San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

NOV 0 7 2016

Kenneth Richins
South Valley Farms
15443 Beech Avenue
Wasco, CA 93280

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: S-8555
Project Number: S-1163342

Dear Mr. Richins:

Enclosed for your review and comment is the District's analysis of South Valley Farms's application for an Authority to Construct for a 380 hp IC engine powering an irrigation pump near Wasco, CA.

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

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Richard Edgehill of Permit Services at (661) 392-5617.

Sincerely,

Arnaud Marjollet
Director of Permit Services

AM:rue

Enclosures

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

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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www.valleyair.org www.healthyairliving.com

San Joaquin Valley Air Pollution Control District

Natural Gas Fired Agricultural IC Engine with Certified CIC Altronic Add-On Control System for District Rule 4702 Compliance

Facility Name: South Valley Farms
Mailing Address: 15443 Beech Avenue
Wasco, CA 93280
Location Address: NW Section 17 T27S R26E

Date: October 10, 2016
Engineer: Richard Edgehill
Lead Engineer: Steve Leonard

Contact Person: Kenneth Richins
Telephone: (661) 391-9000
Cell: (661) 912-6980
Application #(s): S-8555-6-0
Project #: S-1163342
Deemed Complete: October 7, 2016

I. Proposal

South Valley Farms is applying for an Authority to Construct (ATC) permit for the installation of one 380 hp natural gas-fired engines powering a water pump. The IC engine is equipped with District-certified controls for NOx and VOC emissions (please see Emissions Control Technology Evaluation for details).

The increase in emissions triggers BACT for NOx and VOC. Public notice is required. Offsets are not required.

The source is not a Major Source and therefore Rules 2420 and 2530 are not applicable.

II. Applicable Rules

Rule 1070 Inspections (12/17/92)
Rule 2201 New and Modified Stationary Source Review Rule (2/18/16)
Rule 2410 Prevention of Significant Deterioration (6/16/11)
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 4301 Fuel Burning Equipment (12/17/92)
Rule 4701 Internal Combustion Engines – Phase I (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
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 at Block L (73-200-07) at Ranch 9B,Section 17, T 27S, R 26 E, Wasco. Pursuant to California Health and Safety Code 42301.6, since this project is not within 1000 feet of a K -12 school, a school notice is not required. A location map is included in **Attachment** I.

IV. Process Description

The IC engines located at this facility powers water pumps which are used for the growing of crops and/or animals.

V. Equipment Listing

ATC Equipment Description:

S-8555-6-0: 380 HP CUMMINS MODEL GTA19 NATURAL GAS FIRED IC ENGINE WITH ALTRONICS CONTROLS AND CATALYST

VI. Emission Control Technology Evaluation

All five criteria pollutants (NO_x, SO_x, PM_{10}, CO, and VOC) are emitted by the IC engine.

The engine is equipped with a CIC Altronic System consisting of the following components:

- Altronic Model EPC50 air/fuel ratio controller,
- EmeraChem EC-1200-04-S-CS 3-way catalyst system,

- Zirconia exhaust gas oxygen sensor,
- two Type K thermocouples.

Non-Selective Catalytic Reduction (NSCR) decreases NO_x, CO and VOC emissions by using a catalyst to promote the chemical reduction of NO_x into N_2 and O_2, and the chemical oxidation of VOC and CO into H_2O and CO_2. The manufacturer has listed typical conversion efficiencies of 90% -99% for NOx and CO.

The fuel/air ratio controller, (oxygen controller) is used in conjunction with the NSCR to maintain the amount of oxygen in the exhaust stream to optimize catalyst function.

VII. General Calculations

A. Assumptions

- Daily operating schedule: 24 hours/day
- Annual operating schedule: 8760 hours/year
- EPA F-factor (adjusted to 60°F): 8,578 dscf/MMBtu (40 CFR 60 Appendix B)
- Fuel heating value: 1,000 Btu/scf (District Policy APR 1720)
- Sulfur concentration: 2.85 lb/MMscf (District Policy APR 1720)
- BHP to Btu/hr conversion: 2,542.5 Btu/hp·hr
- Thermal efficiency of engine: commonly ≈ 30%

B. Emission Factors

Emission Factors		
Pollutant	g/hp·hr*	Source
NO_x	1.255	Altronic Interim Certification
SO_x	0.011	Mass Balance Equation Below
PM_{10}**	0.075	AP-42 (7/00) Table 3.2-3
CO	8.49	1000 ppmv @ 15% O2 proposed
VOC	0.243	50 ppmv @ 15% O2, BACT Requirement

*g/hp·hr equivalent of lb/MMBtu values is calculated as follows: (example for SO_x)

$$* \frac{0.00285\ lb}{MMBtu} \times \frac{0.002542\ MMBtu}{hp\text{-}hr_{in}} \times \frac{1\ hp_{in}}{0.30\ hp_{out}} \times \frac{453.6\ g}{1\ lb} = 0.011\ g/hp\text{-}hr$$

**PM_{10} value includes both filterable (9.50×10^{-3} lb/MMBtu) and condensable (9.91×10^{-3} lb/MMBtu) emissions.

$$\frac{0.01941\ lb}{MMBtu} \times \frac{0.0025425\ MMBtu}{hp\text{-}hr_{in}} \times \frac{1\ hp_{in}}{0.30\ hp_{out}} \times \frac{453.6\ g}{1\ lb} = 0.0746\ g/hp\text{-}hr$$

C. Calculations

1. Pre-Project Potential to Emit (PE1)

This is a new engine therefore PE1 = 0 for all pollutants.

2. Post-Project Potential to Emit (PE2)

Daily Pre-Project Emissions					
Pollutant	Emissions Factor (g/bhp-hr)	Rating (bhp)	Daily Hours of Operation (hrs/day)	Conversion (g/lb)	PE1 Total (lb/day)
NO_X	1.255	380	24	453.6	25.2
SO_X	0.011	380	24	453.6	0.2
PM_{10}	0.075	380	24	453.6	1.5
CO	8.49	380	24	453.6	170.7
VOC	0.243	380	24	453.6	4.9

Annual Pre-Project Emissions					
Pollutant	Emissions Factor (g/bhp-hr)	Rating (bhp)	Annual Hours of Operation (hrs/yr)	Conversion (g/lb)	PE1 Total (lb/yr)
NO_X	1.255	380	8760	453.6	9210
SO_X	0.011	380	8760	453.6	81
PM_{10}	0.075	380	8760	453.6	550
CO	8.49	380	8760	453.6	62,304
VOC	0.243	380	8760	453.6	1,783

Emissions Profiles are included as **Attachment II.**

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 $PE1_{Total\ Pre\text{-}Project}$ from all units for all criteria pollutants.

SSPE1					
Permit Unit	NO_x (lb/yr)	SO_x (lb/yr)	PM_{10} (lb/yr)	CO (lb/yr)	VOC (lb/yr)
S-8555-1-1	2358	47	164	7462	358
S-8555-3-1	2358	47	164	7462	358
S-8555-4-1	2618	20	79	4463	507
ATC S-8555-5-0	1081	42	290	11240	39
SSPE1	8,415	156	697	30,627	1,262

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.

Since this is a modification to an existing facility, SSPE2 is equal to the $PE2_{\text{Total Post-Project}}$ from all units for all criteria pollutants.

For this project the change in emissions for the facility is due to the installation of these engines. Thus:

SSPE2					
Permit Unit	NO_x (lb/yr)	SO_x (lb/yr)	PM_{10} (lb/yr)	CO (lb/yr)	VOC (lb/yr)
SSPE1 Total	8,415	156	697	30,627	1,262
ATC S-8555-6-0	9,210	81	550	62,304	1,783
SSPE2 Total	17,625	237	1,247	92,931	3,045

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

Rule 2201 Major Source Determination (lb/year)						
	NO_X	SO_X	PM_{10}	$PM_{2.5}$	CO	VOC
SSPE1	8,415	156	697	697	30,627	1,262
SSPE2	17,625	237	1,247	1,247	92,931	3,045
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	No	No

Note: PM2.5 assumed to be equal to PM10

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 facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). Therefore the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Estimated Facility PE before Project Increase	4.2	0.6	0.08	15.3	0.35	0.35
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)	N	N	N	N	N	N

As shown above, the facility is not an existing PSD major source for at least one pollutant.

6. Baseline Emissions (BE)

The BE calculation (in lb/year) is performed pollutant-by-pollutant for each unit within the project to calculate the QNEC, and if applicable, to determine the amount of offsets required.

Pursuant to District Rule 2201, BE = PE1 for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201.

As shown in Section VII.C.5 above, the facility is not a Major Source for any pollutant.

Since this is a new emissions unit BE = 0.

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 states that a Federal Major Modification is the same as a "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

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 PM_{10} (140,000 lb/year), it is not a major source for PM2.5 (200,000 lb/year).

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

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

PSD Major Source Determination: Potential to Emit (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Total PE from New and Modified Units	4.6	0.9	0.04	31.2	0.28	0.28
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	N	N	N	N	N	N

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. The permit unit is new and therefore QNEC is PE2/4 for all air contaminants.

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 listed on the ATCs to ensure compliance:

- {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.

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 NOx 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 SB288 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 discussed previously in Section I, for this project there is an installation of a new emissions unit with a PE > 2 lb/day for any criteria pollutant; therefore BACT is triggered for NOx and VOC for a new emissions unit with a PE > 2 lb/day. The PE is greater than 2 lb/day for CO from this engine, however SSPE2 is less than 200,000 lb/yr so BACT is not triggered for CO for this engine.

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

As discussed previously in Section I, these engines are not being relocated from one stationary source to another as a result of this project. Therefore, BACT is not triggered for the relocation of emissions units with a PE > 2 lb/day.

c. Modification of emissions units – Adjusted Increase in Permitted Emissions (AIPE) > 2 lb/day

As discussed previously in Section I, these engines are not being modified as a result of this project. Therefore, BACT is not triggered for the modification of emissions units with an AIPE > 2 lb/day.

d. SB 288/Federal Major Modification

As discussed in Section VII.C.7 above, this project does not constitute a SB 288 and/or Federal Major Modification for NO_X emissions; therefore BACT is not triggered for any pollutant.

2. BACT Guideline

Draft BACT Guideline X.X.X, applies to AO Stationary Spark Ignited IC engines (≤ 1,000 hp) serving Irrigation Pumps. (See **Attachment III)**

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.

BACT has been satisfied with the following (see **Attachment IV**):

NO_X: NO_X emissions of 90 ppmvd @ 15% O_2 or less
VOC: VOC emissions of 50 ppmvd @ 15% O_2 or less

B. Offsets

1. Offset Applicability

Per Section 4.6.9, offsets are not required for agricultural operations.

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, and/or
d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.
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. As shown in Section VII.C.5 above, the SSPE2 is not greater than the Major Source threshold for any pollutant. Therefore, 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

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

PE > 100 lb/day Public Notice Thresholds			
Pollutant	**PE2 (lb/day)**	**Public Notice Threshold**	**Public Notice Triggered?**
NO_X	25.2	100 lb/day	No
SO_X	0.2	100 lb/day	No
PM_{10}	1.5	100 lb/day	No
CO	341.4	100 lb/day	Yes
VOC	4.9	100 lb/day	No

Therefore, public noticing for PE > 100 lb/day purposes is 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	7,953	13,210	20,000 lb/year	No
SO_X	49	95	54,750 lb/year	No
PM_{10}	37,386	37,700	29,200 lb/year	No
CO	33,899	105,028	200,000 lb/year	No
VOC	96,615	97,633	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.

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	**SSPE1 (lb/year)**	**SSPE2 (lb/year)**	**SSIPE (lb/year)**	**SSIPE Public Notice Threshold**	**Public Notice Required?**
NO_x	7,953	13,210	5,257	20,000 lb/year	No
SO_x	49	95	46	20,000 lb/year	No
PM_{10}	37,386	37,700	314	20,000 lb/year	No
CO	33,899	105,028	71,129	20,000 lb/year	Yes
VOC	96,615	97,633	1,018	20,000 lb/year	No

As demonstrated above, the SSIPE for CO was 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 CO emissions in excess of 100 lb/day and 20,000 lb/yr. 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 Emission Limits (DELs)

DELs and other enforceable conditions are required by Rule 2201 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. The DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

For this IC engine, the DELs are stated in the form of emission factors (g/hp-hr or lb/MMBtu), the maximum engine horsepower rating, and the maximum operational time of 24 hours per day.

Proposed Rule 2201 (DEL) Conditions:

{4872} NOx emissions from this IC engine shall not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rules 2201 and 4702] N

PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201] N

Emissions from this IC engine shall not exceed any of the following limits: 2000 ppmvd CO @ 15% O2 (equivalent to 16.981 g-CO/bhp-hr) or 50 ppmvd-VOC @ 15% O2 (equivalent to 0.243 g-VOC/bhp-hr). [District Rules 2201 and 4702] N

E. Compliance Assurance

1. Source Testing

Source testing is not required under Rule 4702 (see below).

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201. However, monitoring is required per Rule 4702 (Internal Combustion Engines - Phase 2), see the 4702 discussion below.

3. Recordkeeping

The following conditions will appear on the permit:

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

4. Reporting

No reporting is required to demonstrate 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 **Attachment V** 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 PM_{10} 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 PM_{10} and $PM_{2.5}$.

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 following subpart of 40 CFR Part 60 applies to reciprocating natural gas-fired IC engines.

40 CFR 60 Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

The District has authority to implement this subpart via the Title V program for Major Sources. However, the District does not have jurisdiction on implementing this subpart for minor sources since EPA has not delegated that part of the subpart to date.

Although the District is not implementing the subpart for minor sources since it remains EPA responsibility, subject facilities are still required to meet the subpart.

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*) 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 the permit.

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.

Pursuant to Section 4.12, emissions subject to or specifically exempt from Regulation VIII (Fugitive PM10 Prohibitions) are considered to be exempt. Since IC engines are not subject to or specifically exempt from Regulation VIII, the provisions of Rule 4101 apply to IC engines. Therefore, the following condition will be placed on the ATCs.

- {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in anyone hour which is dark or darker than Ringelmann 1 or equivalent to 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 listed 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.

An HRA is not required for a project with a total facility prioritization score of less than or equal to one. According to the Technical Services Memo for this project (**Attachment V**), the total facility prioritization score including this project was less than or equal to one. Therefore, no future analysis is required to determine the impact from this project and compliance with the District's Risk Management Policy is expected.

Rule 4201 Particulate Matter Concentration

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot.

$$0.075 \quad \frac{g}{hp \cdot hr} \times \frac{1\,hp \cdot hr}{2{,}542.5\,Btu} \times \frac{10^6\,Btu}{8{,}578\,dscf} \times \frac{0.30\,Btu_{out}}{1\,Btu_{in}} \times \frac{15.43\,grain}{g} = \quad 0.016 \quad \frac{grain}{dscf}$$

Since 0.016 grain/dscf is not greater than 0.1 grain/dscf, compliance with this rule is expected.
The following condition will be listed on the ATCs to ensure compliance:

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

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 Rule 4701]

Rule 4702 Stationary Internal Combustion Engines

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

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

Section 5.2.3 requires the owner of a spark-ignited internal combustion engine shall not operate it in such a manner that results in emissions exceeding the limits in Table 1 below for the appropriate engine type according to the compliance schedules listed in Section 7.0 or according to the compliance dates specified in Table 1 below. A spark-ignited engine shall comply with the applicable emission limits pursuant to Section 5.1 or Section 8.0.

Table 1 Emission Limits/Standards for a Spark-Ignited Internal Combustion Engine and Emission Limits/Standards and Compliance Schedule for a Spark-Ignited Engine Used Exclusively in Agricultural Operations (corrected to 15% oxygen on a dry basis)

District Rule 4702 Emission Limits			
Engine Type	NO_x	CO	VOC
3. Rich-Burn Engine Used Exclusively in Agricultural Operations			
a. Comply by 1/1/2009, or if owner has an agreement to electrify, comply by 1/1/2010	90 ppmv or 80% reduction	2000 ppmv	250 ppmv

The facility has proposed to equip their existing natural gas engine in this project with an interim certified Altronic Inc. EPC-50 AFRC emission control system that meets the applicable NOx, CO and VOC limits for rich-burn engines used in exclusively agricultural operations. To ensure compliance with Section 5.1 of District Rule 4702, the following conditions will be placed on the permits:

- *The Altronic Inc. EPC-50 AFRC System shall consist of an Altronic EPC50 air/fuel ratio controller, an EmeraChem EC-1200-04-S-CS three-way catalyst system, two Type K thermocouples, and Zirconia exhaust gas oxygen sensor. [District Rule 4702]*
- *The Altronic Inc. EPC-50 AFRC System shall be installed, maintained and operated according to the component manufacturer's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702]*
- *A person performing installation of or maintenance specific to the Altronic Inc. EPC-50 AFRC System shall be a certified employee of Coastal Ignition & Controls or Water Associates, or work under the direct and personal supervision of an individual physically present at the work site who is certified. [District Rule 4702]*
- *This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO-approved alternative. [District Rule 4702]*
- *This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer, Coastal Ignition & Controls (CIC), or Water Associates. [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). [District Rule 4702]*
- *This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 4702 and 4801]*
- *The oxygen sensor shall be replaced every 2,000 hours of operation or when the EPC-50 controller indicates that an alarm code has been triggered for the sensor, whichever occurs earliest. Whenever the oxygen sensor is replaced, the Altronic Inc. EPC-50 AFRC System shall be calibrated, prior to resuming normal engine operation, according to the procedures outlined by equipment manufacturer. [District Rule 4702]*
- *The catalyst module housing and elements shall be visually inspected at least once every calendar quarter. The catalyst shall be washed at least once every 8,640 hours of operation and replaced at least every 25,920 hours of operation. [District Rule 4702]*
- *The thermocouples shall be replaced according to the manufacturer recommendations but at least every 36,000 hours of engine operation or every 48 calendar months, whichever comes first. Whenever the thermocouples are replaced, the Altronic Inc. EPC-50 AFRC System shall be calibrated, prior to resuming normal engine operation, according to the procedures outlined by Coastal Ignition & Controls. [District Rule 4702]*
- *The pre- and post-catalyst exhaust temperatures shall be monitored and the temperature increase over the catalyst shall be recorded at initial system calibration. Both temperatures shall be monitored at least once in each calendar month that the engine operates. If the temperature increase over the catalyst becomes less than 50% of the initially determined value, the Altronic Inc. EPC-50 AFRC System shall be calibrated or repaired, as necessary. [District Rule 4702]*
- *After the Altronic Inc. EPC-50 AFRC System is calibrated or repaired in response to a catalyst temperature drop, a District-approved portable analyzer shall be used to determine that the NOx and CO emissions and O2 levels are at or below permitted levels. The pre- and post-catalyst exhaust temperatures shall be monitored and the*

temperature increase over the catalyst shall be recorded at that time and the temperature increase over the catalyst shall be re-established. Monthly monitoring of the pre- and post-catalyst exhaust temperature shall resume as required in the previous condition, based on the new temperature increase value. [District Rule 4702]

- *Within 30 days after installation of the Altronic Inc. EPC-50 AFRC System, a District-approved portable analyzer shall be used to determine NOx and CO emissions, and O2 levels. 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. 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]*
- *Until this system receives Final Certification from the District, the NOx, CO, and O2 monitoring provisions specified above condition shall be conducted at least once every 12 months. Monitoring conducted as part of routine maintenance and repair actions may be used satisfy this requirement, so long as no more than twelve months elapses between monitoring actions. Should the 12 month deadline fall during a period of non-operation, the engine shall be monitoring within 30-calandar days of recommencing operations. [District Rule 4702]*
- *If either the NOx or CO concentrations corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than eight (8) hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after eight (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 performing the notification and testing required by this condition. [District Rule 4702]*
- *During the start-up inspection, the District shall be provided with written documentation that the emission control system is suitable for use on this engine and verify the engine's horsepower rating, exhaust flow rate, exhaust temperature, oil consumption, general mechanical condition and the available fuel supply pressure will satisfy the criteria for proper operation of the Altronic Inc. EPC-50 AFRC System, along with portable analyzer calibration records and results. [District Rule 4702]*
- *{4872} NOx emissions from this IC engine shall not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rules 2201 and 4702] N*
- *PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201] N*
- *Emissions from this IC engine shall not exceed any of the following limits: 2000 ppmvd CO @ 15% O2 (equivalent to 16.981 g-CO/bhp-hr) or 50 ppmvd-VOC @ 15% O2 (equivalent to 0.243 g-VOC/bhp-hr). [District Rules 2201 and 4702] N The operator shall maintain engine operating log records of: 1) the monthly engine hour meter reading; 2)*

the date and the engine hour meter reading at each oxygen sensor change, and thermocouples change; 3) the monthly pre- and post-catalyst exhaust temperatures monitoring data including the initial temperature differential and any subsequently determined temperature differentials; 4) the date and engine hour meter reading of each catalyst module inspection, washing, and replacement; and 5) fuel purchase records. [District Rule 4702]

- *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]*
- *Should Final Certification of the Altronic Inc. EPC-50 AFRC System not be achieved by June 30th, 2018, this engine shall be considered to be uncertified under Rule 4702 and subject to initial and periodic source testing every 60 months, portable analyzer monitoring every 24 months, and a District-approved monthly Inspection & Monitoring plan. [District Rule 4702]*
- *The District may revise and/or add requirements in the future as necessary to ensure the Altronic Inc. EPC-50 AFRC System operates according to its* ***Interim*** *Certification requirements. [District Rule 4702]*

Section 5.3 provides requirements for continuous emissions monitoring systems (CEMS). The engine in this project is not equipped with a CEMS; therefore, this section does not apply.

Sections 5.4 and 5.5 provide requirements for engines that use percent emission reduction to comply with the NOx emission limits of Section 5.2. The engine in this project does not use percent emission reduction to comply with the emission limits of Section 5.2; therefore, these sections do not apply.

Section 5.6 provides requirements for operators that will pay an annual fee in lieu of complying with a NOx emission limit. As previously discussed, the engine in this project will comply with the NOx emission limit in Section 5.2.3 of this rule; therefore, the option to pay an annual fee is not applicable.

Section 5.7 provides sulfur oxide (SOx) emission control requirements for non-AO spark-ignited engines and non-AO compression-ignited engines. The engine in this project is used exclusively in agricultural operations (AO); therefore, the SOx emission control requirements of this section do not apply.

Section 5.8 provides monitoring requirements for non-AO spark-ignited engines and engines in an AECP (Section 8.0). The engine in this project is used exclusively in agricultural operations (AO) and is not in an Alternate Emissions Control Plan (AECP); therefore, the monitoring requirements of this section do not apply.

Section 5.9 states that the owner of an AO spark-ignited or compression-ignited engine subject to the requirements of Section 5.2 shall:

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

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

Conditions that ensure compliance with the requirements of Section 5.9 were previously mentioned in Section 5.2.3. Therefore, compliance is expected and no further discussion is necessary.

Section 5.9.5 requires the owner of an agricultural spark-ignited engine that has been retrofitted with an exhaust control system that has not been certified in accordance with Section 9.0 to conduct periodic monitoring of the engine's NOx emissions using a District-approved portable emissions analyzer.

- Use a portable NOx analyzer to take NOx emission readings at least once every 24 months that the engine is operated.
- All emission readings shall be taken with the engine operating either at conditions representative of normal operations or conditions specified in the Permit-to-Operate or Permit-Exempt Equipment Registration.
- The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO.
- All NOx emissions readings shall be reported to the APCO in a manner approved by the APCO.
- NOx emission readings taken pursuant to this section 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.

The applicant has proposed to install an interim certified control system. Conditions that ensure compliance with the requirements of Section 5.9.5 were previously mentioned in Section 5.2.3. Therefore, compliance is expected and no further discussion is necessary.

Section 6.1 requires that the owner of an engine subject to the requirements of this rule shall submit to the APCO an emission control plan of all actions to be taken to satisfy the emission requirements of Section 5.1 and the compliance schedules of Section 7.0.

Section 6.1.3 requires that the emission control plan shall identify the type of emission control device or technique to be applied to each engine and a construction/removal schedule, or shall provide support documentation sufficient to demonstrate that the engine is in compliance with the emission requirements of this rule.

The applicant has submitted all the required information for Section 6.1 and 6.1.3 in the application for the IC engine involved with this project.

Section 6.2 requires that the owner of an engine subject to the requirements of Section 5.2 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 5.6 shall be maintained for at least five years, shall be readily available, and made available to the APCO upon request.

Conditions that ensure compliance with the requirements of Section 6.2 and 6.2.2 were previously mentioned in Section 5.2.3. Therefore, compliance is expected and no further discussion is necessary.

Section 6.3 provides source testing requirements for an owner of an engine subject to Section 5.2 or Section 8.0. Pursuant to section 6.3.1, the following engines shall comply with the requirements of Sections 6.3.2 through 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.

The applicant has proposed to install an interim certified exhaust control device and will be required to perform a portable analyzer test upon startup of the engine; no source testing is required. Therefore, the requirements of Section 6.3 are not applicable.

Section 6.4 outlines the test procedures for determining compliance with the requirements of Section 5.2. The engine in this project is subject to the requirements of Section 5.2; however, the engine is not subject to source testing, as previously discussed, since the exhaust control system received interim certification. Therefore the requirements of this section are not applicable.

Section 6.5 requires that the owner of an engine subject to the emission limits in Section 5.2 or the requirements of Section 8.0 shall submit to the APCO for approval, an Inspection and Monitoring (I&M) plan that specifies all actions to be taken to satisfy the following requirements

and the requirements of Section 5.8. Pursuant to section 6.5.1, the following engines shall comply with the requirements of Sections 6.5.2 through 6.5.9.

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.

The applicant has proposed to install an interim certified exhaust control device and is not subject to Section 8.0. Therefore, the requirements of Section 6.5 are not applicable.

Section 7.3 outlines the compliance schedule for AO compression-ignited engines. The engine in this project is a spark-ignited engine; therefore, the requirements of this section are not applicable.

Section 8.0 outlines the requirements for an Alternative Emission Control Plan (AECP). As previously discussed, the engine in this project is not subject to submitting an AECP; therefore, the requirements of this section are not applicable.

Rule 4801 Sulfur Compounds

The purpose of this rule is to limit the emissions of sulfur compounds to 0.2% by volume (2,000 ppmv) calculated as sulfur dioxide (SO_2), on a dry basis averaged over 15 consecutive minutes.
Given:

- Emission factor for SO_x for PUC gas = 0.00285 lb-SO_x/MMBtu
- Volume SO_2 = nRT/P
- n = moles SO_2
- T (standard temperature) = 60 °F or 520 °R
- R (universal gas constant) = $\frac{10.73\,\text{psi}\cdot\text{ft}^3}{\text{lb}\cdot\text{mol}\cdot{}^\circ\text{R}}$

$$\frac{0.00285\ lb\cdot SO_x}{MMBtu}\times\frac{1\ MMBtu}{8{,}578\ dscf}\times\frac{1\ lb\cdot mole}{64\ lb}\times\frac{10.73\ psi\cdot ft^3}{lb\cdot mole\cdot{}^\circ R}\times\frac{520{}^\circ R}{14.7\ psi}\times\frac{1{,}000{,}000\ parts}{million}=1.97\frac{parts}{million}$$

Since 1.97 ppmv is ≤ 2000 ppmv, this engine is expected to comply with Rule 4801. The following condition will be included on the ATC.

- *This IC engine shall be fired on Public Utility Commission (PUC) quality 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)

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

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

It is determined that no other agency has prepared or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project.

On December 17, 2009, the District's Governing Board adopted a policy, APR 2005, *Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency,* for addressing GHG emission impacts when the District is Lead Agency under CEQA and approved the District's guidance document for use by other agencies when addressing GHG impacts as lead agencies under CEQA. Under this policy, the District's determination of significance of project-specific GHG emissions is founded on the principal that projects with GHG emission reductions consistent with AB 32 emission reduction targets are considered to have a less than significant impact on global climate change. Consistent with District Policy 2005, projects complying with an approved GHG emission reduction plan or GHG mitigation program, which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, would be determined to have a less than significant individual and cumulative impact for GHG emission.

The California Air Resources Board (ARB) adopted a Cap-and-Trade regulation as part one of the strategies identified for AB 32. This Cap-and-Trade regulation is a statewide plan, supported by a CEQA compliant environmental review document, aimed at reducing or mitigating GHG emissions from targeted industries. Facilities subject to the Cap-and-Trade regulation are subject to an industry-wide cap on overall GHG emissions. Any

growth in emissions must be accounted for under that cap such that a corresponding and equivalent reduction in emissions must occur to allow any increase. Further, the cap decreases over time, resulting in an overall decrease in GHG emissions.

Under District policy APR 2025, *CEQA Determinations of Significance for Projects Subject to ARB's GHG Cap-and-Trade Regulation*, the District finds that the Cap-and-Trade is a regulation plan approved by ARB, consistent with AB32 emission reduction targets, and supported by a CEQA compliant environmental review document. As such, consistent with District Policy 2005, projects complying project complying with Cap-and-Trade requirements are determined to have a less than significant individual and cumulative impact for GHG emissions.

The GHG emissions increases associated with this project result from the combustion of fossil fuel(s), other than jet fuel, delivered from suppliers subject to the Cap-and-Trade regulation. Therefore, as discussed above, consistent with District Policies APR 2005 and APR 2025, the District concludes that the GHG emissions increases associated with this project would have a less than significant individual and cumulative impact on global climate change.

District CEQA Findings

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. Issue ATCs S-5898-11-0 subject to the permit conditions on the attached draft ATC in **Attachment VI**.

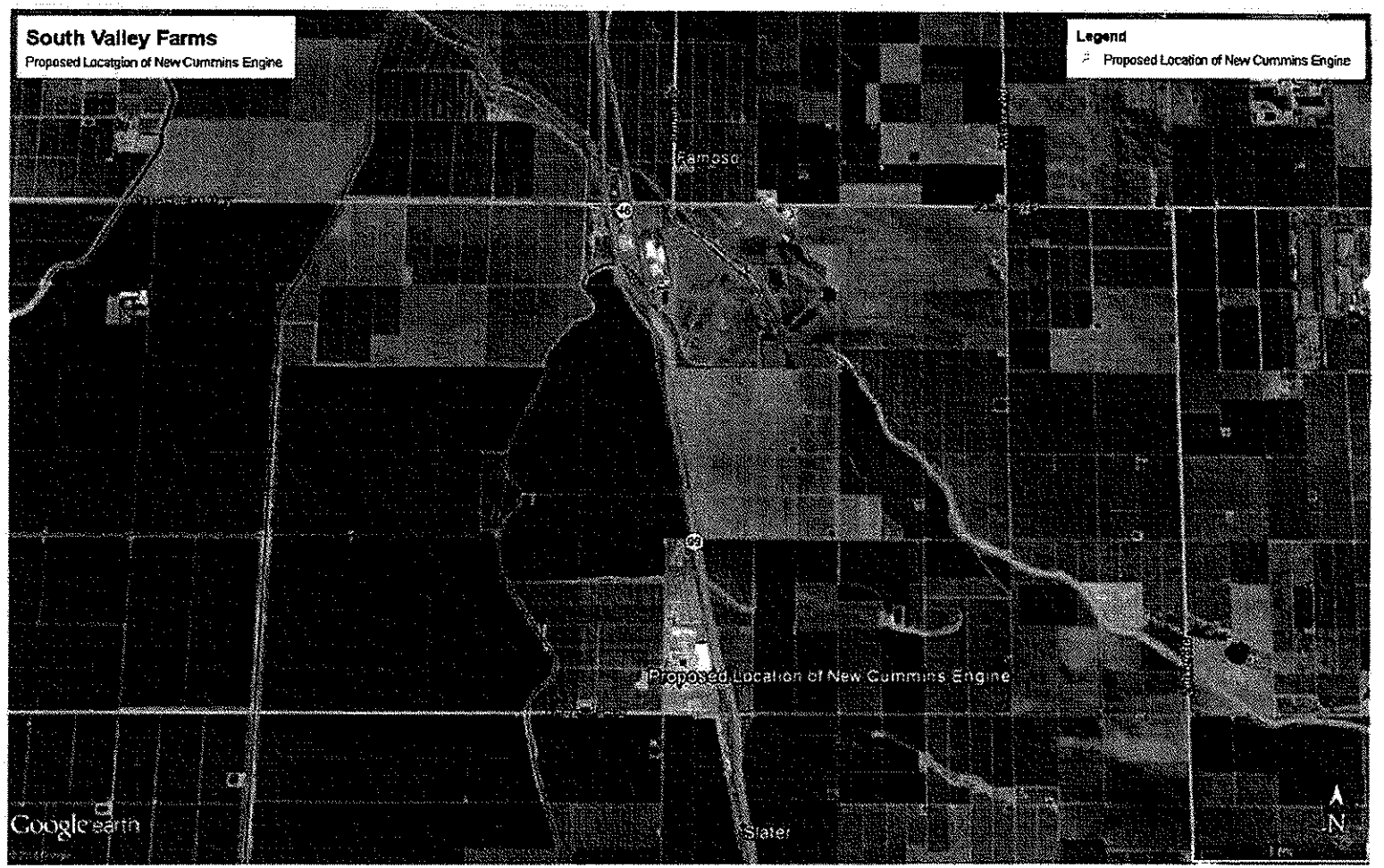
X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
ATC S-5898-11	3020-10-C	380 bhp IC Engine	$252

Attachments

I: Location Map
II: Emissions Profiles
III: BACT Guideline
IV: BACT Analysis
V HRA/AAQA Modelling
VI: Draft ATC

ATTACHMENT I
Location Map


South Valley Farms
Proposed Location of New Cummins Engine
Legend
Proposed Location of New Cummins Engine
Famoso
Proposed Location of New Cummins Engine
Google earth
Stater
N

ATTACHMENT II
Emissions Profile

Application Emissions

Permit #: S-8555-6-0	Last Updated
Facility: SOUTH VALLEY FARMS - RANCH 9B	10/08/2016 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	9210.0	81.0	550.0	62304.0	1783.0
Daily Emis. Limit (lb/Day)	25.2	0.2	1.5	170.7	4.9
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	2302.0	20.0	137.0	15576.0	445.0
Q2:	2302.0	20.0	137.0	15576.0	446.0
Q3:	2303.0	20.0	138.0	15576.0	446.0
Q4:	2303.0	21.0	138.0	15576.0	446.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

ATTACHMENT III
BACT Guideline

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.

ATTACHMENT IV
BACT Analysis

BACT Analysis for NOx

I. Step 1 - Identify All Possible Control Technologies

Option 1: 90 ppmv @ 15% O_2
Option 2: Electrification (ABE)
Option 3: Lean Burn Engine with 5 ppmv @ 15% O_2

II. Step 2 - Eliminate Technologically Infeasible Options

Since electrical power is not located at the water well, electrification is not technologically feasible.

Pursuant to the BACT Guideline above, the option of a 5 ppm lean burn engine is only technologically feasible if the applicant has proposed a lean burn engine. Since the applicant has proposed a rich burn engine, this option is not technologically feasible and shall be eliminated.

III. Step 3 - Rank Technologies

Control Technology	Rank	Emissions	Technology Classification for BACT
Catalyst	1	90 ppmv	AIP

IV. Step 4 - Cost Effectiveness Analyses

Since the only remaining control technology has been proposed, a cost effectiveness analysis is not required.

V. Step 5 - Select BACT

The applicant has selected the most effective feasible NOx control. Therefore BACT is satisfied with 90 ppmv NOx.

BACT Analysis for VOC Emissions

Step 1 - Identify All Possible Control Technologies

Option 1: 50 ppm VOC @ 15% O_2 (AIP)
Option 2: Electrification (ABE)

II. Step 2 - Eliminate Technologically Infeasible Options

Since electrical power is not located at the water well, electrification is not technologically feasible.

III. Step 3 - Rank Technologies

Control Technology	Rank	Emissions	Technology Classification for BACT
Catalyst	1	50 ppmv	AIP

IV. Step 4 - Cost Effectiveness Analyses

Since the only remaining control technology has been proposed, a cost effectiveness analysis is not required.

V. Step 5 - Select BACT

The applicant has selected the most effective feasible VOC control. Therefore BACT is satisfied with 50 ppmv NOx.

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
E. AAQA Summary

ATTACHMENT V
HRA/AAQA Modelling

San Joaquin Valley Air Pollution Control District
Risk Management Review

To:	Richard Edgehill, AQE – Permit Services
From:	Stephanie Pellegrini, AQS – Technical Services
Date:	October 25, 2016
Facility Name:	South Valley Farms
Location:	1/4 Sec 17, T27S, R26E
Application #(s):	S-8555-6-0
Project #:	S-1163342

A. RMR SUMMARY

RMR Summary			
Categories	**NG IC Engine (Unit 6-0)**	**Project Totals**	**Facility Totals**
Prioritization Score	0.05	0.05	<1.0
Acute Hazard Index	N/A[1]	N/A[1]	0.00
Chronic Hazard Index	N/A[1]	N/A[1]	0.00
Maximum Individual Cancer Risk	N/A[1]	N/A[1]	0.00
T-BACT Required?	**No**		
Special Permit Requirements?	**No**		

[1]Acute and Chronic Hazard Index and Maximum Individual Cancer Risk were not calculated since the total facility prioritization score was less than 1.0.

B. RMR REPORT

I. Project Description

Technical Services received a request on October 7, 2016, to perform an Ambient Air Quality Analysis and a Risk Management Review for a proposed installation of a 380 HP rich-burn natural gas-fired IC engine.

II. Analysis

Toxic emissions for this proposed unit were calculated using 2000 AP42 emission factors for Natural Gas-Fired internal combustion 4 Stroke Rich Burn Engine. The use of a catalyst reduces TACs by 76% (NESHAP). These emissions were input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015), risks from the proposed unit's toxic emissions were prioritized using the procedure in the 1990 CAPCOA Facility Prioritization Guidelines. The prioritization score for this proposed unit was less than 1.0 (see RMR Summary Table). Therefore, no further analysis was necessary.

The following parameters were used for the review:

Analysis Parameters Unit 6-0			
Source Type	Point	**Location Type**	Rural
Stack Height (m)	2.01	**Closest Receptor (m)**	1105
Stack Diameter (m)	0.20	**Type of Receptor**	Residential
Stack Exit Velocity (m/s)	28.0	**Max Hours per Year**	8760
Stack Exit Temp. (°K)	894	**Fuel Type**	NG
NG Usage (MMscf/hr)	0.003	**NG Usage (MMscf/yr)**	24.2

Technical Services performed modeling for criteria pollutants CO, NO_x, SO_x, and PM10 with the emission rates below:

Unit #	NO_x (Lbs.)		SO_x (Lbs.)		CO (Lbs.)		PM_{10} (Lbs.)	
	Hr.	Yr.	Hr.	Yr.	Hr.	Yr.	Day	Yr.
6-0	1.05	9210	0.008	81	7.11	62304	1.5	550

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

Diesel ICE	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	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.
[1]The 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.
[2]The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

III. Conclusion

The prioritization score is less than 1.0. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

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.

ATTACHMENT VI
Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-8555-6-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: SOUTH VALLEY FARMS - RANCH 9B
MAILING ADDRESS: 15443 BEECH AVE
WASCO, CA 93280

LOCATION: SEC 17 & SW 1/4 SEC 16 27/26
ZACHARY AND JACKSON RD
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:
380 HP CUMMINS MODEL GTA19 NATURAL GAS FIRED IC ENGINE WITH ALTRONICS CONTROLS AND 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. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
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. {4877} 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]
7. The Altronic Inc. EPC-50 AFRC System shall consist of an Altronic EPC50 air/fuel ratio controller, an EmeraChem EC-1200-04-S-CS three-way catalyst system, two Type K thermocouples, and Zirconia exhaust gas oxygen sensor. [District Rule 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

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Arnaud Marjollet, Director of Permit Services

S-8555-6-0 Oct 8 2015 12:09PM – EDGEHILR : Joint Inspection NOT Required

8. {4879} The Altronic Inc. EPC-50 AFRC System shall be installed, maintained and operated according to the component manufacturer's recommendations and shall be in place and operating at all times during engine operation. **[District Rule 4702]**

9. {4880} A person performing installation of or maintenance specific to the Altronic Inc. EPC-50 AFRC System shall be a certified employee of Coastal Ignition & Controls or Water Associates, or work under the direct and personal supervision of an individual physically present at the work site who is certified. [District Rule 4702]

10. {3404} This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]

11. {4893} This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer, Coastal Ignition & Controls (CIC), or Water Associates. [District Rule 4702]

12. {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]

13. {4863} This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 4702 and 4801]

14. {4881} The oxygen sensor shall be replaced every 2,000 hours of operation or when the EPC-50 controller indicates that an alarm code has been triggered for the sensor, whichever occurs earliest. Whenever the oxygen sensor is replaced, the Altronic Inc. EPC-50 AFRC System shall be calibrated, prior to resuming normal engine operation, according to the procedures outlined by equipment manufacturer. [District Rule 4702]

15. {4882} The catalyst module housing and elements shall be visually inspected at least once every calendar quarter. The catalyst shall be washed at least once every 8,640 hours of operation and replaced at least every 25,920 hours of operation. [District Rule 4702]

16. {4883} The thermocouples shall be replaced according to the manufacturer recommendations but at least every 36,000 hours of engine operation or every 48 calendar months, whichever comes first. Whenever the thermocouples are replaced, the Altronic Inc. EPC-50 AFRC System shall be calibrated, prior to resuming normal engine operation, according to the procedures outlined by Coastal Ignition & Controls. [District Rule 4702]

17. {4884} The pre- and post-catalyst exhaust temperatures shall be monitored and the temperature increase over the catalyst shall be recorded at initial system calibration. Both temperatures shall be monitored at least once in each calendar month that the engine operates. If the temperature increase over the catalyst becomes less than 50% of the initially determined value, the Altronic Inc. EPC-50 AFRC System shall be calibrated or repaired, as necessary. [District Rule 4702]

18. {4885} After the Altronic Inc. EPC-50 AFRC System is calibrated or repaired in response to a catalyst temperature drop, a District-approved portable analyzer shall be used to determine that the NOx and CO emissions and O2 levels are at or below permitted levels. The pre- and post-catalyst exhaust temperatures shall be monitored and the temperature increase over the catalyst shall be recorded at that time and the temperature increase over the catalyst shall be re-established. Monthly monitoring of the pre- and post-catalyst exhaust temperature shall resume as required in the previous condition, based on the new temperature increase value. [District Rule 4702]

19. {4886} Within 30 days after installation of the Altronic Inc. EPC-50 AFRC System, a District-approved portable analyzer shall be used to determine NOx and CO emissions, and O2 levels. 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. 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]

CONDITIONS CONTINUE ON NEXT PAGE

20. {4887} Until this system receives Final Certification from the District, the NOx, CO, and O2 monitoring provisions specified above condition shall be conducted at least once every 12 months. Monitoring conducted as part of routine maintenance and repair actions may be used satisfy this requirement, so long as no more than twelve months elapses between monitoring actions. Should the 12 month deadline fall during a period of non-operation, the engine shall be monitoring within 30-calendar days of recommencing operations. [District Rule 4702]

21. {3786} If either the NOx or CO concentrations corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than eight (8) hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after eight (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 performing the notification and testing required by this condition. [District Rule 4702]

22. {4888} During the start-up inspection, the District shall be provided with written documentation that the emission control system is suitable for use on this engine and verify the engine's horsepower rating, exhaust flow rate, exhaust temperature, oil consumption, general mechanical condition and the available fuel supply pressure will satisfy the criteria for proper operation of the Altronic Inc. EPC-50 AFRC System, along with portable analyzer calibration records and results. [District Rule 4702]

23. {4872} NOx emissions from this IC engine shall not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rules 2201 and 4702]

24. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201]

25. Emissions from this IC engine shall not exceed any of the following limits: 1000 ppmvd CO @ 15% O2 (equivalent to 8.49 g-CO/bhp-hr) or 50 ppmvd-VOC @ 15% O2 (equivalent to 0.243 g-VOC/bhp-hr). [District Rules 2201 and 4702]

26. {4894} The operator shall maintain engine operating log records of: 1) the monthly engine hour meter reading; 2) the date and the engine hour meter reading at each oxygen sensor change, and thermocouples change; 3) the monthly pre- and post-catalyst exhaust temperatures monitoring data including the initial temperature differential and any subsequently determined temperature differentials; 4) the date and engine hour meter reading of each catalyst module inspection, washing, and replacement; and 5) fuel purchase records. [District Rule 4702]

27. {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]

28. {4889} Should Final Certification of the Altronic Inc. EPC-50 AFRC System not be achieved by June 30th, 2018, this engine shall be considered to be uncertified under Rule 4702 and subject to initial and periodic source testing every 60 months, portable analyzer monitoring every 24 months, and a District-approved monthly Inspection & Monitoring plan [District Rule 4702]

29. {4890} The District may revise and/or add requirements in the future as necessary to ensure the Altronic Inc. EPC-50 AFRC System operates according to its Interim Certification requirements. [District Rule 4702]