

San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Transportable Irrigation Pump Diesel IC Engine (Replacement)

Facility Name: _____ Date: June 1, 2016
Mailing Address: _____ Engineer: _____
Lead Engineer: _____
Contact Person: _____
Telephone: _____
ATC Application #(s): _____
ATC Project #: _____
PTO Application #(s): *Include PTO application # and PTO project # lines only if processing In-House PTO(s) for existing engines along with the ATCs*
PTO Project #: _____
Deemed Complete: _____

I. PROPOSAL

*******Prior to proceeding with this application review, determine if the facility will remain subject to District permitting requirements after the engine replacements by determining the post project emissions. If facility will no longer be subject to permits, an ATC process is not necessary.*******

Note: This GEAR is to be used for transportable agricultural irrigation compression-ignited replacement IC engines only. It is important to verify that the new IC engines are the latest available certification for that power rating class (see FYI 324). For routine replacements, the District has another template posted on the Airnet,

(if project involves one unit):

Facility name has requested an Authority to Construct (ATC) permit to replace an existing portable xxx bhp diesel-fired IC engine powering an agricultural irrigation booster/well pump with a portable xxx bhp diesel-fired IC engine, which is Interim/Final Tier 4 certified. The existing IC engine is currently permitted as X-XXXX-X. See Appendix A for PTO. *(If applicable, replace the previous sentence with: The existing IC engine currently does not have a District Permit to Operate (PTO); therefore, it will be permitted as unit X-XXXX-X and processed within in this application review as project X-XXXXXX.)*

(if project involves multiple units):

Facility name has requested Authority to Construct (ATC) permits to replace # existing portable diesel-fired IC engines powering agricultural irrigation booster/well pumps. The existing IC engines were permitted as units X-XXXX-X thru X-XXXX-X. See Appendix A for PTOs. *(If applicable, replace the previous sentence with: The existing IC engines currently do not have District Permits to Operate (PTOs); therefore, they will be permitted as units X-XXXX-X thru X-XXXX-X and processed within in this application review as project X-XXXXXX.)*

Each of the # new engines is an Interim/Final Tier 4 certified Make/Model diesel fired IC engine. The replacement proposals have been summarized in the table below:

Existing Engines			New Engines		
PTO #	Max Power Rating (bhp)	Tier	ATC #	Max Power Rating (bhp)	Tier
X-XXXX-X	###		X-XXXX-X	###	
X-XXXX-X	###		X-XXXX-X	###	
X-XXXX-X	###		X-XXXX-X	###	

II. APPLICABLE RULES

- Rule 2010 Permits Required (12/17/92)
- Rule 2020 Exemptions (12/20/07)
- Rule 2201 New and Modified Stationary Source Review Rule (8/15/19)
- Rule 2520 Federally Mandated Operating Permits (8/15/19)
- 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 (8/19/21)
- 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)
- 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 93116 (Portable 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

(With a street address)

The facility is located at [1990 E Gettysburg in Fresno, CA](#). The equipment will not be 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.

equipment description and potential to emit calculations. If the manufacturer has only indicated the maximum intermittent rating, then the intermittent rating may be used with (INTERMITTENT) indicated in the equipment description. If it is not known whether the horsepower rating is continuous or intermittent, then omit the (CONTINUOUS) or (INTERMITTENT) designation.

For rental engines, a serial # is not required per SSP 1825, Rental Agricultural Irrigation Engine Permitting Policy.

X-XXX-X-X: {RENTAL} TRANSPORTABLE XXX BHP (CONTINUOUS)
MAKE/MODEL/SERIAL TIER X CERTIFIED DIESEL-FIRED IC ENGINE
POWERING AN AGRICULTURAL IRRIGATION PUMP (REPLACEMENT
FOR PERMIT UNIT X-XXXX-X)

PTO Equipment Description:

X-XXX-X-X: {RENTAL} TRANSPORTABLE XXX BHP (CONTINUOUS)
MAKE/MODEL/SERIAL TIER X CERTIFIED DIESEL-FIRED IC ENGINE
POWERING AN AGRICULTURAL IRRIGATION PUMP

VI. EMISSION CONTROL TECHNOLOGY EVALUATION

Internal combustion engines production air contaminants such as sulfur oxides (SO_x), nitrogen oxides (NO_x), volatile organic compounds (VOC), carbon monoxide (CO), particulate matter 10 microns or less in aerodynamic diameter (PM₁₀).

Ultra low sulfur diesel fuel (0.0015% sulfur by weight maximum) reduces SO_x emissions by over 99% from standard diesel fuel. ¹ This fuel is readily available and is considered AIP.

NO_x, VOC, CO, and PM₁₀ emissions are minimized with the use of a compression-ignited engine that is EPA certified as specified in 40 CFR Part 89, which identifies Tier 1 thru Tier 3 emission levels, or the Federal Register, Vol. 69, No. 124, June 29, 2004, which identifies Tier 4 emission levels.

VII. GENERAL CALCULATIONS

A. Assumptions

- All calculations and physical constants used are corrected to Standard Conditions as defined in District Rule 1020, Section 3.47 (60 °F and 14.7 lb/in²).
- The pre-project and post-project potential to emit for SO_x will be based on the use of ultra low sulfur diesel (0.0015% fuel S by weight).
- Density of diesel fuel: 7.1 lb/gal

¹ From *Non-catalytic NO_x Control of Stationary Diesel Engines*, by Don Koeberlein, CARB.

- EPA F-factor (adjusted to 60°F): 9,051 dscf/MMBtu
- Diesel fuel heating value: 137,000 Btu/gal
- BHP to Btu/hr conversion: 2,542.5 Btu/hp·hr
- Thermal efficiency of engine: commonly \approx 35%
- The operating hours of the existing engine(s) was not limited by their PTO(s). Therefore, the pre-project potential to emit of the existing engine(s) and the post-project potential to emit of the replacement engine(s) will be based on unlimited operation, i.e. 8,760 hr/yr.

OR

- For the existing engine(s), the annual operating hours were limited by the PTO(s) to x,xxx hr/yr.
- For the replacement engine(s), the applicant has proposed a maximum annual operation of x,xxx hr/yr for each engine.
- The emission calculations and the annual load factor (use 80%) will be based on FYI 275, Use of Horsepower and Load Factor for IC Engines.
- For Pre-Project Stationary Source Potential to Emit (SSPE1) and Post-Project Stationary Source Potential to Emit (SSPE2) purposes, the existing irrigation pump IC engines at this facility that are not being replaced or modified as a result of this project, the District will assume they operate at an annual average load of 80%, corrected from the 65% load utilized within District "Initial Farm" projects.

B. Emission Factors

1. Pre-Project Emission Factors (EF1)

Existing Engines:

(As is the case for all emission factor estimates, use best available data. If no emission factors are indicated on the permit, but the model year and EPA family number are known, then CARB Executive Order with the certified emission levels for that family can be located here

(http://www.arb.ca.gov/msprog/offroad/cert/cert.php?eng_id=OFCL). Otherwise, the emissions factors corresponding to the tier certification level should be used.)

The emissions factors for the existing engines are taken from the current PTOs.

Or

The emissions factors for the existing engines are taken from the ARB Executive Order covering the same make, model year, and EPA family number.

Or

Since no specific emission factor data is available for these engines, but the

engines being replaced are known to be Tier 1, the EPA Tier 1 emissions standards will be used.

EF1 (Existing Engine)		
Pollutant	g/bhp-hr	Source
NO _x	6.9	EPA Tier 1 Std.
SO _x	0.0051*	Ultra-Low Sulfur Fuel
PM ₁₀	0.4	EPA Tier 1 Std.
CO	8.5	EPA Tier 1 Std.
VOC	1.0	EPA Tier 1 Std.

*The SO_x EF is based on the use of ultra-low sulfur diesel fuel with 0.0015% sulfur by weight, as shown in the equation below.

$$EF = 0.0015\% \times 7.1 \text{ lb-fuel/gal} \times 2 \text{ lb-SO}_2/\text{lb-S} \times 1 \text{ gal-fuel}/137,000 \text{ Btu} \times 1 \text{ hp input}/0.35 \text{ hp output} \times 2,542.5 \text{ Btu/hp-hr} \times 453.6 \text{ lb}$$

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

New engines:

Since these are new emissions units, EF1 = 0 for all pollutants.

2. Post Project Emission Factors (EF2)

Existing engines:

Since these units will be cancelled upon implementation of the new units, EF2 = 0 for all pollutants.

New engines:

(As is the case for all emission factor estimates, use best available data. If the model year and engine family number are known, a CARB Executive Order with the certified emission levels for that family can be located here (http://www.arb.ca.gov/msprog/offroad/cert/cert.php?eng_id=OFCI). Otherwise, the emissions factors corresponding to the tier certification level should be used.)

The emissions factors for the new engines are taken from the ARB Executive Order for the same make, model year, and EPA family number (see Appendix B).

or

Since no specific emission factor data is available for these engines, but the replacement engines are known to be Tier X, the EPA Tier X emissions standards will be used.

EF2 for New Engines		
Pollutant	EF2 (g/bhp-hr)	Source
NO _x	2.4*	ARB Executive Order U-R-123-0123
SO _x	0.0051	Ultra-Low Sulfur Fuel

PM ₁₀	0.09	ARB Executive Order U-R-123-0123
CO	0.4	ARB Executive Order U-R-123-0123
VOC	0.1*	ARB Executive Order U-R-123-0123

*The Carl Moyer program assumes the combined NO_x + VOC emission factor is split 95% NO_x and 5% VOC.

The certified NMHC + NO_x emissions are 4.0 g/kw-hr
 $EF_{NO_x} = 3.4 \text{ g/kw-hr} \times 0.746 \text{ kw-hr/hp-hr} \times 0.95 = 2.4 \text{ g/hp-hr}$
 $EF_{VOC} = 3.4 \text{ g/kw-hr} \times 0.746 \text{ kw-hr/hp-hr} \times 0.05 = 0.1 \text{ g/hp-hr}$

**The SO_x EF is based on the use of ultra-low sulfur diesel fuel with 0.0015% sulfur by weight, as shown in the equation below.

$$EF = 0.0015\% \times 7.1 \text{ lb-fuel/gal} \times 2 \text{ lb-SO}_2/\text{lb-S} \times 1 \text{ gal-fuel}/137,000 \text{ Btu} \times 1 \text{ hp input}/0.35 \text{ hp output} \times 2,542.5 \text{ Btu/hp-hr} \times 453.6 \text{ lb}$$

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

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Existing engines

The engine's potential emissions are based on the following equations:

$$PE1_{\text{daily}} = EF1 \text{ (g/bhp-hr)} \times \text{Continuous Rating (bhp)} \times 24 \text{ hr/day} \times \text{lb}/453.6 \text{ g}$$

$$PE1_{\text{annual}} = EF1 \text{ (g/bhp-hr)} \times \text{Continuous Rating (bhp)} \times 0.8 \text{ load} \times 8,760 \text{ hr/year} \times \text{lb}/453.6 \text{ g}$$

After entering the EF and HP variables in the tables below, highlight the last column of each table and press the F9 key to calculate the lb/day or lb/yr value.

Daily PE1 for [insert PTO # for Each Existing Engine to be Replaced]									
Pollutant	(g/bhp-hr)		bhp		hr/day		g/lb		lb/day
NO _x	6.9	×	225	×	24	÷	453.6	=	82.1
SO _x	0.0051	×		×		÷		=	0.1
PM ₁₀	0.4	×		×		÷		=	4.8
CO	8.5	×		×		÷		=	101.2
VOC	1.0	×		×		÷		=	11.9

Annual PE1 for [insert PTOs # for Each Existing Engine to be Replaced]											
Pollutant	(g/bhp-hr)		bhp		load factor		hr/yr		g/lb	lb/yr	
NO _x	6.9	×	225	×	0.8	×	8,760	÷	453.6	=	23,986

SO _x	0.0051	×		×		×		÷		=	18
PM ₁₀	0.4	×		×		×		÷		=	1,390
CO	8.5	×		×		×		÷		=	29,548
VOC	1.0	×		×		×		÷		=	3,476

New engines

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

2. Post Project Potential to Emit (PE2)

Existing engines:

Since this engine will be replaced upon implementation of the new engine, PE2 = 0 for all pollutants.

New engines:

The engine's potential emissions are based on the following equations:

$$PE2_{\text{daily}} = EF2 \text{ (g/bhp-hr)} \times \text{Continuous Rating (bhp)} \times 24 \text{ hr/day} \times \text{lb/453.6 g}$$

$$PE2_{\text{annual}} = EF2 \text{ (g/bhp-hr)} \times \text{Continuous Rating (bhp)} \times 0.8 \text{ load} \times 8,760 \text{ hr/year} \times \text{lb/453.6 g}$$

After entering the EF and HP variables in the tables below, highlight the last column of each table and press the F9 key to calculate the lb/day or lb/yr value.

Daily PE2 for [insert ATC # for Each New Engine]											
Pollutant	(g/bhp-hr)		bhp		hr/day		g/lb		lb/day		
NO _x	4.5	×	200	×	24	÷	453.6	=	47.6		
SO _x	0.0051	×		×		÷		=	0.1		
PM ₁₀	0.15	×		×		÷		=	1.6		
CO	2.6	×		×		÷		=	27.5		
VOC	0.4	×		×		÷		=	4.2		

Annual PE2 [insert ATC # for Each New Engine]												
Pollutant	(g/bhp-hr)		bhp		load factor		hr/yr		g/lb		lb/yr	
NO _x	4.5	×	200	×	0.8	×	8,760	÷	453.6	=	13,905	
SO _x	0.0051	×		×		×		=		16		
PM ₁₀	0.15	×		×		×		=		463		
CO	2.6	×		×		×		=		8,034		
VOC	0.4	×		×		×		=		1,236		

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

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

The annual PE values used in the SSPE1 table below are from project X-XXXXXXX and the calculations performed in Sections VII.C.1 of this application review.

Or

The Facility's SSPE1 calculations are attached as **Appendix X**.

Or

Facility emissions are known to be well above the Major Source/offset threshold; therefore, SSPE1 calculations are not necessary.

SSPE1 (lb/year)					
Permit Unit	NO_x	SO_x	PM₁₀	CO	VOC
Totals					

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

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

The annual PE values used in the SSPE2 table below are from project X-XXXXXXX and the calculations performed in Sections VII.C.2 of this application review.

Or

The Facility's SSPE2 calculations are attached as **Appendix X**.

Or

Facility emissions are known to be well above the Major Source/offset threshold; therefore, SSPE1 calculations are not necessary.

SSPE2 (lb/year)					
Permit Unit	NO_x	SO_x	PM₁₀	CO	VOC

Totals						
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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;

All permit units at the facility are for non-road or “transportable” engines; therefore, these emissions do not contribute to the Major Source determination.

Rule 2201 Major Source Determination (lb/year)						
	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO	VOC
SSPE1 (less non-road engines)*	0	0	0	0	0	0
SSPE2 (less non-road engines)*	0	0	0	0	0	0
Major Source Threshold	20,000	140,000	140,000	200,000	200,000	20,000
Major Source?	No	No	No	No	No	No

As seen in the table above, the facility is not a Major Source for any pollutant.

Or

As seen in the table above, the facility is a Major Source for (list pollutants).

Rule 2410 Major Source Determination:

Agricultural operations are not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). Therefore the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

The following sources of emissions shall be excluded in determining if a source is a PSD major 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 52.21 (b)(1)(iii), see below

PSD Major Source Determination (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Estimated Facility PE before Project Increase	XX	XX	XX	XX	XXX	XX
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N

As shown above, the facility is an existing PSD major source for at least one pollutant.

OR

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, agricultural operations that are not Major Sources 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 pollutant, 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

The first step of this PSD evaluation consists of determining whether the facility is an existing PSD Major Source. This facility is not an existing PSD Major Source as demonstrated in Section VII.C.5 of this document. In the case the facility is an existing source, but not an existing PSD Major Source, the second step of the PSD evaluation is to determine if the project, by itself, would exceed any of the PSD Major Source thresholds.

As a screening tool, the project potential to emit from all new and modified units is compared to the PSD Major Source threshold, and if total project potential to emit from all new and modified units is below this threshold, no further analysis will be needed.

The engines in this project are non-road (also called “transportable”) engines. As noted in Section VII.C.5 above, emissions from non-road engines are not included in the project-specific PSD Major Source determination. Since the project only includes transportable (non-road) engines, the project-specific emissions are equal to zero for all pollutants. Therefore, the potential emissions from this project will not exceed any PSD Major Source threshold. No further analysis is necessary.

10. Quarterly Net Emissions Change (QNEC)

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

VIII. COMPLIANCE

Rule 2010 Permits Required

This rule requires any person building, altering, or replacing any operation, article, machine, equipment, or other contrivance, the use of which may cause the issuance of air contaminants, to first obtain authorization from the District in the form of an ATC. By the submission of the above-described ATC application, the applicant is complying with the requirements of this Rule.

Rule 2020 Exemptions

Per Section 6.20, agricultural sources are exempt from District permit requirements to the extent provided by CH&SC, section 42301.16. However this facility does not qualify for

permit exemption since the NO_x and/or VOC emissions are greater than 10,000 lb/year (equivalent to ½ the Major Source Threshold).

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 a new diesel-fired IC engine with a PE greater than 2.0 lb/day for NO_x, PM₁₀, CO, and VOC. BACT is triggered for NO_x, PM₁₀, and VOC since the PEs are greater than 2.0 lb/day. BACT is also (or is not) triggered for CO since the SSPE2 for CO is greater (or 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, there are no modified emissions units associated with this project; therefore BACT is not triggered.

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 for NO_x emissions. Therefore BACT is not triggered for any pollutant.

2. BACT Guideline

The BACT Guideline attached in Appendix D applies to new transportable AO diesel-fired IC engines greater than 50 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 each application subject to the BACT requirements pursuant to the District's NSR Rule.

Pursuant to the attached Top-Down BACT Analysis (see Appendix D), BACT has been satisfied with the following:

NO_x: Interim/Final Tier 4 certification
PM₁₀: Interim/Final Tier 4 certification
CO: Interim/Final Tier 4 certification
VOC: Interim/Final Tier 4 certification

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.5 of this application review, this agricultural operation is not a Major Source; therefore, offsets will not be required.

C. Public Notification

1. Applicability

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 SSIPE 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 SB288 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 of this application review, this project does not constitute a 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 Potential to Emit 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 > 100 lb/day purposes is not required.

c. Offset Threshold

Example (a): (For a project not surpassing the 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	X	X	20,000 lb/year	No
SO _x	X	X	54,750 lb/year	No
PM ₁₀	X	X	29,200 lb/year	No
CO	X	X	200,000 lb/year	No
VOC	X	X	20,000 lb/year	No

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

Example (b): (For a project surpassing the offset threshold.)

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

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	X	X	20,000 lb/year	Yes
SO _x	X	X	54,750 lb/year	No
PM ₁₀	X	X	29,200 lb/year	No
CO	X	X	200,000 lb/year	No
VOC	X	X	20,000 lb/year	No

As detailed above, offset thresholds were surpassed for NO_x with this project; therefore, public noticing is required for offset purposes.

(Note: Public notification is independent of whether or not Offsets are required.)

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

SSIFE = SSPE2 – SSPE1. The SSIFE is compared to the SSIFE Public Notice thresholds in the following table.

Example (a): (For a project where the SSIFE ≤ 20,000 lb/year.)

SSIFE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIFE (lb/year)	SSIFE Public Notice Threshold	Public Notice Required?
NO _x	876	0	876	20,000 lb/year	No
SO _x	37	0	37	20,000 lb/year	No
PM ₁₀	8,438	3,776	4,662	20,000 lb/year	No
CO	730	0	730	20,000 lb/year	No
VOC	19,966	0	19,966	20,000 lb/year	No

As demonstrated above, the SSIFEs for all pollutants were less than 20,000 lb/year; therefore public noticing for SSIFE purposes is not required.

Example (b): (For a project where the SSIFE > 20,000 lb/year.)

SSIFE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIFE (lb/year)	SSIFE Public Notice Threshold	Public Notice Required?
NO _x	35,453	11,267	24,186	20,000 lb/year	Yes
SO _x	6,482	4,533	1,949	20,000 lb/year	No
PM ₁₀	8,438	5,971	2,467	20,000 lb/year	No
CO	42,080	21,956	20,124	20,000 lb/year	Yes
VOC	29,008	25,942	3,066	20,000 lb/year	No

As demonstrated above, the SSIFEs for NO_x and CO were greater than 20,000 lb/year; therefore public noticing for SSIFE purposes is required.

e. Title V Significant Permit Modification

For a source with a Title V operating permit:

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

If this facility does not hold a Title V operating permit:

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

2. Public Notice Action

(For a project not requiring public notification.)

As discussed above, this project will not result in emissions, for any criteria pollutant, which would subject the project to any of the noticing requirements listed above. Therefore, public notice will not be required for this project.

(For a project requiring public notification – PE > 100 lb/day.)

As discussed above, public noticing is required for this project for NO_x emissions in excess of 100 lb/day. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be electronically published on the District's website prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

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. The following conditions will appear on the permit:

For farmed-owned engines:

The following conditions will be included on ATC X-XXXX-X-0:

- {4832} Emissions from this unit shall not exceed any of the following limits: X.XX g-NO_x/bhp-hr, 0.XX g-VOC/bhp-hr, or 0.XX g-CO/bhp-hr. [District Rules 2201 and 4702, and 17 CCR 93115]
- {4833} PM₁₀ emissions shall not exceed 0.XX g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, and 17 CCR 93115]
- {4258} Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, and 17 CCR 93115]

For rental engines:

The following conditions will be included on ATC X-XXXX-X-0:

- {4838} Emissions from this IC engine shall not exceed any of the following limits: X.XX g-NO_x/bhp-hr, 0.XX g-CO/bhp-hr, or 0.XX g-VOC/bhp-hr. [District Rule 2201 and 17 CCR 93116]
- {4839} Emissions from this IC engine shall not exceed 0.XX g-PM₁₀/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, and 17 CCR 93116]
- {4837} Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, and 17 CCR 93116]

If a limit on the annual hours of operation is required, then also add the following condition:

- {4036} Operation of this engine shall not exceed X,XXX hours per year. [District Rules 2201 and 4102]

E. Compliance Assurance

1. Source Testing

Pursuant to District Policy APR 1705, source testing is not required to demonstrate compliance with Rule 2201.

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201. However, monitoring is required per Rule 4702, Internal Combustion Engines. Refer to the 4702 discussion below.

3. Recordkeeping

If the annual hours of operation will be limited on the permit, then add the following sentence and condition:

The following condition will ensure compliance with the limit on the annual hours of operation:

- {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]

If the annual hours of operation will not be limited on the permit, then add the following sentence:

No recordkeeping specific to Rule 2201 is required.

Other recordkeeping will be according to Rule 4702 and the ATCM.

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

(Note: Applicable only when public notice is triggered, otherwise delete this section.)

(Note: If there is an exceedance of the Ambient Air Quality Standards, this project no longer qualifies as a GEAR. Talk to a supervisor.)

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 Y 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}.

(Note: Special permit conditions may be required as a result of the AAQA.)

Rule 2520 Federally Mandated Operating Permits

(for non-Major Sources):

As discussed in Section VII.C.5 above, this facility is not a Major Source for any pollutant; therefore, Rule 2520 does not apply.

(for Major Sources):

As discussed in Section VII.C.5 above, this facility is an existing Major Source for pollutant(s), and is therefore subject to this rule. This rule will be addressed in the facility's initial Title V project.

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.

The requirements of 40 CFR Part 60, Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines) covers stationary engines at agricultural and non-agricultural facilities.

This subpart is applicable to owners and operators of stationary compression ignited internal combustion engines. The proposed engines in this project are transportable; therefore, this subpart does not apply to this project.

There are no other potentially applicable NSPS subparts.

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.

The requirements of 40 CFR Part 63, Subpart ZZZZ (*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*) applies to stationary engines at agricultural and non-agricultural facilities. Since the proposed engines are transportable, this NESHAPs subpart does not apply.

There are no other potentially applicable NESHAPs subparts.

Rule 4101 Visible Emissions

Rule 4101 states that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. Therefore, the following condition will be included on the ATC to ensure compliance:

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

Rule 4102 Nuisance

Rule 4102 states that no air contaminant shall be released into the atmosphere which causes a public nuisance. Section 4.0 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected. Therefore, the following condition will be included on the ATC 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

The Risk Management Review results for each new engine proposed for this project are shown below (see RMR memo in Appendix E):

HRA Results (ATCs #'s)			
Acute Hazard Index	Chronic Hazard Index	Cancer Risk	T-BACT Required for each engine?
Negligible	Negligible	xx in a million	Yes/No

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification not have acute or chronic indices, or a cancer risk greater than the District's significance levels (i.e. acute and/or chronic indices greater than 1 and a cancer risk greater than 20 in a million). Since the new engine(s) are Tier 4

certified and are replacing Tier 1/Tier 2 engines, the project is approvable since there will be a reduction in risk from the facility.

Discussion of T-BACT

(For a project where TBACT is triggered):

BACT for toxic emission control (T-BACT) is required on an emissions unit by emissions unit basis if the cancer risk exceeds 1.0 in one million for that unit. As indicated in the table above, T-BACT is required for each engine.

T-BACT is satisfied with BACT for PM₁₀ with the applicant's proposal of the latest available certified engine. Therefore, compliance with the District's Risk Management Policy is expected.

(For a project where TBACT is not triggered):

BACT for toxic emission control (TBACT) is required if the cancer risk exceeds one in one million. As indicated in the table above, T-BACT is not required because the cancer risk from each unit is not above 1.0 in a million; therefore, compliance with the District's Risk Management Policy is expected.

The following conditions will be included on the ATC to ensure compliance with the assumptions used in the risk assessment:

- {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]
- {4833} PM₁₀ emissions shall not exceed 0.XX g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, and 17 CCR 93115]

Etc.

Rule 4201 Particulate Matter Concentration

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

$$\text{PM Conc.} = 0.13 \text{ g-PM}_{10}/\text{bhp-hr} \times 1 \text{ g-PM}/0.96 \text{ g-PM}_{10} \times 1 \text{ bhp-hr}/2,542.5 \text{ Btu} \\ \times 1,000,000 \text{ Btu}/9,051 \text{ dscf} \times 0.35 \text{ Btu}_{\text{out}}/1 \text{ Btu}_{\text{in}} \times 15.43 \text{ gr/g}$$

$$\text{PM Conc.} = 0.03 \text{ gr-PM}/\text{dscf}$$

Since 0.03 grain-PM/dscf is \leq to 0.1 grain per dscf, compliance with Rule 4201 is expected.

Therefore, the following condition will be included on the ATCs to ensure compliance:

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

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 engine(s).

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 IC engine(s) do not meet the definition of fuel burning equipment. Therefore, Rule 4301 does not apply.

Rule 4701 Internal Combustion Engines - Phase 1

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 permit(s):

- 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 Stationary Internal Combustion Engines - Phase 2

Purpose (Section 1.0):

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

Applicability (Section 2.0):

This rule applies to any internal combustion engine with a rated brake horsepower 25 and greater.

Requirements (Section 5.0):

Section 5.2.4 requires an operator to replace, repower, or control an existing Tier 1 or Tier 2 certified diesel IC engine to comply with the applicable emission standards by the compliance dates as specified in Table 4:

Table 4		
Engine Type	Emission Limit/ Standard	Compliance Date
2. Certified Compression-Ignited Engine		
a. EPA Certified Tier 1 or Tier 2 Engine	EPA Tier 4	1/1/2015 or 12 years after installation date, but not later than 6/1/18
b. EPA Certified Tier 3 or Tier 4 Engine	Meet Certified Compression-Ignited Engine Standard in effect at time of installation	At time of installation

For farm-owned engines, explain how the engine meets the table above; customize the following language for your project if need be:

The proposed engine is the latest available tier for the particular horsepower range; therefore, it meets the requirements of Table 4, Row 2a above. The engine is in compliance with the emission requirements of the rule for the life of the engine.

For rental engines:

Rule 4702 requires the latest tier upon installation of a diesel engine. The replacement engines are rental units. Rental engines are considered installed upon entering a rental company's fleet. Each rental occurrence is not a new installation and does not need to be replaced with the latest available tier. Over time, as the rental company's fleet engines are replaced according to the requirements of the Portable Compression Engine Air Toxic Control Measure, the new fleet engines should be the latest available tier.

Monitoring (Section 5.9):

Section 5.9.1 requires that the owner of an AO compression-ignited engine comply with the requirements specified in Sections 5.9.2 through 5.9.5.

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

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

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

Section 5.9.5 is applicable to engines retrofitted with a NO_x exhaust control. The engines in this project do not have add-on NO_x controls. Therefore, the requirements of Section 5.9.5 are not applicable.

Emission Control Plan (Section 6.1):

Section 6.1 requires that the owner of an engine subject to the requirements of Section 5.1 or Section 8.0, except for an engine specified in Section 6.1.1, shall submit to the APCO an emission control plan (ECP) of all actions to be taken to satisfy the emission requirements of Section 5.1 and the compliance schedules of Section 7.0.

Section 6.1.1 states Sections 6.1.2 through Section 6.1.3 shall not apply to an engine specified below:

6.1.1.1 A certified compression-ignited engine that has not been retrofitted with an exhaust control and is not subject to the requirements of Section 8.0.

The engines in this project are certified compression-ignited engines not retrofitted with exhaust control and are not subject to Section 8.0. Therefore, an ECP is not required.

Recordkeeping (Section 6.2):

Section 6.2 requires that except for engines subject to Section 4.0, the owner of an engine subject to the requirements of Section 5.1 shall maintain an engine operating log to demonstrate compliance with this rule. This information shall be retained for a period of at least five years, shall be readily available, and be made available to the APCO upon request. The 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,
- Compliance source test results, and
- Any other information necessary to demonstrate compliance with this rule.

Section 6.2.2 requires that the data collected pursuant to the requirements of Section 5.7 shall be maintained for at least five years, shall be readily available, and made available to the APCO upon request.

Compliance Testing (Section 6.3):

Section 6.3 requires that the owner of an engine subject to the requirements of Section 5.1 or the requirements of Section 8.0, shall comply with the requirements of Section 6.3, except for an engine specified in Section 6.3.1.

Section 6.3.1 states Sections 6.3.2 through Section 6.3.4 shall not apply to an engine specified below:

6.3.1.1 A certified compression-ignited engine that has not been retrofitted with an exhaust control and is not subject to the requirements of Section 8.0.

The engines in this project are certified compression-ignited engines not retrofitted with exhaust control and are not subject to Section 8.0. Therefore, source testing is not applicable.

Inspection and Monitoring (I&M) Plan (Section 6.5):

Section 6.5 requires that the owner of an engine subject to the requirements of Section 5.1 or the requirements of Section 8.0, except for an engine specified in Section 6.5.1, to submit to the APCO for approval an I&M plan that specified all actions to be taken to satisfy the requirements of Section 6.5 and 5.7.

Section 6.5.1 states Sections 6.5.2 through Section 6.5.9 shall not apply to an engine specified below:

6.5.1.1 A certified compression-ignited engine that has not been retrofitted with an exhaust control and is not subject to the requirements of Section 8.0.

The engines in this project are certified compression-ignited engines not retrofitted with exhaust control and are not subject to Section 8.0. Therefore, an I&M Plan is not applicable.

Rule 4801 Sulfur Compounds

This rule contains a limit on sulfur compounds. The limit at the point of discharge is 0.2 percent by volume, 2000 ppmv, calculated as sulfur dioxide (SO₂), on a dry basis averaged over 15 consecutive minutes.

The maximum sulfur content of the diesel combusted shall not exceed 0.0015% by weight. Therefore, the sulfur concentration is:

$$\text{S Conc.} = 0.0015\% \text{ S} \times 7.1 \text{ lb/gal} \times 64 \text{ lb-SO}_2/32 \text{ lb-S} \times \text{MMBtu}/9,051 \text{ scf} \times \text{gal-fuel}/0.137 \text{ MMBtu} \\ \times \text{lb-mol}/64 \text{ lb-SO}_2 \times 10.73 \text{ psi-ft}^3/\text{lb-mol-}^\circ\text{R} \times 520 \text{ }^\circ\text{R}/14.7 \text{ psi}$$

$$\text{S Conc.} = 1 \text{ ppmv}$$

Since 1 ppmv is \leq 2000 ppmv, this project is expected to comply with Rule 4801. Therefore, the following condition will be listed on the ATC to ensure compliance:

- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801 and 17 CCR 93116]

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)

For replacement engines that are farm-owned, use the following discussions of the Stationary ATCMs. If the replacement engines are rentals, delete the following discussions of the Stationary ATCMs and use the "rental" ATCM discussion below.

The engines are considered "new" (installed at the facility after January 1, 2005) for the purposes of the ATCM.

§ 93115.1 Purpose

The purpose of this airborne toxic control measure (ATCM) is to reduce diesel particulate matter (PM) and criteria pollutant emissions from stationary diesel-fueled compression ignition (CI) engines.

§ 93115.2 Applicability

This regulation is applicable to stationary and transportable farm-owned agricultural irrigation pump engines.

- (a) Except as provided in section 93115.3, this ATCM applies to any person who either sells a stationary CI engine, offers a stationary CI engine for sale, leases a stationary CI engine, or purchases a stationary CI engine for use in California, unless such engine is:
- (1) a portable CI engine,
 - (2) a CI engine used to provide motive power,
 - (3) an auxiliary CI engine used on a marine vessel, or
 - (4) an agricultural wind machine as defined in section 93115.4.

(b) Except as provided in sections 93115.3 and 93115.9, this ATCM applies to any person who owns or operates a stationary CI engine in California with a rated brake horsepower greater than 50 (>50 bhp).

§ 93115.3 Exemptions

(b) The requirements specified in sections 93115.6 (emergency engines), 93115.7 (prime engines), and 93115.10(a) (reporting) do not apply to stationary diesel-fueled CI engines used in agricultural operations.

§ 93115.5 Fuel and Fuel Additive Requirements for New and In-Use Engines

This regulation stipulates that diesel-fueled portable engines shall use one of the following fuels:

- CARB Diesel Fuel; or
- Alternative diesel fuel that has been verified through the Verification Procedure for In-Use Strategies to Control Emissions from Diesel Engines; or
- CARB diesel fuel utilizing fuel additives that have been verified through the Verification Procedure for In-Use Strategies to Control Emissions from Diesel Engines.

CARB Diesel fuel will be utilized in the engine(s); therefore, this section is satisfied.

§ 93115.8 Emission Standards Agricultural Operations

Emission Standards for New Stationary Diesel-Fueled CI Engines (>50 bhp) Used in Agricultural Operations:

PM Standards

As of January 1, 2005, no person shall operate any new stationary diesel-fueled engine to be used in agricultural operations that has a rated brake horsepower greater than 50, **unless the engine meets the applicable PM requirement for the particular power rating and engine acquisition date or application submittal date (summarized in the table below):**

Emission Standards for New Ag Engines (ATCM Section 93115.8, Table 6)	
Horsepower Range (bhp)	Diesel PM Standards (g-PM/bhp-hr)
Greater than 50 but less than 100	0.3 or Off-Road CI Certification Standard, whichever is more stringent
Greater than or equal to 100 but less than 175	0.22 or Off-Road CI Certification Standard, whichever is more stringent
Greater than or equal to 175	0.15 or Off-Road CI Certification Standard, whichever is more stringent

The proposed PM EF for the engine is 0.XX g-PM10/bhp-hr and therefore satisfies the PM requirement above.

NMHC, NOx, and CO Standards:

Off-Road CI Engine Certification Standard for an off-road engine of the model year and maximum rated power of the engine installed. The proposed engine is Tier X certified; therefore, meets the standards for NMHC, NOx, and CO.

§ 93115.10 Recordkeeping, Reporting, and Monitoring Requirements

(a) Reporting - agricultural engines are exempt from 93115.10(a).

(d) Monitoring Equipment

(1) A non-resettable hour meter with a minimum display capability of 9,999 hours shall be installed upon engine installation, or by no later than January 1, 2005, on all engines subject to all or part of the requirements of sections 93115.6, 93115.7, or 93115.8(a) unless the District determines on a case-by-case basis that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history.

The following condition will be included on the ATC(s):

- {4749} This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 4702 and 17 CCR 93115]

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 93116 (Portable Diesel Engines)

For replacement engines that are rentals, use the following discussions of the Portable ATCMs, otherwise delete this portable ATCM discussion.

In a January 25, 2008 memorandum to ARB's Stationary Source Division Chief, ARB legal counsel set out the following opinion:

In light of specific statutory language codified as a result of the enactment of Senate Bill 700, it is clear that the Legislature intended to consider portable internal combustion engines operating at agricultural sources of air pollution to be a part of the agricultural stationary source. Accordingly, for portable engines owned by the agricultural source owner, the applicable airborne toxic control measure is the Stationary Engine ATCM. For portable engines not owned by the owner of the agricultural source, such as rental portable engines, the Portable Engine ATCM continues to apply.

In the present project, the portable agricultural diesel engines are owned by the rental company; therefore, the Stationary Diesel ATCM does not apply.

The purpose of this airborne toxic control measure (ATCM) is to reduce diesel particulate matter (PM) emissions from portable diesel-fueled engines having a rated brake horsepower of 50 and greater (> 50 bhp).

§ 93116.1 - Applicability:

Except for certain exemptions listed in Section 93116.1(b) (not applicable to the engines in this project), this ATCM applies to all portable engines having a maximum rated horsepower of 50 bhp or greater.

The definition of “portable” is contained in § 93116.2 – Definitions.

The diesel engines in this project are greater than 50 bhp, and since the portable agricultural diesel engines in this project are owned by the rental company, the Portable Diesel Engine ATCM applies.

§ 93116.2 - Definitions:

(bb) Portable means designed and capable of being carried or moved from one location to another. Indicia of portability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. The engine is not portable if:

- (1) the engine or its replacement is attached to a foundation, or if not so attached, will reside at the same location for more than 12 consecutive months. The period during which the engine is maintained at a storage facility shall be excluded from the residency time determination. Any engine, such as a back-up or stand-by engine, that replace engine(s) at a location, and is intended to perform the same or similar function as the engine(s) being replaced, will be included in calculating the consecutive time period. In that case, the cumulative time of all engine(s), including the time between the removal of the original engine(s) and installation of the replacement engine(s), will be counted toward the consecutive time period; or
- (2) the engine remains or will reside at a location for less than 12 consecutive months if the engine is located at a seasonal source and operates during the full annual operating period of the seasonal source, where a seasonal source is a stationary source that remains in a single location on a permanent basis (at least two years) and that operates at that single location at least three months each year; or
- (3) the engine is moved from one location to another in an attempt to circumvent the portable residence time requirements.

The following ATC condition will ensure the proposed IC engines qualify as “portable” under this ATCM:

- This engine shall be operated at one location or site at a facility for no more than 12 consecutive months, or if at a seasonal source, the engine shall not be operated at one location or site at a facility for more than the duration of the season. [District Rules 2201 and 4701 and 17 CCR 93116]

§ 93116.3 - Requirements:

(a) Fuel

Section 93116.3(a) requires diesel-fueled portable engines to use one of the following fuels:

1. CARB Diesel Fuel, or
2. An alternative diesel fuel that has been verified through the Verification Procedures for In-Use Strategies to Control Emissions from Diesel Engines; or
3. CARB Diesel Fuel utilizing fuel additives that verified through the Verification Procedures for In-Use Strategies to Control Emissions from Diesel Engines

The proposed IC engine will use CARB very low sulfur diesel fuel. The following condition will be listed on the ATC to ensure compliance with the fuel requirements of this ATCM:

- {4837} Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801 and 17 CCR 93116]

(b) Diesel PM Emissions Standards

Newly registered portable diesel engines must be certified to the most stringent emissions standard contained in the federal or California emission standards for nonroad engines. This section goes on to enumerate certain exceptions, none of which are pertinent to the present project.

The engines in this project are rentals. Rental engines are considered installed upon entering a rental company's fleet. Each rental occurrence is not a new installation and does not need to be replaced with the latest available tier. Over time, the fleet averaging requirements of the Portable Engine ATCM (see below) will move the rental company to retrofit their diesel engines with a level-3 verified diesel emission control strategy (VDECS) or replace their engines with the latest tier standard in effect.

(c) Fleet Requirements

Beginning January 1, 2013, each fleet is subject to a weighted PM emission factor (g/bhp-hr) average according to the size category of the engine(s) in the fleet.

Compliance with the fleet average requirements is the responsibility of the engine owner, which in the present case is the rental company and not the permittee/facility.

§ 93116.4 Fleet Recordkeeping and Reporting Requirements

Compliance with the recordkeeping and reporting requirements is the responsibility of the engine owner, which in the present case is the rental company and not J G Boswell.

Section (d)(1) requires the installation and maintenance of a non-resettable hour meter on each engine.

This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702 and 17 CCR 93116]

California Health & Safety Code 42301.6 (School Notice)

Reference project location and its proximity to a school and state whether or not school notice is required for this project.

Example (a): (For a Non-School Notice project - > 1,000 feet.)

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.

Example (b): (For a Non-School Notice project – no increase in emissions)

The District has verified that this site is located within 1,000 feet of a school. However, pursuant to California Health and Safety Code 42301.6, since this project will not result in an increase in emissions, a school notice is not required.

Example (c): (For a School Notice project.)

The District has verified that this site is located within 1,000 feet of the following school:

School Name: [Name]
Address: [Address]

Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is required. Prior to the issuance of the ATC for this equipment, notices will be provided to the parents/guardians of all students of the affected school, and will be sent to all residents within 1,000 ft of the site.

[If there is no school w/in ¼ mile of the emissions increase, include the following discussion, otherwise delete]:

The District has verified that there are no additional schools within ¼ mile of the emission source.

[If there is a school w/in ¼ mile of the emissions increase, include the following discussion, otherwise delete]:

Since a school notice has been triggered (due to the above-listed school within 1,000 of the emission source), notices will also be provided to the parents/guardians of all students from all school sites within ¼ mile of the emission source. The following schools(s) are within ¼ mile of the emission source:

School Name: [Name]
Address: [Address]
(add additional schools if necessary)

(Note: Refer to FYI - 71 for guidance on how to process a School Notice project.)

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The San Joaquin Valley Unified Air Pollution Control District (District) adopted its *Environmental Review Guidelines* (ERG) in 2001.

The basic purposes of CEQA are to:

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

The District performed an Engineering Evaluation (this document) for the proposed project and determined that the project qualifies for ministerial approval under the District's Guideline for Expedited Application Review (GEAR). Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which a public agency exercises only ministerial approval. Therefore, the District finds that this project is exempt from the provisions of CEQA.

Indemnification Agreement/Letter of Credit Determination

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

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

IX. Recommendation

*(Use the conditions attached as **Appendix G** as a reference in order to draft your ATC. Delete **Appendix G** upon completion.)*

Compliance with all applicable rules and regulations is expected. Issue ATCs #'s subject to the permit conditions on the attached draft ATCs in Appendix F.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
ATC #	3020-10-X	XXX bhp IC engine	\$

Appendices

- A: PTOs of Engines to be Replaced
- B: ARB Executive Orders
- C: Quarterly Net Emissions Change (QNEC) and PAS Emissions Profile
- D: Top-Down BACT (and T-BACT) Analysis
- E: Risk Management Review Memo
- F: Draft ATCs
- G: *List of possible ATC conditions (this appendix is for your reference, do not attach to final evaluation)*

(Note: For public notice projects, the QNEC and the emission profile are not included as a part of the engineering evaluation package. Instead, put those appendices in the project file.)

Appendix A
PTOs of Engines to be Replaced

Appendix B
ARB Executive Orders

Appendix C

Quarterly Net Emissions Change (QNEC) and PAS Emissions Profile

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).

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

QNEC = (PE2 – PE1) ÷ 4 quarters/year, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.

PE2 = Post Project Potential to Emit for each emissions unit, lb/yr.

PE1 = 0 (since these are new units)

Using the values from Sections VII.C.2 in the equation above, the QNEC for each new unit can be summarized as follows:

Enter the annual PE2 values in the table below and highlight the QNEC field and press F9

QNEC for X-XXXX-1		
Pollutant	PE2 (lb/year)	QNEC (lb/qtr)
NO _x	9,010	2,253
SO _x	19	5
PM ₁₀	334	84
CO	1,689	422
VOC	451	113

QNEC for X-XXXX-2		
Pollutant	PE2 (lb/year)	QNEC (lb/qtr)
NO _x	9,010	2,253
SO _x	19	5
PM ₁₀	278	70
CO	1,689	422
VOC	488	122

Appendix D
Top-Down BACT Analysis

San Joaquin Valley Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline

Emission Unit: Transportable Compression-Ignited
AO IC Engines

Industry Type: Agriculture

Equipment Rating: ≤ 600 bhp

Last Update: June 1, 2006

Pollutant	Achieved in Practice	Technologically Feasible	Alternate Basic Equipment
VOC	<ul style="list-style-type: none"> • The proposed engine shall meet the latest available CARB certification standard for the particular horsepower range. <p>(Example: a 200 bhp engine proposed in 2007 shall emit ≤ 0.149 g-PM10/bhp-hr if triggers BACT for PM10)</p>		<ul style="list-style-type: none"> • LPG/Propane Fired Engine to meet 4702 (either lean, or rich w/3-way catalyst)
NO _x			
CO			
PM ₁₀		<ul style="list-style-type: none"> • LPG/Propane Fired Engine 	
SO _x	<ul style="list-style-type: none"> • Ultra Low Sulfur Fuel (0.0015% fuel S by weight) 		

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.

*This is a Summary Page for this Class of Source

3rd Quarter 2006

Top-Down BACT Analysis for VOC, NO_x, CO, and PM₁₀ Emissions

Step 1 - Identify All Possible Control Technologies

Option 1 - Latest available certified compression-ignited engine, Achieved in Practice (AIP)

Option 2 - LPG fired engine, Alternate Basic Equipment (ABE)

Step 2 - Eliminate Technologically Infeasible Options

There are no technologically infeasible options shown in Step 1.

Step 3 - Rank Technologies

Control Technology	Rank	Emission Factors (g/bhp-hr)	Technology Classification for BACT
LPG/Propane Engine + 3-way catalyst	1	NO _x : 1.1 (Rule 4702) VOC: 1.1 (Rule 4702) CO: 3.0 (Rule 4702 + 3-way) PM ₁₀ : 0.063	ABE
Latest Tier Certification Levels	2	NO _x + VOC: 3.0 - 5.6 CO: 2.6 - 3.7 PM ₁₀ : 0.149 - 0.3	AIP

Step 4 - Cost Effectiveness Analyses

Cost Effectiveness Analysis: LPG Engine (shown on next page)

The cost analysis shown is a multi-pollutant cost analysis for NO_x, SO_x, CO, PM₁₀, and VOC emissions. As demonstrated in the cost analysis, an LPG engine as ABE is not cost effective for any engine 50 - 600 bhp. Therefore, an LPG engine is not cost effective for the proposed XXX bhp IC engine.

Cost Effectiveness Analysis: Latest Available Certified Compression-Ignited Engine

Per District BACT Policy, a cost effectiveness analysis is not required for AIP controls since the control must be implemented.

Step 5 - Select BACT

The remaining control not eliminated in Step 4 (latest available certification) is considered AIP BACT for this class and category of source. The applicant has proposed the latest certification; therefore, BACT is satisfied.

Example – Use Latest Version of Spreadsheet

Irrigation Pump Alternate Basic Equipment (ABE) Cost Analysis: LPG vs Diesel

bhp	MCET ⁴ (\$/year)	Diesel Engine Purchase (\$/year)	Diesel Fuel ¹ (\$/year)	LPG Engine (\$/year)	3-way Cat (\$/year)	LPG Fuel ¹ (\$/year)	Cost Difference (ABE - Diesel) (\$/year)	Is LPG Cost Effective?
50	\$6,480	\$978	\$37,363	\$2,282	\$2,445	\$52,012	\$18,398	NO
100	\$12,961	\$1,467	\$74,726	\$3,668	\$2,445	\$104,024	\$33,944	NO
150	\$19,441	\$2,396	\$112,089	\$4,075	\$2,445	\$156,037	\$48,071	NO
200	\$25,921	\$2,869	\$149,453	\$6,341	\$2,445	\$208,049	\$64,513	NO
250	\$32,402	\$4,157	\$186,816	\$8,183	\$2,445	\$260,061	\$79,716	NO
300	\$38,882	\$4,189	\$224,179	\$8,981	\$2,445	\$312,073	\$95,132	NO
400	\$51,843	\$6,145	\$298,905	\$10,562	\$2,445	\$416,098	\$124,055	NO
500	\$64,804	\$6,292	\$373,631	\$12,844	\$2,445	\$520,122	\$155,488	NO
600	\$77,764	\$8,802	\$448,358	\$16,007	\$2,445	\$624,147	\$185,438	NO

Assumptions:

District Standard EF's - Tier 3 (g/bhp-hr) ³					Engine Rating (bhp)	Diesel Engine ² (\$)	LPG Engine ⁶ (\$)	3-way Cat (\$) ⁹					
					NOx	VOC	SOx	PM10	CO	50	100	150	200
2.85	0.15	0.0051	0.149	3.03	50	\$6,000	\$14,000	\$15,000					
Agricultural Diesel Fuel Cost (\$/gal):					100	\$9,000	\$22,500	\$15,000					
Diesel Brake Specific Fuel Consumption ⁷ (Btu/bhp-hr):					150	\$14,700	\$25,000	\$15,000					
Spark-Ignited BSFC ⁷ (Btu/bhp-hr):					200	\$17,600	\$38,900	\$15,000					
Capital recovery factor (10%, 10 yrs):					250	\$25,500	\$50,200	\$15,000					
LPG fuel cost ⁸ (\$/gal):					300	\$25,700	\$55,100	\$15,000					
Op Schedule (hr/year):					400	\$37,700	\$64,800	\$15,000					
NG EF's (g/bhp-hr) ⁵					500	\$38,600	\$78,800	\$15,000					
1.275	1.232	0.01	0.1	17.242	600	\$54,000	\$98,200	\$15,000					

¹Takes into account that irrigation pumps typically operate at an annual average of 65% load.

²Per ERIP: Includes capital engine cost, misc. material, tax, and installation.

³The NOx, VOC and PM10 EFs are Tier 3 levels. The VOC and CO EFs are from AP-42, Table 3.3-1, 10/96 (for diesel engines less than 600 hp). The SOx EF is based on very low S fuel since that kind of fuel is AIP.

⁴The emissions reductions used for the MCET are based on the difference between District std diesel emissions (Tier 3) and required District Rule 4702 spark-ignited engine emission levels. Assumes BACT is triggered for NOx, VOC, and PM10.

⁵Minimum 4702 requirements for NOx, VOC, CO for rich-burn ag engines (would have 3-way catalyst)

⁶Per Cummins, includes purchase, misc. equip. and tax.

⁷CAPCOA Portable IC Engine Tech. Ref. Document, 5/95.

⁸Per Red Triangle Oil (559-485-4320), local propane supplier on 9/23/08

⁹Per Ceasar Balman (Engine Control Systems), turnkey cost about \$3,000; replacment every 2 yrs (total \$15,000 over 10 yrs)

Other Notes:

LPG HHV (Btu/gal): 90,500 (from AP-42, A-6, 9/85)
 453.6 g/lb x 2,000 lb/ton = 907,200 g/ton

Appendix E
Risk Management Review Memo

Appendix F
Draft ATCs

Appendix G

ATC Conditions

(this appendix is for your reference, do not attach to final evaluation)

ATC Conditions

For replacement engines owned by the farm/dairy

{Copy from PAS general condition folder and remove the conditions not required}

1. {4830} Within 90 days after startup of the equipment authorized by this Authority to Construct, Permit to Operate C-XXXX-X shall be surrendered to the District and the associated equipment shall be removed or rendered inoperable. [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. [District Rules 2070 and 2080, and Public Resources Code 21000-21177: California Environmental Quality Act]
5. {4002} This IC engine shall only be used for the growing and harvesting of crops or the raising of fowl or animals for the primary purpose of making a profit, providing a livelihood, or conducting agricultural research or instruction by an educational institution. [District Rules 4701 and 4702, and 17 CCR 93115]
6. {4831} This engine shall be operated at one location or site at a facility for no more than 12 consecutive months, or if at a seasonal source, the engine shall not be operated at one location or site at a facility for more than the duration of the season. [District Rules 2201 and 4701]
7. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
8. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
9. {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]
10. {4749} This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 4702 and 17 CCR 93115]
11. **If necessary,** {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. {4258} Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, and 17 CCR 93115]
13. **If necessary,** {4036} Operation of this engine shall not exceed X,XXX hours per year. [District Rule

2201]

14. {4832} Emissions from this IC engine shall not exceed any of the following limits: X.XX g-NOx/bhp-hr, X.XX g-CO/bhp-hr, or X.XX g-VOC/bhp-hr. [District Rules 2201, 4102, and 4702, and 17 CCR 93115]
15. {4833} Emissions from this IC engine shall not exceed X.XX g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201, 4102, and 4702, and 17 CCR 93115]
16. {4261} This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702]
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. {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, and any other information necessary to demonstrate compliance. [District Rule 4702]
19. **If necessary**, {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
20. {3497} 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]

If various specified locations have been proposed, the approved locations should be listed in the permit conditions.

21. {4834} This engine may be operated at the following locations: XXX, YYY, ZZZ. [District Rule 2201]

For rental engines

{Copy from PAS general condition folder and remove the conditions not required}

(The difference between the rental and farm-owned engines is the Stationary or Portable ATCM reference.)

1. {4830} Within 90 days after startup of the equipment authorized by this Authority to Construct, Permit to Operate C-XXXX-X shall be surrendered to the District and the associated equipment shall be removed or rendered inoperable. [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. [District Rules 2070 and 2080, and Public Resources Code 21000-21177: California Environmental Quality Act]
5. {4264} This engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4702]
6. {4831} This engine shall be operated at one location or site at a facility for no more than 12 consecutive months, or if at a seasonal source, the engine shall not be operated at one location or site at a facility for more than the duration of the season. [District Rules 2201 and 4701 and 17 CCR 93116]
7. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
8. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
9. {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]
10. {3404} This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
11. **If necessary**, {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. {4837} Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, and 17 CCR 93116]
13. **If necessary**, {4036} Operation of this engine shall not exceed X,XXX hours per year. [District Rule 2201]
14. {4838} Emissions from this IC engine shall not exceed any of the following limits: X.X g-NOx/bhp-hr, 0.XX g-CO/bhp-hr, or 0.XX g-VOC/bhp-hr. [District Rule 2201 and 17 CCR 93116]
15. {4839} Emissions from this IC engine shall not exceed 0.XX g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93116]
16. {4261} This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702]
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. {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]

19. If necessary, {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]

20. {3497} 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]

If various specified locations have been proposed, the approved locations should be listed in the permit conditions.

21. {4834} This engine may be operated at the following locations: XXX, YYY, ZZZ. [District Rule 2201]