



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



HEALTHY AIR LIVING™

JUN 27 2013

Dave Duke
Foster Food Products
P.O. Box 831
Livingston, CA 95334

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: N-1252
Project Number: N-1131534

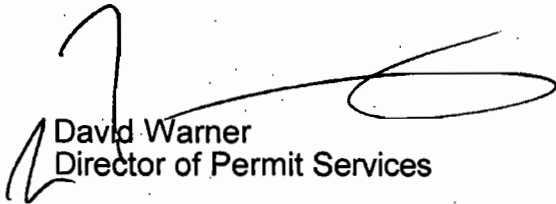
Dear Mr. Duke:

Enclosed for your review and comment is the District's analysis of Foster Food Products's application for an Authority to Construct for the installation of a new 547 bhp Tier 3 certified diesel-fired emergency standby IC engine powering an electrical generator, the new unit will replace the existing 449 bhp diesel-fired emergency standby IC engine under permit unit N-1252-16 , at 843 Davis Street in Livingston, California.

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

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Wai-Man So of Permit Services at (209) 557- 6449.

Sincerely,



David Warner
Director of Permit Services

DW:WMS

Enclosures

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

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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4800 Enterprise Way
Modesto, CA 95356-8718
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Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
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Newspaper notice for publication in Merced Sun-Star and for posting on
valleyair.org

**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 Authority to Construct to Foster Food Products for the installation of a new 547 bhp Tier 3 certified diesel-fired emergency standby IC engine powering an electrical generator, the new unit will replace the existing 449 bhp diesel-fired emergency standby IC engine under permit unit N-1252-16, at 843 Davis Street in Livingston, California.

The analysis of the regulatory basis for this proposed action, Project #N-1131534, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and at any District office. For additional information, please contact the District at (209) 557-6400. Written comments on this project must be submitted by July 29, 2013 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 Authority to Construct

Emergency standby diesel-fired IC engine powering an electrical generator

Facility Name: Foster Food Products Date: June 11, 2013
Mailing Address: P.O. Box 831 Engineer: Wai-Man So
Livingston, CA 95334 Lead Engineer: Nick Peirce
Contact Person: Dave Duke (Environmental Program Manager)
Telephone: (209) 394 – 5343 Email: duked@fosterfarms.com
Application #(s): N-1252-38-0
Project #: N-1131534
Deemed Complete: May 15, 2013

I. PROPOSAL

Foster Food Products is requesting Authority to Construct (ATC) permit to install an emergency standby diesel-fired IC engine powering an electrical generator. The new engine and generator set will replace the existing emergency standby engine and generator set under permit unit N-1252-16. Therefore, the following condition will be listed on the ATC:

- *Upon implementation of this Authority to Construct, Permit to Operate N-1252-16-0 shall be canceled. [District Rule 2201]*

II. APPLICABLE RULES

District Rule 2201 New and Modified Stationary Source Review Rule (04/21/11)
District Rule 2410 Prevention of Significant Deterioration (effective 11/26/12)
District Rule 2520 Federally Mandated Operating Permit (06/21/2001)
District Rule 4001 New Source Performance Standard (NSPS) (04/14/1999)
District Rule 4002 National Emission Standards for Hazardous Air Pollutants (05/20/04)
District Rule 4101 Visible Emissions (2/17/05)
District Rule 4102 Nuisance (12/17/92)
District Rule 4201 Particulate Matter Concentration (12/17/92)
District Rule 4701 Stationary Internal Combustion Engines – Phase 1 (8/21/2003)
District Rule 4702 Stationary Internal Combustion Engines – Phase 2 (1/18/2007)
District Rule 4801 Sulfur Compounds (12/17/92)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Title 17 California Code of Regulations (CCR), Section 93115

- Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines

California Environmental Quality Act (CEQA)

Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)

California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. PROJECT LOCATION

The facility is located at 843 Davis Street in Livingston, California. The District has verified that the facility is not located within 1,000 feet to the outer boundary of any K-12 school. Pursuant to California Health and Safety Code 42301.6, a school notification is not required.

IV. PROCESS DESCRIPTION

The diesel-fired emergency standby engine powers an electrical generator. Other than emergency operation, the engine may be operated up to 50 hours per calendar year for maintenance and testing purposes.

V. EQUIPMENT LISTING

547 BHP (INTERMITTENT) MTU DETROIT DIESEL MODEL 8V1600G70S TIER 3 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

VI. EMISSION CONTROL TECHNOLOGY EVALUATION

The applicant has proposed to install a Tier 3 certified diesel-fired IC engine that is fired on very low-sulfur diesel fuel (0.0015% by weight sulfur maximum). The use of very low-sulfur diesel fuel reduces SO_x emissions by over 99% from standard diesel fuel.

VII. GENERAL CALCULATIONS

A. Assumptions

Emergency operating schedule:	24 hours/day
Non-emergency operating schedule:	50 hours/year
Density of diesel fuel:	7.1 lb/gal
EPA F-factor (adjusted to 60 °F):	9,051 dscf/MMBtu
Fuel heating value:	137,000 Btu/gal
BHP to Btu/hr conversion:	2,542.5 Btu/bhp-hr
PM10 fraction of diesel exhaust:	0.96 (CARB, 1988)

B. Emission Factors

Pre-Project Emission Factors (EF1)

This is a new emissions unit. Therefore, EF1 is equal to zero.

Post-Project Emission Factors (EF2)

Emissions factors are taken from the engine's manufacturer data sheet (see copy of the data sheet in Appendix III of this document). The engine has certified NO_x + VOC emissions of 4.06 g/bhp-hr. It will be assumed the NO_x + VOC emission factor is split 95% NO_x and 5% VOC (per the District's Carl Moyer program).

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

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

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

Pollutant	Post-Project Emission Factors (EF2)	Source
NO _x	3.86 g/hp-hr	Manufacturer Data Sheet
SO _x	0.0051 g/hp-hr	Mass balance equation above
PM ₁₀	0.05 g/hp-hr	Manufacturer Data Sheet
CO	0.52 g/hp-hr	Manufacturer Data Sheet
VOC	0.2 g/hp-hr	Manufacturer Data Sheet

C. Potential to Emit (PE) Calculations

1. Daily and Annual PE

Pre-Project Potential to Emit (PE1)

This is a new emissions unit. Therefore, PE1 is equal to zero.

Post-Project Potential to Emit (PE2)

The PE2 for each pollutant is calculated as follow:

$$\text{PE2} = \text{EF2 (g/hp-hr)} \times \text{Power Rating (hp)} \times \text{Operating Schedule (hr/day or hr/year)} + \text{Conversion (g/lb)}$$

$$\text{Daily PE2} = \text{EF2 (g/hp-hr)} \times 547 \text{ (hp)} \times 24 \text{ (hr/day)} + 453.6 \text{ (g/lb)}$$

$$\text{Annual PE2} = \text{EF2 (g/hp-hr)} \times 547 \text{ (hp)} \times 50^1 \text{ (hr/yr)} + 453.6 \text{ (g/lb)}$$

The daily and annual post-project potential to emit (PE2) are listed in the table below.

Pollutant	Post-Project Potential to Emit (PE2)					
	EF2 (g/hp-hr)	Power Rating (hp)	Operating Schedule (hr/day)	Conversion (g/lb)	Daily PE2 (lb/day)	Annual PE2 (lb/yr)
NO _x	3.86	547	24	453.6	111.7	233
SO _x	0.0051	547	24	453.6	0.1	0
PM ₁₀	0.05	547	24	453.6	1.4	3
CO	0.52	547	24	453.6	15.0	31
VOC	0.2	547	24	453.6	5.8	12

2. Quarterly Net Emissions Change

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

$$\text{QNEC (lb/quarter)} = [\text{Annual PE2} - \text{Annual PE1}] \text{ (lb/year)} / 4 \text{ (quarter/year)}$$

The QNEC for all criteria pollutants are shown in the tables below:

Pollutant	Quarterly Net Emissions Change (QNEC)			
	1 st Quarter (lb/quarter)	2 nd Quarter (lb/quarter)	3 rd Quarter (lb/quarter)	4 th Quarter (lb/quarter)
NO _x	58	58	58	59
SO _x	0	0	0	0
PM ₁₀	0	1	1	1
CO	7	8	8	8
VOC	3	3	3	3

3. Adjusted increase in Permitted Emissions (AIPE)

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

This is a new emission unit. Therefore, AIPE calculations are not required

¹ The maximum annual operating hour of the diesel-fired IC engine powering electrical generator is limited to 50 hour per year (per Title 17 CCR, Section 93115).

D. Facility Emissions

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

Pursuant to District Rule 2201, § 4.9, the Pre-Project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

SSPE1 values were taken from engineering evaluations N-1074319 and N-1122376.

Permit Number	Pollutant (lb/yr)						
	NO _x	SO _x	PM ₁₀	CO	VOC	H ₂ S	NH ₃
N-1252-1-11	5,621	2,422	25,340	14,016	4,270	11,760	0
N-1252-2-15		1,142	5,874		2,442	106	9,900
N-1252-3-10	1,242	395	836	9,755	605	0	0
N-1252-4-10	1,242	395	836	9,755	605	0	0
N-1252-5-10	1,242	395	836	9,755	605	0	0
N-1252-7-5	0	0	3,650	0	0	0	0
N-1252-13-8	1,242	395	836	8,129	605	0	0
N-1252-15-0	53	0	4	11	4	0	0
N-1252-16-0	278	0	20	60	23	0	0
N-1252-17-0	496	0	35	107	40	0	0
N-1252-18-2	0	0	6,023	0	0	0	0
N-1252-19-2	0	0	6,023	0	0	0	0
ATC N-1252-20-2	0	0	248	0	0	0	0
N-1252-24-0	185	0	8	24	5	0	0
N-1252-25-0	69	0	2	2	4	0	0
N-1252-30-3	621	692	6,734	3,105	4,280	3,320	0
N-1252-31-0	0	0	62	0	0	0	0
N-1252-32-1	0	0	0	0	0	0	0
N-1252-33-3	3,697	358	7,260	28,600	3,300	5,478	9,900
N-1252-36-0	390	1	9	70	26	0	0
N-1252-37-0	3,231	1,254	3,344	32,560	2,420	0	880
SSPE1	19,609	7,449	67,980	115,949	19,234	20,664	20,680
Major Source Threshold	20,000	140,000	140,000	200,000	20,000	N/A	N/A
Existing Major Source?	No	No	No	No	No	N/A	N/A

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

Pursuant to District Rule 2201, § 4.10, the Post-Project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Permit Number	Pollutant (lb/yr)						
	NO _x	SO _x	PM ₁₀	CO	VOC	H ₂ S	NH ₃
N-1252-1-11	5,621	2,422	25,340	14,016	4,270	11,760	0
N-1252-2-15		1,142	5,874		2,442	106	9,900
N-1252-3-10	1,242	395	836	9,755	605	0	0
N-1252-4-10	1,242	395	836	9,755	605	0	0
N-1252-5-10	1,242	395	836	9,755	605	0	0
N-1252-7-5	0	0	3,650	0	0	0	0
N-1252-13-8	1,242	395	836	8,129	605	0	0
N-1252-15-0	53	0	4	11	4	0	0
N-1252-16-0²	0	0	0	0	0	0	0
N-1252-17-0	496	0	35	107	40	0	0
N-1252-18-2	0	0	6,023	0	0	0	0
N-1252-19-2	0	0	6,023	0	0	0	0
ATC N-1252-20-2	0	0	248	0	0	0	0
N-1252-24-0	185	0	8	24	5	0	0
N-1252-25-0	69	0	2	2	4	0	0
N-1252-30-3	621	692	6,734	3,105	4,280	3,320	0
N-1252-31-0	0	0	62	0	0	0	0
N-1252-32-1	0	0	0	0	0	0	0
N-1252-33-3	3,697	358	7,260	28,600	3,300	5,478	9,900
N-1252-36-0	390	1	9	70	26	0	0
N-1252-37-0	3,231	1,254	3,344	32,560	2,420	0	880
ATC N-1252-38-0	233	0	3	31	12	0	0
SSPE2	19,564	7,449	67,963	115,920	19,211	20,664	20,680
Major Source Threshold	20,000	140,000	140,000	200,000	20,000	N/A	N/A
New Major Source?	No	No	No	No	No	N/A	N/A
Offset Threshold Level	20,000	54,750	29,200	200,000	20,000	N/A	N/A
Offsets Triggered?	No	No	Yes	No	No	N/A	N/A

² As a result of this project, ATC N-1252-38-0 will replace PTO N-1252-16-0, therefore, emission from PTO N-1252-16-0 is equal to zero for each pollutant.

3. Stationary Source Increase in Permitted Emissions (SSIPE)

SSIPE calculations are used to determine if the project triggers public notice pursuant to District Rule 2201, § 5.4.5. If SSIPE results greater than 20,000 lb/yr for any one pollutant then project requires public notification. At this time, it is District Practice to define the SSIPE as the difference of SSPE2 to SSPE1, and calculated by the following equation:

$$\text{SSIPE (lb/yr)} = \text{SSPE2 (lb/yr)} - \text{SSPE1 (lb/yr)}$$

SSIPE	Pollutants (lb/yr)				
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	19,564	7,449	67,963	115,920	19,211
SSPE1	19,609	7,449	67,980	115,949	19,234
SSIPE ³	0	0	0	0	0

As shown above, SSIPE is equal to zero for each pollutant. Therefore, public notification and publication requirement are not required for this purpose.

4. Major Source Determination

Rule 2201 Major Source Determination:

Pursuant to District Rule 2201, Section 3.24, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. For the purpose of determining major source status the following shall not be included:

- any ERCs associated with the stationary source
- emissions from non-road IC engines (i.e. IC engines at a particular site at this facility for less than 12 months)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

As shown in Sections VII.D.1 and VII.D.2 of this document, the facility is not an existing Major Source, and also is not becoming a Major Source as a result of this project.

Rule 2410 Major Source Determination:

The pre-project potential CO₂e emissions from this stationary source including all fossil fuel fired equipment are calculated to 59,401.1 ton-CO₂e/year. See detail PSD Major Source Determination Calculations in Appendix IV of this document.

³ Per District practice, negative values are set equal to zero.

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

PSD Major Source Determination (tons/year)							
	NO2	VOC	SO2	CO	PM	PM10	CO2e
Estimated Facility PE before Project Increase	9.8	9.6	3.7	58	34	34	59,401.1
PSD Major Source Thresholds	250	250	250	250	250	250	100,000
Existing PSD Major Source ? (Y/N)	N	N	N	N	N	N	N

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

5. Baseline Emissions (BE)

The BE calculation (in lb/year) is performed on a pollutant-by-pollutant basis to determine the amount of offsets required, where necessary, when the SSPE1 is greater than the offset threshold. Pursuant to section 3.8, baseline emissions shall be equal to the sum of:

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 section 3.23.

Since this is a new emissions unit. Therefore, the baseline emissions are equal to the pre-project potential to emit for the unit. BE = PE1 = 0.

6. SB 288 Major Modification

SB 288 Major Modification calculation is to determine the following:

- 1) Pursuant to District Rule 2201, section 4.1.3, if Best Available Control Technology (BACT) is triggered for a new or modified emission unit that results in a Major Modification; and
- 2) Pursuant to District Rule 2201, section 5.4.1, if a public notification is triggered.

As shown in Section VII.D.2 of this document, this facility is not a major source for any pollutant. Therefore, the proposed project cannot trigger a SB 288 Major Modification.

7. Federal Major Modification

Federal Major Modification is to determine the following:

- 1) Pursuant to Rule 2201, section 4.2.3.5, if a Rule-compliance project qualifies for District Rule 2201's Best Available Control Technology (BACT) and offset exemptions;
- 2) Pursuant to Rule 2201, section 4.15.1, if an Alternate Siting analysis must be performed; and if the applicant must provide certification that all California stationary sources owned, operated, or controlled by the applicant that are subject to emission limits are in compliance with those limits or are on a schedule for compliance with all applicable emission limits and standards; and
- 3) Pursuant to Rule 2201, section 5.4.1, if a public notification is triggered.

This facility is not a major source for any pollutant. Therefore, it cannot trigger a Federal Major Modification.

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

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

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

As determined in Section VII.D.4 of this document, this facility is not an existing PSD Major Source. Therefore, the project potential to emit from the new unit is compared to the PSD major source thresholds to determine if the project is subject to the requirements of Rule 2410.

As stated in Section VII.A of this document, it's assumed that 96% of PM is PM₁₀, (0.96 lb-PM₁₀/lb-PM). Therefore, the PM emissions from the combustion of diesel fuel for the 547 bhp diesel-fired IC engine (DICE), operating 50 hours per year are calculated as follow:

$$\text{PE PM} = 0.05 \text{ g-PM}_{10}/\text{bhp-hr} \times \text{lb-PM}/0.96 \text{ lb-PM}_{10} \times 547 \text{ bhp} \times 50 \text{ hr/year} \div 453.6 \text{ g/lb}$$

$$\text{PE PM} = 3 \text{ lb-PM/year (equivalent to 0.0016 ton-PM/year)}$$

The CO₂e emissions from the combustion of the diesel fuel for the 547 bhp DICE, operating 50 hours per year, are calculated as follows:

The emission factors and global warming potentials (GWP) for diesel fuel are taken from the California Climate Change Action Registry (CCAR), Version 3.1, January 2009, Appendix C, Tables C1, C.3, and C.6.

Greenhouse Gas	Emission Factors & GWP (SAR, 1996)	Source
CO ₂	22.3 lb/gallon (1 lb-CO ₂ e/lb-CO ₂)	CCAR, Appendix C, Tables C1 & C3
CH ₄	0.006 lb/gallon (21 lb-CO ₂ e/lb-CH ₄)	CCAR, Appendix C, Table C1 & C6
N ₂ O	0.01 lb/gallon (310 lb-CO ₂ e/lb-N ₂ O)	CCAR, Appendix C, Table C1 & C6

According to the provided information, the maximum fuel consumption for the engine is 26.1 gallons per hour. Therefore,

$$PE2 \text{ CO}_2e = \{26.1 \text{ gal/hr} \times 50 \text{ hr/year} \times [22.3 \text{ lb-CO}_2\text{/gal} + (0.006 \text{ lb-CH}_4\text{/gal} \times 21 \text{ lb-CO}_2\text{e/lb-CH}_4) + (0.01 \text{ lb-N}_2\text{O/gal} \times 310 \text{ lb-CO}_2\text{e/lb-N}_2\text{O})]\}$$

$$PE2 \text{ CO}_2e = 33,311 \text{ lb/year (equivalent to 16.7 ton-CO}_2\text{e/year)}$$

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

PSD Major Source Determination: Potential to Emit (tons/year)							
	NO ₂	VOC	SO ₂	CO	PM	PM ₁₀	CO ₂ e
Total PE from New Unit	0.1	0	0	0	0	0	16.7
PSD Major Source Thresholds	250	250	250	250	250	250	100,000
New PSD Major Source ? (Y/N)	N	N	N	N	N	N	N

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

VIII.COMPLIANCE

District Rule 2201 New and Modified Stationary Source Review Rule

1. Best Available Control Technology (BACT)

A. BACT Applicability

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

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

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

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

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

New Emissions Unit BACT Applicability				
Pollutant	Daily Emissions (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/yr)	BACT Triggered?
NO _x	111.7	> 2.0	n/a	Yes
SO _x	0.1	> 2.0	n/a	No
PM ₁₀	1.4	> 2.0	n/a	No
CO	15.0	> 2.0 and SSPE2 ≥ 200,000 lb/yr	115,920	No
VOC	5.8	> 2.0	n/a	Yes

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

B. BACT Guideline

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

C. Top Down BACT Analysis

Per District Policy APR 1305, Section IX, "A top-down BACT analysis shall be performed as a part of the Application Review for each application subject to the BACT requirements pursuant to the District's NSR Rule for source categories or classes covered in the BACT Clearinghouse, relevant information under each of the following steps may be simply cited from the Clearinghouse without further analysis."

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

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

The proposed engine meets the above requirements. Therefore, BACT is satisfied for NO_x and VOC emissions.

2. Offsets

Since emergency IC engines are exempt from the offset requirements of Rule 2201, per Section 4.6.2, offsets are not required for this engine, and no offset calculations are required.

3. Public Notification

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

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

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

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

The potential emission from the new engine is greater than 100 lb/day for NO_x. Therefore, public noticing for this purpose is required.

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

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

d. New stationary sources with SSPE2 exceeding Offset thresholds

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

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

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

As discussed above, this project will require public noticing. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for the equipment.

4. Daily Emission Limits (DELs)

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.16 to restrict a unit's maximum daily emissions. Therefore, the following conditions will be listed on the ATC to ensure compliance:

- *Emissions from this IC engine shall not exceed any of the following limits: 3.86 g-NO_x/bhp-hr, 0.52 g-CO/bhp-hr, or 0.2 g-VOC/bhp-hr. [District Rule 2201 and 17 CCR 93115]*
- *Emissions from this IC engine shall not exceed 0.05 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, and 17 CCR 93115]*

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

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

5. Compliance Assurance

a. Source Testing

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

b. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

c. Recordkeeping

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

d. Reporting

No reporting is required to ensure compliance with Rule 2201.

6. Ambient Air Quality Analysis

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

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

Compliance with the requirements of this rule is expected.

District Rule 2410 Prevention of Significant Deterioration

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

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

District Rule 2520 Federally Mandated Operating Permit

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

District Rule 4001 New Source Performance Standards (NSPS)

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

§60.4200(a)(2)(i) states this subpart is applicable to operators of stationary compression ignition IC engines, where the operator commenced construction after July 11, 2005, provided that the engine was manufactured on or after April 1, 2006, and is not fire pump engine.

The applicant proposed to install a brand new 2013 model year 547 hp stationary compression ignition IC engine that powers an electric generator. Therefore, the proposed engine is subject to the requirements of this subpart.

§60.4205(b) states the owners and operators of 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 nonroad 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.

§60.4202(a)(2) requires that the engine with maximum power greater or equal to 50 hp, the certification emission standard for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 for all pollutants beginning in model year 2007.

§89.112 specifies the oxides of nitrogen, carbon monoxide, hydrocarbon, and particulate matter exhaust emission standards for different applicable horsepower range in various Tier Certification Level. The latest EPA Tier Certification level for this size of engine is Tier 3.

The applicant proposed to install a EPA Tier 3 certified engine, which complies with the requirements of this subpart.

According to EPA⁴, only South Coast Air Quality Management District in California has obtained a delegation from EPA to enforce the requirements of this subpart. Therefore, the following condition will be listed on the ATC.

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

District Rule 4002 National Emission Standards for Hazardous Air Pollutants

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

This subpart is applicable to any stationary reciprocating internal combustion engine (RICE) at a major or area source of HAP (Hazardous Air Pollutant) emissions, except if the stationary engine is being tested at a stationary engine test cell/stand. A major source of HAP emissions is a facility that has the potential to emit any single HAP at a rate of 10

⁴ Per EPA website:

<http://yosemite.epa.gov/r9/r9nsps.nsf/0/E43C947C1DA07CFB88257536007A2B51?OpenDocument>

tons/year or greater or any combinations of HAPs at a rate of 25 tons/year or greater. An area source of HAP emissions is a facility is not a major source of HAP emissions.

The proposed engine is a stationary RICE located at an area source of HAP emissions. Therefore, this engine is subject to the requirements of this subpart.

According to EPA⁵, only twelve Air Pollution Control Districts in California have obtained a delegation from EPA to enforce the requirements of this subpart to non-major sources. This facility is not a major HAP source and the District is not the one of the delegated agencies. Therefore, the following condition will be listed on the ATC:

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

District Rule 4101 Visible Emissions

District Rule 4101, Section 5.0, indicates that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour, which is dark or darker than Ringlemann 1 or equivalent to 20% opacity. The following condition will be listed on the permit to ensure compliance:

- *{15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]*

District Rule 4102 Nuisance

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

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

⁵ Per EPA website:

<http://yosemite.epa.gov/r9/r9nsps.nsf/0/0/B5D42C65285131CD88256F24007C0196?Opendocument>

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905-1 (March 2, 2001) - 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. The health risk assessment results are as follow:

RMR Summary			
Categories	DICE (Unit 38-0)	Project Totals	Facility Totals
Prioritization Score	N/A ⁶	N/A ⁶	>1
Acute Hazard Index	N/A ⁷	N/A ⁷	0.00
Chronic Hazard Index	N/A ⁷	N/A ⁷	0.00
Maximum Individual Cancer Risk	2.4E-07	2.4E-07	9.01E-07
T-BACT Required?	No		
Special Permit Conditions?	Yes		

The cancer risk associated with the operation of the proposed diesel IC engine is 2.4E-07, which is less than 1.0 in a million threshold. In accordance with the District's Risk Management Policy, the project is approved **without** Toxic Best Available Control Technology (T-BACT) for PM10.

To ensure that human health risks will not exceed District allowable levels. The following conditions will be listed on the permit to ensure compliance with this Safety Code.

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

⁶ Prioritization for this unit was not conducted since it has been determined that all diesel-fired IC engines will result in a prioritization score greater than 1.0.

⁷ The Acute Hazard Index was not calculated since there is no risk factor, or the risk factor is so low that the risk has been determined to be insignificant for this type of unit.

District Rule 4201 Particulate Matter Concentration

Section 3.0 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot, which, as calculated below, is equivalent to a PM₁₀ emission factor of 0.4 g-PM₁₀/bhp-hr.

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

The new engine has a PM₁₀ emission factor less than 0.4 g/bhp-hr. Therefore, compliance with District Rule 4201 requirements is expected and a permit condition will be listed on the permit as follows:

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

District Rule 4701 Internal Combustion Engines – Phase 1

The purpose of this rule is to limit the emissions of nitrogen oxides (NOx), carbon monoxide (CO), and volatile organic compounds (VOC) from internal combustion engines

The proposed engine is also subject to District Rule 4702, Internal Combustion Engines. Since emissions limits of District Rule 4702 and all other requirements are equivalent or more stringent than District Rule 4701 requirements, compliance with District Rule 4702 requirements will satisfy requirements of District Rule 4701.

District Rule 4702 Internal Combustion Engines – Phase 2

The following table demonstrates how the proposed engines will comply with the requirements of District Rule 4702.

District Rule 4702 Requirements Emergency Standby IC Engines	Proposed Method of Compliance with District Rule 4702 Requirements
Operation of emergency standby engines is limited to 100 hours or less per calendar year for non-emergency purposes, verified through the use of a non-resettable elapsed operating time meter.	The Air Toxic Control Measure for Stationary Compression Ignition Engines (Stationary ATCM) limits the engine maintenance and testing to 50 hours/year for engine powering electrical generator. Thus, compliance is expected.

<p>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.</p>	<p>The following conditions will be included on the permit:</p> <ul style="list-style-type: none"> • {3807} An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rule 4702] • {3808} This engine shall not be used to produce power for the electrical distribution system, as part of a voluntary utility demand reduction program, or for an interruptible power contract. [District Rule 4702]
<p>The owner/operator must operate and maintain the engine(s) and any installed control devices according to the manufacturers written instructions.</p>	<p>A permit condition enforcing this requirement was shown earlier in the evaluation.</p>
<p>The owner/operator must monitor the operational characteristics of each engine as recommended by the engine manufacturer or emission control system supplier.</p>	<p>The following condition will be included on the permit:</p> <ul style="list-style-type: none"> • {3478} During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
<p>Records of the total hours of operation of the emergency standby engine, type of fuel used, purpose for operating the engine, all hours of non-emergency and emergency operation, and support documentation must be maintained. All records shall be retained for a period of at least five years, shall be readily available, and be made available to the APCO upon request.</p>	<p>The following conditions will be included on the permit:</p> <ul style="list-style-type: none"> • {3496} The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115] • The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93115]

	<ul style="list-style-type: none"> 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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District 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 will be listed on the permit to ensure compliance:

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

California Health & Safety Code 42301.6 (School Notice)

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

Title 17 California Code of Regulations (CCR), Section 93115

– Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines

The following table demonstrates how the proposed engines will comply with the requirements of Title 17 CCR Section 93115.

Title 17 CCR Section 93115 Requirements for New Emergency IC Engines Powering Fire Pump	Proposed Method of Compliance with Title 17 CCR Section 93115 Requirements
Emergency engine(s) must be fired on CARB diesel fuel, or an approved alternative diesel fuel.	The applicant has proposed the use of CARB certified diesel fuel. The proposed permit condition, requiring the use of CARB certified diesel fuel, was included earlier in this evaluation.

<p>Per Table 1 of this ATCM, a new stationary emergency standby diesel-fueled engine rated at 547 hp and model year 2013 or later, must meet the following emissions standards⁸:</p> <table border="1" data-bbox="183 435 834 549"> <thead> <tr> <th>Max Engine Power</th> <th>NOx + VOC (g/bhp-hr)</th> <th>CO (g/bhp-hr)</th> <th>PM (g/bhp-hr)</th> </tr> </thead> <tbody> <tr> <td>300 ≤ HP < 600</td> <td>3.0</td> <td>2.6</td> <td>0.15</td> </tr> </tbody> </table>	Max Engine Power	NOx + VOC (g/bhp-hr)	CO (g/bhp-hr)	PM (g/bhp-hr)	300 ≤ HP < 600	3.0	2.6	0.15	<p>The applicant has proposed the use of engine(s) that are certified to the latest EPA Tier Certification level (See engine manufacturer datasheet⁹ in Appendix III of this document) for the applicable horsepower range, guaranteeing compliance with the emission standards of this ATCM. Additionally, the proposed diesel PM emissions rate for the engine is less than or equal to 0.15 g/bhp-hr.</p>
Max Engine Power	NOx + VOC (g/bhp-hr)	CO (g/bhp-hr)	PM (g/bhp-hr)						
300 ≤ HP < 600	3.0	2.6	0.15						
<p>The engine may not be operated more than 50 hours per year for maintenance and testing purposes.</p>	<p>The following condition will be included on the permit:</p> <ul style="list-style-type: none"> This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702 and 17 CCR 93115] 								
<p>New stationary emergency standby diesel-fueled CI engines (> 50 bhp) must meet the standards for off-road engines of the same model year and maximum rated power as specified in the Off-Road Compression Ignition Engine Standards (title 13, CCR, section 2423).</p>	<p>The applicant has proposed the use of engine(s) that are certified to the latest EPA Tier Certification level for the applicable horsepower range.</p>								
<p>Engines, with a PM10 emissions rate greater than 0.01 g/bhp-hr and located at schools, may not be operated for maintenance and testing whenever there is a school sponsored activity on the grounds. Additionally, engines located within 500 feet of school grounds may not be operated for maintenance and testing between 7:30 AM and 3:30 PM</p>	<p>The District has verified that this engine is not located within 500 feet of a school.</p>								

⁸ These emission standards were established based on the average of five different loads testing.

⁹ Per engine manufacturer datasheet, the emission standards were established based on the 100% load testing.

<p>An owner or operator shall maintain monthly records of the following: emergency use hours of operation; maintenance and testing hours of operation; hours of operation for emission testing; initial start-up testing hours; hours of operation for all other uses; and the type of fuel used. All records shall be retained for a minimum of 36 months.</p>	<p>Permit conditions enforcing these requirements were shown earlier in the evaluation.</p>
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California Environmental Quality Act (CEQA)

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

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

Consistent with California Environmental Quality Act (CEQA) and CEQA Guidelines requirements, the San Joaquin Valley Air Pollution Control District (District) has adopted procedures and guidelines for implementing CEQA. The District's Environmental Review Guidelines (ERG) establishes procedures for avoiding unnecessary delay during the District's permitting process while ensuring that significant environmental impacts are thoroughly and consistently addressed. The ERG includes policies and procedures to be followed when processing permits for projects that are exempt under CEQA.

The State Legislature granted a number of exemptions from CEQA, including projects that require only ministerial approval. Based upon analysis of its own laws and consideration of CEQA provisions, the District has identified a limited number of District permitting activities considered to be ministerial approvals. As set forth in §4.2.1 of the ERG, projects permitted consistent with the District's *Guidelines for Expedited Application Review* (GEAR) are standard application reviews in which little or no discretion is used in issuing Authority to Construct (ATC) documents.

For the proposed project, the District performed an Engineering Evaluation (this document) and determined that the project qualifies for processing under the procedures set forth in the District's Permit Services Procedures Manual in the Guidelines for Expedited

Application Review (GEAR). Thus, as discussed above, this issuance of such ATC(s) is a ministerial approval for the District and is not subject to CEQA provisions.

On December 17, 2009, the District's Governing Board adopted the first comprehensive regional policy and guidance on addressing and mitigating GHG emission impacts caused by industrial, commercial, and residential development in the San Joaquin Valley. The adopted District policy – *Addressing GHG Emission Impacts for Stationary Source Projects under CEQA When Serving as the Lead Agency* applies to projects for which the District has discretionary approval authority over the project and serves as the lead agency for CEQA purposes. The policy relies on the use of performance based standards, otherwise known as Best Performance Standards (BPS) to assess significance of project specific greenhouse gas emissions on global climate change during the environmental review process, as required by CEQA.

Use of BPS is a method of streamlining the CEQA process of determining significance and is not a required emission reduction measure. However, consistent with the District's objective to achieve the GHG emission reduction targets established pursuant to AB 32, BPS will be incorporated into the District's GEAR application review process. In the interim, projects meeting the existing GEAR requirements will continue to be processed as ministerial approvals.

IX. RECOMMENDATION

Compliance with all applicable rules and regulations is expected. Issue Authority to Construct permit N-1252-38-0 subject to the permit conditions listed on the attached draft Authority to Construct in Appendix I.

X. BILLING INFORMATION

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
N-1252-38-0	3020-10-D (400 or Greater but less Than 800 bhp)	547 bhp	\$ 479

APPENDICES

- Appendix I: Draft Authority to Construct (ATC) N-1252-38-0*
- Appendix II: Permit to Operate (PTO) N-1252-16-0*
- Appendix III: Engine's Manufacturer Datasheet*
- Appendix IV: PSD Major Source Determination*
- Appendix V: BACT Guideline & Top-Down BACT Analysis*
- Appendix VI: RMR and AAQA Summaries*

APPENDIX I

Draft Authority to Construct (ATC)

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-1252-38-0

LEGAL OWNER OR OPERATOR: FOSTER FOOD PRODUCTS
MAILING ADDRESS: P O BOX 831
LIVINGSTON, CA 95334

LOCATION: 843 DAVIS ST
LIVINGSTON, CA

EQUIPMENT DESCRIPTION:
547 BHP (INTERMITTENT) MTU DETROIT DIESEL MODEL 8V1600G70S TIER 3 CERTIFIED DIESEL-FIRED
EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

CONDITIONS

1. Upon implementation of this Authority to Construct, Permit to Operate N-1252-16-0 shall be cancelled. [District Rule 2201]
2. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
5. {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]
6. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rules 4701 and 4702 and 17 CCR 93115]
7. Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, and 17 CCR 93115]
8. Emissions from this IC engine shall not exceed any of the following limits: 3.86 g-NOx/bhp-hr, 0.52 g-CO/bhp-hr, or 0.2 g-VOC/bhp-hr. [District Rule 2201 and 17 CCR 93115]
9. Emissions from this IC engine shall not exceed 0.05 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 17 CCR 93115]

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-1252-38-0: Jun 10 2013 3:07PM - GOW : Joint Inspection NOT Required

10. 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]
11. {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]
12. 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 Rules 4701 and 4702]
13. 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 Rules 4701 and 4702]
14. This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rules 4701 and 4702 and 17 CCR 93115]
15. 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 Rules 4701 and 4702 and 17 CCR 93115]
16. The permittee shall maintain monthly records of the type of fuel purchased. [District Rules 4701 and 4702 and 17 CCR 93115]
17. All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 4701 and 4702 and 17 CCR 93115]
18. U.S. EPA administers the requirements of 40 CFR Part 60 Subpart IIII and 40 CFR Part 63 Subpart ZZZZ. The owner or operator shall comply with the emission and operating limitations, testing requirements, initial and continuous compliance requirements as specified in these subparts. The owner or operator shall submit all applicable notifications, reports, and records to the administrator by the required compliance dates. [District Rules 4001 and 4002]

DRAFT

APPENDIX II

Permit to Operate (PTO)

N-1252-16-0

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: N-1252-16-0

EXPIRATION DATE: 09/30/2013

EQUIPMENT DESCRIPTION:

449 BHP CATERPILLAR MODEL #3406 DIESEL-FIRED EMERGENCY IC ENGINE POWERING AN ELECTRICAL GENERATOR (SERIAL #2WB02538)

PERMIT UNIT REQUIREMENTS

1. 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]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. 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. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
5. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]
6. 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]
7. 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]
8. 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]
9. 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 20 hours per calendar year. [District Rule 4702 and 17 CCR 93115]
10. An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rule 4702]
11. This engine shall not be used to produce power for the electrical distribution system, as part of a voluntary utility demand reduction program, or for an interruptible power contract. [District Rule 4702]
12. 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]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

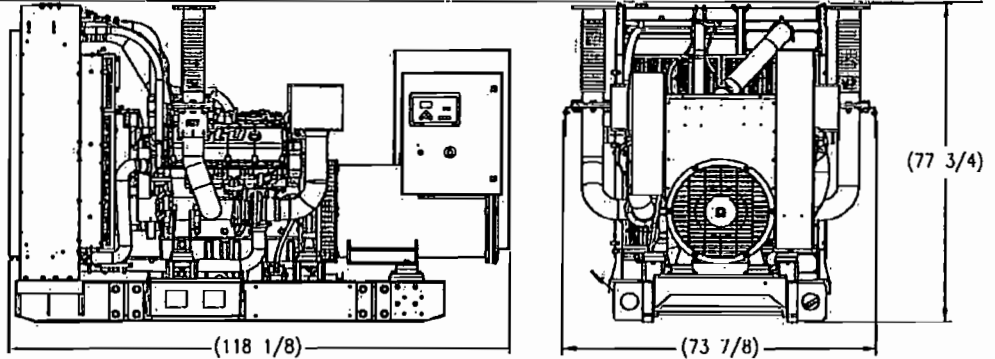
13. The permittee shall maintain monthly records of the type of fuel purchased, the amount of fuel purchased, date when the fuel was purchased, signature of the permittee who received the fuel, and signature of the fuel supplier indicating that the fuel was delivered. [17 CCR 93115]
14. If this engine is located on the grounds of a K-12 school, or if this engine is located within 500 feet of the property boundary of a K-12 school, the engine shall not be operated for non-emergency purposes, including maintenance and testing, between 7:30 a.m. and 3:30 p.m. on days when school is in session. [17 CCR 93115]
15. If this engine is located on the grounds of a K-12 school, the engine shall not be operated for non-emergency purposes, including maintenance and testing, whenever there is a school sponsored activity. [17 CCR 93115]
16. 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]

These terms and conditions are part of the Facility-wide Permit to Operate.

APPENDIX III

Engine's Manufacturer Datasheet

WEIGHTS AND DIMENSIONS



Drawing above for illustration purposes only, based on standard open power 480 volt engine-generator set. Lengths may vary with other voltages. Do not use for installation design. See website for unit specific template drawings.

System Open Power Unit (OPU)	Dimensions (LxWxH) 3,001 x 1,877 x 1,975 mm (118.13 x 73.88 x 77.75 in)	Weight (dry/less tank) 3,652 kg (8,050 lb)
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Weights and dimensions are based on open power units and are estimates only. Consult the factory for accurate weights and dimensions for your specific engine-generator set.

SOUND DATA

Unit Type Level 0: Open Power Unit (dBA)	Standby, Full, Load C/F
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Sound data is provided at 7 m (23 ft). Engine-generator set tested in accordance with ISO 8528-10 and with infinite exhaust.

EMISSIONS DATA

NO_x + NMHC 4.06	CO 0.52	PM 0.05
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All units are in g/hp-hr and at 100% load.

Emission levels of the engine may vary as a function of ambient temperature, barometric pressure, humidity, fuel type and quality, installation parameters, measuring instrumentation, etc. The data provided are laboratory results from one engine representing this rating. The data was obtained under controlled environmental conditions with calibrated instrumentation traceable to the United States National Bureau of Standards and in compliance with US EPA regulations found within 40 CFR Part 89. The weighted cycle value (not shown) from each engine is guaranteed to be below the US EPA Standards at the US EPA defined conditions.

RATING DEFINITIONS AND CONDITIONS

- // Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. No overload capability for this rating. Ratings are in accordance with ISO 8528-1, ISO-3046-1, BS 5514, AS 2789, and DIN 6271.
- // Deration Factor:
 - Altitude:** Consult your local MTU Onsite Energy Power Generation Distributor for altitude derations.
 - Temperature:** Consult your local MTU Onsite Energy Power Generation Distributor for temperature derations.

Materials and specifications subject to change without notice.

C/F = Consult Factory/MTU Onsite Energy Distributor

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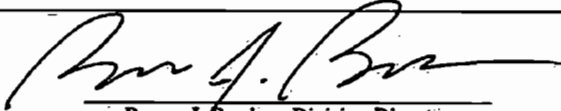


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
2013 MODEL YEAR
CERTIFICATE OF CONFORMITY
WITH THE CLEAN AIR ACT OF 1990

OFFICE OF TRANSPORTATION
AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105

Certificate Issued To: **Tognum America, Inc.**
(U.S. Manufacturer or Importer)
Certificate Number: **DMDDL14.OZWK-005**

Effective Date:
12/18/2012
Expiration Date:
12/31/2013


Byron J. Bunker, Division Director
Compliance Division

Issue Date:
12/18/2012
Revision Date:
N/A

Model Year: 2013
Manufacturer Type: Original Engine Manufacturer
Engine Family: DMDDL14.OZWK

Mobile/Stationary Indicator: Stationary
Emissions Power Category: 450<=kW<=560
Fuel Type: Diesel
After Treatment Devices: No After Treatment Devices Installed
Non-after Treatment Devices: Electronic Control

Pursuant to Section 111 and Section 213 of the Clean Air Act (42 U.S.C. sections 7411 and 7547) and 40 CFR Part 60, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following engines, by engine family, more fully described in the documentation required by 40 CFR Part 60 and produced in the stated model year.

This certificate of conformity covers only those new compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 60 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 60.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 60. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Part 60.

This certificate does not cover engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

APPENDIX IV

PSD Major Source Determination

PSD Major Source Determination:

CO₂ emissions from the combustion of fossil fuel:

As indicated in Section VII.D.4 of this document, this stationary source has the following fossil fuel combustion equipment.

Permit Unit	Equipment
N-1252-1-11	3.2 MMBtu/hr natural gas-fired thermal oxidizer (shared with permit units N-1252-1 & -2)
N-1252-2-15	
N-1252-3-10	25.1 MMBtu/hr natural gas-fired boiler #3
N-1252-4-10	25.1 MMBtu/hr natural gas-fired boiler #2
N-1252-5-10	25.1 MMBtu/hr natural gas-fired boiler #1
N-1252-13-10	25.1 MMBtu/hr natural gas-fired boiler
N-1252-15-0	85 bhp diesel fired emergency standby IC engine powers generator
N-1252-16-0	449 bhp diesel fired emergency standby IC engine powers generator
N-1252-17-0	160 bhp diesel fired emergency standby IC engine powers fire pump
N-1252-24-0	240 bhp diesel fired emergency standby IC engine powers fire pump
N-1252-25-0	145 bhp diesel fired emergency standby IC engine powers generator
N-1252-30-3	2.0 MMBtu/hr natural gas-fired regenerative thermal oxidizer
N-1252-32-1	28.8 MMBtu/hr natural gas-fired boiler (portable replacement for permit units N-1252-3, -4, -5, -13)
N-1252-33-3	25 MMBtu/hr natural gas-fired dryer
N-1252-36-0	954 bhp diesel fired emergency standby IC engine powers generator
N-1252-37-0	98.5 MMBtu/hr natural gas-fired boiler

Emission Factors (NG and LPG):

For Natural Gas (NG) fired units, the emission factors and global warming potentials (GWP) are taken from the California Climate Change Action Registry (CCAR), Version 3.1, January 2009, Appendix C, Tables C1, C.7, and C.8.

GHG	Emission Factors & GWP (SAR, 1996)	Source
CO ₂	116.7 lb/MMBtu; (1 lb-CO ₂ e/lb-CO ₂)	CCAR, Appendix C, Tables C1 & C7
CH ₄	0.011 lb/MMBtu; (21 lb-CO ₂ e/lb-CH ₄)	CCAR, Appendix C, Tables C1 & C8
N ₂ O	0.00022 lb/MMBtu; (310 lb-CO ₂ e/lb-N ₂ O)	CCAR, Appendix C, Tables C1 & C8

Some natural gas fired units are allowed to use Liquefied Petroleum Gas (LPG) as back-up fuel, and the emission factors and global warming potentials (GWP) are taken from the California Climate Change Action Registry (CCAR), Version 3.1, January 2009, Appendix C, Tables C1, C.7, and C.8.

GHG	Emission Factors & GWP (SAR, 1996)	Source
CO ₂	138.9 lb/MMBtu; (1 lb-CO ₂ e/lb-CO ₂)	CCAR, Appendix C, Tables C1 & C7
CH ₄	0.0242 lb/MMBtu; (21 lb-CO ₂ e/lb-CH ₄)	CCAR, Appendix C, Tables C1 & C8
N ₂ O	0.00132lb/MMBtu; (310 lb-CO ₂ e/lb-N ₂ O)	CCAR, Appendix C, Tables C1 & C8

Two cases will be compared to determine the worst case emission scenario: 1) all units fired on NG, 2) some units fired on the combination of LPG and NG.

Case 1: All units are fired on NG.

The CO₂e emission from the natural gas fired units is calculated as follows:

$$PE\ CO_2e = \text{Total Annual Heat Input} \times \text{Emissions factors}$$

The total annual heat input for all natural gas fire units in this facility is calculated as follows:

Permit Unit	Heat I/P Rating (MMBtu/hr)	Annual Operating hour (hr/year)	Annual Heat Input (MMBtu/year)
N-1252-1-11	3.2	8,760	28,032
N-1252-2-15			
N-1252-3-10	25.1	N/A	440,000
N-1252-4-10	25.1	N/A	
N-1252-5-10	25.1	N/A	
N-1252-13-8	25.1	N/A	
N-1252-32-1	28.8	N/A	
N-1252-30-3	2.0	N/A	6,210
N-1252-33-1	25.0	N/A	100,000
N-1252-37-0	98.5	N/A	440,000
Total			1,014,242

The CO₂e emission from these natural gas fired units is calculated as follows:

$$PE\ CO_2e = \{[(1,014,242\ \text{MMBtu/year} \times 116.7\ \text{lb-CO}_2/\text{MMBtu}) + (1,014,242\ \text{MMBtu/year} \times 0.011\ \text{lb-CH}_4/\text{MMBtu} \times 21\ \text{lb-CO}_2e/\text{lb-CH}_4) + (1,014,242\ \text{MMBtu/year} \times 0.00022\ \text{lb-N}_2\text{O}/\text{MMBtu} \times 310\ \text{lb-CO}_2e/\text{lb-N}_2\text{O})] + 2,000\ \text{lb/ton}\}$$

$$PE\ CO_2e = 59,332.8\ \text{tons-CO}_2e/\text{year}$$

Case 2: Units are fired on the combination of LPG and NG.

N-1252-3, -4, -5, -13, & -32

Permit units N-1252-3, -4, -5, -13 are allowed to use LPG for maximum of 216 hours per year during NG curtailment. Each permit unit is rated at 25.1 MMBtu/hr, so the maximum annual heat input for LPG used is 5,422 MMBtu/year. In addition, the maximum annual heat input of each unit is limited to 110,000 MMBtu/year, so the maximum annual heat input for NG used is 104,578 MMBtu/year for each unit.

Total four permit units:

$$\begin{aligned} \text{NG heat input:} & \quad 104,578\ \text{MMBtu/year} \times 4 & = & \quad 418,312\ \text{MMBtu/year} \\ \text{LPG heat input:} & \quad 5,422\ \text{MMBtu/year} \times 4 & = & \quad 21,688\ \text{MMBtu/year} \end{aligned}$$

Permit unit N-1252-32 is a portable replacement unit for permit units N-1252-3, -4, -5, & -13. The maximum annual heat input for permit units N-1252-3, -4, -5, -13, & -32 is limited to 440,000 MMBtu/year.

N-1252-30

This unit is fired on NG only, and the maximum NG usage is 6,210 MMBtu/year.

N-1252-33

This permit unit is allowed to use LPG for maximum of 216 hours per year during NG curtailment. This permit unit is rated at 25 MMBtu/hr, so the maximum annual heat input for LPG used is 5,400 MMBtu/year. In addition, the maximum annual heat input for this unit is limited to 100,000 MMBtu/year, so the maximum annual heat input for NG used is 94,600 MMBtu/year.

N-1252-37

This unit is fired on NG only, and the maximum NG usage is 440,000 MMBtu/year.

The CO₂e emission from units fired on both LPG & NG fuels is calculated as follows:

PE CO₂e = Total Annual Heat Input x Emissions factors

The total annual heat input for units fired on both LPG & NG fuels in this facility is calculated as follows:

Permit Unit	Annual LPG Usage (MMBtu/year)	Annual NG Usage (MMBtu/year)
N-1252-1-11	51.3 (MMBtu/day) x 365 (day/year) = 18,724.5	N/A
N-1252-2-15		
N-1252-3-10	21,688	418,312
N-1252-4-10		
N-1252-5-10		
N-1252-13-8		
N-1252-32-1		
N-1252-30-3	N/A	6,210
N-1252-33-1	5,400	94,600
N-1252-37-0	N/A	440,000
Total	45,812.5	959,122

The CO₂e emission from the LPG used is calculated as follows:

$$PE\ CO_2e = \{[(45,812.5\ MMBtu/year \times 138.9\ lb-CO_2/MMBtu) + (45,812.5\ MMBtu/year \times 0.0242\ lb-CH_4/MMBtu \times 21\ lb-CO_2e/lb-CH_4) + (45,812.5\ MMBtu/year \times 0.00132\ lb-N_2O/MMBtu \times 310\ lb-CO_2e/lb-N_2O)] + 2,000\ lb/ton\}$$

$$PE\ CO_2e = 56,108.3\ tons-CO_2e/year$$

The CO₂e emission from the NG used is calculated as follows:

$$PE\ CO_2e = \{[(959,122\ MMBtu/year \times 116.7\ lb-CO_2/MMBtu) + (959,122\ MMBtu/year \times 0.011\ lb-CH_4/MMBtu \times 21\ lb-CO_2e/lb-CH_4) + (959,122\ MMBtu/year \times 0.00022\ lb-N_2O/MMBtu \times 310\ lb-CO_2e/lb-N_2O)] + 2,000\ lb/ton\}$$

$$PE\ CO_2e = 3,202.7\ tons-CO_2e/year$$

The total CO₂e emission from the combination of LPG and NG used is calculated as follows:

$$\text{Total PE CO}_2\text{e} = 56,108.3 \text{ tons-CO}_2\text{e/year} + 3,202.7 \text{ tons-CO}_2\text{e/year} = \mathbf{59,311 \text{ tons-CO}_2\text{e/year}}$$

Comparing case 1 and case 2:

Case 1 (NG): 59,332.8 tons-CO₂e/year > Case 2 (LPG + NG): 59,311 tons-CO₂e/year

Therefore, the total CO₂e emission from natural gas (and LPG) fired units in this facility is calculated to **59,332.8 tons-CO₂e/year**.

Emission Factors (Diesel Fuel):

For diesel fired units, the emission factors and global warming potentials (GWP) are taken from the California Climate Change Action Registry (CCAR), Version 3.1, January 2009, Appendix C, Tables C1, C.3, and C.6.

GHG	Emission Factors & GWP (SAR, 1996)	Source
CO ₂	22.3 lb/gallon; (1 lb-CO ₂ e/lb-CO ₂)	CCAR, Appendix C, Tables C1 & C3
CH ₄	0.006 lb/gallon; (21 lb-CO ₂ e/lb-CH ₄)	CCAR, Appendix C, Table C1 & C6
N ₂ O	0.01 lb/gallon; (310 lb-CO ₂ e/lb-N ₂ O)	CCAR, Appendix C, Table C1 & C6

The CO₂e emission from the diesel fired units is calculated as follows:

The maximum annual operating hours, the maximum fuel consumptions for the unit (per manufacturer' datasheet), and the annual fuel consumption for all diesel fired units are summarized in the following table.

Permit Unit	Max Annual Operating Hour (hr/year)	Max Fuel Consumption (gal/hr)	Annual Fuel Consumption (gal/yr)
N-1232-15-0	20	4.4 (N-1010152)	88
N-1232-16-0	20	23.3 (N-1010152)	466
N-1232-17-0	100	8.3 (N-1010152)	830
N-1232-24-0	100	11.2 (N-1042035)	1,120
N-1232-25-0	50	6.3 (N-1042035)	315
N-1232-36-0	50	50.6 (N-1090194)	2,530
Total			5,349

The CO₂e emission from these diesel fired units is calculated as follows:

$$\text{PE CO}_2\text{e} = \{5,349 \text{ gal/year} \times [22.3 \text{ lb-CO}_2\text{/gal} + (0.006 \text{ lb-CH}_4\text{/gal} \times 21 \text{ lb-CO}_2\text{e/lb-CH}_4) + (0.01 \text{ lb-N}_2\text{O/gal} \times 310 \text{ lb-CO}_2\text{e/lb-N}_2\text{O})]\} + 2,000 \text{ lb/ton}$$

$$\text{PE CO}_2\text{e} = \mathbf{68.3 \text{ ton-CO}_2\text{e/year}}$$

Total CO₂e emission from all fossil fuel combustion units in this facility is calculated to:

$$\text{Total PE CO}_2\text{e} = (59,332.8 + 68.3) \text{ ton-CO}_2\text{e/year} = \mathbf{59,401.1 \text{ ton-CO}_2\text{e/year}}$$

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

PSD Major Source Determination (tons/year)							
	NO2	VOC	SO2	CO	PM	PM10	CO2e
Estimated Facility PE before Project Increase	9.8	9.6	3.7	58	34	34	59,401.1
PSD Major Source Thresholds	250	250	250	250	250	250	100,000
PSD Major Source ? (Y/N)	N	N	N	N	N	N	N

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

APPENDIX V

BACT Guideline & Top-Down BACT Analysis

**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**

Top-Down BACT Analysis for NO_x & VOC emissions

BACT Guideline 3.1.1 (July 10, 2009) applies to emergency diesel-fired IC engines. In accordance with the District BACT policy, information from that guideline will be utilized without further analysis:

Step 1 - Identify all control technologies

Achieved in Practice or contained in the SIP:

Latest EPA Tier Certification level for applicable horsepower range

The proposed engine is rated at 547 hp. Therefore, the applicable control technology option is EPA Tier 3 certification level.

Technologically Feasible:

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

Alternate Basic Equipment:

There is no alternate basic equipment listed on this guideline.

Step 2 - Eliminate technologically infeasible options

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

Step 3 - Rank remaining options by control effectiveness

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

Step 4 - Cost Effectiveness Analysis

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

Step 5 - Select BACT

BACT for NO_x and VOC will be the use of an EPA Tier 3 certified engine. The applicant is proposing such a unit. See the engine's manufacturer datasheet in Appendix III of this document. Therefore, BACT will be satisfied.

APPENDIX VI

RMR & AAQA Summaries

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Wai-Man So - Permit Services
 From: Kyle Melching - Permit Services
 Date: May 15, 2013
 Facility Name: Foster Food Products
 Location: 843 Davis St., Livingston
 Application #(s): N-1252-38-0
 Project #: N-1131534

A. RMR SUMMARY

RMR Summary			
Categories	Emergency Diesel ICE (Unit 38-0)	Project Totals	Facility Totals
Prioritization Score	N/A ¹	N/A ¹	>1
Acute Hazard Index	N/A ²	N/A ²	0.00
Chronic Hazard Index	N/A ²	N/A ²	0.00
Maximum Individual Cancer Risk	2.4E-07	2.4E-07	9.01E-07
T-BACT Required?	No		
Special Permit Conditions?	Yes		

1 Prioritization for this unit was not conducted since it has been determined that all diesel-fired IC engines will result in a prioritization score greater than 1.0.

2 Acute and Chronic Hazard Indices were not calculated since there is no risk factor, or the risk factor is so low that the risk has been determined to be insignificant for this type of unit.

Proposed Permit Conditions

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

Unit 38-0

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

B. RMR REPORT

I. Project Description

Technical Services received a request on May 14, 2013, to perform an Ambient Air Quality Analysis (AAQA) and a Risk Management Review (RMR) for one 547 bhp emergency diesel IC engine powering an electrical generator.

II. Analysis

Technical Services performed screening level health risk assessments using the District developed DICE database.

The following parameters were used for the review:

Analysis Parameters Unit 38-0			
Source Type	Point	Location Type	Urban
BHP	547	PM ₁₀ g/hp-hr	0.05
Closest Receptor (m)	174	Quad	2
Max Hours per Year	50	Type of Closest Receptor	Business

Technical Services also performed modeling for criteria pollutants NO_x, SO_x, PM₁₀, and PM_{2.5}; as well as the RMR. For Unit 38-0, the emission rates used for criteria pollutant modeling were 233 lb/yr NO_x, 0 lb/yr SO_x, 3 lb/yr PM₁₀, and 3 lb/yr PM_{2.5}.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

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

*Results were taken from the attached PSD spreadsheet.

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

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

III. Conclusions

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

The cancer risk associated with the operation of the proposed diesel IC engine is **2.4E-07**; which 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.

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

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

IV. Attachments

- A. RMR request from the project engineer
- B. Additional information from the applicant/project engineer
- C. DICE Screening Risk Tool
- D. Facility Summary
- E. AAQA Summary

AAQA for Foster Food Products (N-1252-38-0)
All Values are in Micrograms per Cubic Meter

	NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM 24 Hour	PM Annual
STCK1	0.0	2.5E-01	0.0	0.0	0.0	0.0	0.0	0.0E+00	0.00	3.18E-03
Background	0.0	1.5E+01	0.0	0.0	0.0	0.0	0.0	2.7E+01	0.00	3.90E+01
Facility Totals	0.0	15.5	0.0	0.0	0.0	0.0	0.0	26.6	0.0	39.0
AAQS	188.7	56.0	23,000.0	10,000.0	195.0	1,300.0	105.0	80.0	50.0	30.0
	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Fail

EPA's Significance Level (ug/m³)

NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM 24 Hour	PM Annual
0.0	1.0	2000.0	500.0	0.0	25.0	5.0	1.0	5.0	1.0

*Since 5-years of meteorological data were used, an adjustment factor of 1.5 for Merced was applied to the annual average concentrations for the devices modeled.

AAQA Emission (g/sec)

<i>Device</i>	NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM 24 Hour	PM Annual
STCK1	0.00E+00	3.35E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.31E-05

*Since 5-years of meteorological data were used, an adjustment factor of 1.5 for Merced was applied to the annual average concentrations for the devices modeled.