore, Public Noticing is required for this project.

d. Offset Threshold

The following table compares the SSPE1 with the SSPE2 to the offset thresholds to determine if any offset thresholds have been exceeded with this project.

Offset Threshold				
Pollutant	SSPE1 (lb/yr)	SSPE2 (lb/yr)	Offset Threshold (lb/yr)	Public Notice Required?
NO _x	0	2,402	20,000	No
SO _x	0	4	54,750	No
PM ₁₀	0	46	29,200	No
CO	0	434	200,000	No
VOC	0	162	20,000	No

Public noticing is not required for this project for equaling or exceeding the offset thresholds.

e. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a Stationary Source Increase in Permitted Emissions (SSIPE) of more than 20,000 lb/year for any affected pollutant. According to District policy, the SSIPE is calculated as the Post Project Stationary Source Potential to Emit (SSPE2) minus the Pre-Project Stationary Source Potential to Emit (SSPE1), i.e. SSIPE = SSPE2 – SSPE1. See table below:

SSIPE Public Notice Threshold					
Pollutant	SSPE2 (lb/yr)	SSPE1 (lb/yr)	SSIPE (lb/yr)	SSIPE Threshold (lb/yr)	Public Notice Required?
NO _x	2,402	0	2,402	20,000	No
SO _x	4	0	4	20,000	No
PM ₁₀	46	0	46	20,000	No
CO	434	0	434	20,000	No
VOC	162	0	162	20,000	No

Therefore, public noticing is not required for exceeding the SSIPE thresholds.

2. Public Notice Action

As discussed above, this project does result in daily PE NO_x and CO emissions that exceed 100 lbs, which would subject the project to the public noticing requirements. Therefore, public notice is required for this project.

D. Daily Emissions Limits

Daily Emissions Limits (DELs) are required to enforce the applicability of BACT. For this emergency IC engine, the DELs are stated in the form of emission factors, the maximum engine horsepower rating, and the maximum operational time of 24 hours per day.

E. Compliance Assurance

1. Source Testing

Pursuant to District Policy APR 1705, source testing is not required for emergency IC engines.

2. Monitoring

Additional monitoring is not required to demonstrate compliance with Rule 2201.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification, and daily emission limit requirements of Rule 2201. As required by District Rule 4702, *Stationary Internal Combustion Engines - Phase 2*, and Title 17 CCR Section 93155 ATCM for stationary compression ignited engines, this IC engine is subject to recordkeeping requirements for Rule 4702 and the ATCM compliance. Recordkeeping requirements will be discussed in the compliance section of this document.

4. Reporting

Additional reporting is not required to ensure compliance with Rule 2201.

F. Ambient Air Quality Analysis

Section 4.14.1 of this Rule requires that an ambient air quality analysis (AAQA) be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of a State or National ambient air quality standard. An AAQA is required to be performed for all New Source Review (NSR) public notice projects. As previously discussed, this project requires a public notice be performed before issuance of the ATCs for this project. Therefore, the District is required to perform an AAQA for this project.

The Technical Services Division of the SJVAPCD conducted the required AAQA for this project. The results of the AAQA are presented in the following two tables. Refer to Appendix D of this document for the AAQA summary and the PM₁₀ 24 hour and annual emissions contribution levels for this project.

Criteria Pollutant Modeling Results *
 Values are in $\mu\text{g}/\text{m}^3$

AAQA Results Summary					
Pollutant	1 hr Average	3 hr Average	8 hr Average	24 hr Average	Annual Average
CO	Pass	X	Pass	X	X
NO _x	Pass ¹	X	X	X	Pass
SO _x	Pass	Pass	X	Pass	Pass
PM ₁₀	X	X	X	Pass ²	Pass ²

* Results are based on criteria pollutant submitted for this application review.

1. The NO_x 1-hour modeling results passed after using the Ozone Limiting Modeling (OLM).
2. The criteria pollutants are below EPA's level of significance as found in CFR 40 Part 51.165 (b) (2).

The criteria modeling runs for this project indicate that the emissions from the proposed diesel-fired emergency engines will not cause or significantly contribute to a violation of a State or National AAQS.

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. The engine is expected to be in compliance with this rule.

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 the operation of this engine, provided the equipment is well maintained. The engine is expected to be in compliance with this rule.

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 shall perform an analysis to determine the possible impact to the nearest resident or worksite.

Technical Services performed a Risk Management Review for the proposed installation of two 2,937 bhp diesel-fired emergency IC engines each powering an electrical generator. Technical Services performed a screening level health risk assessment using the District developed DICE database.

RMR Summary				
Categories	Emergency Diesel ICE (Unit 1-0)	Emergency Diesel ICE (Unit 2-0)	Project Totals	Facility Totals
Prioritization Score	N/A ¹	N/A ¹	>1	>1
Acute Hazard Index	N/A ²	N/A ²	N/A	N/A
Chronic Hazard Index	N/A ²	N/A ²	N/A	N/A
Maximum Individual Cancer Risk	5.9E-07	5.9E-07	1.18E-06	1.18E-06
T-BACT Required?	No	No		
Special Permit Conditions?	Yes	Yes		

- 1 Prioritization for this unit was not conducted since it has been determined that all diesel-fired IC engines will result in prioritization scores greater than 1.0.
- 2 Acute and Chronic Hazard Indices were not calculated since there is no risk factor or the risk factor is so low that it has been determined to be insignificant for these types of units.

The cancer risk associated with the operation of the proposed diesel IC engines 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) for PM10. See Appendix D for RMR Summary results.

To ensure that human health risks will not exceed District allowable levels; the following permit conditions will be included on the Authority to Construct permit.

1. Modified {1901} The PM10 emissions rate shall not exceed **0.07** g/hp-hr based on US EPA certification using ISO 8178 test procedure. [District Rule 2201]
2. {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] N
3. Modified {1344} The engine shall be operated only for maintenance, testing, and required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed **50** hours per year. [District NSR Rule and District Rule 4701] N

Rule 4201 Particulate Matter Concentration

Particulate matter emissions from each engine will be less than or equal to the rule limit of 0.1 grain per cubic foot of gas at dry standard conditions as shown by the following:

$$0.07 \frac{g - PM_{10}}{bhp - hr} \times \frac{1g - PM}{0.96g - PM_{10}} \times \frac{1bhp - hr}{2,542.5 Btu} \times \frac{10^6 Btu}{8,578 dscf} \times \frac{0.35 Btu_{out}}{1 Btu_{in}} \times \frac{15.43 grain}{g} = 0.02 \frac{grain - PM}{dscf}$$

Since $0.02 \frac{\text{grain}}{\text{dscf}}$ is \leq to 0.1 grain per dscf, compliance with Rule 4201 is expected.

Rule 4701 Internal Combustion Engines – Phase 1

Pursuant to Section 7.5.2.3 of District Rule 4702, as of June 1, 2006 District Rule 4701 no longer applies to diesel-fired emergency standby or emergency IC engines. Therefore, this emergency IC engine will comply with the requirements of District Rule 4702 and no further discussion is required for compliance with this rule.

Rule 4702 Stationary Internal Combustion Engines

The purpose of this rule is to limit the emissions of nitrogen oxides (NO_x), 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.

Pursuant to Section 4.2, except for the requirements of Sections 5.7 and 6.2.3, the requirements of this rule shall not apply to an internal combustion engine that meets the following condition:

- 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.

Section 3.15 defines an "Emergency Standby Engine" as 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.

Therefore, the emergency standby IC engines involved with this project will only have to meet the requirements of Sections 5.7 and 6.2.3 of this Rule. Section 5.7 of this Rule requires that the owner of an emergency standby engine shall comply with the requirements specified in Section 5.7.2 through Section 5.7.5 below:

- 1) Properly operate and maintain each engine as recommended by the engine manufacturer or emission control system supplier.
- 2) Monitor the operational characteristics of each engine as recommended by the engine manufacturer or emission control system supplier.
- 3) 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 Stationary 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.

Therefore, the following conditions will be listed on each ATC to ensure compliance:

- {3405} 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]
- {3478} During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
- {3403} This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702 and 17 CCR 93115]
- {3807} An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rule 4702]
- {3808} This engine shall not be used to produce power for the electrical distribution system, as part of a voluntary utility demand reduction program, or for an interruptible power contract. [District Rule 4702]
- {3810} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory

purposes shall not exceed 50 hours per calendar year. [District Rule 4702 and 17 CCR 93115]

Section 6.2.3 requires that 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 submitted to the APCO upon request and at the end of each calendar year in a manner and form approved by the APCO. Therefore, the following conditions will be listed on each ATC to ensure compliance:

- {3479} The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115]
- {3475} All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702 and 17 CCR 93115]

Rule 4801 Sulfur Compounds

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

Volume SO₂ = (n x R x T) ÷ P
 n = moles SO₂
 T (standard temperature) = 60 °F or 520 °R
 R (universal gas constant) = $\frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot \text{°R}}$

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

Since 1.0 ppmv is ≤ 2,000 ppmv, this engine is expected to comply with Rule 4801. Therefore, the following condition (previously proposed in this engineering evaluation) will be listed on each ATC to ensure compliance:

- {3395} Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801 and 17 CCR 93115]

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this site 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 13 California Code of Regulations (CCR), Section 2423 – Exhaust Emission Standards and Test Procedures, Off-Road Compression-Ignition Engines and Equipment (Required by Title 17 CCR, Section 93115 for New Emergency Standby Diesel IC Engines)

Title 13 CCR, Section 2423 lists a diesel particulate emission standard of 0.15 g/bhp-hr (with 1.341 bhp/kW, equivalent to 0.20 g/kW-hr) for 2006 and later model year engines with maximum power ratings of ≥ 751.1 bhp (equivalent to ≥ 560 kW). Therefore, the PM standards given in Title 13 CCR, Section 2423 are less stringent than ATCM, and thus the ATCM standards are the required standards and will be discussed in the following section.

Title 17 CCR, Section 93115, (e)(2)(A)(3)(b) stipulates that new stationary emergency standby diesel-fueled CI engines (> 50 bhp) must meet the VOC + NO_x, and CO standards for off-road engines of the same model year and maximum rated power as specified in the Off-Road Compression-Ignition Engine Standards (Title 13 CCR, Section 2423) or the Tier 1 standards for an off-road engine if no standards have been established for an off-road engine of the same model year and maximum rated power.

The engines involved with this project are each a certified 2008 model engine. These 2,937 bhp Caterpillar Model 3516 DITA diesel-fired emergency standby IC engines are each covered by CARB certification for Engine Family 8CPXL78.1T2E and meets the requirements of Title 13 CCR, Section 2423 for NO_x + VOC, CO and PM emissions.

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

Emergency Operating Requirements:

This regulation stipulates that no owner or operator shall operate any new or in-use stationary diesel-fueled compression ignition (CI) emergency standby engine, in response to the notification of an impending rotating outage, unless specific criteria are met.

This section applies to emergency standby IC engines that are permitted to operate during non-emergency conditions for the purpose of providing electrical power. However, District Rule 4702 states that emergency standby IC engines may only be

operated during non-emergency conditions for the purposes of maintenance and testing. Therefore, this section does not apply and no further discussion is required.

Fuel and Fuel Additive Requirements:

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 with this project are each a new stationary diesel-fueled CI emergency standby engine, these fuel requirements are applicable. Therefore, the following condition (previously proposed in this engineering evaluation) will be listed on each ATC to ensure compliance:

- {3395} Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801 and 17 CCR 93115]

At-School and Near-School Provisions:

This regulation stipulates that no owner or operator shall operate a new stationary emergency standby diesel-fueled CI engine, with a PM₁₀ emissions factor > than 0.01 g/bhp-hr, for non-emergency use, including maintenance and testing, during the following periods:

1. Whenever there is a school sponsored activity, if the engine is located on school grounds, and
2. Between 7:30 a.m. and 3:30 p.m. on days when school is in session, if the engine is located within 500 feet of school grounds.

The District has verified that these engines are not located within 500 feet of a K-12 school. Therefore, conditions prohibiting non-emergency usage of these engines during school hours will not be placed on the permits.

Recordkeeping Requirements:

This regulation stipulates that as of January 1, 2005, each owner or operator of an emergency standby diesel-fueled CI engine shall keep a monthly log of usage that shall list and document the nature of use for each of the following:

- a. Emergency use hours of operation;
- b. Maintenance and testing hours of operation;
- c. Hours of operation for emission testing;
- d. Initial start-up hours; and
- e. If applicable, hours of operation to comply with the testing requirements of National Fire Protection Association (NFPA) 25 — “Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems,” 1998 edition;

- f. Hours of operation for all uses other than those specified in sections 'a' through 'd' above; and
- g. For in-use emergency standby diesel-fueled engines, the fuel used. The owner or operator shall document fuel use through the retention of fuel purchase records that account for all fuel used in the engine and all fuel purchased for use in the engine, and, at a minimum, contain the following information for each individual fuel purchase transaction:
 - I. Identification of the fuel purchased as either CARB Diesel, or an alternative diesel fuel that meets the requirements of the Verification Procedure, or an alternative fuel, or CARB Diesel fuel used with additives that meet the requirements of the Verification Procedure, or any combination of the above;
 - II. Amount of fuel purchased;
 - III. Date when the fuel was purchased;
 - IV. Signature of owner or operator or representative of owner or operator who received the fuel; and
 - V. Signature of fuel provider indicating fuel was delivered.

The engines associated with this project are each a new emergency standby engine powering an electrical generator. Record keeping requirements were addressed in the Rule 4702 compliance section and those record keeping requirement will meet the requirements of this section of Title 17.

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.

IX. RECOMMENDATIONS:

Compliance with all applicable rules and regulations is expected. Issue Authorities to Construct N-8119-1-0 and N-81192-0 subject to the permit conditions on the attached ATC permits.

X. BILLING INFORMATION:

Billing Schedule			
Permit Number	Fee Schedule	Fee Description	Fee Amount
N-8119-1-0	3020-10-F	2,937 bhp IC engine	\$749.00
N-8119-2-0	3020-10-F	2,937 bhp IC engine	\$749.00

Appendices

- A. Authority to Construct permits
- B. QNEC Calculations
- C: BACT Guideline and Top-down Analysis
- D: HRA Summary
- E: Site map

APPENDIX A

Authorities to Construct
N-8119-1-0 and N-8119-2-0

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: N-8119-1-0

LEGAL OWNER OR OPERATOR: FRANKLIN TEMPLETON COMPANIES LLC

MAILING ADDRESS: P O BOX 2258
RANCHO CORDOVA, CA 95741

LOCATION: 4103 B STREET
STOCKTON, CA 95206

EQUIPMENT DESCRIPTION:

2937 BHP CATERPILLAR MODEL 3516 DITA DIESEL FIRED EMERGENCY ENGINE (TIER 2 CERTIFIED) POWERING AN ELECTRICAL GENERATOR (ENGINE #1).

CONDITIONS

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
3. {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]
4. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
5. {3395} Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801 and 17 CCR 93115]
6. {3403} This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702 and 17 CCR 93115]
7. Emissions from this IC engine shall not exceed any of the following limits: 3.71 g-NOx/bhp-hr, 0.67 g-CO/bhp-hr, or 0.25 g-VOC/bhp-hr. [District Rule 2201 and 13 CCR 2423 and 17 CCR 93115]
8. Emissions from this IC engine shall not exceed 0.07 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]
9. {3405} This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702]

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

N-8119-1-0 Dec 21 2009 2:19PM - CRUZ : Joint Inspection NOT Required

10. {3478} During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
11. {3810} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702 and 17 CCR 93115]
12. {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]
13. {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]
14. {3479} The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115]
15. {3475} All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702 and 17 CCR 93115]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: N-8119-2-0

LEGAL OWNER OR OPERATOR: FRANKLIN TEMPLETON COMPANIES LLC
MAILING ADDRESS: P O BOX 2258
RANCHO CORDOVA, CA 95741

LOCATION: 4103 B STREET
STOCKTON, CA 95206

EQUIPMENT DESCRIPTION:

2937 BHP CATERPILLAR MODEL 3516 DITA DIESEL FIRED EMERGENCY ENGINE (TIER 2 CERTIFIED) POWERING AN ELECTRICAL GENERATOR (ENGINE #2).

CONDITIONS

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
3. {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]
4. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
5. {3395} Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801 and 17 CCR 93115]
6. {3403} This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702 and 17 CCR 93115]
7. Emissions from this IC engine shall not exceed any of the following limits: 3.71 g-NOx/bhp-hr, 0.67 g-CO/bhp-hr, or 0.25 g-VOC/bhp-hr. [District Rule 2201 and 13 CCR 2423 and 17 CCR 93115]
8. Emissions from this IC engine shall not exceed 0.07 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]
9. {3405} This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702]

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

N-8119-2-0 : Dec 21 2009 2:10PM - CRUZ : Joint Inspection NOT Required

10. {3478} During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
11. {3810} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702 and 17 CCR 93115]
12. {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]
13. {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]
14. {3479} The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115]
15. {3475} All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702 and 17 CCR 93115]

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APPENDIX B

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 - BE, where:

- QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.
- PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.
- BE = Baseline Emissions (per Rule 2201) for each emissions unit, lb/qtr.

Using the emission factors and assumptions previously stated in this application review, the PE2_{quarterly} and BE_{quarterly} can be calculated as follows for each emergency engine:

N-8119-1-0 and N-8119-2-0:

ΔPE_{NOx}	= 1,201 lb-NOx/year – 0 lb-NOx/year	= 1,201 lb/year
ΔPE_{CO}	= 217 lb-CO/year – 0 lb-CO/year	= 217 lb/year
ΔPE_{VOC}	= 81 lb-VOC/year – 0 lb-VOC/year	= 81 lb/year
ΔPE_{PM10}	= 23 lb-PM10/year – 0 lb-PM10/year	= 23 lb/year
ΔPE_{SOx}	= 2 lb-SOx/year – 0 lb-SOx/year	= 2 lb/year

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
NOx	300	300	300	301
CO	54	54	54	55
VOC	20	20	20	21
PM₁₀	5	6	6	6
SOx	0	0	1	1

Appendix C

BACT Guideline and Analysis

1. Top-down BACT Analysis for NO_x Emissions:

a. Step 1 - Identify all control technologies

The SJVAPCD BACT Clearinghouse guideline 3.1.1, 4th quarter 2009, identifies the technologically feasible BACT control technology for NO_x emissions from diesel fired emergency engines powering an electrical generator as follows:

- 1) Use of latest EPA Tier Certified engine for the applicable horsepower range. For this size engine, the applicable Tier Certification level is a Tier 2 engine.

There are no achieved-in-practice control technologies or control alternatives identified as alternate basic equipment listed for this class and category of source.

b. Step 2 - Eliminate technologically infeasible options

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

c. Step 3 - Rank remaining options by control effectiveness

Ranking is not required since there is only one listed control technology.

d. Step 4 - Cost Effectiveness Analysis

The applicant is proposing to install two Tier 2 certified emergency engines, which each meet the EPA Tier Certification requirements for this horsepower rating. Therefore a cost effective analysis is not required since the applicant has proposed the highest control technology option listed.

e. Step 5 - Select BACT

BACT for NO_x emissions from these emergency standby diesel IC engines is the use of the latest EPA Tier Certification level for the applicable horsepower range. The applicant has proposed to install two Tier 2 certified 2,937 bhp emergency standby diesel IC engines, which is the latest tier certification for an engine this horsepower rating as shown in the attached tier certification table at the end of this appendix. Therefore, BACT for NO_x emissions is satisfied for each engine.

2. Top-down BACT Analysis for PM₁₀ Emissions:

a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 3.1.1, 4th quarter 2009, identifies achieved in practice BACT for PM₁₀ emissions from emergency diesel IC engines as follows:

- 1) 0.15 g/hp-hr or the use of the latest EPA Tier Certification level for the applicable horsepower range, whichever is more stringent. (ATCM)

There are no technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from Step 1.

c. Step 3 - Rank remaining options by control effectiveness

Ranking is not required since there is only one listed control technology.

d. Step 4 - Cost Effectiveness Analysis

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

e. Step 5 - Select BACT

BACT for PM₁₀ emissions from these emergency standby diesel IC engines is the use of an engine with PM₁₀ emissions of 0.15 g/hp-hr, or less, or the use of the latest EPA Tier Certification level for the applicable horsepower range, whichever is more stringent. The applicant has proposed to install two Tier 2 certified 2,937 bhp emergency standby diesel IC engines, which is the latest Tier Certification for an engine of this horsepower rating as shown in the attached Tier Certification table at the end of this appendix. Therefore, BACT for PM₁₀ emissions is satisfied.

3. Top Down BACT Analysis for VOC emissions:

a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 3.1.1, 4th quarter 2009, identifies achieved in practice BACT for VOC emissions from emergency diesel IC engines as follows:

- 1) Use of latest EPA Tier Certification level for engine for the applicable horsepower range. For this size engine, the applicable Tier Certification level is a Tier 2 engine.

There are no technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from Step 1.

c. Step 3 - Rank remaining options by control effectiveness

Ranking is not necessary since there is only one control option is listed in Step 1.

d. Step 4 - Cost Effectiveness Analysis

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

e. Step 5 - Select BACT

BACT for VOC emissions from these emergency standby diesel IC engines is the use of the latest EPA Tier Certification level for the applicable horsepower range. The applicant has proposed to install two Tier 2 certified 2,937 bhp emergency standby diesel IC engines which is the latest Tier Certification for an engine this horsepower rating as shown in the attached Tier Certification table at the end of this appendix. Therefore BACT for VOC emissions is satisfied for each engine.

Title 13 CCR 2423

(December 2005)

Tier Certification & Exhaust Emission Standards

(grams per brake horsepower-hour)

Power Rating (hp)	Tier	Model Year	NO _x	HC	NMHC + NO _x	CO	PM
50 ≤ hp < 75	1	1998 – 2003	6.9	-	-	3.7	-
	2	2004 - 2007	-		5.6		0.3
	3	2008 - 2011			3.5		
	4*	2008 – 2012 (Interim)			3.5		0.22
75 ≤ hp < 100	1	1998 – 2003	6.9	-	-	3.7	-
	2	2004 – 2007	-		5.6		0.3
	3	2008 – 2011			3.5		
100 ≤ hp < 175	1	1997 – 2002	6.9	-	-	3.7	-
	2	2003 – 2006	-		4.9		0.22
	3	2007 – 2011			3.0		
175 ≤ hp < 300	1	1996 – 2002	6.9	1.0	-	8.5	0.4
	2	2003 – 2005	-	-	4.9	2.6	0.15
	3	2006 - 2010			3.0		
300 ≤ hp < 600	1	1996 – 2000	6.9	1.0	-	8.5	0.4
	2	2001 – 2005	-	-	4.8	2.6	0.15
	3	2006 – 2010			3.0		
600 ≤ hp ≤ 750	1	1996 – 2001	6.9	1.0	-	8.5	0.4
	2	2002 – 2005	-	-	4.8	2.6	0.15
	3	2006 – 2010			3.0		
> 750	1	2000 – 2005	6.9	1.0	-	8.5	0.4
	2	2006 – 2010	-	-	4.8	2.6	0.15

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 3.1.1*

Last Update: 7/10/2009

Emergency Diesel IC engine

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

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

***This is a Summary Page for this Class of Source - Permit Specific BACT Determinations on Next Page(s)**

APPENDIX D

HRA SUMMARY

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Fred Cruz – Permit Services
 From: Cheryl Lawler – Technical Services
 Date: December 17, 2009
 Facility Name: Franklin Templeton Companies
 Location: 4103 B Street, Stockton
 Application #(s): N-8119-1-0 & 2-0
 Project #: N-1094424

A. RMR SUMMARY

RMR Summary				
Categories	Emergency Diesel ICE (Unit 1-0)	Emergency Diesel ICE (Unit 2-0)	Project Totals	Facility Totals
Prioritization Score	N/A ¹	N/A ¹	>1	>1
Acute Hazard Index	N/A ²	N/A ²	N/A	N/A
Chronic Hazard Index	N/A ²	N/A ²	N/A	N/A
Maximum Individual Cancer Risk	5.9E-07	5.9E-07	1.18E-06	1.18E-06
T-BACT Required?	No	No		
Special Permit Conditions?	Yes	Yes		

- 1 Prioritization for this unit was not conducted since it has been determined that all diesel-fired IC engines will result in prioritization scores greater than 1.0.
- 2 Acute and Chronic Hazard Indices were not calculated since there is no risk factor or the risk factor is so low that it has been determined to be insignificant for these types of units.

Proposed Permit Conditions

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

Units #1-0 & 2-0

1. Modified {1901} The PM10 emissions rate shall not exceed **0.07** g/hp-hr based on US EPA certification using ISO 8178 test procedure. [District Rule 2201]
2. {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] N
3. Modified {1344} The engine shall be operated only for maintenance, testing, and required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed **50** hours per year. [District NSR Rule and District Rule 4701] N

B. RMR REPORT

I. Project Description

Technical Services received a request on November 30, 2009, to perform a Risk Management Review and Ambient Air Quality Analysis for two 2937 bhp emergency diesel IC engines powering an electrical generator.

II. Analysis

Technical Services performed a screening level health risk assessment using the District's Diesel Exhaust Risk Screening spreadsheet.

The following parameters were used for the review:

Analysis Parameters (each engine)						
Unit #	bhp-hr	PM ₁₀ g/hp-hr	Receptor (m)	Quad	Hours/Year	Load%
1-0 & 2-0	2937	0.07	68.58*	2	50	100
Location Type			Rural	Receptor Type		Business

*A higher risk was found at 150 meters; therefore, this risk was used for this project.

Technical Services also performed modeling for criteria pollutants CO, NO_x, SO_x, and PM₁₀; as well as the RMR. Each engines emission rates used for criteria pollutant modeling were 4.34 lb/hr CO, 24.02 lb/hr NO_x, 0.03 lb/hr SO_x, and 0.45 lb/hr PM₁₀. The engineer supplied the maximum fuel rate for the IC engines used during the analysis.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

Values are in µg/m³

Two Diesel ICEs	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO _x	Pass ²	X	X	X	Pass
SO _x	Pass	Pass	X	Pass	Pass
PM ₁₀	X	X	X	Pass ¹	Pass ¹

*Results were taken from the attached PSD spreadsheets.

¹The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

²The NO_x 1-Hour passed after using Ozone Limiting Modeling (OLM).

III. Conclusion

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

The cancer risk associated with the operation of each proposed emergency diesel IC engine is **5.9E-07**, which is less than the 1 in a million threshold. In accordance with the District's Risk Management Policy, the engines are approved **without** Toxic Best Available Control Technology (T-BACT).

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

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

APPENDIX E

Site map

