



MAR 17 2016

Alex Shafer
Materra Farming Company LLC
PO Box 9308
Bakersfield, CA 93389-9308

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: S-5551
Project Number: S-1153263

Dear Mr. Shafer:

Enclosed for your review and comment is the District's analysis of Materra Farming Company LLC's application for an Authority to Construct for the installation of two 607 bhp lean burn natural gas-fired IC engines; the removal of the 20,000 lb/year Specific Limiting Condition (SLC) on CO emissions; and the addition of a facility-wide NOx SLC of 19,999 lb/yr, at 17801 Millux Rd, Bakersfield.

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 Ms. Sandra Lowe-Leseth of Permit Services at (559) 230-5834.

Sincerely,



Arnaud Marjollet
Director of Permit Services

AM:sl

Enclosures

cc: Tung Le, CARB (w/ enclosure) via email

Seyed Sadredin

Executive Director/Air Pollution Control Officer

Northern Region

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Modesto, CA 95356-8718
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San Joaquin Valley Air Pollution Control District Authority to Construct Application Review

Natural Gas-Fired IC Engines Powering Agricultural Irrigation Pumps;
Remove Facility-Wide CO SLC; Add Facility-Wide NOx SLC

Facility Name:	Materra Farming LLC	Date:	March 10, 2016
Mailing Address:	P.O. Box 9308 Bakersfield, CA 93389-9308	Engineer:	Sandra Lowe-Leseth
Contact Person:	Alex Shafer	Lead Engineer:	Joven Refuerzo
Telephone:	661-843-7886		
ATC Application #(s):	S-5551-1-1 through S-5551-13-1; S-5551-14-0 and '-15-0		
ATC Project #:	S-1153263		
Deemed Complete:	August 14, 2015		

I. Proposal

Materra Farming LLC has requested Authority to Construct (ATC) permit to install two 607 bhp stationary natural gas-fired IC engines powering agricultural irrigation pumps.

Additionally, the applicant is proposing to remove the 20,000 lb-CO per year Specific Limiting Condition (SLC) from existing ATCs S-5551-1 through '-13. A facility-wide NOx SLC of 19,999 lb/year is proposed to allow the facility to remain below the major source threshold. The proposed NOx SLC will include the two proposed new natural gas-fired IC engines.

The applicant originally included a third engine, a 469 bhp natural gas-fired IC engine. However, the applicant has amended this project to not include the 469 bhp IC engine and to relocate engine S-5551-10-0 to the site of the originally-proposed third engine. No new engine is proposed for replacing S-5551-10 at Well #2511. This evaluation considers the proposed relocation.

Disposition of Current ATCs

The operator has commenced construction of permit units S-5551-1-0 through S-5551-13-0 and start-up inspection has been performed for at least some of the engines with the balance schedule for inspection in March 2016. Because the start-up inspections for all engines will be completed in the near future, the proposed ATCs cannot be used to replace the current ATCs.

In order to allow the operator to stay in compliance with District rules, the following condition will be placed on the proposed ATCs, with XX representing the permitted unit number:

- Authority to Construct (ATC) S-5551-XX-0 shall be implemented concurrently or prior to the modification of the equipment authorized by this Authority to Construct. [District Rule 2201]

The current ATCs are included with this evaluation as Appendix G.

II. Applicable Rules

Rule 1070 Inspections (12/17/92)
Rule 2010 Permits Required (12/17/92)
Rule 2020 Exemptions (12/18/14)
Rule 2201 New and Modified Stationary Source Review Rule (2/18/16)
Rule 2520 Federally Mandated Operating Permits (6/21/01)
Rule 4001 New Source Performance Standards (4/14/99)
Rule 4002 National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101 Visible Emissions (2/17/05)
Rule 4102 Nuisance (12/17/92)
Rule 4201 Particulate Matter Concentration (12/17/92)
Rule 4202 Particulate Matter Emission Rate (12/17/92)
Rule 4301 Fuel Burning Equipment (12/17/92)
Rule 4701 Internal Combustion Engines - Phase 1 (8/21/03)
Rule 4702 Internal Combustion Engines (11/14/13)
Rule 4801 Sulfur Compounds (12/17/92)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
California Code of Regulations (CCR), Title 17 (Public Health), Division 3 (Air Resources), Chapter 1 (Air Resources Board), Subchapter 7.5 (Air Toxic Control Measures), Measure 93115 (Stationary Diesel Engines)
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

The project is located 17801 Millux Road in Bakersfield, CA. The District has verified that the equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

The primary function of this facility is agricultural (growing of crops and/or raising of fowl or animals).

The proposed stationary IC engines will power agricultural irrigation well pumps.

No specific load information (e.g., water pressures, pump information, or engine loads) were available from the applicant; therefore, the load for the engine will be assumed at 80% (per District Guidance document FYI 275) for the purposes of calculating annual potential to emit (PE). Daily PE calculations will assume a 100% load factor.

V. Equipment Listing

Pre-Project Equipment Description (all are ATCs):

- S-5551-1-0:** 241 BHP DEUTZ MODEL TCG2015V6, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 681)

- S-5551-2-0:** 322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 671)

- S-5551-3-0:** 322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 672)

- S-5551-4-0:** 322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 673)

- S-5551-5-0:** 322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 682)

- S-5551-6-0:** 322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 687)

- S-5551-7-0:** 322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 1311)

- S-5551-8-0:** 322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 1941)
- S-5551-9-0:** 322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 2211)
- S-5551-10-0:** 469 BHP DRESSER-RAND MODEL GUASCOR SFGLD180, SN XXXXXX, LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 2511)
- S-5551-11-0:** 469 BHP DRESSER-RAND MODEL GUASCOR SFGLD180, SN XXXXXX, LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 679)
- S-5551-12-0:** 469 BHP DRESSER-RAND MODEL GUASCOR SFGLD180, SN XXXXXX, LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 685)
- S-5551-13-0:** 469 BHP DRESSER-RAND MODEL GUASCOR SFGLD180, SN XXXXXX, LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 693)

Proposed Modifications to Existing Engines:

For current ATCs, remove facility-side CO SLC, include facility-wide NOx SLC.

- S-5551-1-1:** MODIFICATION OF 241 BHP DEUTZ MODEL TCG2015V6, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 681): REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR
- S-5551-2-1:** MODIFICATION OF 322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 671): REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR
- S-5551-3-1:** MODIFICATION OF 322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 672): REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION

(SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR

- S-5551-4-1:** MODIFICATION OF 322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 673): REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR
- S-5551-5-1:** MODIFICATION OF 322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 682): REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR
- S-5551-6-1:** MODIFICATION OF 322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 687): REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR
- S-5551-7-1:** MODIFICATION OF 322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 1311): REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR
- S-5551-8-1:** MODIFICATION OF 322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 1941): REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR
- S-5551-9-1:** MODIFICATION OF 322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 2211): REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR

- S-5551-10-1:** MODIFICATION OF 469 BHP DRESSER-RAND MODEL GUASCOR SFGLD180, SN XXXXXX, LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 2511): REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR; MOVE ENGINE FROM FROM WELL # 2511 TO WELL # 1821
- S-5551-11-1:** MODIFICATION OF 469 BHP DRESSER-RAND MODEL GUASCOR SFGLD180, SN XXXXXX, LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 679): REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR
- S-5551-12-1:** MODIFICATION OF 469 BHP DRESSER-RAND MODEL GUASCOR SFGLD180, SN XXXXXX, LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 685): REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR
- S-5551-13-1:** MODIFICATION OF 469 BHP DRESSER-RAND MODEL GUASCOR SFGLD180, SN XXXXXX, LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 693): REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR

Post-Project Equipment Description:

- S-5551-1-1:** 241 BHP DEUTZ MODEL TCG2015V6 LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 681)
- S-5551-2-1:** 322 BHP DEUTZ MODEL TCG2015V8 LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 671)
- S-5551-3-1:** 322 BHP DEUTZ MODEL TCG2015V8 LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 672)
- S-5551-4-1:** 322 BHP DEUTZ MODEL TCG2015V8 LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 673)

- S-5551-5-1:** 322 BHP DEUTZ MODEL TCG2015V8 LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 682)
- S-5551-6-1:** 322 BHP DEUTZ MODEL TCG2015V8 LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 687)
- S-5551-7-1:** 322 BHP DEUTZ MODEL TCG2015V8 LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 1311)
- S-5551-8-1:** 322 BHP DEUTZ MODEL TCG2015V8 LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 1941)
- S-5551-9-1:** 322 BHP DEUTZ MODEL TCG2015V8 LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 2211)
- S-5551-10-1:** 469 BHP DRESSER RAND MODEL SFGLD 180 LEAN BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP UTILIZING AN ADVANCED CATALYST SYSTEMS OXIDIZING CATALYST (WELL # 1821)
- S-5551-11-1:** 469 BHP DRESSER RAND MODEL SFGLD 180 LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP UTILIZING AN ADVANCED CATALYST SYSTEMS OXIDIZING CATALYST (WELL # 679)
- S-5551-12-1:** 469 BHP DRESSER RAND MODEL SFGLD 180 LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP UTILIZING AN ADVANCED CATALYST SYSTEMS OXIDIZING CATALYST (WELL # 685)
- S-5551-13-1:** 469 BHP DRESSER RAND MODEL SFGLD 180 LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP UTILIZING AN ADVANCED CATALYST SYSTEMS OXIDIZING CATALYST (WELL # 693)
- S-5551-14-0:** 607 BHP DRESSER-RAND MODEL GUASCOR SFGLD 240 LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP UTILIZING AN ADVANCED CATALYST SYSTEMS OXIDIZING CATALYST

S-5551-15-0: 607 BHP DRESSER-RAND MODEL GUASCOR SFGLD 240 LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP UTILIZING AN ADVANCED CATALYST SYSTEMS OXIDIZING CATALYST

VI. Emission Control Technology Evaluation

All of the engines are equipped with:

- ☐ Positive Crankcase Ventilation (PCV) or 90% efficient control device
- ☐ Non-Selective Catalytic Reduction
- ☐ Air/Fuel Ratio or an O₂ Controller
- ☒ Lean Burn Technology

Lean burn technology increases the volume of air in the combustion process and therefore increases the heat capacity of the mixture. This technology also incorporates improved swirl patterns to promote thorough air/fuel mixing. This, in turn, lowers the combustion temperature and reduces NO_x formation.

Existing units S-5551-10 through '-13 and the two proposed new engines (units '-14 and '-15) are/will be equipped with an oxidizing catalyst in order to meet the BACT requirement for VOC emissions. The oxidizing catalyst is a 2-way catalytic reduction system and is expected to provide emission reductions for CO and VOC emissions. This system is not expected to provide control for NO_x emissions, per the catalyst manufacturer.

VII. General Calculations

A. Assumptions

Pre-Project Operating Schedule:

S-5551-1 through '-9	24 hrs/day, 8,760 hrs/year (current ATC)
S-5551-10 through '-13	24 hrs/day, 4,000 hrs/year (current ATC)

Post-Project Operating Schedule:

S-5551-1 through '-9	24 hrs/day, 8,760 hrs/year (current ATC)
S-5551-10 through '-13	24 hrs/day, 4,000 hrs/year (current ATC)
S-5551-14 and '-15	24 hrs/day, 4,700 hrs/year (BACT)

EPA F-factor (adjusted to 60 °F):	8,578 dscf/MMBtu (40 CFR 60 Appendix B)
Fuel heating value:	1,000 Btu/dscf (District Policy APR-1720, dated 12/20/01)

BHP to Btu/hr conversion:	2,542.5 Btu/bhp-hr
Sulfur concentration:	2.85 lb-S/MMscf (District Policy APR-1720, dated 12/20/01)

Thermal efficiency of engine:	commonly ≈ 30%
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To streamline emission calculations, PM_{2.5} emissions are assumed to be equal to PM₁₀ emissions

The emission calculations and the annual load factor (use 80%) will be based on District FYI 275 (*Use of Horsepower and Load Factor for IC Engines*)

The new engines (units '-14 and '-15) will be equipped with a oxidizing catalyst system for control of VOC emissions (per applicant).

Catalyst manufacturer's guarantee lists 50 ppmv for VOC (referenced at 15% O₂). The District will use the molecular weight of methane (16.043 lb/lb-mol) to convert the ppmv factor to g/bhp-hr.

B. Emission Factors

Conversion of Rule 4702 Concentrations from ppmv at 15% O₂ to g/bhp-hr

The following equation is used to convert ppmv to g/bhp-hr.

ppmv	F-factor	MW _{pollutant}	20.9	1 Lb-mol	1 MMBtu	453.6 g	1
1,000,000	1	1	(20.9 - O ₂ %)	379.5 dscf	393.236 bhp-hr	1 lb	Engine Eff.

Pollutant	Rule 4702 EF ppmv@ 15% O ₂		Molec Wt		Conversion Factor (see equation above)		Rule 4702 EF g/bhp-hr
NO _x	90	×	46.01	×	0.000308	=	1.3
CO	2,000	×	28.01	×		=	17.3
VOC	750	×	16.043	×		=	3.7

Emission Factors for S-5551-1

Engine Emission Factors - S-5551-1		
Pollutant	g/bhp-hr	Source
NO _x	0.7	Current permit conditions with SO _x and PM ₁₀ EF adjusted for 30% thermal efficiency rather than 35%
SO _x	0.011	
PM ₁₀	0.038	
CO	1.8	
VOC	0.03	

Emission Factors for S-5551-2 through '-9

Engine Emission Factors - S-5551-2 thru '-9		
Pollutant	g/bhp-hr	Source
NO _x	0.6	Current permit conditions with SO _x and PM ₁₀ EF adjusted for 30% thermal efficiency rather than 35%
SO _x	0.011	
PM ₁₀	0.038	
CO	1.8	
VOC	0.03	

Emission Factors for S-5551-10 through '13

Engine Emission Factors - S-5551-10 thru '13		
Pollutant	g/bhp-hr	Source
NO _x	1.0	Current permit conditions with the following adjustments: 1. SO _x PM ₁₀ and VOC EF adjusted for 30% thermal efficiency rather than 35%; 2. The CO EF on the 'xx-0 ATCs reflects CO control by the oxidation catalyst. BACT for CO was not triggered in original project; therefore, installation of oxidation catalyst for CO control is not required. For this project, the CO EF without catalyst (manufacturer's guaranteed EF for CO) will be used as the CO EF.
SO _x	0.011	
PM ₁₀	0.038	
CO	1.8	
VOC	0.24	

Emission Factors for S-5551-14 and '15

Engine Emission Factors - S-5551-14 and '15			
Pollutant	EF	EF (g/bhp-hr)	Source
NO _x	---	1.0	Engine manufacturer's guarantee ¹
SO _x	2.85 lb/MMscf	0.011	Mass Balance Equation ²
PM ₁₀	0.010 lb/MMBtu	0.038 ⁴	AP-42 (7/00) Table 3.2-2 ³
CO	---	1.8	Engine manufacturer's guarantee ¹
VOC	50 ppmv at 15% O ₂	0.24 ⁶	Catalyst manufacturer's guarantee ⁵

¹ Per engine manufacturer's information sheet IC-G-B-18-033 C.

² The SO_x emission factor is calculated using the following mass balance equation:

$$2.85 \frac{\text{lb} - \text{SO}_x}{\text{MMscf}} \times \frac{1 \text{ MMscf}}{1,000 \text{ MMBtu}} \times \frac{1 \text{ MMBtu}}{1,000,000 \text{ Btu}} \times \frac{2,542.5 \text{ Btu}}{\text{bhp} - \text{hr}} \times \frac{1 \text{ bhp input}}{0.30 \text{ bhp out}} \times \frac{453.6 \text{ g}}{\text{lb}} = 0.011 \frac{\text{g} - \text{SO}_x}{\text{bhp} - \text{hr}}$$

³ PM₁₀ value includes both filterable (7.71×10^{-5} lb/MMBtu) and condensable (9.91×10^{-3} lb/MMBtu) emissions.

⁴ g/bhp-hr equivalent of lb/MMBtu values are calculated as follows:

$$0.010 \frac{\text{lb} - \text{PM}_{10}}{\text{MMBtu}} \times \frac{1 \text{ MMBtu}}{1,000,000 \text{ Btu}} \times \frac{2,542.5 \text{ Btu}}{\text{bhp} - \text{hr}} \times \frac{1 \text{ bhp input}}{0.30 \text{ bhp out}} \times \frac{453.6 \text{ g}}{\text{lb}} = 0.038 \frac{\text{g} - \text{PM}_{10}}{\text{bhp} - \text{hr}}$$

⁵ Per catalyst manufacturer's output from "ICE Catalyst Sizing Program" for proposed engine.

⁶ Converting ppmv to g/bhp-hr :

ppmv	F-factor	MWpollutant	20.9	1 Lb-mol	1 MMBtu	453.6 g	1
1,000,000	1	1	(20.9 - O ₂ %)	379.5 dscf	393.236 bhp-hr	1 lb	Engine Eff.

C. Calculations

1. Pre-Project Potential to Emit (PE1)

The engines' potential emissions are based on the following equations:

$$PE1_{\text{daily}} = \text{Continuous Rating (bhp)} \times EF \text{ (g/bhp-hr)} \times 24 \text{ hr/day} \times \text{lb/453.6 g}$$

$$PE1_{\text{annual}} = \text{Continuous Rating (bhp)} \times 0.8 \text{ load} \times EF \text{ (g/bhp-hr)} \\ \times \text{Annual Operating Schedule (hr/year)} \times 1 \text{ lb/453.6 g}$$

Existing Engines S-5551-1 through '-13

Daily PE1 for S-5551-1-0									
Pollutant	(g/bhp-hr)		bhp		hr/day		g/lb		lb/day
NO _x	0.7	×	241	×	24	÷	453.6	=	8.9
SO _x	0.011	×		×		÷		=	0.1
PM ₁₀	0.038	×		×		÷		=	0.5
CO	1.8	×		×		÷		=	23.0
VOC	0.03	×		×		÷		=	0.4

Annual PE1 for S-5551-1-0											
Pollutant	(g/bhp-hr)		bhp		load factor		hr/yr		g/lb		lb/yr
NO _x	0.7	×	241	×	0.8	×	8,760	÷	453.6	=	2,606
SO _x	0.011	×		×		×		÷		=	41
PM ₁₀	0.038	×		×		×		÷		=	141
CO	1.8	×		×		×		÷		=	6,702
VOC	0.03	×		×		×		÷		=	112

Daily PE1 for S-5551-2-0 through '-9-0									
Pollutant	(g/bhp-hr)		bhp		hr/day		g/lb		lb/day
NO _x	0.6	×	322	×	24	÷	453.6	=	10.2
SO _x	0.011	×		×		÷		=	0.2
PM ₁₀	0.038	×		×		÷		=	0.6
CO	1.8	×		×		÷		=	30.7
VOC	0.03	×		×		÷		=	0.5

Annual PE1 for S-5551-2-0 through '-9-0											
Pollutant	(g/bhp-hr)		bhp		load factor		hr/yr		g/lb		lb/yr
NO _x	0.6	×	322	×	0.8	×	8,760	÷	453.6	=	2,985
SO _x	0.011	×		×		×		÷		=	55
PM ₁₀	0.038	×		×		×		÷		=	189
CO	1.8	×		×		×		÷		=	8,955
VOC	0.03	×		×		×		÷		=	149

Daily PE1 for S-5551-10-0 through '-13-0									
Pollutant	(g/bhp-hr)		bhp		hr/day		g/lb		lb/day
NO _x	1.0	×	469	×	24	÷	453.6	=	24.8
SO _x	0.011	×		×		÷		=	0.3
PM ₁₀	0.038	×		×		÷		=	0.9
CO	1.8	×		×		÷		=	44.7
VOC	0.24	×		×		÷		=	6.0

Annual PE1 for S-5551-10-0 through '-13-0											
Pollutant	(g/bhp-hr)		bhp		load factor		hr/yr		g/lb		lb/yr
NO _x	1.0	×	469	×	0.8	×	4,000	÷	453.6	=	3,309
SO _x	0.011	×		×		×		÷		=	36
PM ₁₀	0.038	×		×		×		÷		=	126
CO	1.8	×		×		×		÷		=	5,956
VOC	0.24	×		×		×		÷		=	794

Proposed New Engines S-5551-14 and S-5551-15

For new emissions units, PE1 = 0 for all pollutants.

2. Post-Project Potential to Emit (PE2)

The engines' potential emissions are based on the following equations:

$$PE2_{\text{daily}} = \text{Continuous Rating (bhp)} \times EF \text{ (g/bhp-hr)} \times 24 \text{ hr/day} \times 1 \text{ lb/453.6 g}$$

$$PE2_{\text{annual}} = \text{Continuous Rating (bhp)} \times 0.8 \text{ load} \times EF \text{ (g/bhp-hr)} \\ \times \text{Annual Operating Schedule (hr/year)} \times 1 \text{ lb/453.6 g}$$

Existing Engines S-5551-1 through '-13

There are no changes to the engines' emission factors, hp rating, or the allowable operating schedules; therefore, PE2 = PE1 for these engines.

Proposed New Engines S-5551-14 and '-15

Daily PE2 for S-5551-14-0 and '-15-0									
Pollutant	(g/bhp-hr)		bhp		hr/day		g/lb		lb/day
NO _x	1.0	×	607	×	24	÷	453.6	=	32.1
SO _x	0.011	×		×		÷		=	0.4
PM ₁₀	0.038	×		×		÷		=	1.2
CO	1.8	×		×		÷		=	57.8
VOC	0.24	×		×		÷		=	6.7

Annual PE2 for S-5551-14-0 and '-15-0											
Pollutant	(g/bhp-hr)		bhp		load factor		hr/yr		g/lb		lb/yr
NO _x	1.0	×	607	×	0.8	×	4,700	÷	453.6	=	5,032
SO _x	0.011	×		×		×		÷		=	55
PM ₁₀	0.038	×		×		×		÷		=	191
CO	1.8	×		×		×		÷		=	9,057
VOC	0.24	×		×		×		÷		=	1,208

3. 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 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.

Since this is an existing facility, SSPE1 is equal to the PE_{1 Total Pre-Project} for all criteria pollutants.

SSPE1 without SLC (lb/year)					
Permit Unit	NOx	SOx	PM ₁₀	CO	VOC
S-5551-1-0	2,606	41	141	6,702	112
S-5551-2-0	2,985	55	189	8,955	149
S-5551-3-0	2,985	55	189	8,955	149
S-5551-4-0	2,985	55	189	8,955	149
S-5551-5-0	2,985	55	189	8,955	149
S-5551-6-0	2,985	55	189	8,955	149
S-5551-7-0	2,985	55	189	8,955	149
S-5551-8-0	2,985	55	189	8,955	149
S-5551-9-0	2,985	55	189	8,955	149
S-5551-10-0	3,309	36	126	5,956	794
S-5551-11-0	3,309	36	126	5,956	794
S-5551-12-0	3,309	36	126	5,956	794
S-5551-13-0	3,309	36	126	5,956	794
SSPE1	39,722	625	2,157	102,166	4,480

The facility's SSPE1 without SLC shows that the facility could emit more than 20,000 lb-CO/year if each engine were operated for the maximum allowable annual operating hours. Additionally, the total NOx emissions would be above the major source threshold. In order to demonstrate a worst-case scenario for pollutants other than CO, the engines with the lowest CO emissions will be successively added to the facility's emissions until the CO SLC of 20,000 lb CO/year is reached.

Engine S-5551-13-0, if allowed to run the maximum allowable hours, would put the facility's CO emissions over 20,000 lb/year. The CO emissions from the four engines with the lowest annual CO emissions total 23,824 lb CO/year. A total of 3,824 lbs CO/year will be subtracted from the Engine S-5551-13-0's annual CO emissions.

The emissions of other criteria pollutants from C-5551-13-0 will be adjusted using the ratio of the adjusted CO emissions to the unrestricted CO emissions (2,132/5,956 or 0.3580). The remaining engines will be assigned zero emissions for all criteria pollutants.

The resulting SSPE1 is shown in the following table.

SSPE1 with CO SLC (lb/year)					
Permit Unit	NOx	SOx	PM ₁₀	CO	VOC
S-5551-10-0	3,309	36	126	5,956	794
S-5551-11-0	3,309	36	126	5,956	794
S-5551-12-0	3,309	36	126	5,956	794
S-5551-13-0	1,185	13	45	2,132	284
S-5551-1-0	0	0	0	0	0
S-5551-2-0	0	0	0	0	0
S-5551-3-0	0	0	0	0	0
S-5551-4-0	0	0	0	0	0
S-5551-5-0	0	0	0	0	0
S-5551-6-0	0	0	0	0	0
S-5551-7-0	0	0	0	0	0
S-5551-8-0	0	0	0	0	0
S-5551-9-0	0	0	0	0	0
SSPE1	11,112	121	423	20,000	2,666

4. 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 units with valid ATCs or PTOs, except for emissions units proposed to be shut down as part of the Stationary Project, at the Stationary Source and the quantity of 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.

SSPE2 without SLC (lb/year)					
Permit Unit	NOx	SOx	PM ₁₀	CO	VOC
S-5551-1-1	2,606	41	141	6,702	112
S-5551-2-1	2,985	55	189	8,955	149
S-5551-3-1	2,985	55	189	8,955	149
S-5551-4-1	2,985	55	189	8,955	149
S-5551-5-1	2,985	55	189	8,955	149
S-5551-6-1	2,985	55	189	8,955	149
S-5551-7-1	2,985	55	189	8,955	149
S-5551-8-1	2,985	55	189	8,955	149
S-5551-9-1	2,985	55	189	8,955	149
S-5551-10-1	3,309	36	126	5,956	794
S-5551-11-1	3,309	36	126	5,956	794
S-5551-12-1	3,309	36	126	5,956	794
S-5551-13-1	3,309	36	126	5,956	794
S-5551-14-0 (new)	5,032	55	191	9,057	1,208
S-5551-15-0 (new)	5,032	55	191	9,057	1,208
SSPE2	49,786	735	2,539	120,280	6,896

The applicant has applied to remove the CO SLC and take a NOx SLC to remain below the major source threshold. The facility's SSPE2 without SLC shows that the facility could emit more than 19,999 lb-NOx/year if each engine were operated for the maximum allowable annual operating hours. Additionally, the total NOx emissions would be above the major source threshold. Other than NOx emissions, no other pollutant is greater than the major source threshold for that pollutant. In order to demonstrate a worst-case scenario for pollutants other than NOx, the engines with the lowest NOx emissions will be successively added to the facility's emissions until the NOx SLC of 19,999 lb NOx/year is reached. Engine S-5551-13-0, if allowed to run the maximum allowable hours, would put the facility's NOx emissions over 19,999 lb-NOx/year.

The NOx emissions from the seven engines with the lowest annual NOx emissions total 20,516 A total of 517 lbs NOx/year will be subtracted from Engine S-5551-7-1's annual NOx emissions. The emissions of other criteria pollutants from C-5551-7-1 will be adjusted using the ratio of the adjusted NOx emissions to the maximum NOx emissions (2,468/2,985 or 0.8268). The remaining engines will be assigned zero emissions for all criteria pollutants.

SSPE2 with NOx SLC (lb/year)					
Permit Unit	NOx	SOx	PM ₁₀	CO	VOC
S-5551-1-1	2,606	41	141	6,702	112
S-5551-2-1	2,985	55	189	8,955	149
S-5551-3-1	2,985	55	189	8,955	149
S-5551-4-1	2,985	55	189	8,955	149
S-5551-5-1	2,985	55	189	8,955	149
S-5551-6-1	2,985	55	189	8,955	149
S-5551-7-1	2,468	45	156	7,404	123
S-5551-8-1	0	0	0	0	0
S-5551-9-1	0	0	0	0	0
S-5551-10-1	0	0	0	0	0
S-5551-11-1	0	0	0	0	0
S-5551-12-1	0	0	0	0	0
S-5551-13-1	0	0	0	0	0
S-5551-14-0 (new)	0	0	0	0	0
S-5551-15-0 (new)	0	0	0	0	0
SSPE2	19,999	361	1,242	58,881	980

5. Major Source Determination

Rule 2201 Major Source Determination

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

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

Major Source Determination (lb/year)						
	NO _x	SO _x	PM ₁₀	PM _{2.5} *	CO	VOC
SSPE1	11,112	121	423	423	20,000	2,666
SSPE2	19,999	361	1,242	1,242	58,881	980
Major Source Threshold	20,000	140,000	140,000	200,000	200,000	20,000
Major Source?	No	No	No	No	No	No

* PM_{2.5} assumed to be equal to PM₁₀ because these are natural gas-fired IC engines.

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

Rule 2410 Major Source Determination:

The emissions in the following table are based on SSPE1 with CO SLC.

PSD Major Source Determination (tons/year)						
	NO ₂	VOC	SO ₂	CO	PM	PM ₁₀
Estimated Facility PE before Project Increase	5.6	1.3	<1.0	10	<1.0	<1.0
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)	No	No	No	No	No	No

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

6. Baseline Emissions (BE)

The BE calculation (in lb/year) is performed on a pollutant-by-pollutant basis to determine the amount of offsets required, where necessary. However, Non-Major agricultural operations are exempt from offsets per Rule 2201, Section 4.6.9 (see offsets discussion in Section VIII below). Therefore, BE calculations are not required.

7. SB 288 Major Modification

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

Since this facility is not a major source for any of the pollutants addressed in this project, this project does not constitute an SB 288 major modification.

8. Federal Major Modification

District Rule 2201, Section 3.18 states that Federal Major Modifications are the same as "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

Since this facility is not a Major Source for any pollutants, this project does not constitute a Federal Major Modification. Additionally, since the facility is not a major source for PM₁₀ (140,000 lb/year), it is not a major source for PM_{2.5} (200,000 lb/year).

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

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

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

I. Project Emissions Increase - New Major Source Determination

The post-project potentials to emit from all new and modified units are compared to the PSD major source thresholds to determine if the project constitutes a new major source subject to PSD requirements.

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). The PSD Major Source threshold is 250 tpy for any regulated NSR pollutant. The emissions in the following table are based on SSPE2 with NO_x SLC.

PSD Major Source Determination: Potential to Emit (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Total PE from New and Modified Units	10	<1.0	<1.0	29	<1.0	<1.0
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	No	No	No	No	No	No

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

10. Quarterly Net Emissions Change (QNEC)

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

VIII. Compliance

Rule 1070 Inspections

This rule applies to any source operation, which emits or may emit air contaminants.

This rule allows the District to perform inspections for the purpose of obtaining information necessary to determine whether air pollution sources are in compliance with applicable rules and regulations. The rule also allows the District to require record keeping, to make inspections, and to conduct tests of air pollution sources. Therefore, the following conditions will be included on the permit.

- {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
- {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]

Rule 2010 Permits Required

The provisions of this rule apply to any person who plans to or does operate, construct, alter, or replace any source operation, which may emit air contaminants or may reduce the emission of air contaminants.

Pursuant to Section 4.0, a written permit shall be obtained from the APCO. No Permit to Operate shall be granted either by the APCO or the Hearing Board for any source operation described in Section 3.0 constructed or installed without authorization as required by Section 3.0 until the information required is presented to the APCO and such source operation is altered, if necessary, and made to conform to the standards set forth in Rule 2070 (Standards for Granting Applications) and elsewhere in these rules and regulations.

The proposed engines may emit air contaminants; therefore, the facility is subject to the permitting requirements of this Rule for the engine in this project. By submitting the ATC applications, the facility is in compliance with the requirements of this rule. No further discussion is required.

Rule 2020 Exemptions

This rule specifies emissions units that are not required to obtain an Authority to Construct (ATC) or Permit to Operate (PTO). This rule is applicable to any source that emits or may emit air contaminants.

Per Section 6.20, no permit is required for agricultural sources at a stationary source that, in aggregate, produce actual emissions less than one-half of the major source thresholds. For the purposes of determining permitting applicability, fugitive emissions, except fugitive dust emissions, are included in determining aggregate emissions. As shown in section VII.C.4, facility emissions exceed $\frac{1}{2}$ the major source threshold for one or more pollutant; therefore, this facility is not exempt from permitting requirements. No further discussion is required.

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 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 an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

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

a. New emissions units – PE > 2 lb/day

As seen in Section VII.C.2 of this evaluation, the applicant is proposing to install two new natural gas-fired IC engine with a PE greater than 2 lb/day for NO_x, CO, and VOC. BACT is triggered for NO_x and VOC since the PEs are greater than 2 lbs/day. BACT is not triggered for CO since the facility's SSPE2 for CO is less than 200,000 lbs/year, as demonstrated in Section VII.C.5 of this document.

b. Relocation of emissions units – PE > 2 lb/day

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

c. Modification of emissions units – AIPE > 2 lb/day

As discussed in Section I above, the CO SLC is being removed and a NO_x SLC included in the permits. Permit units S-5551-1 through S-5551-13 are being modified as a result of the change in SLC.

$$\text{AIPE} = \text{PE2} - \text{HAPE}$$

Where,

AIPE = Adjusted Increase in Permitted Emissions, (lb/day)

PE2 = Post-Project Potential to Emit, (lb/day)

HAPE = Historically Adjusted Potential to Emit, (lb/day)

$$\text{HAPE} = \text{PE1} \times (\text{EF2}/\text{EF1})$$

Where,

PE1 = The emissions unit's PE prior to modification or relocation, (lb/day)

EF2 = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2/EF1 shall be set to 1

EF1 = The emissions unit's permitted emission factor for the pollutant before the modification or relocation

Substituting into the original equation yields:

$$AIPE = PE2 - (PE1 * (EF2 / EF1))$$

The proposed modifications do not affect the engines' EF, so $EF2 = EF1$ and the ratio $EF2/EF1 = 1.0$. Substituting into the equation above,

$$\begin{aligned} AIPE &= PE2 - (PE1 * (EF2/EF1)) \\ &= PE2 - (PE1 * 1.0) \\ &= PE2 - PE1 \end{aligned}$$

As discussed in Section VII.C.2 above, $PE2 = PE1$; therefore, $AIPE = 0.0$ for all pollutants for all exiting engines.

d. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project does not constitute an SB 288 and/or Federal Major Modification. Therefore BACT is not triggered for any pollutant.

2. BACT Guideline

BACT is not triggered for any of the existing engines S-5551-1 through S-5551-13. BACT is triggered for NO_x and VOC for the two new engines (Engines S-5551-14 and '-15). The BACT Guideline attached in Appendix B, applies to new stationary AO spark-ignited IC engines less than 1,000 bhp.

3. Top-Down BACT Analysis

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for the application subject to the BACT requirements pursuant to the District's NSR Rule.

Pursuant to the attached Top-Down BACT Analyses (see Appendix B), BACT for the new engines (units '-14 and '-15 has been satisfied with the following:

NO_x: 90 ppmvd at 15% O₂
VOC: 50 ppmvd at 15% O₂, as methane

The engine manufacturer has guaranteed 1.0 g NO_x/bhp-hr (equivalent to 83.6 ppmvd NO_x at 15% O₂) which satisfies the NO_x BACT requirement. With the maximum allowable annual operating hours limited to 4,700 hr/yr, installation of SCR for NO_x control is not cost-effective.

The catalyst manufacturer has guaranteed VOC emissions of 50 ppmvd VOC at 15% O₂, (equivalent to 0.24 g VOC/bhp-hr); which satisfies VOC BACT for these engines.

B. Offsets

Per Section 4.6.9 of Rule 2201, offsets are not required for agricultural operations that are not Major Sources. As indicated in Section VII.C.5 of this application review, this agricultural operation is not a Major Source; therefore, offsets will not be required.

C. Public Notification

Public noticing is required for:

- a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications;
- b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant;
- c. Any project which results in the offset thresholds being surpassed;
- d. Any project with an SSPE of greater than 20,000 lb/year for any pollutant; and/or
- e. Any project which results in a Title V significant permit modification.

a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications

New Major Sources are new facilities, which are also Major Sources. Since this is not a new facility, public noticing is not required for this project for New Major Source purposes.

As demonstrated in Sections VII.C.7 and VII.C.8, this project does not constitute an SB 288 or Federal Major Modification; therefore, public noticing for SB 288 or Federal Major Modification purposes is not required.

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. As seen in Section VII.C.2 above, this project does not include a new emissions unit which has daily emissions greater than 100 lb/day for any pollutant, therefore public noticing for PE greater than 100 lb/day purposes is not required.

c. Offset Threshold

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

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	11,112	19,999	20,000 lb/year	No
SO _x	121	361	54,750 lb/year	No
PM ₁₀	423	1,242	29,200 lb/year	No
CO	20,000	58,881	200,000 lb/year	No
VOC	2,666	980	20,000 lb/year	No

As detailed in the table above, there were no thresholds surpassed with this project; therefore, public noticing is not required for offset purposes.

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	19,999	11,112	8,887	20,000 lb/year	No
SO _x	361	121	240	20,000 lb/year	No
PM ₁₀	1,242	423	819	20,000 lb/year	No
CO	58,881	20,000	38,881	20,000 lb/year	Yes
VOC	980	2,666	-1,686	20,000 lb/year	No

As demonstrated above, the SSIPE for CO is greater than 20,000 lb/year; therefore public noticing for SSIPE purposes is required.

e. Title V Significant Permit Modification

Since this facility does not have a Title V operating permit, this change is not a Title V Significant Modification, and therefore public noticing is not required.

2. Public Notice Action

As discussed above, public noticing is required for this project for SSIPE greater than 20,000 lb/year. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

D. Daily Emissions Limits (DEL)

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.15 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.15.1 and 3.15.2, the DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT. For these IC engines, 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. Therefore, the following conditions will be listed on the ATCs to ensure compliance:

All Engines:

- {modified 3491} This IC engine shall be fired on Public Utility Commission (PUC) quality natural gas only. [District Rules 2201 and 4801]
- {4662} The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
- Facility-wide NO_x emissions shall not exceed 19,999 pounds in any rolling 12-consecutive month period [District Rule 2201]

Engine '-1

- Emissions from this IC engine shall not exceed any of the following limits: 0.7 g-NO_x/bhp-hr, 1.8 g-CO/bhp-hr, 0.038 g-PM₁₀/bhp-hr, or 0.03 g-VOC/bhp-hr. [District Rules 2201, 4102, and 4702]

Engines '-2 through '-9

- Emissions from this IC engine shall not exceed any of the following limits: 0.6 g-NO_x/bhp-hr, 1.8 g-CO/bhp-hr, 0.038 g-PM₁₀/bhp-hr, or 0.03 g-VOC/bhp-hr. [District Rules 2201 and 4702]

Engines '-10 through '-13

- This engine shall be equipped with a functional, oxidizing catalytic unit for reduction of VOC emissions, which is maintained and operated per the manufacturer's recommendations. [District Rules 2201 and 4702]
- Emissions from this IC engine shall not exceed any of the following limits: 1.0 g-NO_x/bhp-hr, 1.8 g-CO/bhp-hr, 0.038 g-PM₁₀/bhp-hr, or 50 ppmvd VOC @ 15% O₂ (equivalent to 0.24 g-VOC/bhp-hr). [District Rules 2201, 4102, and 4702]
- Operation of this engine shall not exceed 4,000 hours per calendar year. [District Rules 2201 and 4102]

Engines '-14 and '-15

- This engine shall be equipped with a functional, oxidizing catalytic unit for reduction of VOC emissions, which is maintained and operated per the manufacturer's recommendations. [District Rules 2201 and 4702]
- Emissions from this IC engine shall not exceed any of the following limits: 1.0 g-NO_x/bhp-hr, 1.8 g-CO/bhp-hr, 0.038 g-PM₁₀/bhp-hr, or 50 ppmvd VOC @ 15% O₂ (equivalent to 0.24 g-VOC/bhp-hr). [District Rules 2201, 4102, and 4702]
- Operation of this engine shall not exceed 4,700 hours per calendar year. [District Rules 2201 and 4102]

E. Compliance Assurance

The following measures shall be taken to ensure continued compliance with District Rules:

1. Source Testing

Pursuant to District Policy APR 1705, initial source testing is required for engines '-10 through '-15 since they will be equipped with a catalyst for VOC and CO control. In addition, the permittee will be required to comply with the source testing requirements of Rule 4702 as applicable. See Section VIII, Rule 4702 for a discussion of the source testing requirements for the engines in this project that are installed with catalysts. The following condition will be included on the permits for '-10 through '-15 to ensure compliance with the source testing requirements.

Engines '-10 through '-15

- Source testing to measure VOC emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201 and 4702]
- Source testing to measure CO emissions from this unit shall be conducted within 60 days of initial start-up and every 60 months thereafter. [District Rule 4702]

2. Monitoring

No monitoring is 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*, these IC engines are subject to recordkeeping requirements. Recordkeeping

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

The following conditions will be placed on the permits to ensure compliance:

- {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
- {modified 3497} All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702] N

4. Reporting

No reporting is required to ensure compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

An AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The District's Technical Services Division conducted the required analysis. Refer to Appendix C of this document for the AAQA summary sheet.

The proposed location is in an attainment area for NO_x, CO, and SO_x. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO_x, CO, or SO_x.

The proposed location is in a non-attainment area for the state's PM₁₀ as well as federal and state PM_{2.5} thresholds. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for PM₁₀ and PM_{2.5}.

Rule 2401 Prevention of Significant Deterioration

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

Rule 2520 Federally Mandated Operating Permits

Since this facility's potential emissions do not exceed any major source thresholds of Rule 2201, as shown previously in the Major Source Determination table in Section VII.C.5, this facility is not a major source, and Rule 2520 does not apply.

Rule 4001 New Source Performance Standards (NSPS)

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

40 CFR Part 60, Subpart JJJJ (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines) covers stationary engines at agricultural and non-agricultural facilities. The District has not been delegated the authority to implement this NSPS regulation for non-major sources; therefore, no requirements shall be included on the permit.

There are no other potentially applicable subparts of 40 CFR Part 60.

Rule 4002 National Emission Standards for Hazardous Air Pollutants (NESHAPs)

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

40 CFR Part 63, Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines) covers stationary engines at agricultural and non-agricultural facilities. The District has not been delegated the authority to implement NESHAP regulations for Area Source requirements for non-major sources; therefore, no requirements shall be included on each permit.

There are no other potentially applicable subparts of 40 CFR Part 61 or 40 CFR Part 63.

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.

As long as the equipment is properly maintained and operated, compliance with visible emissions limits is expected under normal operating conditions. Therefore, the following condition will be listed on each 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]

Rule 4102 Public Nuisance

Rule 4102 states that no air contaminant shall be released into the atmosphere that causes a public nuisance. Therefore, the following condition will be listed on each permit to ensure compliance:

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

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905 - Risk Management Policy for Permitting New and Modified Sources specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite. Therefore pursuant to the policy, a risk management review has been performed for this project to analyze the impact of toxic emissions

An HRA is not required for a project with a total facility prioritization score of less than one. According to the Technical Services Memo for this project (Appendix C), the total facility prioritization score including this project was greater than one. Therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project. The cancer risk for this project is shown below:

RMR Summary			
Categories	15 Natural Gas ICEs (Units 1-1 thru 15-0)	Project Totals	Facility Totals
Prioritization Score	>1	>1.0	>1.0
Acute Hazard Index	0.27	0.27	0.27
Chronic Hazard Index	0.03	0.03	0.03
Maximum Individual Cancer Risk	1.60E-06	1.60E-06	1.60E-06
T-BACT Required?	No		
Special Permit Conditions?	Yes		

Discussion of T-BACT

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

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification not have acute or chronic indices, or a cancer risk greater than the District's significance levels (i.e. acute and/or chronic indices greater than 1 and a cancer risk greater than 10 in a million). As outlined by the HRA Summary in Appendix C of this report, the emissions increases for this project was determined to be less than significant.

Engines '-1-1 thru '-9-1, '-14-0 and '-15-0

The following condition will be placed on the permits for these engines:

- 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]

Rule 4201 Particulate Matter Concentration

The purpose of this rule is to protect the ambient air quality by establishing a particulate matter emission standard. This rule applies to any source operation, which emits or may emit dust, fumes, or total suspended particulate matter. This rule states that a person shall not release or discharge into the atmosphere from any single source operation, dust, fumes, or total suspended particulate matter emissions in excess of 0.1 grain/dscf, as determined by the test methods in section 4.0.

All Engines

$$0.038 \frac{g - PM_{10}}{bhp - hr} \times \frac{1g - PM}{0.96g - PM_{10}} \times \frac{1bhp - hr}{2,542.5 Btu} \times \frac{10^6 Btu}{8,578 dscf} \times \frac{0.30 Btu_{out}}{1 Btu_{in}} \times \frac{15.43 grain}{g} = 0.008 \frac{grain - PM}{dscf}$$

Since 0.008 grain-PM/dscf is less than 0.1 grain/dscf, compliance with Rule 4201 is expected.

Rule 4202 Particulate Matter - Emission Rate

This rule establishes PM emission limits as a function of process weight rate in tons/hr. Gas and liquid fuels are excluded from the definition of process weight. Therefore, Rule 4202 does not apply to the IC engines in this project.

Rule 4301 Fuel Burning Equipment

Pursuant to section 2.0, the provisions of this rule apply to any piece of fuel burning equipment. Section 3.1 defines fuel burning equipment as "any furnace, boiler, apparatus, stack, and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer".

IC engines produce power mechanically, not by indirect heat transfer. Therefore, the proposed IC engines do not meet the definition of fuel burning equipment. Therefore, Rule 4301 does not apply.

Rule 4701 Internal Combustion Engines – Phase 1

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. Except as provided in Section 4.0, the provisions of this rule apply to any internal combustion engine, rated greater than 50 bhp, that requires a Permit to Operate (PTO).

The provisions of this rule do not apply to engines in agricultural operations in the growing of crops or raising of fowl or animals.

Therefore, the following condition will be included on the permits:

- This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 2201, 4701, and 4702]

Rule 4702 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 spark-ignited internal combustion engines.

This rule applies to any spark-ignited internal combustion engine with a rated brake horsepower greater than 50 horsepower and that requires a Permit-to-Operate (PTO).

Section 5.1 contains reporting requirements for engines rated at least 25 brake horsepower up to and including 50 brake horsepower and used in non-agricultural operations (non-AO). The engines in this project are rated at greater than 50 bhp and are used in an agricultural operation (AO); therefore, the requirements of this section are not applicable.

Section 5.2 contains requirements for engines rated greater than 50 bhp. Section 5.2.3 outlines the compliance options for engines meeting this category. The applicant has proposed to comply with Section 5.2.3.1 which requires the operator to comply with the emission limits in Table 3 of the rule.

Rule 4702 Table 3 Emission Limits			
Engine Type	NO_x	CO	VOC
Lean-Burn	150 ppmv or 70% Reduction	2,000 ppmv	750 ppmv

The emission limits in ppmv were converted to g/bhp-hr in Section VII.B above. The existing engines '-1 through '-13 were shown to meet Rule 4702 emission limits in previous projects (S-1143086 and S-1144067). The following table compares the Rule 4702 limits with the proposed (new) engines' emission factors.

Limit Source	NOx in g/bhp-hr	CO in g/bhp-hr	VOC in g/bhp-hr
Rule 4702	1.1	14.8	3.2
New engines '-14 and '-15	1.0	1.8	0.24

The proposed emissions factors comply with the requirements of this section. The following conditions will be included on each permit to ensure compliance.

All Engines

- {modified 3491} This IC engine shall be fired on Public Utility Commission (PUC) quality natural gas only. [District Rules 2201, 4702, and 4801]
- {4662} The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]

Engine '-1

- Emissions from this IC engine shall not exceed any of the following limits: 0.7 g-NOx/bhp-hr, 1.8 g-CO/bhp-hr, 0.038 g-PM₁₀/bhp-hr, or 0.03 g-VOC/bhp-hr. [District Rules 2201, 4102, and 4702]

Engines '-2 through '-9

- Emissions from this IC engine shall not exceed any of the following limits: 0.6 g-NOx/bhp-hr, 1.8 g-CO/bhp-hr, 0.038 g-PM₁₀/bhp-hr, or 0.03 g-VOC/bhp-hr. [District Rules 2201 and 4702]

Engines '-10 through '-15

- This engine shall be equipped with a functional, oxidizing catalytic unit for reduction of CO and VOC emissions, which is maintained and operated per the manufacturer's recommendations. [District Rules 2201 and 4702]
- Emissions from this IC engine shall not exceed any of the following limits: 1.0 g-NOx/bhp-hr, 1.8 g-CO/bhp-hr, 0.038 g-PM₁₀/bhp-hr, or 50 ppmvd VOC @ 15% O₂ (equivalent to 0.24 g-VOC/bhp-hr). [District Rules 2201, 4102, and 4702]

Section 5.3 outlines requirements for continuous emissions monitoring systems (CEMS). No engine in this project is equipped with a CEMS; therefore, the requirements of this section are not applicable.

Section 5.4 and Section 5.5 outline requirements for complying with the percent emission reductions, if used to comply with the NO_x emission limits of Section 5.2. The facility has not proposed to use the percent emission reduction to comply with the NO_x limits in Section 5.2; therefore, the requirements of Section 5.4 and Section 5.5 are not applicable.

Section 5.6 outlines the requirements for the payment of an annual fee in lieu of complying with a NO_x emission limit. The applicant has proposed to comply with a NO_x emission limit and will not be paying an annual fee; therefore, the requirements of this section are not applicable.

Section 5.7 outlines the sulfur oxide (SO_x) emission control requirements and requires operators of non-AO spark-ignited and non-AO compression-ignited engines to comply with the Section 5.7.1 through Section 5.7.6. The engines in this project are AO engines; therefore, the requirements of this section are not applicable.

Section 5.8 outlines the monitoring requirements for non-AO spark-ignited engines and engines in an AECP (Section 8.0). The engines in this project are an AO spark-ignited engines and are not in an AECP; therefore, the requirements of this section are not applicable.

Section 5.9 outlines the monitoring requirements for all engines other than non-AO spark-ignited engines and engines in an AECP and requires the operator of any of the engines identified in Section 5.9.1.1 through Section 5.9.1.3 to comply with the requirements of Section 5.9.2 through 5.9.5.

- 5.9.1.1 An AO spark-ignited engine subject to the requirements of Section 5.2;
- 5.9.1.2 A compression-ignited engine subject to the requirements of Section 5.2; or
- 5.9.1.3 An engine subject to Section 4.2.

The engines in this project are an AO spark-ignited engines subject to the requirements of Section 5.2; therefore, the requirements of Section 5.9.2 through 5.9.5 are applicable.

Section 5.9.2 requires the operator to properly operate and maintain the engine as recommended by the engine manufacturer or emission control system supplier.

Section 5.9.3 requires the operator to monitor the operational characteristics of the engine as recommended by the engine manufacturer or emission control system supplier.

Section 5.9.4 requires the operator to install and operate a non-resettable elapsed time meter and properly maintain and operate the non-resettable elapsed time meter in accordance with the manufacturer's instructions. The operator is also allowed to use an alternative device, method, or technique in lieu of installing a non-resettable

elapsed time meter provided that the alternative is approved by the APCO and EPA and is allowed by a Permit-to-Operate or Permit-Exempt Equipment Registration condition. The following conditions will be included on each permit.

- {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]
- {4037} During periods of operation, 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]
- This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]

Section 5.9.5 outlines requirements for the owner of an agricultural spark-ignited engine that has been retrofitted with a NOx exhaust control system. The engines in this project are not equipped with an exhaust control device for NOx emissions; therefore, the requirements of sections 5.9.5.1 through 5.9.5.7 are not applicable.

Section 5.10 outlines the SOx emissions monitoring requirements for a non-AO engine. The engines in this project are AO engines; therefore, the requirements of this section are not applicable.

Section 5.11 outlines the requirements for Permit-Exempt Equipment Registrations. The engines in this project are required to have a Permit-to-Operate; therefore, the requirements of this section are not applicable.

Section 6.1 requires the operator of an engine subject to the requirements of Section 5.2 to submit an approvable emission control plan. The requirement to submit an emission control plan shall apply to the engines specified in Section 6.1.1.1 through Section 6.1.1.4.

- 6.1.1.1 Engines that have been retrofitted with an exhaust control device, except those certified per Section 9.0;
- 6.1.1.2 Engines subject to Section 8.0;
- 6.1.1.3 An AO spark-ignited engine that is subject to the requirements of Section 8.0;
- 6.1.1.4 An AO spark-ignited engine that has been retrofitted with a catalytic emission control and is not subject to the requirements of Section 8.0.

Engines '-1 through '-9

Engines S-5551-1 through '-9 are AO spark-ignited engines without exhaust control devices and are not subject to the requirements of Section 8.0. Therefore, the requirements of Section 6.1 are not applicable to these engines.

Engines '-10 through '-15

Engines S-5551-10 through '-15 in this project are/will be retrofitted with an exhaust control device for reduction of VOC emissions; therefore, the requirements of this section are applicable.

Sections 6.1.2 through 6.1.4 outline the requirements for an emission control plan (ECP). The requirements of this section are applicable as discussed in Section 6.1. By submitting the applications for Authority to Construct (ATC) permits, the applicant has provided all of the information required to be included in the ECP. Therefore, compliance with the requirements of Sections 6.1.2 through 6.1.4 is satisfied.

Section 6.2 outlines the recordkeeping requirements for the operator of an engine subject to the requirements of Section 5.2 and requires the operator to maintain an engine operating log to demonstrate compliance with this rule. The information shall be retained for a period of at least five years, shall be readily available, and shall be made available to the APCO upon request. The engine operating log shall include, on a monthly basis, the information outlined in Section 6.2.1.1 through Section 6.2.1.7.

- 6.2.1.1 Total hours of operation,
- 6.2.1.2 Type of fuel used,
- 6.2.1.3 Maintenance or modifications performed,
- 6.2.1.4 Monitoring data,
- 6.2.1.5 Compliance source test results, and
- 6.2.1.6 Any other information necessary to demonstrate compliance with this rule.
- 6.2.1.7 For an engine subject to Section 8.0, the quantity (cubic feet of gas or gallons of liquid) of fuel used on a daily basis.

Section 6.2.2 requires all data collected pursuant to the requirements of Section 5.9 to be maintained for at least five years, be readily available, and made available to the APCO upon request. The following conditions will be included on each permit to ensure compliance with the requirements of this section.

All Engines

- {4050} The permittee shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a

monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, documentation from the manufacturer of the engine certification, and any other information necessary to demonstrate compliance. [District Rule 4702]

- {modified 3497} All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]

Section 6.3 outlines the compliance testing requirements for the operator of an engine subject to the requirements of Section 5.2 or the requirements of Section 8.0 and requires the operator of an engine identified in Section 6.3.1.1 through Section 6.3.1.4 to comply with the requirements of Section 6.3.2 through Section 6.3.4.

- 6.3.1.1 Engines that have been retrofitted with an exhaust control device, except those certified per Section 9.0;
- 6.3.1.2 Engines subject to Section 8.0;
- 6.3.1.3 An AO spark-ignited engine that is subject to the requirements of Section 8.0;
- 6.3.1.4 An AO spark-ignited engine that has been retrofitted with a catalytic emission control and is not subject to the requirements of Section 8.0.

Engines '-1 through '-9

Engines S-5551-1 through '-9 are AO spark-ignited engines that have not been retrofitted with an exhaust control system and are not subject to the requirements of Section 8.0. Therefore, the requirements of Sections 6.3.2 through 6.3.4 are not applicable.

Engines '-10 through '-15

Engines S-5551-10 through '-15 are/will be retrofitted with a catalytic exhaust control device for limiting of VOC emissions; therefore, the requirements of Sections 6.3.2 through 6.3.4 are applicable. However, Section 6.3.5 states that engines that are limited by Permit-to-Operate condition to be fueled exclusively with PUC quality natural gas shall not be subject to the recurring source test requirements of Section 6.3.2 for VOC emissions. The proposed engines will be fired on PUC-quality natural gas, thus recurring source testing is not required for the proposed engines.

Rule 2201 and District Policy APR 1705 (Source Testing Frequency) also apply to the proposed engines. Per Rule 2201, BACT is triggered for VOC; however, there is no source testing frequency in Rule 2201. Except when mandated by an applicable requirement, District Policy APR 1705 Section IV states that annual source testing for VOC emissions should not be required if the uncontrolled emissions are less than 30 lb/day. In the case of this project, Rules 2201 and

4702 are applicable requirements. Rule 4702 does not require recurring VOC source testing, as discussed in the preceding paragraph. Using highest emission factor of 0.7 g-VOC/bhp-hr as the uncontrolled emission factor (engine emissions without oxidizing catalyst), the daily emissions for the largest engine would be 22.5 lb-VOC/day, which is less than 30 lb-VOC/day; therefore, annual (recurring) source testing pursuant to APR 1705 is not required. No recurring source testing requirements for VOC will be included in the permit. In order to determine compliance with the VOC BACT emission limitation, an initial source test for VOC will be required. The following condition will be included on the permits.

- Source testing to measure VOC emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201 and 4702]

The oxidizing catalyst, required as VOC BACT (District Rule 2201), also controls CO emissions. However, for this project, BACT is not triggered for CO, so no CO limitation is mandated by Rule 2201 and emissions limitation is determined by Rule 4702. The engine manufacturer's guaranteed limit of 155 ppmv at 15% O₂ (1.8 lb-CO/bhp-hr) meets the Rule 4702 emission limit. This is the most stringent emission limitation for the proposed engines. Pursuant to District Policy APR 1705, the testing requirement that is associated with the most stringent emission limitation is presumed to be appropriate and will be incorporated into the permit. Since the engines are modified, the applicant must show that the modification does not increase the CO emissions beyond what the engine manufacturer guarantees; therefore the following condition will be included on the permits:

- Source testing to measure CO emissions from this unit shall be conducted within 60 days of initial start-up and every 60 months thereafter. [District Rule 4702]

Section 6.3.3 requires that source testing be conducted with the engine operating either at conditions representative of normal operation or conditions specified in the Permit-to-Operate. The following condition will be included on the permits:

- {3791} Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702]
- For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC concentration and CO concentration shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702]

Section 6.3.6 allows representative testing in lieu of compliance with the applicable requirements of Section 6.3.2. The applicant has not requested representative testing; therefore, the requirements of this section are not applicable.

Section 6.4 states that compliance with the requirements of Section 5.2 shall be determined, as required, in accordance with the following test procedures or any other method approved by EPA and the APCO:

6.4.1 Oxides of nitrogen - EPA Method 7E, or ARB Method 100

6.4.2 Carbon monoxide - EPA Method 10, or ARB Method 100

6.4.3 Stack gas oxygen - EPA Method 3 or 3A, or ARB Method 100

6.4.4 Volatile organic compounds - EPA Method 25A or 25B, or ARB Method 100

6.4.5 Operating horsepower determination - any method approved by EPA and the APCO

Engines '-1 through '-9

Engines S-5551-1 through '-9 are AO spark-ignited engines that are not required to source test; therefore the requirements of Section 6.4 are not applicable to these engines.

Engines '-10 through '-15

Engines S-5551-10 through '-15 are subject to source testing for VOC and CO. Therefore, the following condition will be included on the permits.

- {3793} The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100; CO (ppmv) - EPA Method 10 or ARB Method 100; stack gas oxygen - EPA Method 3 or 3A or ARB Method 100; and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702]

Section 6.5 outlines the requirement for an inspection and monitoring (I&M) plan and requires the operator of an engine subject to the requirements of Section 5.2 or the requirements of Section 8.0 to submit an I&M plan that specifies all actions to be taken to satisfy the requirements of Section 5.8. The requirements of Section 6.5.2 through Section 6.5.9 apply to the engines identified in sections 6.5.1.1 through 6.5.1.4.

- 6.5.1.1 Engines that have been retrofitted with an exhaust control device, except those certified per Section 9.0;
- 6.5.1.2 Engines subject to Section 8.0;

- 6.5.1.3 An AO spark-ignited engine that is subject to the requirements of Section 8.0;
- 6.5.1.4 An AO spark-ignited engine that has been retrofitted with a catalytic emission control and is not subject to the requirements of Section 8.0.

Engines '-1 through '-9

Engines S-5551-1 through '-9 are AO spark-ignited engines that do not have a catalytic emission control system and are not subject to the requirements of Section 8.0; therefore the requirements of Section 6.5 are not applicable to these engines.

Engines '-10 through '-15

Engines S-5551-10 through '-15 are AO spark-ignited engines that will be retrofitted with an exhaust control device for reduction of VOC and CO emissions and the engines are not subject to the requirements of Section 8.0; therefore, the requirements of Sections 6.5.2 through 6.5.9 are applicable. The actions to be identified in the I&M plan shall include, but are not limited to, the information specified in Sections 6.5.2 through 6.5.9, as outlined below.

- 6.5.2 Procedures requiring the operator to establish ranges for control equipment parameters, engine operating parameters, and engine exhaust oxygen concentrations that source testing has shown result in pollutant concentrations within the rule limits.
- 6.5.3 Procedures for monthly inspections as approved by the APCO. The applicable control equipment parameters and engine operating parameters will be inspected and monitored monthly in conformance with a regular inspection schedule listed in the I&M plan.
- 6.5.4 Procedures for the corrective actions on the noncompliant parameter(s) that the operator will take when an engine is found to be operating outside the acceptable range for control equipment parameters, engine operating parameters, and engine exhaust NO_x, CO, VOC, or oxygen concentrations.
- 6.5.5 Procedures for the operator to notify the APCO when an engine is found to be operating outside the acceptable range for control equipment parameters, engine operating parameters, and engine exhaust NO_x, CO, VOC, or oxygen concentrations.
- 6.5.6 Procedures for preventive and corrective maintenance performed for the purpose of maintaining an engine in proper operating condition.
- 6.5.7 Procedures and a schedule for using a portable NO_x analyzer to take NO_x emission readings pursuant to Section 5.8.9.
- 6.5.8 Procedures for collecting and recording required data and other information in a form approved by the APCO including, but not limited to, data collected through the I&M plan and the monitoring systems

described in Sections 5.8.1 and 5.8.2. Data collected through the I&M plan shall have retrieval capabilities as approved by the APCO.

- 6.5.9 Procedures for revising the I&M plan. The I&M plan shall be updated to reflect any change in operation. The I&M plan shall be updated prior to any planned change in operation. An engine operator that changes significant I&M plan elements must notify the District no later than seven days after the change and must submit an updated I&M plan to the APCO no later than 14 days after the change for approval. The date and time of the change to the I&M plan shall be recorded in the engine operating log. For new engines and modifications to existing engines, the I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit-to-Operate or Permit-Exempt Equipment Registration. The operator of an engine may request a change to the I&M plan at any time.

The initial I&M Plan for engines S-5551-10 through '-15 is attached as Appendix F. The following conditions will be included on permits.

- The engine shall be fitted with the necessary connections and ports to monitor the back pressure across the catalyst. [District Rule 4702]
- The operator shall inspect the catalyst and measure the back pressure at least once each calendar month. [District Rule 4702]
- If the back pressure across the catalyst is 2 psi or greater, the catalyst shall be removed and either washed/cleaned or replaced. The engine shall not be operated until an appropriate catalyst is re-installed and the back pressure across the catalyst is less than 2 psi. [District Rule 4702]
- {3212} The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702]

Section 7.3 outlines the compliance schedule for AO compression-ignited engines and Sections 7.4, 7.5, and 7.6 outline requirements for non-AO engine. The engines in this project are AO spark-ignited engines; therefore, the requirements of Sections 7.3 through 7.6 are not applicable.

Section 8.0 outlines the requirements for an Alternative Emission Control Plan (AECp). The engines in this project are not subject to the requirement to submit an AECp; therefore, the requirements of this section are not applicable.

Compliance with the requirements of this rule is expected. Conditions will be included on the permit, as previously presented, to ensure continued compliance with the applicable requirements of this rule. No further discussion is required.

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:

$$\begin{aligned}\text{Volume SO}_2 &= (n \times R \times T) \div P \\ n &= \text{moles SO}_2 \\ T \text{ (standard temperature)} &= 60^\circ\text{F or } 520^\circ\text{R} \\ R \text{ (universal gas constant)} &= \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}}\end{aligned}$$

All Engines

$$2.85 \quad \frac{\text{lb} - \text{S}}{\text{MMscf} - \text{gas}} \times \frac{1 \text{ scf} - \text{gas}}{1,000 \text{ Btu}} \times \frac{1 \text{ MMBtu}}{8,578 \text{ scf}} \times \frac{1 \text{ lb} - \text{mol}}{64 \text{ lb} - \text{S}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} - \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times 1,000,000 = 1.97 \quad \text{ppmv}$$

Since 1.97 ppmv is less than 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 the ATCs to ensure compliance:

- {3491} This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]

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.

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 is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15301 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue Authorities to Construct (ATCs) S-5551-1-1 through S-5551-13-1; S-5551-14-0 and -15-0 subject to the permit conditions on the attached draft ATCs in Appendix A.

X. Billing

Annual Permit Fee			
Permit Number	Fee Schedule	Fee Description	Fee Amount
S-5551-1-1	3020-10-C	241 bhp IC engine	\$252.00
S-5551-2-1	3020-10-C	322 bhp IC engine	\$252.00
S-5551-3-1	3020-10-C	322 bhp IC engine	\$252.00
S-5551-4-1	3020-10-C	322 bhp IC engine	\$252.00
S-5551-5-1	3020-10-C	322 bhp IC engine	\$252.00
S-5551-6-1	3020-10-C	322 bhp IC engine	\$252.00
S-5551-7-1	3020-10-C	322 bhp IC engine	\$252.00
S-5551-8-1	3020-10-C	322 bhp IC engine	\$252.00
S-5551-9-1	3020-10-C	322 bhp IC engine	\$252.00
S-5551-10-1	3020-10-D	469 bhp IC engine	\$502.00
S-5551-11-1	3020-10-D	469 bhp IC engine	\$502.00
S-5551-12-1	3020-10-D	469 bhp IC engine	\$502.00
S-5551-13-1	3020-10-D	469 bhp IC engine	\$502.00
S-5551-14-0	3020-10-D	607 bhp IC engine	\$502.00
S-5551-15-0	3020-10-D	607 bhp IC engine	\$502.00

Appendices

- A: Draft ATCs
- B: BACT Guideline and Top-Down BACT Analyses
- C: HRA Summary
- D: Engine Manufacturer's and Catalyst Manufacturer's Emissions Guarantees
- E: Quarterly Net Emissions Change (QNEC) Calculation
- F: I&M Plan for Engines S-5551-10 through '-15
- G: Current ATCs S-5551-1-0 through S-5551-13-0

Appendix A

Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-1-1

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC

MAILING ADDRESS: PO BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX RD
BAKERSFIELD, CA 93311

SECTION: 10 **TOWNSHIP:** 32S **RANGE:** 26E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 241 BHP DEUTZ MODEL TCG2015V6, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 681): REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR

CONDITIONS

1. Authority to Construct (ATC) S-5551-1-0 shall be implemented concurrently or prior to the modification of the equipment authorized by this Authority to Construct. [District Rule 2201]
2. {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. {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]
5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
6. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
7. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

Arnaud Marjollet, Director of Permit Services

S-5551-1-1 Mar 2 2016 8:32AM - LOWELES - Joint Inspection NOT Required

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8. {3491} This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
9. This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rules 2201 and 4702]
10. {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]
11. {4662} The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
12. Facility-wide NO_x emissions shall not exceed 19,999 pounds in any rolling 12-consecutive month period. [District Rule 2201]
13. {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]
14. {4037} During periods of operation, 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]
15. Emissions from this IC engine shall not exceed any of the following limits: 0.7 g-NO_x/bhp-hr (equivalent to 50.2 ppmvd at 15% O₂), 1.8 g-CO/bhp-hr (equivalent to 212 ppmvd at 15% O₂), 0.038 g-PM₁₀/bhp-hr, or 0.03 g-VOC/bhp-hr (equivalent to 6.2 ppmvd at 15% O₂). [District Rules 2201, 4102, and 4702]
16. {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
17. On a monthly basis, the permittee shall calculate and record the monthly NO_x emissions from this internal combustion engine for the most recently concluded month. The monthly NO_x emissions shall be calculated according to the following formula: lb-NO_x/month = (hours operated that month) x (0.298 lb-NO_x/hr). [District Rule 1070]
18. On a monthly basis, the permittee shall calculate and record the facility-wide NO_x emissions in pounds from the preceding 12 months. The facility-wide NO_x emissions shall be calculated by summing the NO_x emissions from the previous 12 months from every permitted unit at this facility. [District Rule 1070]
19. {4050} The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
20. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-3-1

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC

MAILING ADDRESS: PO BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

SECTION: 13 **TOWNSHIP:** 32S **RANGE:** 26E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 672); REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR

CONDITIONS

1. Authority to Construct (ATC) S-5551-3-0 shall be implemented concurrently or prior to the modification of the equipment authorized by this Authority to Construct. [District Rule 2201]
2. {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. {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]
5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
6. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
7. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

Arnaud Marjollet, Director of Permit Services

S-5551-3-1 Feb 26 2016 2:42PM - LOWELES Joint Inspection NOT Required

8. {3491} This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
9. This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rules 2201 and 4702]
10. {4662} The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
11. {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]
12. Facility-wide NO_x emissions shall not exceed 19,999 pounds in any rolling 12-consecutive month period. [District Rule 2201]
13. {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]
14. {4037} During periods of operation, 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]
15. Emissions from this IC engine shall not exceed any of the following limits: 0.6 g-NO_x/bhp-hr (equivalent to 43 ppmvd at 15% O₂), 1.8 g-CO/bhp-hr (equivalent to 212 ppmvd at 15% O₂), 0.038 g-PM₁₀/bhp-hr, or 0.03 g-VOC/bhp-hr (equivalent to 6.2 ppmvd at 15% O₂). [District Rules 2201, 4102, and 4702]
16. {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
17. On a monthly basis, the permittee shall calculate and record the monthly NO_x emissions from this internal combustion engine for the most recently concluded month. The monthly NO_x emissions shall be calculated according to the following formula: $\text{lb-NO}_x/\text{month} = (\text{hours operated that month}) \times 0.341 \text{ lb-NO}_x/\text{hr}$. [District Rule 1070]
18. On a monthly basis, the permittee shall calculate and record the facility-wide NO_x emissions in pounds from the preceding 12 months. The facility-wide NO_x emissions shall be calculated by summing the NO_x emissions from the previous 12 months from every permitted unit at this facility. [District Rule 1070]
19. {4050} The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
20. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-4-1

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC
MAILING ADDRESS: PO BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

SECTION: 14 **TOWNSHIP:** 32S **RANGE:** 26E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 673): REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR

CONDITIONS

1. Authority to Construct (ATC) S-5551-4-0 shall be implemented concurrently or prior to the modification of the equipment authorized by this Authority to Construct. [District Rule 2201]
2. {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. {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]
5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
6. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
7. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
S-5551-4-1: Feb 26 2010 2:42PM - LOWELES : Joint Inspection NOT Required

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8. {3491} This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
9. This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rules 2201 and 4702]
10. {4662} The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
11. {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]
12. Facility-wide NO_x emissions shall not exceed 19,999 pounds in any rolling 12-consecutive month period. [District Rule 2201]
13. {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]
14. {4037} During periods of operation, 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]
15. Emissions from this IC engine shall not exceed any of the following limits: 0.6 g-NO_x/bhp-hr (equivalent to 43 ppmvd at 15% O₂), 1.8 g-CO/bhp-hr (equivalent to 212 ppmvd at 15% O₂), 0.038 g-PM₁₀/bhp-hr, or 0.03 g-VOC/bhp-hr (equivalent to 6.2 ppmvd at 15% O₂). [District Rules 2201, 4102, and 4702]
16. {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
17. On a monthly basis, the permittee shall calculate and record the monthly NO_x emissions from this internal combustion engine for the most recently concluded month. The monthly NO_x emissions shall be calculated according to the following formula: lb-NO_x/month = (hours operated that month) x (0.341 lb-NO_x/hr). [District Rule 1070]
18. On a monthly basis, the permittee shall calculate and record the facility-wide NO_x emissions in pounds from the preceding 12 months. The facility-wide NO_x emissions shall be calculated by summing the NO_x emissions from the previous 12 months from every permitted unit at this facility. [District Rule 1070]
19. {4050} The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
20. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-5551-5-1

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC
MAILING ADDRESS: PO BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

SECTION: 24 TOWNSHIP: 32S RANGE: 26E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 682): REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR

CONDITIONS

1. Authority to Construct (ATC) S-5551-5-0 shall be implemented concurrently or prior to the modification of the equipment authorized by this Authority to Construct. [District Rule 2201]
2. {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. {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]
5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
6. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
7. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services

S-5551-5-1 : Feb 26 2016 2:42PM - LOWELES : Joint Inspection NOT Required

8. {3491} This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
9. This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rules 2201 and 4702]
10. {4662} The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
11. {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]
12. Facility-wide NO_x emissions shall not exceed 19,999 pounds in any rolling 12-consecutive month period. [District Rule 2201]
13. {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]
14. {4037} During periods of operation, 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]
15. Emissions from this IC engine shall not exceed any of the following limits: 0.6 g-NO_x/bhp-hr (equivalent to 43 ppmvd at 15% O₂), 1.8 g-CO/bhp-hr (equivalent to 212 ppmvd at 15% O₂), 0.038 g-PM₁₀/bhp-hr, or 0.03 g-VOC/bhp-hr (equivalent to 6.2 ppmvd at 15% O₂). [District Rules 2201, 4102, and 4702]
16. {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
17. On a monthly basis, the permittee shall calculate and record the monthly NO_x emissions from this internal combustion engine for the most recently concluded month. The monthly NO_x emissions shall be calculated according to the following formula: lb-NO_x/month = (hours operated that month) x (0.341 lb-NO_x/hr). [District Rule 1070]
18. On a monthly basis, the permittee shall calculate and record the facility-wide NO_x emissions in pounds from the preceding 12 months. The facility-wide NO_x emissions shall be calculated by summing the NO_x emissions from the previous 12 months from every permitted unit at this facility. [District Rule 1070]
19. {4050} The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
20. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-6-1

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC

MAILING ADDRESS: PO BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

SECTION: 13 **TOWNSHIP:** 32S **RANGE:** 26E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 687); REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR

CONDITIONS

1. Authority to Construct (ATC) S-5551-6-0 shall be implemented concurrently or prior to the modification of the equipment authorized by this Authority to Construct. [District Rule 2201]
2. {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. {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]
5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
6. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
7. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
S-5551-6-1: Feb 26 2016 2:42PM - LOWELES : Joint Inspection NOT Required

8. {3491} This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
9. This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rules 2201 and 4702]
10. {4662} The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
11. {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]
12. Facility-wide NO_x emissions shall not exceed 19,999 pounds in any rolling 12-consecutive month period. [District Rule 2201]
13. {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]
14. {4037} During periods of operation, 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]
15. Emissions from this IC engine shall not exceed any of the following limits: 0.6 g-NO_x/bhp-hr (equivalent to 43 ppmvd at 15% O₂), 1.8 g-CO/bhp-hr (equivalent to 212 ppmvd at 15% O₂), 0.038 g-PM₁₀/bhp-hr, or 0.03 g-VOC/bhp-hr (equivalent to 6.2 ppmvd at 15% O₂). [District Rules 2201, 4102, and 4702]
16. {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
17. On a monthly basis, the permittee shall calculate and record the monthly NO_x emissions from this internal combustion engine for the most recently concluded month. The monthly NO_x emissions shall be calculated according to the following formula: lb-NO_x/month = (hours operated that month) x (0.341 lb-NO_x/hr). [District Rule 1070]
18. On a monthly basis, the permittee shall calculate and record the facility-wide NO_x emissions in pounds from the preceding 12 months. The facility-wide NO_x emissions shall be calculated by summing the NO_x emissions from the previous 12 months from every permitted unit at this facility. [District Rule 1070]
19. {4050} The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
20. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-7-1

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC

MAILING ADDRESS: PO BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

SECTION: 19 **TOWNSHIP:** 32S **RANGE:** 26E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 1311); REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR

CONDITIONS

1. Authority to Construct (ATC) S-5551-7-0 shall be implemented concurrently or prior to the modification of the equipment authorized by this Authority to Construct. [District Rule 2201]
2. {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. {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]
5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
6. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
7. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

Arnaud Marjollet, Director of Permit Services
S-5551-7-1 Feb 26 2016 2:42PM - LOWELES : Joint Inspection NOT Required

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

8. {3491} This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
9. This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rules 2201 and 4702]
10. {4662} The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
11. {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]
12. Facility-wide NO_x emissions shall not exceed 19,999 pounds in any rolling 12-consecutive month period. [District Rule 2201]
13. {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]
14. {4037} During periods of operation, 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]
15. Emissions from this IC engine shall not exceed any of the following limits: 0.6 g-NO_x/bhp-hr (equivalent to 43 ppmvd at 15% O₂), 1.8 g-CO/bhp-hr (equivalent to 212 ppmvd at 15% O₂), 0.038 g-PM₁₀/bhp-hr, or 0.03 g-VOC/bhp-hr (equivalent to 6.2 ppmvd at 15% O₂). [District Rules 2201, 4102, and 4702]
16. {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
17. On a monthly basis, the permittee shall calculate and record the monthly NO_x emissions from this internal combustion engine for the most recently concluded month. The monthly NO_x emissions shall be calculated according to the following formula: lb-NO_x/month = (hours operated that month) x (0.341 lb-NO_x/hr). [District Rule 1070]
18. On a monthly basis, the permittee shall calculate and record the facility-wide NO_x emissions in pounds from the preceding 12 months. The facility-wide NO_x emissions shall be calculated by summing the NO_x emissions from the previous 12 months from every permitted unit at this facility. [District Rule 1070]
19. {4050} The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
20. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-8-1

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC

MAILING ADDRESS: PO BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

SECTION: 22 **TOWNSHIP:** 32S **RANGE:** 26E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 1941); REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR

CONDITIONS

1. Authority to Construct (ATC) S-5551-8-0 shall be implemented concurrently or prior to the modification of the equipment authorized by this Authority to Construct. [District Rule 2201]
2. {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. {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]
5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
6. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
7. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services

S-5551-8-1 Feb 26 2016 2:42PM - LOWELES : Joint Inspection NOT Required

8. {3491} This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
9. This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rules 2201 and 4702]
10. {4662} The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
11. {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]
12. Facility-wide NO_x emissions shall not exceed 19,999 pounds in any rolling 12-consecutive month period. [District Rule 2201]
13. {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]
14. {4037} During periods of operation, 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]
15. Emissions from this IC engine shall not exceed any of the following limits: 0.6 g-NO_x/bhp-hr (equivalent to 43 ppmvd at 15% O₂), 1.8 g-CO/bhp-hr (equivalent to 212 ppmvd at 15% O₂), 0.038 g-PM₁₀/bhp-hr, or 0.03 g-VOC/bhp-hr (equivalent to 6.2 ppmvd at 15% O₂). [District Rules 2201, 4102, and 4702]
16. {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
17. On a monthly basis, the permittee shall calculate and record the monthly NO_x emissions from this internal combustion engine for the most recently concluded month. The monthly NO_x emissions shall be calculated according to the following formula: lb-NO_x/month = (hours operated that month) x (0.341 lb-NO_x/hr). [District Rule 1070]
18. On a monthly basis, the permittee shall calculate and record the facility-wide NO_x emissions in pounds from the preceding 12 months. The facility-wide NO_x emissions shall be calculated by summing the NO_x emissions from the previous 12 months from every permitted unit at this facility. [District Rule 1070]
19. {4050} The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
20. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-5551-9-1

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC

MAILING ADDRESS: PO BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

SECTION: 22 **TOWNSHIP:** 32S **RANGE:** 26E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 2211): REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR

CONDITIONS

1. Authority to Construct (ATC) S-5551-9-0 shall be implemented concurrently or prior to the modification of the equipment authorized by this Authority to Construct. [District Rule 2201]
2. {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. {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]
5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
6. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
7. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
S-5551-9-1: Feb 26 2018 2:42PM - LOWELES : Joint Inspection NOT Required

8. {3491} This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
9. This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rules 2201 and 4702]
10. {4662} The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
11. {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]
12. Facility-wide NO_x emissions shall not exceed 19,999 pounds in any rolling 12-consecutive month period. [District Rule 2201]
13. {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]
14. {4037} During periods of operation, 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]
15. Emissions from this IC engine shall not exceed any of the following limits: 0.6 g-NO_x/bhp-hr (equivalent to 43 ppmvd at 15% O₂), 1.8 g-CO/bhp-hr (equivalent to 212 ppmvd at 15% O₂), 0.038 g-PM₁₀/bhp-hr, or 0.03 g-VOC/bhp-hr (equivalent to 6.2 ppmvd at 15% O₂). [District Rules 2201, 4102, and 4702]
16. {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
17. On a monthly basis, the permittee shall calculate and record the monthly NO_x emissions from this internal combustion engine for the most recently concluded month. The monthly NO_x emissions shall be calculated according to the following formula: lb-NO_x/month = (hours operated that month) x (0.341 lb-NO_x/hr). [District Rule 1070]
18. On a monthly basis, the permittee shall calculate and record the facility-wide NO_x emissions in pounds from the preceding 12 months. The facility-wide NO_x emissions shall be calculated by summing the NO_x emissions from the previous 12 months from every permitted unit at this facility. [District Rule 1070]
19. {4050} The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
20. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-10-1

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC

MAILING ADDRESS: PO BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

EQUIPMENT DESCRIPTION:

MODIFICATION OF 469 BHP DRESSER-RAND MODEL GUASCOR SFGD180, SN XXXXXX, LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 2511); REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR; MOVE ENGINE FROM FROM WELL # 2511 TO WELL # 1821

CONDITIONS

1. Authority to Construct (ATC) S-5551-10-0 shall be implemented concurrently or prior to the modification of the equipment authorized by this Authority to Construct. [District Rule 2201]
2. {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. {3658} This permit does not authorize the violation of any conditions established for this facility in the Conditional Use Permit (CUP), Special Use Permit (SUP), Site Approval, Site Plan Review (SPR), or other approval documents issued by a local, state, or federal agency. [Public Resources Code 21000-21177: California Environmental Quality Act]
5. {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]
6. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 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.

Sayed Sadredin, Executive Director, APCO

Arnaud Marjolle, Director of Permit Services
S-5551-10-1: Feb 26 2016 2:42PM - LOWELES : Joint Inspection NOT Required

7. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
8. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]
9. Facility-wide NO_x emissions shall not exceed 19,999 pounds in any rolling 12-consecutive month period. [District Rule 2201]
10. This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rules 2201 and 4702]
11. This engine shall be equipped with a functional oxidizing catalyst unit for reduction of VOC emissions, which is maintained and operated per the manufacturer's recommendations. [District Rules 2201 and 4702]
12. The engine shall be fitted with the necessary connections and ports to monitor the back pressure across the catalyst. [District Rule 4702]
13. {4662} The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
14. {3491} This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
15. {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]
16. Operation of this engine shall not exceed 4,000 hours per year. [District Rule 2201]
17. {4037} During periods of operation, 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]
18. The operator shall inspect the catalyst and measure the back pressure at least once each calendar month. [District Rule 4702]
19. If the back pressure across the catalyst is 2 psi or greater, the catalyst shall be removed and either washed/cleaned or replaced. The engine shall not be operated until an appropriate catalyst is re-installed and the back pressure across the catalyst is less than 2 psi. [District Rule 4702]
20. Emissions from this IC engine shall not exceed any of the following limits: 83.6 ppmvd NO_x @ 15% O₂ (equivalent to 1.0 g-NO_x/bhp-hr), 155 ppmvd CO @ 15% O₂ (equivalent to 1.8 g-CO/bhp-hr), 0.038 g-PM₁₀/bhp-hr, or 50 ppmvd VOC @ 15% O₂ (equivalent to 0.24 g-VOC/hp-hr). [District Rules 2201 and 4702]
21. Source testing to measure VOC emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201 and 4702]
22. Source testing to measure CO emissions from this unit shall be conducted within 60 days of initial start-up and every 60 months thereafter. [District Rule 4702]
23. {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
24. {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
25. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC concentration and CO concentration shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702]
26. {3791} Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702]

CONDITIONS CONTINUE ON NEXT PAGE

27. {3793} The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702]
28. {3212} The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702]
29. {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
30. On a monthly basis, the permittee shall calculate and record the monthly NO_x emissions from this internal combustion engine for the most recently concluded month. The monthly NO_x emissions shall be calculated according to the following formula: $\text{lb-NO}_x/\text{month} = (\text{hours operated that month}) \times (0.827 \text{ lb-NO}_x/\text{hr})$. [District Rule 1070]
31. On a monthly basis, the permittee shall calculate and record the facility-wide NO_x emissions in pounds from the preceding 12 months. The facility-wide NO_x emissions shall be calculated by summing the NO_x emissions from the previous 12 months from every permitted unit at this facility. [District Rule 1070]
32. {4050} The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
33. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-11-1

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC

MAILING ADDRESS: PO BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

EQUIPMENT DESCRIPTION:

MODIFICATION OF 469 BHP DRESSER-RAND MODEL GUASCOR SFGLD180, SN XXXXXX, LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 679): REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR

CONDITIONS

1. Authority to Construct (ATC) S-5551-11-0 shall be implemented concurrently or prior to the modification of the equipment authorized by this Authority to Construct. [District Rule 2201]
2. {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. {3658} This permit does not authorize the violation of any conditions established for this facility in the Conditional Use Permit (CUP), Special Use Permit (SUP), Site Approval, Site Plan Review (SPR), or other approval documents issued by a local, state, or federal agency. [Public Resources Code 21000-21177: California Environmental Quality Act]
5. {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]
6. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
7. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
S-5551-11-1, Feb 26 2016 2:42PM - LOWELES Joint Inspection NOT Required

8. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]
9. Facility-wide NOx emissions shall not exceed 19,999 pounds in any rolling 12-consecutive month period. [District Rule 2201]
10. This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rules 2201 and 4702]
11. This engine shall be equipped with a functional oxidizing catalyst unit for reduction of VOC emissions, which is maintained and operated per the manufacturer's recommendations. [District Rules 2201 and 4702]
12. The engine shall be fitted with the necessary connections and ports to monitor the back pressure across the catalyst. [District Rule 4702]
13. {4662} The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O2 exhaust concentration). [District Rule 4702]
14. {3491} This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
15. {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]
16. Operation of this engine shall not exceed 4,000 hours per year. [District Rule 2201]
17. {4037} During periods of operation, 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]
18. The operator shall inspect the catalyst and measure the back pressure at least once each calendar month. [District Rule 4702]
19. If the back pressure across the catalyst is 2 psi or greater, the catalyst shall be removed and either washed/cleaned or replaced. The engine shall not be operated until an appropriate catalyst is re-installed and the back pressure across the catalyst is less than 2 psi. [District Rule 4702]
20. Emissions from this IC engine shall not exceed any of the following limits: 83.6 ppmvd NOx @ 15% O2 (equivalent to 1.0 g-NOx/bhp-hr), 155 ppmvd CO @ 15% O2 (equivalent to 1.8 g-CO/bhp-hr), 0.038 g-PM10/bhp-hr, or 50 ppmvd VOC @ 15% O2 (equivalent to 0.24 g-VOC/hp-hr). [District Rules 2201 and 4702]
21. Source testing to measure VOC emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201 and 4702]
22. Source testing to measure CO emissions from this unit shall be conducted within 60 days of initial start-up and every 60 months thereafter. [District Rule 4702]
23. {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
24. {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
25. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC concentration and CO concentration shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702]
26. {3791} Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702]

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CONDITIONS CONTINUE ON NEXT PAGE

27. {3793} The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702]
28. {3212} The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702]
29. {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
30. On a monthly basis, the permittee shall calculate and record the monthly NO_x emissions from this internal combustion engine for the most recently concluded month. The monthly NO_x emissions shall be calculated according to the following formula: $\text{lb-NO}_x/\text{month} = (\text{hours operated that month}) \times (0.827 \text{ NO}_x/\text{hr})$. [District Rule 1070]
31. On a monthly basis, the permittee shall calculate and record the facility-wide NO_x emissions in pounds from the preceding 12 months. The facility-wide NO_x emissions shall be calculated by summing the NO_x emissions from the previous 12 months from every permitted unit at this facility. [District Rule 1070]
32. {4050} The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
33. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-5551-12-1

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC

MAILING ADDRESS: PO BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

EQUIPMENT DESCRIPTION:

MODIFICATION OF 469 BHP DRESSER-RAND MODEL GUASCOR SFGLD180, SN XXXXXX, LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 685): REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR

CONDITIONS

1. Authority to Construct (ATC) S-5551-12-0 shall be implemented concurrently or prior to the modification of the equipment authorized by this Authority to Construct. [District Rule 2201]
2. {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. {3658} This permit does not authorize the violation of any conditions established for this facility in the Conditional Use Permit (CUP), Special Use Permit (SUP), Site Approval, Site Plan Review (SPR), or other approval documents issued by a local, state, or federal agency. [Public Resources Code 21000-21177: California Environmental Quality Act]
5. {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]
6. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
7. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
S-5551-12-1 : Feb 28 2018 2:42PM -- LOWELES Joint Inspection NOT Required

8. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]
9. Facility-wide NOx emissions shall not exceed 19,999 pounds in any rolling 12-consecutive month period. [District Rule 2201]
10. This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rules 2201 and 4702]
11. This engine shall be equipped with a functional oxidizing catalyst unit for reduction of VOC emissions, which is maintained and operated per the manufacturer's recommendations. [District Rules 2201 and 4702]
12. The engine shall be fitted with the necessary connections and ports to monitor the back pressure across the catalyst. [District Rule 4702]
13. {4662} The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O2 exhaust concentration). [District Rule 4702]
14. {3491} This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
15. {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]
16. Operation of this engine shall not exceed 4,000 hours per year. [District Rule 2201]
17. {4037} During periods of operation, 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]
18. The operator shall inspect the catalyst and measure the back pressure at least once each calendar month. [District Rule 4702]
19. If the back pressure across the catalyst is 2 psi or greater, the catalyst shall be removed and either washed/cleaned or replaced. The engine shall not be operated until an appropriate catalyst is re-installed and the back pressure across the catalyst is less than 2 psi. [District Rule 4702]
20. Emissions from this IC engine shall not exceed any of the following limits: 83.6 ppmvd NOx @ 15% O2 (equivalent to 1.0 g-NOx/bhp-hr), 155 ppmvd CO @ 15% O2 (equivalent to 1.8 g-CO/bhp-hr), 0.038 g-PM10/bhp-hr, or 50 ppmvd VOC @ 15% O2 (equivalent to 0.24 g-VOC/hp-hr). [District Rules 2201 and 4702]
21. Source testing to measure VOC emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201 and 4702]
22. Source testing to measure CO emissions from this unit shall be conducted within 60 days of initial start-up and every 60 months thereafter. [District Rule 4702]
23. {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
24. {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
25. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC concentration and CO concentration shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702]
26. {3791} Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702]

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CONDITIONS CONTINUE ON NEXT PAGE

27. {3793} The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702]
28. {3212} The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702]
29. {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
30. On a monthly basis, the permittee shall calculate and record the monthly NO_x emissions from this internal combustion engine for the most recently concluded month. The monthly NO_x emissions shall be calculated according to the following formula: $\text{lb-NO}_x/\text{month} = (\text{hours operated that month}) \times (0.827 \text{ lb-NO}_x/\text{hr})$. [District Rule 1070]
31. On a monthly basis, the permittee shall calculate and record the facility-wide NO_x emissions in pounds from the preceding 12 months. The facility-wide NO_x emissions shall be calculated by summing the NO_x emissions from the previous 12 months from every permitted unit at this facility. [District Rule 1070]
32. {4050} The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
33. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-13-1

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC
MAILING ADDRESS: PO BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

EQUIPMENT DESCRIPTION:

MODIFICATION OF 469 BHP DRESSER-RAND MODEL GUASCOR SFGLD180, SN XXXXXX, LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 693): REMOVE FACILITY-WIDE CO SPECIFIC LIMITING CONDITION (SLC) OF 20,000 LB/YR; INCLUDE FACILITY-WIDE NOX SLC OF 19,999 LB/YR

CONDITIONS

1. Authority to Construct (ATC) S-5551-13-0 shall be implemented concurrently or prior to the modification of the equipment authorized by this Authority to Construct. [District Rule 2201]
2. {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. {3658} This permit does not authorize the violation of any conditions established for this facility in the Conditional Use Permit (CUP), Special Use Permit (SUP), Site Approval, Site Plan Review (SPR), or other approval documents issued by a local, state, or federal agency. [Public Resources Code 21000-21177: California Environmental Quality Act]
5. {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]
6. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
7. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
S-5551-13-1 Feb 26 2016 2:42PM - LOWELES Joint Inspection NOT Required

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

8. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]
9. Facility-wide NOx emissions shall not exceed 19,999 pounds in any rolling 12-consecutive month period. [District Rule 2201]
10. This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rules 2201 and 4702]
11. This engine shall be equipped with a functional oxidizing catalyst unit for reduction of VOC emissions, which is maintained and operated per the manufacturer's recommendations. [District Rules 2201 and 4702]
12. The engine shall be fitted with the necessary connections and ports to monitor the back pressure across the catalyst. [District Rule 4702]
13. {4662} The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O2 exhaust concentration). [District Rule 4702]
14. {3491} This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
15. {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]
16. Operation of this engine shall not exceed 4,000 hours per year. [District Rule 2201]
17. {4037} During periods of operation, 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]
18. The operator shall inspect the catalyst and measure the back pressure at least once each calendar month. [District Rule 4702]
19. If the back pressure across the catalyst is 2 psi or greater, the catalyst shall be removed and either washed/cleaned or replaced. The engine shall not be operated until an appropriate catalyst is re-installed and the back pressure across the catalyst is less than 2 psi. [District Rule 4702]
20. Emissions from this IC engine shall not exceed any of the following limits: 83.6 ppmvd NOx @ 15% O2 (equivalent to 1.0 g-NOx/bhp-hr), 155 ppmvd CO @ 15% O2 (equivalent to 1.8 g-CO/bhp-hr), 0.038 g-PM10/bhp-hr, or 50 ppmvd VOC @ 15% O2 (equivalent to 0.24 g-VOC/hp-hr). [District Rules 2201 and 4702]
21. Source testing to measure VOC emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201 and 4702]
22. Source testing to measure CO emissions from this unit shall be conducted within 60 days of initial start-up and every 60 months thereafter. [District Rule 4702]
23. {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
24. {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
25. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC concentration and CO concentration shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702]
26. {3791} Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702]

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CONDITIONS CONTINUE ON NEXT PAGE

27. {3793} The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702]
28. {3212} The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702]
29. {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
30. On a monthly basis, the permittee shall calculate and record the monthly NOx emissions from this internal combustion engine for the most recently concluded month. The monthly NOx emissions shall be calculated according to the following formula: $\text{lb-NOx/month} = (\text{hours operated that month}) \times (0.827 \text{ lb-NOx/hr})$. [District Rule 1070]
31. On a monthly basis, the permittee shall calculate and record the facility-wide NOx emissions in pounds from the preceding 12 months. The facility-wide NOx emissions shall be calculated by summing the NOx emissions from the previous 12 months from every permitted unit at this facility. [District Rule 1070]
32. {4050} The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
33. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-14-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC

MAILING ADDRESS: PO BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

EQUIPMENT DESCRIPTION:

607 BHP DRESSER-RAND MODEL GUASCOR SFGLD 240 LEAN-BURN NATURAL GAS-FIRED IC ENGINE
POWERING AN AGRICULTURAL IRRIGATION PUMP UTILIZING AN ADVANCED CATALYST SYSTEMS OXIDIZING
CATALYST

CONDITIONS

1. {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
2. {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
3. {3658} This permit does not authorize the violation of any conditions established for this facility in the Conditional Use Permit (CUP), Special Use Permit (SUP), Site Approval, Site Plan Review (SPR), or other approval documents issued by a local, state, or federal agency. [Public Resources Code 21000-21177: California Environmental Quality Act]
4. {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]
5. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
6. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
7. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
S-5551-14-0 - Feb 26 2016 2:42PM -- LOWELES Joint Inspection NOT Required

8. Facility-wide NO_x emissions shall not exceed 19,999 pounds in any rolling 12-consecutive month period. [District Rule 2201]
9. This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rules 2201 and 4702]
10. This engine shall be equipped with a functional oxidizing catalyst unit for reduction of VOC emissions, which is maintained and operated per the manufacturer's recommendations. [District Rules 2201 and 4702]
11. The engine shall be fitted with the necessary connections and ports to monitor the back pressure across the catalyst. [District Rule 4702]
12. {4662} The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
13. {3491} This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
14. {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]
15. Operation of this engine shall not exceed 4,700 hours per year. [District Rule 2201]
16. {4037} During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
17. The operator shall inspect the catalyst and measure the back pressure at least once each calendar month. [District Rule 4702]
18. If the back pressure across the catalyst is 2 psi or greater, the catalyst shall be removed and either washed/cleaned or replaced. The engine shall not be operated until an appropriate catalyst is re-installed and the back pressure across the catalyst is less than 2 psi. [District Rule 4702]
19. Emissions from this IC engine shall not exceed any of the following limits: 83.6 ppmvd NO_x @ 15% O₂ (equivalent to 1.0 g-NO_x/bhp-hr), 155 ppmvd CO @ 15% O₂ (equivalent to 1.8 g-CO/bhp-hr), 0.038 g-PM₁₀/bhp-hr, or 50 ppmvd VOC @ 15% O₂ (equivalent to 0.24 g-VOC/hp-hr). [District Rules 2201 and 4702]
20. Source testing to measure VOC emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201 and 4702]
21. Source testing to measure CO emissions from this unit shall be conducted within 60 days of initial start-up and every 60 months thereafter. [District Rule 4702]
22. {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
23. {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
24. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC concentration and CO concentration shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702]
25. {3791} Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702]
26. {3793} The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

27. {3212} The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702]
28. {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
29. On a monthly basis, the permittee shall calculate and record the monthly NOx emissions from this internal combustion engine for the most recently concluded month. The monthly NOx emissions shall be calculated according to the following formula: $\text{lb-NOx/month} = (\text{hours operated that month}) \times (1.071 \text{ lb-NOx/hr})$. [District Rule 1070]
30. On a monthly basis, the permittee shall calculate and record the facility-wide NOx emissions in pounds from the preceding 12 months. The facility-wide NOx emissions shall be calculated by summing the NOx emissions from the previous 12 months from every permitted unit at this facility. [District Rule 1070]
31. {4050} The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
32. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-15-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC

MAILING ADDRESS: PO BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

EQUIPMENT DESCRIPTION:

607 BHP DRESSER-RAND MODEL GUASCOR SFGLD 240 LEAN-BURN NATURAL GAS-FIRED IC ENGINE
POWERING AN AGRICULTURAL IRRIGATION PUMP UTILIZING AN ADVANCED CATALYST SYSTEMS OXIDIZING
CATALYST

CONDITIONS

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3. {3658} This permit does not authorize the violation of any conditions established for this facility in the Conditional Use Permit (CUP), Special Use Permit (SUP), Site Approval, Site Plan Review (SPR), or other approval documents issued by a local, state, or federal agency. [Public Resources Code 21000-21177: California Environmental Quality Act]
4. {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]
5. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
6. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
7. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
S-5551-15-0 : Feb 26 2016 2:42PM -- LOWELES -- Joint Inspection NOT Required

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

8. Facility-wide NOx emissions shall not exceed 19,999 pounds in any rolling 12-consecutive month period. [District Rule 2201]
9. This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rules 2201 and 4702]
10. This engine shall be equipped with a functional oxidizing catalyst unit for reduction of VOC emissions, which is maintained and operated per the manufacturer's recommendations. [District Rules 2201 and 4702]
11. The engine shall be fitted with the necessary connections and ports to monitor the back pressure across the catalyst. [District Rule 4702]
12. {4662} The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O2 exhaust concentration). [District Rule 4702]
13. {3491} This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
14. {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]
15. Operation of this engine shall not exceed 4,700 hours per year. [District Rule 2201]
16. {4037} During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
17. The operator shall inspect the catalyst and measure the back pressure at least once each calendar month. [District Rule 4702]
18. If the back pressure across the catalyst is 2 psi or greater, the catalyst shall be removed and either washed/cleaned or replaced. The engine shall not be operated until an appropriate catalyst is re-installed and the back pressure across the catalyst is less than 2 psi. [District Rule 4702]
19. Emissions from this IC engine shall not exceed any of the following limits: 83.6 ppmvd NOx @ 15% O2 (equivalent to 1.0 g-NOx/bhp-hr), 155 ppmvd CO @ 15% O2 (equivalent to 1.8 g-CO/bhp-hr), 0.038 g-PM10/bhp-hr, or 50 ppmvd VOC @ 15% O2 (equivalent to 0.24 g-VOC/hp-hr). [District Rules 2201 and 4702]
20. Source testing to measure VOC emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201 and 4702]
21. Source testing to measure CO emissions from this unit shall be conducted within 60 days of initial start-up and every 60 months thereafter. [District Rule 4702]
22. {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
23. {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
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25. {3791} Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702]
26. {3793} The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

27. {3212} The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702]
28. {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
29. On a monthly basis, the permittee shall calculate and record the monthly NO_x emissions from this internal combustion engine for the most recently concluded month. The monthly NO_x emissions shall be calculated according to the following formula: $\text{lb-NO}_x/\text{month} = (\text{hours operated that month}) \times (1.071 \text{ lb-NO}_x/\text{hr})$. [District Rule 1070]
30. On a monthly basis, the permittee shall calculate and record the facility-wide NO_x emissions in pounds from the preceding 12 months. The facility-wide NO_x emissions shall be calculated by summing the NO_x emissions from the previous 12 months from every permitted unit at this facility. [District Rule 1070]
31. {4050} The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
32. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]

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Appendix B
BACT Guideline and Top-Down BACT Analysis

San Joaquin Valley Unified Air Pollution Control District Draft Best Available Control Technology (BACT) Guideline

Emission Unit: AO Stationary Spark-Ignited IC Engines serving Irrigation Pumps

Industry Type: Agriculture

Equipment Rating: ≤ 1,000 bhp

Last Update: September 26, 2011

Pollutant	Achieved in Practice	Technologically Feasible	Alternate Basic Equipment
VOC	50 ppmvd @ 15% O ₂ *		Electrification
NO _x	90 ppmvd @ 15% O ₂ *	5 ppmvd @ 15% O ₂ (Lean Burn Engines only)	
CO	500 ppmvd @ 15% O ₂ *		
PM ₁₀	0.063 g/bhp-hr		
SO _x	0.0094 g/bhp-hr		

*Achievable via Rich-Burn Engine w/3-way catalyst or Lean Burn Engine.

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. A cost effectiveness analysis is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

Top Down BACT Analysis for Irrigation Engines

1. BACT Analysis for NO_x Emissions (New Engines S-5551-14 and '-15):

Oxides of nitrogen (NO_x) are generated from the high temperature combustion of the natural gas fuel. A majority of the NO_x emissions are formed from the high temperature reaction of nitrogen and oxygen in the inlet air. The rest of the NO_x emissions are formed from the reaction of fuel-bound nitrogen with oxygen in the inlet air.

a. Step 1 - Identify all control technologies

The SJVUAPCD draft BACT Clearinghouse identifies three levels of BACT for NO_x emissions as follows:

- 1) Electrification (Alternate Basic Equipment (ABE));
- 2) 5 ppmvd at 15% O₂ (Technologically Feasible (TF) for lean burn engines only); and
- 3) 90 ppmvd at 15% O₂ (achievable via rich-burn engine and 3 way catalyst or lean burn engine) (Achieved in Practice)

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

1. Electrification
2. 5 ppmvd at 15% O₂ (lean burn engine) [install SCR]
3. 90 ppmvd at 15% O₂ (achievable via rich-burn engine and 3 way catalyst or lean burn engine)

d. Step 4 - Cost Effectiveness Analysis

Electrification

The cost of installing an electrical motor in place of a natural gas-fired IC engine is calculated in the attached spreadsheet. The assumptions used in the calculations are identified in the spreadsheet.

The emission reductions from the installation of the electrical motor were calculated as the reduction from the proposed emissions (without BACT) to zero. Even though BACT is only triggered for NO_x and VOC emissions, the calculation in the attached spreadsheet conservatively assumes BACT is triggered for all pollutants since an electrical motor will result in zero emissions of each criteria

pollutant (not including power plant emissions). Calculations in the attached spreadsheet are performed pursuant to Section X.B of District Policy APR 1305. The cost calculation is an estimate and likely does not represent the exact cost of installing either the basic or alternate basic equipment options. Additional costs may be incurred. However, since the cost effective determination shows that this option is not cost effective for the engines in this project, no further cost information was gathered.

5 ppmvd NO_x @ 15% O₂ (Technologically Feasible)

The technologically feasible option for this class and category of source is a lean burn engine that emits no more than 5 ppmvd NO_x @ 15% O₂. The emissions concentration is achievable via the use of a selective catalytic reduction (SCR) system. The costs are from the spreadsheet recently published on the intranet.

As demonstrated in the cost effectiveness analysis attached at the end of this appendix, 5 ppmv at 15% O₂ are not cost effective for the proposed 607 bhp natural gas-fired IC engines.

90 ppmvd at 15% O₂ (achievable via rich-burn engine and 3 way catalyst or lean burn engine)

The only remaining control technology alternative in the ranking list from Step 3 has been achieved in practice. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.D.2, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for NO_x emissions from this AO stationary spark-ignited IC engine serving an irrigation pump is NO_x emission limit of 90 ppmvd at 15% O₂ (achievable via rich-burn engine and 3 way catalyst or lean burn engine). The applicant has proposed to install two 607 bhp lean-burn natural gas IC engines with a NO_x emission limit of 72 ppmvd at 15% O₂ (equivalent to 1.0 g/bhp-hr); therefore BACT for NO_x emissions is satisfied for these engines.

2. BACT Analysis for VOC Emissions (New Engines S-5551-14 and '-15):

Volatile organic compounds (VOC) emissions are generated from the incomplete combustion of the fuel.

a. Step 1 - Identify all control technologies

The SJVUAPCD draft BACT Clearinghouse identifies BACT for VOC emissions as follows:

- 1) 50 ppmvd @ 15% O₂ (achievable via rich-burn engine and 3 way catalyst or lean burn engine) (Achieved in Practice)
- 2) Electrification (Alternate Basic Equipment)

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

- 1) 50 ppmvd @ 15% O₂ (achievable via rich-burn engine and 3 way catalyst or lean burn engine) (Achieved in Practice)

Since electrification is not cost-effective for NO_x for these engines, it will not be considered for this VOC top-down BACT analysis.

d. Step 4 - Cost effectiveness analysis

A cost effective analysis must be performed for all control options in the list from Step 3 in the order of their ranking to determine the cost effective option with the lowest emissions

The only control technology alternative in the ranking list from Step 3 has been achieved in practice. Therefore, per SJVUAPCD BACT policy, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

The remaining control not eliminated in Step 4 is considered achieved-in-practice BACT for this class and category of source. BACT is 50 ppmvd VOC @ 15% O₂ (equivalent to 0.2 g/bhp-hr). The applicant has proposed to install two 607 bhp lean burn natural gas IC engines with VOC emissions limited to 44 ppmvd @ 15% O₂ by installing an oxidizing catalyst on each engine; therefore, BACT/T-BACT requirements for VOC emissions is satisfied.

INFO FOR THE PROPOSED BASIC EQUIPMENT

Proposed Basic Equipment: Natural Gas-fired IC Engine

Power Rating: 607 bhp (for reference only)

Combustion Type: Lean Burn

<= Either "Lean Burn" or "Rich Burn"

Fuel Type: Natural Gas

<= Either "Natural Gas" or "LPG"

Operating Schedule: 4,700 hr/year

Annual Load Factor: 80% (per FYI 275)

Brake Specific Fuel Consumption (BSFC)¹: 10,100 Btu/bhp-hr

Fuel Cost²: \$7.75

\$/1,000 scf

Fuel Higher Heating Value (HHV): 1,000 Btu/scf (APR 1720)

Thermal Efficiency of Engine: 35%

Natural Gas IC Engine Cost³: \$350

per horsepower (bhp)

MISCELLANEOUS PROJECT INFO

Capital recovery factor (10%, 10 yrs): 0.163

Convert bhp to kW: 0.7457 kW/bhp

BACT Cost Effectiveness Thresholds: (Select "Yes" or "No" below for each pollutant)

Pollutant	Is BACT Triggered?	Cost Effective Threshold, \$/ton ⁴
NOx	Yes	\$24,500
SOx	Yes	\$18,300
PM ₁₀	Yes	\$11,400
CO	Yes	\$300
VOC	Yes	\$17,500

INFO FOR BACT ALTERNATE BASIC EQUIPMENT (ABE) OPTION

ABE Option 1: Electrical Motor

Cost to Electrify⁵: \$300.00

per horsepower (bhp)

Power Line Extension Distance⁶: 0

ft

Power Line Extension Cost⁶: \$43.22

per foot (average)

Electric Rate⁷: \$0.13628

per kW-hr

Daily PG&E Customer Charges⁷: \$1.38

Electric rates increase by 1.5%/yr over 10 yrs: 1.16

Miscellaneous Costs⁸: 4.0%

INFO FOR BACT TECHNOLOGICALLY FEASIBLE OPTION

Tech. Feasible Option 1: NOx - 5 ppmvd @ 15% O2 (Lean-Burn Engines Only)

SCR System Capital Cost⁹: \$100,000

Control Efficiency: 85%

Fuel Penalty¹⁰: 2.50%

Catalyst Replacement Cost¹¹: \$5,000.00

per catalyst element

Catalyst Replacement Frequency¹¹: 1

catalyst replacement per 10 years

Reagent (Urea) Cost¹²: \$3.00

per gallon delivered

Reagent (Urea) Usage Rate¹²: 0.0036

gal/bhp-hr

NOTES AND REFERENCES

1. The spark-ignition IC engine BSFC is from CAPCOA Portable IC Engine Tech. Ref. Document, : http://www.eia.gov/dnav/ng/ng_sum_lsum_dcu_SCA_m.htm
2. NG fuel costs are from the following web site:

http://www.eia.gov/dnav/ng/ng_sum_lsum_dcu_SCA_m.htm

3. Total cost for a complete SI IC engine (w/out catalyst) on the ground and pumping water is a low-end average cost based on information gathered from Mitch Torp of TGP West (805-610-4170) and Mark Peterson, of Valley Power Systems (559-485-6900), Jan 2015
4. BACT Cost Effective Thresholds May 2008 Update [G:\Intranet_files\PER\policies\bact\may_2008_updates_to_bact_cost_effectiveness_thresholds.pdf](G:\Intranet_files\PER\policies\bact\may_2008_updates_to_bact_cost_effectiveness_thresholds.pdf)
5. Per District SI Dept., Sept 2014, using data from electrical motor installation projects which the District has helped to fund. The cost to electrify an agricultural well site is approximately \$300 per horsepower. This cost includes an electrical motor, a variable frequency drive (VFD), r/v starter, head shaft, misc. equip., tax, and labor
6. Per District SI Dept., 1/14/2015. This is the average distance and cost per foot of utility line extensions over 73 electric utility line extension projects which the District helped to fund. Use applicant/site specific information when available.
7. Electricity rate and daily customer charges are from PG&E website listed below for large Ag (35 hp+), high use (1500 hr/yr+), rate schedule 'AG-5B & AG-5E', summer peak rate. The below address links to the PG&E website and opens the most current cost information. Update this cost for each determination.
<http://www.pge.com/notes/rates/tariffs/LgAgCurrent.xls>
8. Property tax, insurance, and administrative charges (typically 4% of total capital investment annually; from OAQPS Control Cost Manual, 4th Edition, January 1990)
9. Selective Catalytic Reduction (SCR) system costs to retrofit a lean-burn spark-ignition IC engine were provided by Johnson Matthey for project S-1143086 and include catalyst element, catalyst housing, sensors, exhaust ductwork, urea injection system with urea storage tank and air compressor, installation, taxes, and freight.
10. The use of add-on controls results in additional load on the IC engine. The additional load results in higher fuel combustion of about 2.5% more fuel than an uncontrolled engine.
11. Catalyst element replacement cost and life is per Joey Mier of MurCal, 1/5/2015
12. Urea cost and usage rate is per Mark Peterson of Valley Power Systems, Nov 2014. At full power output, urea consumption would be approximately 1 gal/hr for a 322 bhp IC engine (S-11430.

COST EFFECTIVE ANALYSIS FOR AO IRRIGATION PUMP, ABE OPTION: SPARK IGNITED ENGINE VS. ELECTRICAL MOTOR

Pursuant to Section X.B of District Policy APR 1305, the cost effectiveness of ABE options is calculated using the following formula:

$$CE_{alt} = (COST_{alt} - COST_{basic}) \div (EMISSION_{basic} - EMISSION_{alt})$$

Where:

- CE_{alt} = the cost effectiveness of the alternate basic equipment expressed as dollars per ton of emissions reduced
- $COST_{alt}$ = the equivalent annual capital cost of the alternate basic equipment plus its annual operating cost
- $COST_{basic}$ = the equivalent annual capital cost of the proposed basic equipment, without BACT, plus its annual operating cost
- $EMISSION_{basic}$ = the emissions from the proposed basic equipment, without BACT
- $EMISSION_{alt}$ = the emissions from the alternate basic equipment

Calculations**Determine $COST_{alt}$:**

The costs of the ABE option include the following capital and annual costs:

Capital Costs:	-Electrical motor	-Security measures ¹	-installation costs including taxes
	-Variable frequency drive (VFD)	-Utility line extension	
Annual Costs:	-Electricity	-Customer charges	
	-Miscellaneous costs		

¹ Per the District's SI Dept., an electrical motor at an agricultural well site is a remote installation and therefore susceptible to theft and vandalism. A security enclosure is a common addition for new electrical well sites to help prevent from copper wire theft. The calculation below does not include this cost due to lack of specific costs for possible security measures.

The total annualized costs for the ABE option are calculated in the following table.

Power Rating (bhp)	Annualized Capital Cost of the Motor, \$/year	Annualized Capital Cost for Line Extension, \$/year	Annual Electricity Cost, \$/year	Annual Misc. Costs, \$/year	Annual Customer Charges, \$/year	Total Capital and Annual Costs, ABE, \$/year
50	\$2,445	\$0.00	\$27,702.70	\$600.00	\$503.66	\$31,251.36
100	\$4,890	\$0.00	\$55,405.40	\$1,200.00	\$503.66	\$61,999.06
150	\$7,335	\$0.00	\$83,108.10	\$1,800.00	\$503.66	\$92,746.76
200	\$9,780	\$0.00	\$110,810.81	\$2,400.00	\$503.66	\$123,494.46
250	\$12,225	\$0.00	\$138,513.51	\$3,000.00	\$503.66	\$154,242.16
300	\$14,670	\$0.00	\$166,216.21	\$3,600.00	\$503.66	\$184,989.86
400	\$19,560	\$0.00	\$221,621.61	\$4,800.00	\$503.66	\$246,485.27
500	\$24,450	\$0.00	\$277,027.01	\$6,000.00	\$503.66	\$307,980.67
600	\$29,340	\$0.00	\$332,432.42	\$7,200.00	\$503.66	\$369,476.07

Determine $COST_{basic}$:

The cost of the proposed basic equipment includes the following capital and annual costs:

Capital Costs:	Purchase of the IC engine
Annual Costs:	Fuel costs

The total annualized costs for the proposed basic equipment are calculated in the following table:

Power Rating (bhp)	Annualized SI IC Engine Capital Cost, \$/year	Annual Fuel Cost, \$/year	Total Cost of Proposed Basic Equip, \$/year
50	\$2,853	\$14,716	\$17,568
100	\$5,705	\$29,431	\$35,136
150	\$8,558	\$44,147	\$52,705
200	\$11,410	\$58,863	\$70,273
250	\$14,263	\$73,579	\$87,841
300	\$17,115	\$88,294	\$105,409
400	\$22,820	\$117,726	\$140,546
500	\$28,525	\$147,157	\$175,682
600	\$34,230	\$176,588	\$210,818

Determine EMISSION_{basic}:

The proposed basic equipment in this project is a spark-ignition IC engine.

Per APR 1305, EMISSION_{basic} is the emissions from the proposed basic equipment, without BACT.

The emission factors in the table below are for the proposed engine, without BACT.

Category (Power Range)	NOx EF, (g/bhp-hr)	SOx EF, (g/bhp-hr)	PM ₁₀ EF, (g/bhp-hr)	CO EF, (g/bhp-hr)	VOC EF, (g/bhp-hr)
LB NG, 50 ≤ bhp < 100	2.1	0.0094	0.033	17.0	3.6
LB NG, 100 ≤ bhp < 500	1.0	0.0094	0.033	2.0	0.7
LB NG, 500 ≤ bhp < 1,350	1.0	0.0094	0.033	2.0	0.7

Determine EMISSION_{alt}:

An electrical motor is considered to result in no emissions of air contaminants (not considering power plant emissions).

Therefore, an electrical motor would result in reduction of all criteria pollutants vs. the proposed basic equipment.

Determine the Cost Effectiveness of the ABE Option

Per APR 1305, if a BACT option controls more than one type of air pollutant, calculate the Multi-Pollutant Cost Effectiveness Threshold (MCET) for the control option.

Since an electrical motor will result in no emissions for all pollutants (not including power plant emissions), the MCET will be calculated for this BACT option.

$$MCET = \Sigma(\text{Quantity of Emissions Reduced, ton/year} \times \text{Cost Effective Threshold, \$/ton})_{\text{each pollutant}}$$

The quantity of emissions reduced and the MCET are calculated in the following table for each pollutant:

Power Rating (bhp)	NOx, ton/yr	SOx, ton/yr	PM ₁₀ , ton/yr	CO, ton/yr	VOC, ton/yr	MCET, \$/year
50	0.44	0.00	0.01	3.52	0.75	\$24,888
100	0.41	0.00	0.01	0.83	0.29	\$15,707
150	0.62	0.01	0.02	1.24	0.44	\$23,561
200	0.83	0.01	0.03	1.66	0.58	\$31,415
250	1.04	0.01	0.03	2.07	0.73	\$39,269
300	1.24	0.01	0.04	2.49	0.87	\$47,122
400	1.66	0.02	0.05	3.32	1.16	\$62,829
500	2.07	0.02	0.07	4.14	1.45	\$78,537
600	2.49	0.02	0.08	4.97	1.74	\$94,244

Cost Effectiveness Determination

Determine whether the ABE option is cost effective:

Power Rating (bhp)	Total Capital and Annual Costs, ABE, \$/year	Total Capital and Annual Costs, Proposed Basic Equip., \$/year	Cost Difference (ABE - Basic Equipment), \$/year	MCET, \$/year	Is ABE Option Cost Effective?
50	\$31,251	\$17,568	\$13,683	\$24,888	Yes
100	\$61,999	\$35,136	\$26,863	\$15,707	No
150	\$92,747	\$52,705	\$40,042	\$23,561	No
200	\$123,494	\$70,273	\$53,222	\$31,415	No
250	\$154,242	\$87,841	\$66,401	\$39,269	No
300	\$184,990	\$105,409	\$79,581	\$47,122	No
400	\$246,485	\$140,546	\$105,940	\$62,829	No
500	\$307,981	\$175,682	\$132,299	\$78,537	No
600	\$369,476	\$210,818	\$158,658	\$94,244	No

COST EFFECTIVE ANALYSIS FOR STATIONARY AG IRRIGATION PUMP, TECH. FEAS. OPTION (NO_x): SCR SYSTEM

Pursuant to Section X.A of District Policy APR 1305, the cost effectiveness of technologically feasible options is the control cost per ton of air pollutant reduced. Cost effectiveness is calculated by dividing the total annual cost by the annual emission reduction for the air pollutant.

Calculations

Determine the Cost of the BACT Control Option:

The costs of the Technologically Feasible option include the following capital and annual costs:

Capital Costs:	-SCR System	Miscellaneous Costs (installations, taxes, freight, etc.)
Annual Costs:	-Fuel Penalty -Miscellaneous costs -Urea (reaction agent) cost	-Service/maintenance contract -Catalyst element replacement

The total annualized costs for the technologically feasible option are calculated in the following table.

Power Rating (bhp)	Annualized Capital Cost of the SCR System, \$/year	Annual Urea Cost, \$/year	Fuel Penalty, \$/year	Annualized Catalyst Replacement Cost, \$/year	Total Capital and Annual Costs, Tech. Feas., \$/year
50	\$16,300	\$2,538.00	\$368	\$815.00	\$20,020.89
100	\$16,300	\$5,076.00	\$736	\$815.00	\$22,926.79
150	\$16,300	\$7,614.00	\$1,104	\$815.00	\$25,832.68
200	\$16,300	\$10,152.00	\$1,472	\$815.00	\$28,738.57
250	\$16,300	\$12,690.00	\$1,839	\$815.00	\$31,644.46
300	\$16,300	\$15,228.00	\$2,207	\$815.00	\$34,550.36
400	\$16,300	\$20,304.00	\$2,943	\$815.00	\$40,362.14
500	\$16,300	\$25,380.00	\$3,679	\$815.00	\$46,173.93
600	\$16,300	\$30,456.00	\$4,415	\$815.00	\$51,985.71

Determine Emission Reductions from the Technologically Feasible Option:

The proposed basic equipment in this project is a spark-ignition IC engine.

Emission reductions for a range of power ratings are calculated below.

Industry standard emissions are assumed to be the most stringent emission standards from any Federal, State, or Local rule or regulation.

For a new spark-ignition IC engine with a power rating of less than 100 bhp, the NO_x emission standard from District Rule 4702 is considered to be the industry standard.

For a new spark-ignition IC engine with a power rating of 100 bhp and greater, the NO_x emission standard from 40 CFR Part 60, Subpart JJJJ is considered to be the industry standard.

Industry Standard NOx Emissions, New Spark-Ignition IC Engine

Category (Power Range)	NOx EF, (g/bhp-hr)
LB NG, 50 ≤ bhp < 100	2.1
LB NG, 100 ≤ bhp < 500	1.0
LB NG, 500 ≤ bhp < 1,350	1.0

Cost Effectiveness Determination

Determine whether the ABE option is cost effective.

Pursuant to District Policy APR 1305, the emission reduction for technologically feasible options is calculated as the difference between industry standard emissions and the technologically feasible emission concentration. If the control cost per ton exceeds the cost effectiveness threshold, the BACT control option is not required.

Power Rating (bhp)	Total Capital and Annual Costs, Tech. Feas. Option, \$/year	NOx Emission Reductions, ton/year	Control Cost, \$/ton-NOx reduced	NOx Cost Effective Threshold, \$/ton	Is ABE Option Cost Effective?
50	\$20,021	0.37	\$54,111	\$24,500	No
100	\$22,927	0.35	\$65,505	\$24,500	No
150	\$25,833	0.53	\$48,741	\$24,500	No
200	\$28,739	0.70	\$41,055	\$24,500	No
250	\$31,644	0.88	\$35,960	\$24,500	No
300	\$34,550	1.06	\$32,595	\$24,500	No
400	\$40,362	1.41	\$28,626	\$24,500	No
500	\$46,174	1.76	\$26,235	\$24,500	No
600	\$51,986	2.11	\$24,638	\$24,500	No

LEAN BURN									
Natural Gas									
Pollutant	NOx EF, (g/bhp- hr)	SOx EF, (g/bhp- hr)	PM ₁₀ EF, (g/bhp- hr)	CO EF, (g/bhp- hr)	VOC EF, (g/bhp- hr)	LPG			
						Pollutant			
LB NG, 50 ≤ bhp < 100	2.1	0.0094	0.033	17.0	3.6	LB LPG, 50 ≤ bhp < 100			
LB NG, 100 ≤ bhp < 500	1.0	0.0094	0.033	2.0	0.7	LB LPG, 100 ≤ bhp < 500			
LB NG, 500 ≤ bhp < 1,350	1.0	0.0094	0.033	2.0	0.7	LB LPG, bhp ≥ 500			

Pollutant	NOx EF, (g/bhp- hr)	SOx EF, (g/bhp- hr)	PM ₁₀ EF, (g/bhp- hr)	CO EF, (g/bhp- hr)	VOC EF, (g/bhp- hr)
LB NG, 50 ≤ bhp < 100	2.1	0.0094	0.033	17	3.6
LB NG, 100 ≤ bhp < 500	1	0.0094	0.033	2	0.7
LB NG, 500 ≤ bhp < 1,350	1	0.0094	0.033	2	0.7
LB LPG, 50 ≤ bhp < 100	2.1	0.0094	0.033	17	3.6
LB LPG, 100 ≤ bhp < 500	1	0.0094	0.033	2	0.7
LB LPG, bhp ≥ 500	1	0.0094	0.033	2	0.7
RB NG, 50 ≤ bhp < 100	1.3	0.0094	0.064	17	1.2
RB NG, 100 ≤ bhp < 500	1	0.0094	0.064	2	0.7
RB NG, bhp ≥ 500	1	0.0094	0.064	2	0.7
RB LPG, 50 ≤ bhp < 100	1.3	0.0094	0.064	17	1.2
RB LPG, 100 ≤ bhp < 500	1	0.0094	0.064	2	0.7
RB LPG, 500 ≤ bhp < 1,35	1	0.0094	0.064	2	0.7

Appendix C

HRA Summary

San Joaquin Valley Air Pollution Control District

Risk Management Review

To: Sandra Lowe-Leseth – Permit Services
From: Kyle Melching – Technical Services
Date: January 15, 2016
Facility Name: Materra Farms LLC
Location: 17801 Millux Road, Bakersfield
Application #(s): S-5551-1-1 thru 15-0
Project #: S-1153263

A. RMR SUMMARY

RMR Summary			
Categories	15 Natural Gas ICEs (Units 1-1 thru 16-0)	Project Totals	Facility Totals
Prioritization Score	>1	>1.0	>1.0
Acute Hazard Index	0.27	0.27	0.27
Chronic Hazard Index	0.03	0.03	0.03
Maximum Individual Cancer Risk (10^{-6})	1.60E-06	1.60E-06	1.60E-06
T-BACT Required?	No		
Special Permit Conditions?	Yes		

Proposed Permit Conditions

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

Units 1-1 thru 9-1, 14-0 thru 15-0

1. 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]

B. RMR REPORT

I. Project Description

Technical Services received a request on December 22, 2015, to revise a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) for 15 natural gas internal combustion engines. The project will update the location of 13 of the engines and install engines -14 & -15. The facility will also have a facility-wide NOx SLC of 19,999 lb/yr to keep the facility from becoming a major source.

II. Analysis

Technical Services performed a prioritization using the District's HEARTs database. Since the prioritization score was greater than one, a refined health risk assessment was required. Toxic emissions for each unit were calculated using 2000 AP42 emission factors for natural gas lean burn internal combustion engines, and were then input into the SHARP database. The AERMOD model was used, with the parameters outlined below and meteorological data for 2009-2013 from Bakersfield to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP) and the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Analysis Parameters Unit 1-1			
Source Type	Point	Fuel Type	NG
Stack Height (m)	2.44	NG Usage Rates (MMscf)	0.00175 hr 15.34 yr
Stack Diameter (m)	0.1		
Stack Exit Velocity (m/s)	77.71		
Stack Exit Temp. (°K)	703		

Analysis Parameters Units 2-1 thru 9-1			
Source Type	Point	Fuel Type	NG
Stack Height (m)	2.44	NG Usage Rates (MMscf)	0.00234 hr 20.49 yr
Stack Diameter (m)	0.1		
Stack Exit Velocity (m/s)	113.57		
Stack Exit Temp. (°K)	693		

Analysis Parameters Units 10-1 thru 12-1			
Source Type	Point	Fuel Type	NG
Stack Height (m)	3.14	NG Usage Rates (MMscf)	0.00341 hr 29.85 yr
Stack Diameter (m)	0.15		
Stack Exit Velocity (m/s)	52.37 ¹		
Stack Exit Temp. (°K)	670		

¹Per the RMR Request Form submitted by the processing engineer, the exhaust stacks vent horizontally. Therefore, the source groups were designated as such in AERMOD's Source Pathway Module during refined modeling for the project per District policy.

Analysis Parameters Unit 13-1			
Source Type	Point	Fuel Type	NG
Stack Height (m)	3.23	NG Usage Rates (MMscf)	0.00341 hr 29.85 yr
Stack Diameter (m)	0.15		
Stack Exit Velocity (m/s)	57.74 ¹		
Stack Exit Temp. (°K)	693		

¹Per the RMR Request Form submitted by the processing engineer, the exhaust stacks vent horizontally. Therefore, the source groups were designated as such in AERMOD's Source Pathway Module during refined modeling for the project per District policy.

Analysis Parameters Units 14-0 & 15-0			
Source Type	Point	Fuel Type	NG
Stack Height (m)	3.23	Usage Rates (MMscf/hr)	0.00341
Stack Diameter (m)	0.15	Usage Rates (MMscf/yr)	20.73
Stack Exit Velocity (m/s)	57.74		
Stack Exit Temp. (°K)	670		

Other Analysis Parameters All Project Units			
Project Location Type	Rural	Closest Receptor (m)	91.44
		Closest Receptor Type	Residential

Criteria Pollutant Modeling Results*

Diesel ICE	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
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
PM _{2.5}	X	X	X	Pass ²	Pass ²

*Results were taken from the attached PSD spreadsheet.

¹The project was compared to the 1-hour NO₂ National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures.

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

For the AAQA, each individual engine was modeled at the maximum annual NO_x emission rate despite the 19,999 lb/yr SLC for NO_x to ensure the standard would not be exceeded. Technical Services performed modeling for criteria pollutants CO, NO_x, SO_x and PM₁₀. The emission rates used for criteria pollutant modeling were:

SSPE2 without SLC (lb/year)					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
S-5551-1-1	2,606	35	123	6,702	112
S-5551-2-1	2,985	47	164	8,955	149
S-5551-3-1	2,985	47	164	8,955	149
S-5551-4-1	2,985	47	164	8,955	149
S-5551-5-1	2,985	47	164	8,955	149
S-5551-6-1	2,985	47	164	8,955	149
S-5551-7-1	2,985	47	164	8,955	149
S-5551-8-1	2,985	47	164	8,955	149
S-5551-9-1	2,985	47	164	8,955	149
S-5551-10-1	3,309	31	109	5,956	695
S-5551-11-1	3,309	31	109	5,956	695
S-5551-12-1	3,309	31	109	5,956	695
S-5551-13-1	3,309	31	109	5,956	695
S-5551-14-0	5,032	47	166	9,057	1,057
S-5551-15-0	5,032	47	166	9,057	1,057
SSPE2	49,786	629	2,203	120,280	6,198

III. Conclusions

The acute and chronic indices are below 1.0 and the cancer risk factor associated with each engine is less than 1.0 in a million. **In accordance with the District's Risk Management Policy, each engine is 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 specified 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.

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

IV. Attachments

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

Appendix D
Engine Manufacturer's and
Catalyst Manufacturer's Emissions Guarantees

**Application & Performance Warranty Data****Project Information**

Site Location: CA
Project Name: SFGLD 240
Application: Prime Power
Number Of Engines: 1
Operating Hours per Year: 8700

Engine Specifications

Engine Manufacturer: Gauscor
Model Number: SFGLD 240
Rated Speed: 1800 RPM
Type of Fuel: Natural Gas
Type of Lube Oil: 0.6 wt% sulfated ash or less
Lube Oil Consumption: 0.1 % Fuel Consumption
Number of Carburetors: 1
Number of Exhaust Manifolds: 2

Engine Cycle Data

Load	Speed	Power	Exhaust Flow	Exhaust Temp.	Fuel Cons.	NO _x	CO	NMHC	O ₂	H ₂ O
%		bhp	lb/hr	F	btu/bhp-hr	g/bhp-hr	g/bhp-hr	g/bhp-hr	%	%
100	Rated	607	5,190	797	8,000	1	1.8	0.7	8.5	16

Emission Data (100% Load)

Emission	Raw Engine Emissions						Target Outlet Emissions						Calculated Reduction
	g/bhp-hr	tons/yr	ppmvd @ 15% O ₂	ppmvd	lb/MW-hr	g/kW-hr	g/bhp-hr	tons/yr	ppmvd @ 15% O ₂	ppmvd	lb/MW-hr	g/kW-hr	
NO _x *	1	5.82	92	194	2.96	1.341	0.2	1.16	18	39	0.59	0.268	80%
CO	1.8	10.48	272	572	5.32	2.414	3.3	19.23	500	1,051	9.77	4.431	N/A
NMHC**	0.7	4.07	185	389	2.07	0.939	0.19	1.1	50	105	0.56	0.254	73%
NH ₃							0.08	0.47	20	42	0.24	0.108	N/A

* MW referenced as NO₂** MW referenced as CH₄



OXIDATION CATALYST SELECTION DATA SHEET

Date: 7/14/2015

Customer: Valley Power Systems

Contact: Val Jensen

Project: Matera Farms

Engine: Guascor SFGLD 240

Power:	607	BHP
Ex. Flow:	2264	ACFM
Ex. Temp	743	°F
Min Temp:	400	°F
Max Temp:	1250	°F

Catalyst Selected	
Model	BA-OX-3Y-1950-35
Formula:	3 Year
Size:	19.5"x3.5"
CPSI:	300
Layers:	1
Delta P:	3.2"wc

Catalyst Input Emissions (gr/bhp-hr)			
CO	NOX	NMNEHC	CH20
1.8	2	0.7	N/A

Catalyst Output Emissions (gram/bhp-hr)			
CO	NOX	NMNEHC	CH20
0.18	2	0.15	N/A

Support Product Services Inc. guarantees the output emissions of the selected catalyst size will not exceed stated values for the length of the warranty indicated in the formula section under the following conditions:

1. Catalyst Input Emissions do not exceed values listed above
2. Catalyst temperature is maintained between minimum and maximum limits listed above
3. Engine must be maintained properly
4. Catalyst element must be completely sealed to housing



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Murrieta, CA 92562
(951) 245-5788

Appendix E

Quarterly Net Emissions Change

QNEC

The QNEC is entered into PAS database and subsequently reported to CARB. The QNEC is calculated for each pollutant, for each unit, as the difference between the post-project quarterly potential to emit (PE2) and the quarterly pre-project potential to emit (PE1).

$$NEC_{SLC} = (PE2_{SLC} - PE1_{SLC}) \div 4 \text{ quarters/year}$$

where:

NEC_{SLC}	=	Quarterly Net Emissions Change for units covered by the SLC.
$PE2_{SLC}$	=	PE2 for all units covered by the SLC.
$PE1_{SLC}$	=	PE1 for all units covered by the SLC.

$PE1_{SLC}$ = SSPE1, as shown in Section VII.C.3.

SSPE1 with CO SLC (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1	11,112	121	423	20,000	2,666

$PE1_{SLC}$ = SSPE2, as shown in Section VII.C.4.

SSPE2 with NO _x SLC (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	19,999	361	1,242	58,881	980

NEC			
	SSPE2 (lb/year)	SSPE1 (lb/year)	NEC (lb/qtr)
NO _x	19,999	11,112	2,221.8
SO _x	361	121	60.0
PM ₁₀	1,242	423	204.8
CO	58,881	20,000	9,720.3
VOC	980	2,666	- 421.5

In PAS, all of the emissions will be placed in the emissions profile for S-5551-1-1.

Appendix F
I & M Plan for Engines
S-5551-10 through '-15

Materra Farming Company LLC
Inspection and Monitoring (I&M) Plan
Rule 4702 Compliance
Updated: December 7, 2015

Materra Farming Company LLC owns and operates 14 internal combustion engines that are subject to Rule 4702. Of this total, 1 is emergency or low use engines exempted from Rule 4702 requirements, with the exception of sections 5.9 and 6.2.3, and are subsequently excluded from this I&M Plan. This plan addresses the remaining 13 internal combustion engine's requirements of Rule 4702 and is applicable to units #0679, #0685, #0693, #2511 collectively referred to as (Guascor engines), #681, #671, #672, #673, #682, #687, #1311, #1941, #2211 collectively referred to as (Deutz engines).

I. Compliant Operational Ranges:

- Guascor engines will be source tested to measure natural gas-combustion of NO_x, CO, and VOC emissions from these units within 60 days of initial start-up described in Section II.
[District rule 4702]
- Deutz engines will be tested with a District-approved portable analyzer to determine NO_x emissions from these units within 60 days of initial start-up. All emission readings shall be calibrated, maintained, operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO, and checked with EPA protocol span gas at the beginning and end of the test day. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive minute sample reading or by taking at least 5 readings, evenly spaced out over the 15 consecutive-minute period.
[District rule 4702]
- Guascor engine source testing to measure NO_x, CO, and VOC emissions shall be conducted at least once every 60 months described in Section II. If fueled exclusively with PUC quality natural gas, the engine is not subject to the reoccurring source test requirements for VOC emissions.
[District Rule 4702]
- The stack concentration will be recorded pursuant to NO_x and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications described in Section II. [District Rule 4702]
- During periods of operation, 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). Monitoring shall not be required if the engine is not in operation, but shall be performed within 5 days of restarting the engine unless maintenance has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

II. Parameters:

- Source test to measure NO_x, CO, and VOC emissions:
 - The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
 - Testing shall be conducted with the engine operating at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702]
 - The following test methods shall be used:
 - NO_x (ppmv) – EPA Method 7E or ARB Method 100;
 - CO (ppmv) – EPA Method 10 or ARB Method 100,
 - Stack gas oxygen – EPA Method 3 or 3A or ARB Method 100; and
 - VOC (ppmv) – EPA Method 25A or 25B, or ARB Method 100.[District Rules 1081 and 4702]
 - The arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emission shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported ppmv, corrected to 15% oxygen. [District Rule 4702]
 - The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
- Recording stack concentration of NO_x and O₂:
 - Portable emissions analyzer readings for NO_x and O₂ will be measured, recorded, corrected (if necessary), and reported (if necessary) using a portable emissions analyzer that meets District specifications in accordance with the procedures specified in SSP 1810. [District Rule 4702]
 - Portable emissions analyzer readings shall be taken with the engines operating at conditions representative of normal operations or conditions specified in the permit-to-operate.
 - The portable emissions analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the Air Pollution Control Officer.
 - Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]

- Exceptions: In the event an engine experiences a mechanical failure or other operational conditions that preclude it from further operating during the month but before a portable analyzer reading is taken, the monitoring will be performed within 5 days of restart, as required by SSP 1810. Operational conditions do not include discretionary actions on the part of the operator.

III. Corrective Actions:

- Source test to measure NOx, CO, and VOC emissions:
 - If a violation of an emission limit is found using the abovementioned test methods, the procedures detailed in SSP 1810 will be followed. Any additional required reporting and subsequent testing will also be performed within specified time frames. Corrective actions will be recorded in the engine's maintenance log.
- Recording stack concentration of NOx and O2:
 - If either the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, Materra Farming Company LLC shall return the emissions to the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, Materra Farming Company LLC shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, Materra Farming Company LLC may stipulate a violation has occurred, subject to enforcement action. Materra Farming Company LLC must then correct the violation, show compliance has been re-established, and resume maintenance procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, Materra Farming Company LLC may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition.
[District Rule 4702]

IV. Collecting and Recording Information:

- Information established and recorded pursuant to sections I, II, and III above will be maintained for each engine by the operational staff. Specifically:
 - The date and time of NOx, CO, and O2 measurements;
 - The O2 concentration in percent and the measured NOx and CO concentrations corrected to 15%;
 - The make and model of the portable emissions analyzer;
 - The calibration records of the portable emissions analyzer; and
 - A description of any corrective action taken to maintain the emissions within the acceptable range.
- [District Rule 4702]

- Any preventive or corrective maintenance performed will be documented in the engine's maintenance log.
- Records will be available for District inspection upon request.
- Materra Farming Company LLC shall maintain a monthly engine operating log to record the following information:
 - Total hours of operation;
 - Type of fuel used;
 - Maintenance or modifications performed;
 - Monitoring dates;
 - Source test results; and
 - Any other information necessary to demonstrate compliance.
 [District Rule 4702]
- Guascor engines shall be equipped with a functional oxidizing catalyst unit for reduction of VOC emissions, which is maintained and operated per the manufacturer's recommendations. [District Rules 2201 and 4702]
- Guascor engines shall be fitted with the necessary connections and ports to monitor the back pressure across the catalyst. [District Rule 4702]
- If the back pressure across the catalyst is 2 psi or greater, the catalyst shall be removed and either washed/cleaned or replaced. The engine shall not be operated until an appropriate catalyst is re-installed and the back pressure across the catalyst is less than 2 psi. [District Rule 4702]
- On a monthly basis, Materra Farming Company LLC shall calculate and record the cumulative hours of operation for permit units from the preceding 12 months. [District Rule 2201]
- 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]

V. Revision Procedures:

- Materra Farming Company LLC shall update the I&M plan for these engines prior to any planned change in operation, notify the District no later than seven days after changing the I&M plan, and must submit an updated I&M plan to the Air Pollution Control Officer for approval no later than 14 days after the change.
- The date and time of the change to the I&M plan shall be recorded in the engine's operating log.

Appendix G
Current ATCs S-5551-1-0 through S-5551-13-0



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-1-0

ISSUANCE DATE: 12/10/2014

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC
MAILING ADDRESS: P O BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

SECTION: 10 **TOWNSHIP:** 32S **RANGE:** 26E

EQUIPMENT DESCRIPTION:

241 BHP DEUTZ MODEL TCG2015V6, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE
POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 681)

CONDITIONS

1. 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]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
5. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
6. Facility-wide CO emissions shall not exceed 20,000 pounds in any rolling 12-consecutive month period. [District Rule 2201]
7. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services

S-5551-1-0 : Dec 10 2014 7:44AM - GILLESB : Joint Inspection NOT Required

8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
9. This IC engine shall be fired on Public Utility Commission (PUC) quality natural gas only. [District Rules 2201 and 4801]
10. The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
11. 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]
12. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
13. Emissions from this IC engine shall not exceed any of the following limits: 0.7 g-NO_x/bhp-hr, 1.8 g-CO/bhp-hr, 0.033 g-PM₁₀/bhp-hr, or 0.03 g-VOC/bhp-hr. [District Rules 2201, 4102, and 4702]
14. During periods of operation, 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]
15. Within 60 days after start-up of the equipment authorized by this Authority to Construct (ATC), a District-approved portable analyzer shall be used to determine NO_x emissions. All emission readings shall be taken with the unit operating at conditions representative of normal operations. The analyzer shall be calibrated, maintained, operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO, and checked with EPA protocol span gas at the beginning and end of the test day. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
16. On a monthly basis, the permittee shall calculate and record the monthly CO emissions from this internal combustion engine for the most recently concluded month. The monthly CO emissions shall be calculated according to the following formula: $\text{lb-CO/month} = (\text{hours operated that month}) \times (0.7651 \text{ lb-CO/hr})$. [District Rule 2201]
17. On a monthly basis, the permittee shall calculate and record the facility-wide CO emissions in pounds from the preceding 12 months. The facility-wide CO emissions shall be calculated by summing the total CO emissions from the preceding 12 months from every permitted unit at this facility. [District Rule 2201]
18. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
19. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-2-0

ISSUANCE DATE: 12/10/2014

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC
MAILING ADDRESS: P O BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

SECTION: 13 **TOWNSHIP:** 32S **RANGE:** 26E

EQUIPMENT DESCRIPTION:

322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE
POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 671)

CONDITIONS

1. 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]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
5. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
6. Facility-wide CO emissions shall not exceed 20,000 pounds in any rolling 12-consecutive month period. [District Rule 2201]
7. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services

S-5551-2-0 Dec 10 2014 7:44AM - GALLEBR - Joint Inspection NOT Required

8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
9. This IC engine shall be fired on Public Utility Commission (PUC) quality natural gas only. [District Rules 2201 and 4801]
10. The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
11. 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]
12. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
13. Emissions from this IC engine shall not exceed any of the following limits: 0.6 g-NO_x/bhp-hr, 1.8 g-CO/bhp-hr, 0.033 g-PM₁₀/bhp-hr, or 0.03 g-VOC/bhp-hr. [District Rules 2201 and 4702]
14. During periods of operation, 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]
15. Within 60 days after start-up of the equipment authorized by this Authority to Construct (ATC), a District-approved portable analyzer shall be used to determine NO_x emissions. All emission readings shall be taken with the unit operating at conditions representative of normal operations. The analyzer shall be calibrated, maintained, operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO, and checked with EPA protocol span gas at the beginning and end of the test day. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
16. On a monthly basis, the permittee shall calculate and record the monthly CO emissions from this internal combustion engine for the most recently concluded month. The monthly CO emissions shall be calculated according to the following formula: $\text{lb-CO/month} = (\text{hours operated that month}) \times (1.0222 \text{ lb-CO/hr})$. [District Rule 2201]
17. On a monthly basis, the permittee shall calculate and record the facility-wide CO emissions in pounds from the preceding 12 months. The facility-wide CO emissions shall be calculated by summing the total CO emissions from the preceding 12 months from every permitted unit at this facility. [District Rule 2201]
18. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
19. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-3-0

ISSUANCE DATE: 12/10/2014

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC

MAILING ADDRESS: P O BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

SECTION: 13 **TOWNSHIP:** 32S **RANGE:** 26E

EQUIPMENT DESCRIPTION:

322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE
POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 672)

CONDITIONS

1. 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]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
5. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
6. Facility-wide CO emissions shall not exceed 20,000 pounds in any rolling 12-consecutive month period. [District Rule 2201]
7. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services

S-5551-3-0 : Doc 10 2014 7:44AM - GILLESB : Joint Inspection NOT Required

8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
9. This IC engine shall be fired on Public Utility Commission (PUC) quality natural gas only. [District Rules 2201 and 4801]
10. The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
11. 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]
12. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
13. Emissions from this IC engine shall not exceed any of the following limits: 0.6 g-NO_x/bhp-hr, 1.8 g-CO/bhp-hr, 0.033 g-PM₁₀/bhp-hr, or 0.03 g-VOC/bhp-hr. [District Rules 2201 and 4702]
14. During periods of operation, 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]
15. Within 60 days after start-up of the equipment authorized by this Authority to Construct (ATC), a District-approved portable analyzer shall be used to determine NO_x emissions. All emission readings shall be taken with the unit operating at conditions representative of normal operations. The analyzer shall be calibrated, maintained, operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO, and checked with EPA protocol span gas at the beginning and end of the test day. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
16. On a monthly basis, the permittee shall calculate and record the monthly CO emissions from this internal combustion engine for the most recently concluded month. The monthly CO emissions shall be calculated according to the following formula: $\text{lb-CO/month} = (\text{hours operated that month}) \times (1.0222 \text{ lb-CO/hr})$. [District Rule 2201]
17. On a monthly basis, the permittee shall calculate and record the facility-wide CO emissions in pounds from the preceding 12 months. The facility-wide CO emissions shall be calculated by summing the total CO emissions from the preceding 12 months from every permitted unit at this facility. [District Rule 2201]
18. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
19. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-4-0

ISSUANCE DATE: 12/10/2014

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC
MAILING ADDRESS: P O BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

SECTION: 14 **TOWNSHIP:** 32S **RANGE:** 26E

EQUIPMENT DESCRIPTION:

322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE
POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 673)

CONDITIONS

1. 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]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
5. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
6. Facility-wide CO emissions shall not exceed 20,000 pounds in any rolling 12-consecutive month period. [District Rule 2201]
7. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO


Arnaud Marjollet, Director of Permit Services

S-5551-4-0 | Dec 10 2014 7:44AM - GILLESB : Joint Inspection NOT Required

8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
9. This IC engine shall be fired on Public Utility Commission (PUC) quality natural gas only. [District Rules 2201 and 4801]
10. The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
11. 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]
12. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
13. Emissions from this IC engine shall not exceed any of the following limits: 0.6 g-NO_x/bhp-hr, 1.8 g-CO/bhp-hr, 0.033 g-PM₁₀/bhp-hr, or 0.03 g-VOC/bhp-hr. [District Rules 2201 and 4702]
14. During periods of operation, 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]
15. Within 60 days after start-up of the equipment authorized by this Authority to Construct (ATC), a District-approved portable analyzer shall be used to determine NO_x emissions. All emission readings shall be taken with the unit operating at conditions representative of normal operations. The analyzer shall be calibrated, maintained, operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO, and checked with EPA protocol span gas at the beginning and end of the test day. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
16. On a monthly basis, the permittee shall calculate and record the monthly CO emissions from this internal combustion engine for the most recently concluded month. The monthly CO emissions shall be calculated according to the following formula: $\text{lb-CO/month} = (\text{hours operated that month}) \times (1.0222 \text{ lb-CO/hr})$. [District Rule 2201]
17. On a monthly basis, the permittee shall calculate and record the facility-wide CO emissions in pounds from the preceding 12 months. The facility-wide CO emissions shall be calculated by summing the total CO emissions from the preceding 12 months from every permitted unit at this facility. [District Rule 2201]
18. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
19. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-5-0

ISSUANCE DATE: 12/10/2014

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC
MAILING ADDRESS: P O BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

SECTION: 24 **TOWNSHIP:** 32S **RANGE:** 26E

EQUIPMENT DESCRIPTION:

322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE
POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 682)

CONDITIONS

1. 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]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
5. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
6. Facility-wide CO emissions shall not exceed 20,000 pounds in any rolling 12-consecutive month period. [District Rule 2201]
7. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 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.

Sayed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services

S-5551-5-0 Dec 10 2014 7:44AM - GILLESB Joint Inspection NOT Required

8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
9. This IC engine shall be fired on Public Utility Commission (PUC) quality natural gas only. [District Rules 2201 and 4801]
10. The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
11. 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]
12. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
13. Emissions from this IC engine shall not exceed any of the following limits: 0.6 g-NO_x/bhp-hr, 1.8 g-CO/bhp-hr, 0.033 g-PM₁₀/bhp-hr, or 0.03 g-VOC/bhp-hr. [District Rules 2201 and 4702]
14. During periods of operation, 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]
15. Within 60 days after start-up of the equipment authorized by this Authority to Construct (ATC), a District-approved portable analyzer shall be used to determine NO_x emissions. All emission readings shall be taken with the unit operating at conditions representative of normal operations. The analyzer shall be calibrated, maintained, operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO, and checked with EPA protocol span gas at the beginning and end of the test day. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
16. On a monthly basis, the permittee shall calculate and record the monthly CO emissions from this internal combustion engine for the most recently concluded month. The monthly CO emissions shall be calculated according to the following formula: $\text{lb-CO/month} = (\text{hours operated that month}) \times (1.0222 \text{ lb-CO/hr})$. [District Rule 2201]
17. On a monthly basis, the permittee shall calculate and record the facility-wide CO emissions in pounds from the preceding 12 months. The facility-wide CO emissions shall be calculated by summing the total CO emissions from the preceding 12 months from every permitted unit at this facility. [District Rule 2201]
18. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
19. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-6-0

ISSUANCE DATE: 12/10/2014

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC

MAILING ADDRESS: P O BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

SECTION: 13 **TOWNSHIP:** 32S **RANGE:** 26E

EQUIPMENT DESCRIPTION:

322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE
POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 687)

CONDITIONS

1. 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]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
5. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
6. Facility-wide CO emissions shall not exceed 20,000 pounds in any rolling 12-consecutive month period. [District Rule 2201]
7. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services

S-5551-6-0 Doc 10 2014 7 44AM - GILLES R : Joint Inspection NOT Required

8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
9. This IC engine shall be fired on Public Utility Commission (PUC) quality natural gas only. [District Rules 2201 and 4801]
10. The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
11. 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]
12. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
13. Emissions from this IC engine shall not exceed any of the following limits: 0.6 g-NO_x/bhp-hr, 1.8 g-CO/bhp-hr, 0.033 g-PM₁₀/bhp-hr, or 0.03 g-VOC/bhp-hr. [District Rules 2201 and 4702]
14. During periods of operation, 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]
15. Within 60 days after start-up of the equipment authorized by this Authority to Construct (ATC), a District-approved portable analyzer shall be used to determine NO_x emissions. All emission readings shall be taken with the unit operating at conditions representative of normal operations. The analyzer shall be calibrated, maintained, operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO, and checked with EPA protocol span gas at the beginning and end of the test day. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
16. On a monthly basis, the permittee shall calculate and record the monthly CO emissions from this internal combustion engine for the most recently concluded month. The monthly CO emissions shall be calculated according to the following formula: $\text{lb-CO/month} = (\text{hours operated that month}) \times (1.0222 \text{ lb-CO/hr})$. [District Rule 2201]
17. On a monthly basis, the permittee shall calculate and record the facility-wide CO emissions in pounds from the preceding 12 months. The facility-wide CO emissions shall be calculated by summing the total CO emissions from the preceding 12 months from every permitted unit at this facility. [District Rule 2201]
18. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
19. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-7-0

ISSUANCE DATE: 12/10/2014

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC
MAILING ADDRESS: P O BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

SECTION: 19 **TOWNSHIP:** 32S **RANGE:** 26E

EQUIPMENT DESCRIPTION:

322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE
POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 1311)

CONDITIONS

1. 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]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
5. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
6. Facility-wide CO emissions shall not exceed 20,000 pounds in any rolling 12-consecutive month period. [District Rule 2201]
7. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services

S-5551-7-0 - Dec 10 2014 7:44AM - GILLES - Joint Inspection NOT Required

8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
9. This IC engine shall be fired on Public Utility Commission (PUC) quality natural gas only. [District Rules 2201 and 4801]
10. The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
11. 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]
12. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
13. Emissions from this IC engine shall not exceed any of the following limits: 0.6 g-NO_x/bhp-hr, 1.8 g-CO/bhp-hr, 0.033 g-PM₁₀/bhp-hr, or 0.03 g-VOC/bhp-hr. [District Rules 2201 and 4702]
14. During periods of operation, 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]
15. Within 60 days after start-up of the equipment authorized by this Authority to Construct (ATC), a District-approved portable analyzer shall be used to determine NO_x emissions. All emission readings shall be taken with the unit operating at conditions representative of normal operations. The analyzer shall be calibrated, maintained, operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO, and checked with EPA protocol span gas at the beginning and end of the test day. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
16. On a monthly basis, the permittee shall calculate and record the monthly CO emissions from this internal combustion engine for the most recently concluded month. The monthly CO emissions shall be calculated according to the following formula: $\text{lb-CO/month} = (\text{hours operated that month}) \times (1.0222 \text{ lb-CO/hr})$. [District Rule 2201]
17. On a monthly basis, the permittee shall calculate and record the facility-wide CO emissions in pounds from the preceding 12 months. The facility-wide CO emissions shall be calculated by summing the total CO emissions from the preceding 12 months from every permitted unit at this facility. [District Rule 2201]
18. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
19. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-8-0

ISSUANCE DATE: 12/10/2014

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC
MAILING ADDRESS: P O BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

SECTION: 22 **TOWNSHIP:** 32S **RANGE:** 26E

EQUIPMENT DESCRIPTION:

322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE
POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 1941)

CONDITIONS

1. 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]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
5. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
6. Facility-wide CO emissions shall not exceed 20,000 pounds in any rolling 12-consecutive month period. [District Rule 2201]
7. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services

S-5551-8-0 Dec 10 2014 7:44AM - GILLESB - Joint Inspection NOT Required

8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
9. This IC engine shall be fired on Public Utility Commission (PUC) quality natural gas only. [District Rules 2201 and 4801]
10. The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
11. 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]
12. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
13. Emissions from this IC engine shall not exceed any of the following limits: 0.6 g-NO_x/bhp-hr, 1.8 g-CO/bhp-hr, 0.033 g-PM₁₀/bhp-hr, or 0.03 g-VOC/bhp-hr. [District Rules 2201 and 4702]
14. During periods of operation, 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]
15. Within 60 days after start-up of the equipment authorized by this Authority to Construct (ATC), a District-approved portable analyzer shall be used to determine NO_x emissions. All emission readings shall be taken with the unit operating at conditions representative of normal operations. The analyzer shall be calibrated, maintained, operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO, and checked with EPA protocol span gas at the beginning and end of the test day. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
16. On a monthly basis, the permittee shall calculate and record the monthly CO emissions from this internal combustion engine for the most recently concluded month. The monthly CO emissions shall be calculated according to the following formula: $\text{lb-CO/month} = (\text{hours operated that month}) \times (1.0222 \text{ lb-CO/hr})$. [District Rule 2201]
17. On a monthly basis, the permittee shall calculate and record the facility-wide CO emissions in pounds from the preceding 12 months. The facility-wide CO emissions shall be calculated by summing the total CO emissions from the preceding 12 months from every permitted unit at this facility. [District Rule 2201]
18. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
19. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-9-0

ISSUANCE DATE: 12/10/2014

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC

MAILING ADDRESS: P O BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

SECTION: 22 **TOWNSHIP:** 32S **RANGE:** 26E

EQUIPMENT DESCRIPTION:

322 BHP DEUTZ MODEL TCG2015V8, SN XXXXXX, EPA CERTIFIED LEAN-BURN NATURAL GAS-FIRED IC ENGINE
POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 2211)

CONDITIONS

1. 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]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
5. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
6. Facility-wide CO emissions shall not exceed 20,000 pounds in any rolling 12-consecutive month period. [District Rule 2201]
7. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services

S-5551-9-0: Dec 10 2014 7:44AM - GILLES: Joint Inspection NOT Required

8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
9. This IC engine shall be fired on Public Utility Commission (PUC) quality natural gas only. [District Rules 2201 and 4801]
10. The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
11. 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]
12. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
13. Emissions from this IC engine shall not exceed any of the following limits: 0.6 g-NO_x/bhp-hr, 1.8 g-CO/bhp-hr, 0.033 g-PM₁₀/bhp-hr, or 0.03 g-VOC/bhp-hr. [District Rules 2201 and 4702]
14. During periods of operation, 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]
15. Within 60 days after start-up of the equipment authorized by this Authority to Construct (ATC), a District-approved portable analyzer shall be used to determine NO_x emissions. All emission readings shall be taken with the unit operating at conditions representative of normal operations. The analyzer shall be calibrated, maintained, operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO, and checked with EPA protocol span gas at the beginning and end of the test day. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
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17. On a monthly basis, the permittee shall calculate and record the facility-wide CO emissions in pounds from the preceding 12 months. The facility-wide CO emissions shall be calculated by summing the total CO emissions from the preceding 12 months from every permitted unit at this facility. [District Rule 2201]
18. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
19. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-10-0

ISSUANCE DATE: 01/26/2015

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC

MAILING ADDRESS: P O BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

EQUIPMENT DESCRIPTION:

469 BHP DRESSER-RAND MODEL GUASCOR SFGLD180, SN XXXXXX, LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 2511)

CONDITIONS

1. 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]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
5. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
6. Facility-wide CO emissions shall not exceed 20,000 pounds in any rolling 12-consecutive month period. [District Rule 2201]
7. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]
8. 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]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services

S-5551-10-0 Jan 26 2015 4:44PM - GILLESB Joint Inspection NOT Required

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

9. This IC engine shall be fired on Public Utility Commission (PUC) quality natural gas only. [District Rules 2201 and 4801]
10. The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
11. 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]
12. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
13. This engine shall be equipped with a functional, non-selective catalytic reduction unit, which is maintained and operated per the manufacturer's recommendations. [District Rules 2201 and 4702]
14. Emissions from this IC engine shall not exceed any of the following limits: 1.0 g-NO_x/bhp-hr, 44 ppmvd CO @ 15% O₂ (equivalent to 0.32 g-CO/bhp-hr), 0.033 g-PM₁₀/bhp-hr, or 50 ppmvd VOC @ 15% O₂ (equivalent to 0.21 g-VOC/bhp-hr). [District Rules 2201, 4102, and 4702]
15. Operation of this engine shall not exceed 4,000 hours per calendar year. [District Rules 2201 and 4102]
16. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
17. Source testing to measure CO and VOC emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201 and 4702]
18. Source testing to measure CO emissions shall be conducted at least once every 12 months from the date of the initial source test. [District Rule 2201]
19. Within 60 days after start-up of the equipment authorized by this Authority to Construct (ATC), a District-approved portable analyzer shall be used to determine NO_x emissions for compliance monitoring purposes. All emission readings shall be taken with the unit operating at conditions representative of normal operations. The analyzer shall be calibrated, maintained, operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO, and checked with EPA protocol span gas at the beginning and end of the test day. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
20. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702]
21. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702]
22. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702]
23. The permittee shall monitor and record the stack concentration of NO_x and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

CONDITIONS CONTINUE ON NEXT PAGE

24. If the NO_x concentration corrected to 15% O₂, as measured by the portable analyzer, exceeds the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]
25. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
26. The permittee shall maintain records of: (1) the date and time of NO_x and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x concentration corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4702]
27. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702]
28. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
29. On a monthly basis, the permittee shall calculate and record the facility-wide CO emissions in pounds from the preceding 12 months. The facility-wide CO emissions shall be calculated by summing the total CO emissions from the previous 12 months from every permitted unit at this facility. [District Rule 2201]
30. On a monthly basis, the permittee shall calculate and record the monthly CO emissions from this internal combustion engine for the most recently concluded month. The monthly CO emissions shall be calculated according to the following formula: $\text{lb-CO/month} = (\text{hours operated that month}) \times (0.2647 \text{ lb-CO/hr})$. [District Rule 2201]
31. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
32. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-11-0

ISSUANCE DATE: 01/26/2015

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC

MAILING ADDRESS: P O BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

EQUIPMENT DESCRIPTION:

469 BHP DRESSER-RAND MODEL GUASCOR SFGLD180, SN XXXXXX, LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 679)

CONDITIONS

1. 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]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
5. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
6. Facility-wide CO emissions shall not exceed 20,000 pounds in any rolling 12-consecutive month period. [District Rule 2201]
7. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]
8. 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]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO


Arnaud Marjollet, Director of Permit Services
S-5551-11-0 Jan 20 2015 4:44PM -- GILLER Joint Inspection NOT Required

9. This IC engine shall be fired on Public Utility Commission (PUC) quality natural gas only. [District Rules 2201 and 4801]
10. The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
11. 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]
12. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
13. This engine shall be equipped with a functional, non-selective catalytic reduction unit, which is maintained and operated per the manufacturer's recommendations. [District Rules 2201 and 4702]
14. Emissions from this IC engine shall not exceed any of the following limits: 1.0 g-NO_x/bhp-hr, 44 ppmvd CO @ 15% O₂ (equivalent to 0.32 g-CO/bhp-hr), 0.033 g-PM₁₀/bhp-hr, or 50 ppmvd VOC @ 15% O₂ (equivalent to 0.21 g-VOC/bhp-hr). [District Rules 2201, 4102, and 4702]
15. Operation of this engine shall not exceed 4,000 hours per calendar year. [District Rules 2201 and 4102]
16. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
17. Source testing to measure CO and VOC emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201 and 4702]
18. Source testing to measure CO emissions shall be conducted at least once every 12 months from the date of the initial source test. [District Rule 2201]
19. Within 60 days after start-up of the equipment authorized by this Authority to Construct (ATC), a District-approved portable analyzer shall be used to determine NO_x emissions for compliance monitoring purposes. All emission readings shall be taken with the unit operating at conditions representative of normal operations. The analyzer shall be calibrated, maintained, operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO, and checked with EPA protocol span gas at the beginning and end of the test day. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
20. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702]
21. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702]
22. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702]
23. The permittee shall monitor and record the stack concentration of NO_x and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

CONDITIONS CONTINUE ON NEXT PAGE

24. If the NO_x concentration corrected to 15% O₂, as measured by the portable analyzer, exceeds the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]
25. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
26. The permittee shall maintain records of: (1) the date and time of NO_x and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x concentration corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4702]
27. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702]
28. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
29. On a monthly basis, the permittee shall calculate and record the facility-wide CO emissions in pounds from the preceding 12 months. The facility-wide CO emissions shall be calculated by summing the total CO emissions from the previous 12 months from every permitted unit at this facility. [District Rule 2201]
30. On a monthly basis, the permittee shall calculate and record the monthly CO emissions from this internal combustion engine for the most recently concluded month. The monthly CO emissions shall be calculated according to the following formula: $\text{lb-CO/month} = (\text{hours operated that month}) \times (0.2647 \text{ lb-CO/hr})$. [District Rule 2201]
31. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
32. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]



AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-12-0

ISSUANCE DATE: 01/26/2015

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC

MAILING ADDRESS: P O BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

EQUIPMENT DESCRIPTION:

469 BHP DRESSER-RAND MODEL GUASCOR SFGLD180, SN XXXXXX, LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 685)

CONDITIONS

1. 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]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
5. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
6. Facility-wide CO emissions shall not exceed 20,000 pounds in any rolling 12-consecutive month period. [District Rule 2201]
7. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]
8. 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]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO


Arnaud Marjollet, Director of Permit Services
S-5551-12-0 Jan 26 2015 4:44PM - GILLESR Joint Inspection NOT Required

9. This IC engine shall be fired on Public Utility Commission (PUC) quality natural gas only. [District Rules 2201 and 4801]
10. The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
11. 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]
12. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
13. This engine shall be equipped with a functional, non-selective catalytic reduction unit, which is maintained and operated per the manufacturer's recommendations. [District Rules 2201 and 4702]
14. Emissions from this IC engine shall not exceed any of the following limits: 1.0 g-NO_x/bhp-hr, 44 ppmvd CO @ 15% O₂ (equivalent to 0.32 g-CO/bhp-hr), 0.033 g-PM₁₀/bhp-hr, or 50 ppmvd VOC @ 15% O₂ (equivalent to 0.21 g-VOC/bhp-hr). [District Rules 2201, 4102, and 4702]
15. Operation of this engine shall not exceed 4,000 hours per calendar year. [District Rules 2201 and 4102]
16. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
17. Source testing to measure CO and VOC emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201 and 4702]
18. Source testing to measure CO emissions shall be conducted at least once every 12 months from the date of the initial source test. [District Rule 2201]
19. Within 60 days after start-up of the equipment authorized by this Authority to Construct (ATC), a District-approved portable analyzer shall be used to determine NO_x emissions for compliance monitoring purposes. All emission readings shall be taken with the unit operating at conditions representative of normal operations. The analyzer shall be calibrated, maintained, operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO, and checked with EPA protocol span gas at the beginning and end of the test day. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
20. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702]
21. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702]
22. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702]
23. The permittee shall monitor and record the stack concentration of NO_x and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

CONDITIONS CONTINUE ON NEXT PAGE

24. If the NO_x concentration corrected to 15% O₂, as measured by the portable analyzer, exceeds the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]
25. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
26. The permittee shall maintain records of: (1) the date and time of NO_x and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x concentration corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4702]
27. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702]
28. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
29. On a monthly basis, the permittee shall calculate and record the facility-wide CO emissions in pounds from the preceding 12 months. The facility-wide CO emissions shall be calculated by summing the total CO emissions from the previous 12 months from every permitted unit at this facility. [District Rule 2201]
30. On a monthly basis, the permittee shall calculate and record the monthly CO emissions from this internal combustion engine for the most recently concluded month. The monthly CO emissions shall be calculated according to the following formula: $\text{lb-CO/month} = (\text{hours operated that month}) \times (0.2647 \text{ lb-CO/hr})$. [District Rule 2201]
31. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
32. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



AUTHORITY TO CONSTRUCT

PERMIT NO: S-5551-13-0

ISSUANCE DATE: 01/26/2015

LEGAL OWNER OR OPERATOR: MATERRA FARMING COMPANY LLC

MAILING ADDRESS: P O BOX 9308
BAKERSFIELD, CA 93389

LOCATION: 17901 MILLUX ROAD
BAKERSFIELD, CA 93311

EQUIPMENT DESCRIPTION:

469 BHP DRESSER-RAND MODEL GUASCOR SFGLD180, SN XXXXXX, LEAN-BURN NATURAL GAS-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP (WELL # 693)

CONDITIONS

1. 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]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
5. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
6. Facility-wide CO emissions shall not exceed 20,000 pounds in any rolling 12-consecutive month period. [District Rule 2201]
7. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rules 4701 and 4702]
8. 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]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 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


Bernard Marjollet, Director of Permit Services

S-5551-13-0 Jan 26 2015 4:24PIA - GILLESB Joint Inspection NOT Required

9. This IC engine shall be fired on Public Utility Commission (PUC) quality natural gas only. [District Rules 2201 and 4801]
10. The engine shall be operated in a lean-burn configuration (greater than or equal to 4% O₂ exhaust concentration). [District Rule 4702]
11. 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]
12. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
13. This engine shall be equipped with a functional, non-selective catalytic reduction unit, which is maintained and operated per the manufacturer's recommendations. [District Rules 2201 and 4702]
14. Emissions from this IC engine shall not exceed any of the following limits: 1.0 g-NO_x/bhp-hr, 44 ppmvd CO @ 15% O₂ (equivalent to 0.32 g-CO/bhp-hr), 0.033 g-PM₁₀/bhp-hr, or 50 ppmvd VOC @ 15% O₂ (equivalent to 0.21 g-VOC/bhp-hr). [District Rules 2201, 4102, and 4702]
15. Operation of this engine shall not exceed 4,000 hours per calendar year. [District Rules 2201 and 4102]
16. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
17. Source testing to measure CO and VOC emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201 and 4702]
18. Source testing to measure CO emissions shall be conducted at least once every 12 months from the date of the initial source test. [District Rule 2201]
19. Within 60 days after start-up of the equipment authorized by this Authority to Construct (ATC), a District-approved portable analyzer shall be used to determine NO_x emissions for compliance monitoring purposes. All emission readings shall be taken with the unit operating at conditions representative of normal operations. The analyzer shall be calibrated, maintained, operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO, and checked with EPA protocol span gas at the beginning and end of the test day. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
20. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702]
21. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702]
22. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702]
23. The permittee shall monitor and record the stack concentration of NO_x and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

CONDITIONS CONTINUE ON NEXT PAGE

24. If the NO_x concentration corrected to 15% O₂, as measured by the portable analyzer, exceeds the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]
25. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
26. The permittee shall maintain records of: (1) the date and time of NO_x and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x concentration corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4702]
27. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702]
28. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
29. On a monthly basis, the permittee shall calculate and record the facility-wide CO emissions in pounds from the preceding 12 months. The facility-wide CO emissions shall be calculated by summing the total CO emissions from the previous 12 months from every permitted unit at this facility. [District Rule 2201]
30. On a monthly basis, the permittee shall calculate and record the monthly CO emissions from this internal combustion engine for the most recently concluded month. The monthly CO emissions shall be calculated according to the following formula: $\text{lb-CO/month} = (\text{hours operated that month}) \times (0.2647 \text{ lb-CO/hr})$. [District Rule 2201]
31. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
32. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]