San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

MAY 17 2018

Devin Aviles
Agri-World Cooperative
31545 Donald Ave
Madera, CA 93636

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: C-6699
Project Numbers: C-1172086 through C-1172089, and C-1180534

Dear Mr. Aviles:

Enclosed for your review and comment is the District's analysis of Agri-World Cooperative's application for Authority to Construct permits for the operation of six diesel-fired IC engines with various horsepower ratings powering agricultural irrigiation pumps, at 31545 Donald Ave in Madera.

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 and 45-day EPA notice comment periods, 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. Derek Fukuda of Permit Services at (559) 230-5917.

Sincerely,

Arnaud Marjollet
Director of Permit Services

AM:df

Enclosures

cc: Tung Le, CARB (w/ enclosure) via email
cc: Gerardo C. Rios, EPA (w/ enclosure) via email

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

(Diesel-Fired IC Engines Power Irrigation Pumps)

Facility Name:	Agri-World Cooperative	Date:	May 10, 2018
Mailing Address:	31545 Donald Ave Madera, CA 93636	Engineer:	Derek Fukuda
		Lead Engineer:	Jerry Sandhu
Contact Person:	Devin Aviles		
Telephone:	(559) 673-1306		
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E-Mail:	d.aviles@agri-worldcoop.com		
Application #s:	C-6699-29-0 through -34-0		
Project #s:	C-1172086 through C-1172089, and C-1180534		
Deemed Complete:	August 11, 2017		

I. Proposal

The primary business of Agri-World Cooperative is the growing of pistachios. Agri-World Cooperative is an existing facility with multiple unpermitted diesel-fired IC engines powering irrigation pumps, which are currently in operation. The facility is applying for Authority to Construct (ATC) permits for all existing engines currently operating at their facility.

Since the IC engines being addressed in this evaluation were installed and operated without first obtaining District permits, the rules and regulations in place when the IC engines were installed will need to be evaluated to determine if the IC engines were installed and operated in compliance with all application rules and regulations. The IC engines being addressed in this evaluation were installed over the course of five years (December 2012 – March 2017). During these five years, the District's NSR Rule (District Rule 2201) was amended once (February 18, 2016). The main amendments to the NSR Rule consisted of revisions to the $PM_{2.5}$ thresholds and permitting requirements. The potential $PM_{2.5}$ emissions from the engines installed prior to the adoption of the February 18, 2016 version of the rule are well below any of the revised thresholds. All engines in this project will be evaluated using the most recent version of the NSR Rule. By examining the installation dates (see Appendix B) of the IC engines in this evaluation, the installation and removal/replacement of the IC engines at this facility can be separated into five projects. The proposed modifications and details of each of these five projects are shown below:

Project 1 (C-1172086):

- Installation of a 475 bhp diesel-fired Tier 4I certified IC engine powering an irrigation pump (ATC C-6699-29-0).
- Include new unit -29-0 in existing 50,000 lb-NOx/year SLC.

Project 2 (C-1172087):

- Installation of a 575 bhp diesel-fired Tier 4F certified IC engine powering an irrigation pump (ATC C-6699-30-0) as a replacement emissions unit for an existing IC engine (unit -19-0). The proposed engine replacement qualify as a Routine Replacement (Replacement Emission Unit) under Rule 2201. See discussion in Section VIII, Compliance, Rule 2201, of this application review.
- Include new unit -30-0 in existing 50,000 lb-NOx/year SLC.

Project 3 (C-1172088):

- Installation of a 475 bhp diesel-fired Tier 4I certified IC engine powering an irrigation pump (ATC C-6699-31-0).
- Include new unit -31-0 in existing 50,000 lb-NOx/year SLC.

Project 4 (C-1172089):

- Installation of a 225 bhp diesel-fired Tier 4F certified IC engine powering an irrigation pump (ATC C-6699-32-0).
- Include new unit -32-0 in existing 50,000 lb-NOx/year SLC.

Project 5 (C-1180534):

- Installation of a 300 bhp diesel-fired Tier 4F certified IC engine powering an irrigation pump (ATC C-6699-33-0) as a replacement emissions unit for an existing IC engine (unit -16-0). The proposed engine replacement qualify as a Routine Replacement (Replacement Emission Unit) under Rule 2201. See discussion in Section VIII, Compliance, Rule 2201, of this application review.
- Installation of a 340 bhp diesel-fired Tier 4F certified IC engine powering an irrigation pump (ATC C-6699-34-0) as a replacement emissions unit for an existing IC engine (unit -17-0). The proposed engine replacement qualify as a Routine Replacement (Replacement Emission Unit) under Rule 2201. See discussion in Section VIII, Compliance, Rule 2201, of this application review.
- Include new unit -34-0 in existing 50,000 lb-NOx/year SLC.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (2/18/16)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4701	Internal Combustion Engines - Phase 1 (8/21/03)
Rule 4702	Internal Combustion Engines (11/14/13)
Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice

B. Emission Factors

Units C-6699-16-0, -17-0, and 19-0:

The NOx, PM_{10}, CO and VOC emissions factors were taken from the ARB Executive Order for the specific engines. The SOx emission factor is calculated using the sulfur content in the diesel fuel (0.0015% sulfur). The emission factors and source of the emission factors for units -16-0, -17-0, and -19-0 are shown in Appendix B and summarized in the following table:

Emission Factors (Units -16-0, -17-0, and -19-0)					
Permit Unit	**NOx (g/bhp-hr)**	**SOx (g/bhp-hr)**	**PM_{10} (g/bhp-hr)**	**CO (g/bhp-hr)**	**VOC (g/bhp-hr)**
C-6699-16-0	2.62	0.0051	0.112	2.31	0.14
C-6699-17-0	2.55	0.0051	0.149	2.46	0.13
C-6699-19-0	2.76	0.0051	0.119	2.09	0.15

Units C-6699-29-0 through -34-0:

The NOx, PM_{10}, CO and VOC emissions factors for the engines in this evaluation were taken from the ARB Executive Order for the specific engine. The SOx emission factor is calculated using the sulfur content in the diesel fuel (0.0015% sulfur). The emission factors and sources of the emission factors for the new engines are shown in Appendix B and summarized in the following table:

Emission Factors (Units -29-0 through -34-0)					
Permit Unit	**NOx (g/bhp-hr)**	**SOx (g/bhp-hr)**	**PM_{10} (g/bhp-hr)**	**CO (g/bhp-hr)**	**VOC (g/bhp-hr)**
C-6699-29-0	1.12	0.0051	0.0007	0.37	0.1
C-6699-30-0	0.08	0.0051	0.007	0.01	0.03
C-6699-31-0	1.12	0.0051	0.0007	0.37	0.07
C-6699-32-0	0.20	0.0051	0.0015	0.97	0.01
C-6699-33-0	0.09	0.0051	0.0075	0.07	0.01
C-6699-34-0	0.08	0.0051	0.0075	0.07	0.01

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Units C-6699-16-0, -17-0, and -19-0:

The PE1s for the engines being replaced in this evaluation are calculated in Appendix B using the calculations shown below, and are summarized in the following tables:

Daily PE1 (lb/day) = Engine Rating (bhp) x EF (g/bhp-hr) x 24 hr/day ÷ 453.6 g/lb

Annual PE1 (lb/year) = Engine Rating (bhp) x EF (g/bhp-hr) x 5,000 hr/year x 0.8 load ÷ 453.6 g/lb

Daily PE1 (Units C-6699-16-0, -17-0, and -19-0)					
Permit Unit	**NOx (lb/day)**	**SOx (lb/day)**	**PM_{10} (lb/day)**	**CO (lb/day)**	**VOC (lb/day)**
C-6699-16-0	38.1	0.1	1.6	33.6	2.0
C-6699-17-0	43.8	0.1	2.6	42.3	2.2
C-6699-19-0	84.0	0.2	3.6	63.6	4.4

Annual PE1 (Units C-6699-16-0, -17-0, and -19-0)					
Permit Unit	**NOx (lb/year)**	**SOx (lb/year)**	**PM_{10} (lb/year)**	**CO (lb/year)**	**VOC (lb/year)**
C-6699-16-0	6,354	12	271	5,602	340
C-6699-17-0	7,308	15	428	7,050	373
C-6699-19-0	13,995	26	605	10,597	761

Units C-6699-29-0 through -34-0:

Since these are new emissions units, PE1 = 0 for all pollutants.

2. Post-Project Potential to Emit (PE2)

Units C-6699-16-0, -17-0, and -19-0:

Since these engines have been replaced by new engines in this evaluation and are no longer in operation, PE2 = 0 for all pollutants.

Units C-6699-29-0 through -34-0):

The PE2s for units -29-0 through -34-0 are calculated in Appendix B using the calculations shown below, and are summarized in the following tables:

Daily PE2 (lb/day) = Engine Rating (bhp) x EF (g/bhp-hr) x 24 hr/day ÷ 453.6 g/lb

Annual PE2 (lb/year) = Engine Rating (bhp) x EF (g/bhp-hr) x 5,000 hr/year x 0.8 load ÷ 453.6 g/lb

Daily PE2 (Units C-6699-29-0 through -34-0)					
Permit Unit	**NOx (lb/day)**	**SOx (lb/day)**	**PM_{10} (lb/day)**	**CO (lb/day)**	**VOC (lb/day)**
C-6699-29-0	28.1	0.1	0.0	9.3	2.5
C-6699-30-0	2.4	0.2	0.2	0.3	0.9
C-6699-31-0	28.1	0.1	0.0	9.3	1.8
C-6699-32-0	2.4	0.1	0.0	11.5	0.1
C-6699-33-0	1.4	0.1	0.1	1.1	0.2
C-6699-34-0	1.4	0.1	0.1	1.3	0.2

Annual PE2 (Units C-6699-29-0 through -34-0)					
Permit Unit	**NOx (lb/year)**	**SOx (lb/year)**	**PM_{10} (lb/year)**	**CO (lb/year)**	**VOC (lb/year)**
C-6699-29-0	4,691	21	3	1,550	419
C-6699-30-0	406	26	35	51	152
C-6699-31-0	4,691	21	3	1,550	293
C-6699-32-0	397	10	3	1,925	20
C-6699-33-0	238	13	20	185	26
C-6699-34-0	240	15	22	210	30

* Units C-6699-29-0 through -32-0, and -34-0 are included in a 50,000 lb-NOx/year SLC. Their individual annual PE2s for NOx are calculated and shown in the table above; however, the 50,000 lb-NOx/year SLC value will be used in stationary source PE calculations.

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

Pursuant to District Rule 2201, the 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 (AER) that have occurred at the source, and which have not been used on-site.

As discussed in the Proposal section of this evaluation, the installation and replacement of the engines in this evaluation were split into five separate projects. Each of the five projects will be evaluated individually to determine if the engines were in compliance with all applicable rules and regulations at the time they were installed. Therefore, the SSPE1 will be calculated for each of the five projects. The SSPE1s for each project is calculated in Appendix B and are summarized in the following table:

SSPE1 (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
Project 1	104,738	231	5,267	108,142	6,194
Project 2	104,738	253	5,270	109,692	6,612
Project 3	104,738	233	4,266	89,290	5,500
Project 4	104,738	274	4,703	100,695	6,297
Project 5	104,738	284	4,706	102,619	6,317

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

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

As discussed in the SSPE1 section above, the SSPE2 for each of the five projects are calculated in Appendix B and are summarized in the following table:

SSPE2 (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
Project 1	104,738	253	5,270	109,692	6,612
Project 2	104,738	253	4,700	99,145	6,004
Project 3	104,738	274	4,703	100,695	6,297
Project 4	104,738	284	4,706	102,619	6,317
Project 5	69,755	218	2,571	55,942	3,811

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

Project 1 (C-1172086):

Rule 2201 Major Source Determination (lb/year)						
	NO_X	SO_X	PM_{10}	$PM_{2.5}$	CO	VOC
SSPE1	104,738	231	5,267	5,267	108,142	6,194
SSPE2	104,738	253	5,270	5,270	109,692	6,612
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	Yes	No	No	No	No	No

Note: PM2.5 assumed to be equal to PM_{10}

As seen in the table above, the facility is an existing Major Source for NOx emissions and will remain a Major Source for NOx.

Project 2 (C-1172087):

Rule 2201 Major Source Determination (lb/year)						
	NO_X	SO_X	PM_{10}	$PM_{2.5}$	CO	VOC
SSPE1	104,738	253	5,270	5,270	109,692	6,612
SSPE2	104,738	253	4,700	4,700	99,145	6,004
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	Yes	No	No	No	No	No

Note: PM2.5 assumed to be equal to PM_{10}

As seen in the table above, the facility is an existing Major Source for NOx emissions and will remain a Major Source for NOx.

Project 3 (C-1172088):

Rule 2201 Major Source Determination (lb/year)						
	NO_X	SO_X	PM_{10}	$PM_{2.5}$	CO	VOC
SSPE1	104,738	233	4,266	4,266	89,290	5,500
SSPE2	104,738	274	4,703	4,703	100,695	6,297
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	Yes	No	No	No	No	No

Note: PM2.5 assumed to be equal to PM_{10}

As seen in the table above, the facility is an existing Major Source for NOx emissions and will remain a Major Source for NOx.

Project 4 (C-1172089):

Rule 2201 Major Source Determination (lb/year)						
	NO_X	SO_X	PM_{10}	$PM_{2.5}$	CO	VOC
SSPE1	104,738	274	4,703	4,703	100,695	6,297
SSPE2	104,738	284	4,706	4,706	102,619	6,317
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	Yes	No	No	No	No	No

Note: PM2.5 assumed to be equal to PM_{10}

As seen in the table above, the facility is an existing Major Source for NOx emissions and will remain a Major Source for NOx.

Project 5 (C-1180534):

Rule 2201 Major Source Determination (lb/year)						
	NO_X	SO_X	PM_{10}	$PM_{2.5}$	CO	VOC
SSPE1	104,738	284	4,706	4,706	102,619	6,317
SSPE2	69,755	218	2,571	2,571	55,942	3,811
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	Yes	No	No	No	No	No

Note: PM2.5 assumed to be equal to PM_{10}

As seen in the table above, the facility is an existing Major Source for NOx emissions and will remain a Major Source for NOx.

Rule 2410 Major Source Determination:

The facility or the equipment evaluated in this evaluation 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.

Project 1 (C-1172086):

PSD Major Source Determination (tons/year)						
	NO_2	VOC	SO_2	CO	PM	PM_{10}
Estimated Facility PE before Project Increase	52.4	3.0	0.1	54.1	2.6	2.6
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 any regulated NSR pollutant expected to be emitted at this facility.

Project 2 (C-1172087):

PSD Major Source Determination (tons/year)						
	NO_2	VOC	SO_2	CO	PM	PM_{10}
Estimated Facility PE before Project Increase	52.4	3.2	0.1	54.8	2.6	2.6
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 any regulated NSR pollutant expected to be emitted at this facility.

Project 3 (C-1172088):

PSD Major Source Determination (tons/year)						
	NO_2	VOC	SO_2	CO	PM	PM_{10}
Estimated Facility PE before Project Increase	52.4	2.7	0.1	44.6	2.1	2.1
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 any regulated NSR pollutant expected to be emitted at this facility.

Project 4 (C-1172089):

PSD Major Source Determination (tons/year)						
	NO_2	VOC	SO_2	CO	PM	PM_{10}
Estimated Facility PE before Project Increase	52.4	3.1	0.1	50.3	2.4	2.4
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 any regulated NSR pollutant expected to be emitted at this facility.

Project 5 (C-1180534):

PSD Major Source Determination (tons/year)						
	NO_2	VOC	SO_2	CO	PM	PM_{10}
Estimated Facility PE before Project Increase	52.3	3.2	0.1	513	2.4	2.4
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 any regulated NSR pollutant expected to be emitted at this facility.

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 discussed in the Proposal section of this evaluation, the installation and removal/replacement of the IC engines at this facility were split into five separate projects. The BE will be determined for each unit involved in each project.

As shown in Section VII.C.5 above, the facility is an existing Major Source for NOx for each of the five projects. Additionally, the facility is not a Major Source for any of the other criterial pollutants.

Project 1 (C-1172086):

This project consists of the installation of one new engine (unit -29-0).

C-6699-29-0:

Since this is a new emissions unit, BE = PE1 = 0 for all pollutants.

Project 2 (C-1172087):

This project consists of the routine replacement of one existing engine (unit -19-0) with one new engine (unit -30-0).

C-6699-30-0:

Since this is a new emissions unit, BE = PE1 = 0 for all pollutants.

Project 3 (C-1172088):

This project consists of the installation of one new engine (unit -31-0).

C-6699-31-0:

Since this is a new emissions unit, BE = PE1 = 0 for all pollutants.

Project 4 (C-1172089):

This project consists of the installation of one new engine (unit -32-0).

C-6699-32-0:

Since this is a new emissions unit, BE = PE1 = 0 for all pollutants.

Project 5 (C-1180534):

This project consists of the routine replacement of two existing engines (units -16-0 and -17-0) with two new engines (units -33-0 and -34-0 respectively).

C-6699-33-0:

Since this is a new emissions unit, BE = PE1 = 0 for all pollutants.

C-6699-34-0:

Since this is a new emissions unit, BE = PE1 = 0 for all pollutants.

7. SB 288 Major Modification

Prior to the December 18, 2008 version of the Rule 2201, SB 288 Major Modificaitons were simply called Major Modifications. Both modifications have the same definition and are 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." The Major Modification Thresholds (shown in the table on the following page) did not change during the course of the projects at this facility (2012 – 2017).

SB 288 Major Modification Thresholds	
Pollutant	**Threshold (lb/year)**
VOC	50,000
NOx	50,000
PM_{10}	30,000
SOx	80,000

Since this facility is a major source for NOx, the projects' PE2s are compared to the Major Modification Thresholds in the following table in order to determine if the Major Modification calculation is required. For projects 1 through 4, each of the new IC engines will be included in the existing 50,000 lb-NOx/year SLC; therefore, the PE2 for each of the project will be calculated as follows:

Project PE2 = $PE2_{SLC}$ = 50,000 lb-NOx/year

For project 5, only one of the two engines will be included in the 50,000 lb-NOx/year SLC. Therefore, the project PE2 for project 5 will be determined by summing the PE2s from units -33-0 and -34-0.

Project PE2 = PE2 (unit -33-0) + PE2 (unit -34-0)
= 238 lb-NOx/year + 238 lb-NOx/year
= 476 lb-NOx/year

NOx Major Modification Threshold			
Project	**Project NOx PE2 (lb/year)**	**Threshold (lb/year)**	**Major Modification Calculation Required?**
Project 1	50,000	50,000	No
Project 2	50,000	50,000	No
Project 3	50,000	50,000	No
Project 4	50,000	50,000	No
Project 5	476	50,000	No

Since the NOx Major Modification Threshold was not surpassed with any of the projects, none of these projects constitutes a Major Modification.

8. Federal Major Modification

District Rule 2201 states that a Federal Major Modification (FMM) 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 only a major source for NOx, FMM calculations will only be performed for NOx emissions. All projects are subject to the FMM threshold in the current version of the NSR Rule (2/18/16). The units in Projects 1, 3, and 4 are new emissions units. The unit in Projects 2 and 5 are replacement emissions units; therefore, they will be treated as existing emissions units.

The determination of FMM is based on a two-step test. For the first step, only the emission *increases* are counted. Emission decreases may not cancel out the increases for this determination.

Step 1

Projects 1, 3, and 4:

For the new emissions units in these projects, the increase in emissions is equal to the PE2 for each new unit. The emission increases for projects 1, 3, and 4 are calculated using the equation below and summarized in the table on the following page.

Emission Increases = PE

Federal Major Modification NOx Threshold for Emission Increases			
Project	**Total NOx Emissions Increases (lb/year)**	**Thresholds (lb/year)**	**Federal Major Modification?**
Project 1	4,691	0	Yes
Project 3	4,691	0	Yes
Project 4	397	0	Yes

Since the NOx FMM Threshold was surpassed in each project, these projects all constitute a FMM.

Project 2:

Pursuant to District Policy APR 1150, Implementation of Rule 2201 for SB288 Major Modifications and Federal Major Modifications, replacement emissions units shall be treated as existing units. For existing emissions units, the increase in emissions is calculated as follows.
Emission Increase = PAE – BAE - UBC

Where: PAE = Projected Actual Emissions (PE2 of unit -30), and
BAE = Baseline Actual Emissions (unit -19)
UBC = Unused baseline capacity (unit -19)

The BAE for existing unit -19 was determined based on annual operating records provided by the facility. The 2013 and 2014 annual operating years were determined to be the most representative two-year period for this engine. The average annual hours of operation for the 2013 and 2014 operating years is 4,697 hours.

BAE of unit -19 (NOx) = (575 bhp) x (4,697 hr/year) x (2.76 g/bhp-hr) x (0.8) ÷ (453.6 g/lb)
= 13,147 lb-NOx/year

Emission Increase (NOx) = (406 lb-NOx/year) – (13,147 lb-NOx/year) – UBC
= -12,741 lb-NOx/year
=> 0 lb-NOx/year

Federal Major Modification NOx Threshold for Emission Increases			
Project	**Total NOx Emissions Increases (lb/year)**	**Thresholds (lb/year)**	**Federal Major Modification?**
Project 2	0	0	No

Since the NOx FMM Threshold was not surpassed in this project, this project does not constitute a FMM.

Project 5:

Pursuant to District Policy APR 1150, Implementation of Rule 2201 for SB288 Major Modifications and Federal Major Modifications, replacement emissions units shall be treated as existing units. For existing emissions units, the increase in emissions is calculated as follows.

Emission Increase = PAE – BAE - UBC

Where: PAE = Projected Actual Emissions (PE2 of units -33-0 and -34-0), and
BAE = Baseline Actual Emissions (units -16 and -17)
UBC = Unused baseline capacity (units -16 and -17)

The BAE for existing units -16 and -17 was determined based on annual operating records provided by the facility.

The BAE for existing units -16 and -17 were determined based on annual operating records provided by the facility. The 2014 and 2015 annual operating years were determined to be the most representative two-year period for these engines. The average annual hours of operation for the 2014 and 2015 operating years is 3,208 hr/year for unit -16 and 4,517 hr/year for unit -17.

BAE of unit -16 (NOx) = (275 bhp) x (3,208 hr/year) x (2.62 g/bhp-hr) x (0.8) ÷ (453.6 g/lb)
= 4,076 lb-NOx/year
BAE of unit -17 (NOx) = (325 bhp) x (4,517 hr/year) x (2.55 g/bhp-hr) x (0.8) ÷ (453.6 g/lb)
= 6,602 lb-NOx/year

Total BAE = 10,678 lb-NOx/year

PAE of unit -33-0 (NOx) = 238 lb-NOx/year
PAE of unit -34-0 (NOx) = 240 lb-NOx/year

Total PAE = 478 lb-NOx/year

Emission Increase (NOx) = (478 lb-NOx/year) – (10,678 lb-NOx/year) – UBC
= -10,200 lb-NOx/year
=> 0 lb-NOx/year

Federal Major Modification NOx Threshold for Emission Increases			
Project	**Total NOx Emissions Increases (lb/year)**	**Thresholds (lb/year)**	**Federal Major Modification?**
Project 2	0	0	No

Since the NOx FMM Threshold was not surpassed in this project, this project does not constitute a FMM.

Federal Offset Quantities:

The Federal offset quantity is only calculated only for the pollutants for which the project is a Federal Major Modification. The Federal offset quantity is the sum of the annual emission changes for all new and modified emission units in a project calculated as the potential to emit after the modification (PE2) minus the actual emissions (AE) during the baseline period for each emission unit times the applicable federal offset ratio. There are no special calculations performed for units covered by an SLC.

Project 1 (C-1172086):

NOx **Federal Offset Ratio** **1.5**

Permit No.	Actual Emissions (lb/year)	Potential Emissions (lb/year)	Emissions Change (lb/year)
C-6699-29-0	0	4,691	4,691
		Net Emission Change (lb/year):	4,691
		Federal Offset Quantity: (NEC * 1.5)	**7,037**

Project 3 (C-1172088):

NOx **Federal Offset Ratio** **1.5**

Permit No.	Actual Emissions (lb/year)	Potential Emissions (lb/year)	Emissions Change (lb/year)
C-6699-30-0	0	4,691	4,691
		Net Emission Change (lb/year):	4,691
		Federal Offset Quantity: (NEC * 1.5)	**7,037**

Project 4 (C-1172089):

NOx **Federal Offset Ratio** **1.5**

Permit No.	Actual Emissions (lb/year)	Potential Emissions (lb/year)	Emissions Change (lb/year)
C-6699-32-0	0	397	397
		Net Emission Change (lb/year):	397
		Federal Offset Quantity: (NEC * 1.5)	**596**

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

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

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

I. Project Emissions Increase - New Major Source Determination

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

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

The post-project PEs for each of the five projects are compared to the PSD Major Source thresholds in the table below:

PSD Major Source Determination: Potential to Emit (tons/year)						
	NO_2	VOC	SO_2	CO	PM	PM_{10}
Total PE from New and Modified Units (Project 1)	2.3	0.2	0	0.8	0	0
Total PE from New and Modified Units (Project 2)	0.2	0.1	0	0	0	0
Total PE from New and Modified Units (Project 3)	2.3	0.2	0	0.8	0	0
Total PE from New and Modified Units (Project 4)	0.2	0	0	1.0	0	0
Total PE from New and Modified Units (Project 5)	0.2	0	0	0.2	0	0
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	N	N	N	N	N	N

As shown in the table on the previous page, the potential to emit for each of the five projects, by themselves, do not exceed any PSD major source threshold. Therefore Rule 2410 is not applicable and no further analysis is required.

10. Quarterly Net Emissions Change (QNEC)

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

VIII. Compliance Determination

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. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions*:

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

Project 1 (C-1172086):

This project consisted of the installation of a new emissions unit (C-6699-29-0). As seen in Section VII.C.2 above, unit -29-0 has a PE greater than 2 lb/day for NOx and CO. BACT is triggered for NOx only since the PE is greater than 2 lb/day. However, BACT is not triggered for CO since the SSPE2 for CO is not greater than 200,000 lb/year, as demonstrated in Section VII.C.5 above.

Project 3 (C-1172088):

This project consisted of the installation of a new emissions unit (C-6699-31-0). As seen in Section VII.C.2 above, unit -31-0 has a PE greater than 2 lb/day for NOx and

CO. BACT is triggered for NOx only since the PE is greater than 2 lb/day. However, BACT is not triggered for CO since the SSPE2 for CO is not greater than 200,000 lb/year, as demonstrated in Section VII.C.5 above.

Project 4 (C-1172089):

This project consisted of the installation of a new emissions unit (C-6699-32-0). As seen in Section VII.C.2 above, unit -32-0 has a PE greater than 2 lb/day for NOx and CO. BACT is triggered for NOx only since the PE is greater than 2 lb/day. However, BACT is not triggered for CO since the SSPE2 for CO is not greater than 200,000 lb/year, as demonstrated in Section VII.C.5 above.

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

As discussed in Section I above, none of the projects included the relocated of an emissions unit 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, none of the projects included a modification to an emissions unit. Therefore, BACT is not triggered.

d. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, none of the projects constituted an SB 288 and/or Federal Major Modification for any pollutant. Therefore, BACT is not triggered for any pollutant.

Project 2 (C-1172087):

This project consisted of the replacement of one existing engine (C-6699-19-0) with one new engine (C-6699-30-0). This project meets the definition of a Replacement Emissions Units (District Rule 2201, Section 3.35,) as discussed below. Therefore, this engine is exempt from BACT requirements as stated in Rule 2201, Section 4.2.6.

Replacement Emissions Units must meet the following criteria:

3.35.1 – no increase in permitted emissions from the replacement engine;

For this project, the existing engine was a Tier 3 engine, and it was replaced with Tier 4I engine.

3.35.2 – can have up to a 10% increase in design capacity, if the identical engine is not available;

For this project, the replacement engine did not have an increase in the hp rating greater than 10% of the exiting engine it replaced.

3.35.3 – the replacement will perform the same function;

The replacement engine and the engine replaced are both used to power an irrigation pump.

3.35.4 – replacing an irrigation pump engine will not result in a Reconstructed Source or a Reconstruction;

Given the known large capital costs of owning and operating a farm, the cost of the irrigation engine from this project will not exceed 50% of the cost of the farming operation as a whole.

3.35.5 – Must be subject to a BARCT rule;

Engines powering irrigation pumps are subject to Rule 4702, which is a BARCT rule.

Project 5 (C-1180534):

This project consisted of the replacement of two existing engines (C-6699-16-0 and -17-0) with two new engines (C-6699-33-0 and -34-0). This project meets the definition of a Replacement Emissions Units (District Rule 2201, Section 3.35,) as discussed below. Therefore, these engines are exempt from BACT requirements as stated in Rule 2201, Section 4.2.6.

Replacement Emissions Units must meet the following criteria:

3.35.1 – no increase in permitted emissions from the replacement engine;

For this project, the existing engines were both Tier 3 engines, and were replaced with Tier 4F engines.

3.35.2 – can have up to a 10% increase in design capacity, if the identical engine is not available;

For this project, the replacement engines did not have an increase in their hp rating greater than 10% of the exiting engines they replaced.

3.35.3 – the replacement will perform the same function;

The replacement engines and the engines replaced are all used to power irrigation pumps.

3.35.4 – replacing an irrigation pump engine will not result in a Reconstructed Source or a Reconstruction;

Given the known large capital costs of owning and operating a farm, the cost of the irrigation engines from this project will not exceed 50% of the cost of the farming

operation as a whole.

3.35.5 – Must be subject to a BARCT rule;

Engines powering irrigation pumps are subject to Rule 4702, which is a BARCT rule.

2. BACT Guideline

As discussed in the Section above, BACT was triggered for units C-6699-29-0, -31-0, and -32-0. All three of these engines are subject to the same BACT Guideline (3.3.16)

BACT Guideline 3.3.16, applies to Ag Stationary Compression-Ignited IC Engines (See Appendix D)

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:

Unit C-6699-29-0:

NOx: Latest available tier certification

Units C-6699-31-0:

NOx: Latest available tier certification

Unit C-6699-32-0:

NOx: Latest available tier certification
PM_{10} (triggered for T-BACT): Latest available tier certification

B. Offsets

1. Offset Applicability

Offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The SSPE2 for each project is compared to the offset thresholds in the following table.

Project 1 (C-1172086):

Offset Determination (lb/year) – Project 1					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE2 Project 1	104,738	253	5,270	109,692	6,612
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	Yes	No	No	No	No

Project 2 (C-1172087):

Offset Determination (lb/year) – Project 2					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE2 Project 2	104,738	253	4,700	99,145	6,004
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	Yes	No	No	No	No

Project 3 (C-1172088):

Offset Determination (lb/year) – Project 3					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE2 Project 3	104,738	274	4,703	100,695	6,297
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	Yes	No	No	No	No

Project 4 (C-1172089):

Offset Determination (lb/year) – Project 4					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE2 Project 4	104,738	284	4,706	102,619	6,317
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	Yes	No	No	No	No

Project 5 (C-1180534):

Offset Determination (lb/year) – Project 5					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE2 Project 5	69,755	218	2,571	55,942	3,811
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	Yes	No	No	No	No

2. Quantity of Offsets Required

As seen above, the SSPE2s for all four projects are only greater than the offset threshold for NOx. Therefore, offset calculations will be required for NOx.

Since the SSPE1 is greater than the offset threshold for NOx for every project, the quantity of offsets in pounds per year are calculated as follows:

Offsets Required (lb/year) = (Σ[PE2 – BE] + ICCE) x DOR, for all new or modified emissions units in the project,

Where,
PE2 = Post Project Potential to Emit, (lb/year)
BE = Baseline Emissions, (lb/year)
ICCE = Increase in Cargo Carrier Emissions, (lb/year)
DOR = Distance Offset Ratio, determined pursuant to Section 4.8

The PE2s and BEs for all the units in these projects were calculated in Sections VII.C.2 and VII.C.6 above. Additionally, there are no increases in cargo carrier emissions for any of these projects.

The offset required calculations are shown in Appendix B and summarized in the table below:

Offsets Required Summary	
	NO_X
Project 1	0
Project 2	0
Project 3	0
Project 4	0
Project 5	0

As demonstrated in the table above, the amount of offsets required for these projects are zero. Therefore, offsets will not be required for these projects.

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 SB 288 Major Modifications

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

As demonstrated in Section VII.C.8, projects 1, 3, and 4 are Federal Major Modifications. Therefore, public noticing for Federal Major Modification purposes is required.

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. As seen in Section VII.C.2 above, these projects do 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

The SSPE1 and SSPE2 for each project are compared to the offset thresholds in the following tables.

Project 1 (C-1172086):

Offset Thresholds – Project 1					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE1 Project 1	104,738	231	5,267	108,142	6,194
SSPE2 Project 1	104,738	253	5,270	109,692	6,612
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Public Notice Required?	No	No	No	No	No

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

Project 2 (C-1172087):

Offset Thresholds – Project 2					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE1 Project 2	104,738	253	5,270	109,692	6,612
SSPE2 Project 2	104,738	233	4,266	89,290	5,500
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Public Notice Required?	No	No	No	No	No

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

Project 3 (C-1172088):

Offset Thresholds – Project 3					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE1 Project 3	104,738	233	4,266	89,290	5,500
SSPE2 Project 3	104,738	274	4,703	100,695	6,297
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Public Notice Required?	No	No	No	No	No

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

Project 4 (C-1172089):

Offset Thresholds – Project 4					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE1 Project 4	104,738	274	4,703	100,695	6,297
SSPE2 Project 4	104,738	284	4,706	102,619	6,317
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Public Notice Required?	No	No	No	No	No

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

Project 5 (C-1180534):

Offset Thresholds – Project 5					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE1 Project 5	104,738	284	4,706	102,619	6,317
SSPE2 Project 5	69,755	218	2,571	55,942	3,811
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Public Notice Required?	No	No	No	No	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 for each project is compared to the SSIPE Public Notice thresholds in the following tables.

Project 1 (C-1172086):

SSIPE Public Notice Thresholds - Project 1					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE2	104,738	253	5,270	109,692	6,612
SSPE1	104,738	231	5,267	108,142	6,194
SSIPE	0	22	3	1,550	418
SSIPE Public Notice Thresholds	20,000	20,000	20,000	20,000	20,000
Public Notice Required?	No	No	No	No	No

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

Project 2 (C-1172087):

SSIPE Public Notice Thresholds - Project 2					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE2	104,738	253	4,700	99,145	6,004
SSPE1	104,738	253	5,270	109,692	6,612
SSIPE	0	0	-570	-10,547	-608
SSIPE Public Notice Thresholds	20,000	20,000	20,000	20,000	20,000
Public Notice Required?	No	No	No	No	No

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

Project 3 (C-1172088):

SSIPE Public Notice Thresholds - Project 3					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE2	104,738	274	4,703	100,695	6,297
SSPE1	104,738	233	4,266	89,290	5,500
SSIPE	0	41	437	11,405	797
SSIPE Public Notice Thresholds	20,000	20,000	20,000	20,000	20,000
Public Notice Required?	No	No	No	No	No

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

Project 4 (C-1172089):

SSIPE Public Notice Thresholds - Project 4					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE2	104,738	284	4,706	102,619	6,317
SSPE1	104,738	274	4,703	100,695	6,297
SSIPE	0	10	3	1,924	20
SSIPE Public Notice Thresholds	20,000	20,000	20,000	20,000	20,000
Public Notice Required?	No	No	No	No	No

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

Project 5 (C-1180534):

SSIPE Public Notice Thresholds - Project 5					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE2	69,755	218	2,571	55,942	3,811
SSPE1	104,738	284	4,706	102,619	6,317
SSIPE	-34,983	-66	-2,135	-46,677	-2,506
SSIPE Public Notice Thresholds	20,000	20,000	20,000	20,000	20,000
Public Notice Required?	No	No	No	No	No

As demonstrated above, the SSIPEs for all pollutants were less than 20,000 lb/year; therefore public noticing for SSIPE purposes is not 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 these projects since they are Federal Major Modifications. 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 ATCs for these engines.

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

Proposed Rule 2201 (DEL) Conditions:

C-6699-29-0:

- Operation of this engine shall not exceed 5,000 hours per year. [District Rule 2201]
- Emissions from this unit shall not exceed any of the following limits: 1.12 g-NO_x/bhp-hr, 0.10 g-VOC/bhp-hr, or 0.37 g-CO/bhp-hr. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
- PM_{10} emissions shall not exceed 0.0007 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201, 4702, and 4801, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]

C-6699-30-0:

- Operation of this engine shall not exceed 5,000 hours per year. [District Rule 2201]
- Emissions from this unit shall not exceed any of the following limits: 0.08 g-NO_x/bhp-hr, 0.03 g-VOC/bhp-hr, or 0.01 g-CO/bhp-hr. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
- PM_{10} emissions shall not exceed 0.007 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201, 4702, and 4801, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]

C-6699-31-0:

- Operation of this engine shall not exceed 5,000 hours per year. [District Rule 2201]
- Emissions from this unit shall not exceed any of the following limits: 1.12 g-NO_x/bhp-hr, 0.07 g-VOC/bhp-hr, or 0.37 g-CO/bhp-hr. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
- PM_{10} emissions shall not exceed 0.0007 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]

- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201, 4702, and 4801, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]

C-6699-32-0:

- Operation of this engine shall not exceed 5,000 hours per year. [District Rule 2201]

- Emissions from this unit shall not exceed any of the following limits: 0.20 g-NO_x/bhp-hr, 0.01 g-VOC/bhp-hr, or 0.97 g-CO/bhp-hr. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]

- PM_{10} emissions shall not exceed 0.001 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]

- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201, 4702, and 4801, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]

C-6699-33-0:

- Operation of this engine shall not exceed 5,000 hours per year. [District Rule 2201]

- Emissions from this unit shall not exceed any of the following limits: 0.09 g-NO_x/bhp-hr, 0.01 g-VOC/bhp-hr, or 0.07 g-CO/bhp-hr. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]

- PM_{10} emissions shall not exceed 0.0075 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]

- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201, 4702, and 4801, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]

C-6699-34-0:

- Operation of this engine shall not exceed 5,000 hours per year. [District Rule 2201]

- Emissions from this unit shall not exceed any of the following limits: 0.08 g-NO_x/bhp-hr, 0.01 g-VOC/bhp-hr, or 0.07 g-CO/bhp-hr. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]

- PM_{10} emissions shall not exceed 0.0075 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]

- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201, 4702, and 4801, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]

C-6699-29-0 through -32-0, and -34-0:

The combined annual NOx emissions from permit units -25 through -32, and -34 are limit by a 50,000 lb-NOx/year SLC. The following condition will be added to the permits listed above as a mechanism to ensure compliance with the SLC.

- The combined annual NOx emissions from permit units C-6699-25 through -32, and -34, calculated on a 12-month rolling basis, shall not exceed 50,000 pounds per year. [District Rule 2201]

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 - Phase 2), see the 4702 discussion below.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following conditions are listed on the specified permits:

All Permits:

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

- 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, quantity of each fuel used and resulting fuel mixture ratio, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rules 2201 and 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 Rules 2201 and 4702]

C-6699-29-0 through -32-0, and -34-0:

The facility has proposed to include permit units C-6699-29 through -32 and -34 in the existing annual NOx SLC. Therefore, the following permit condition will be included on the ATCs for these units:

- On a monthly basis, the permittee shall calculate and record the combined NOx emissions from permit units C-6699-25 through -32, and -34, for the prior 12 calendar month period. [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 Appendix E 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 $PM_{2.5}$.

G. Compliance Certification

Section 4.15.2 of this Rule requires the owner of a new Major Source or a source undergoing a Federal Major Modification to demonstrate to the satisfaction of the District that all other Major Sources owned by such person and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards. As discussed in Section VIII above, this facility is a Federal Major Modification, therefore this requirement is applicable. Agri-World Cooperative's compliance certification is included in Appendix F.

H. Alternate Siting Analysis

District Rule 2201, Section 4.15.1 requires an alternative siting analysis for any project which constitutes a New Major Source or a Federal Major Modification. As shown above, this

project triggers a Federal Major Modification. Therefore, an alternative siting analysis must be performed.

In addition to IC engines, the farming operation also requires a large amount of farm land to grow the necessary crops. Since the current project involves the operation of four IC engines, it represents only a minimal increase in the farming operation, the existing site will result in the least possible impact from the project. Alternative sites would involve the relocation and/or construction of various support structures and facilities on a much greater scale, and would therefore result in a much greater impact.

Rule 2410 Prevention of Significant Deterioration

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

Rule 2520 Federally Mandated Operating Permits

As discussed above, this facility is an existing major source. Pursuant to Rule 2520, the facility will have up to 12 months from the date of ATC issuance to submit a Title V Application or comply with District Rule 2530 *Federally Enforceable Potential to Emit*. However, since the facility has been a Title V source since 2006, they will be required to submit a completed application for an initial Title V Operating Permit within 30 days of the issuance of the ATCs in this project. The facility will be sent a separate letter (Appendix E) informing them of the 30-day time application submittal deadline.

The following condition will be added to the permits in this project as a mechanism to ensure the facility submits an Initial TV permit within 30 days of issuance of the ATCs in this project:

- Permittee shall submit an application to comply with SJVUAPCD District Rule 2520 - Federally Mandated Operating Permits within 30 days of receipt of this Authority to Construct. [District Rule 2520]

Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60. 40 CFR Part 60, Subpart IIII is the only subpart that applies to compression-ignited internal combustion engines.

Section 60.4200(a)(2)(i) states that the provisions of this subpart apply to owners and operators of stationary compression ignition (CI) internal combustion engines that commence construction after July 11, 2005 where the engines are manufactured after April 1, 2006 and are not fire pump engines. The engines in these projects were all installed after July 11, 2005 and manufactured after April 1, 2006; therefore, this subpart applies to the engines in this project.

Sections 60.4201 through 60.4203 apply to engine manufacturers. Therefore, these sections will not be discussed unless they are referenced later by another section of this subpart.

Section 60.4204(b) states that owners and operators of 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder must comply with the emission standards for new CI engines in Section 60.4201. Section 60.4201 states that engine manufacturers must certify their 2007 model year and later non-emergency stationary CI engines to the applicable certification emission standards based on the engine size and number of liters per cylinder. The applicant is proposing engines that meets Tier 4I and Tier 4F certification levels at the time of installation for the applicable horsepower range, guaranteeing compliance with the emission standards of Subpart IIII. The emission factor conditions from the DEL section of this evaluation are a mechanism to ensure compliance with the requirements of this section.

Section 60.4205 lists emission standards for owners or operators of emergency CI engines. The proposed engines are not used for emergency operation. Therefore, this section does not apply.

Section 60.4206 states that owners or operators of CI engines must meet the applicable emission standards for the entire life of said engines. The Tier 4I and Tier 4F level emissions for the proposed engines will be listed on the permit as emission factors, ensuring that the emission standards are met over the entire life of the engines.

Section 60.4207(b) states that beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel. Section 80.510(b) states that beginning June 1, 2010, except as otherwise specifically provided in this subpart, the sulfur content for all non-road diesel fuel shall not exceed 15 ppm. All engines in these projects will be required by the following permit condition to use CARB certified diesel fuel, which meets all of the fuel requirements listed in Subpart IIII.

- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201, 4702, and 4801, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]

Section 60.4208 lists deadline dates for importing or installing stationary CI engines produced in the previous model year. None of the deadline dates affects the engines these projects. Therefore, this section does not apply.

Section 60.4209 applies to emergency stationary CI engines and stationary CI engines equipped with a diesel particulate filter. The engines in these projects do not fall under either of these two categories. Therefore, this section does not apply.

Section 60.4210 applies only to engine manufacturers. Therefore, this section will not be discussed unless it is referenced later by another section of this subpart.

Section 60.4211(a) states that owners or operators who comply with the emission standards specified in this subpart must operate and maintain the stationary CI engine and control device

according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. The following condition will be added to the ATCs as a mechanism to ensure compliance:

- 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 and 40 CFR 60 Subpart IIII]

Section 60.4211(b) applies to pre-2007 model year engines. Therefore, this section does not apply.

Section 60.4211(c) states that if you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in Section 60.4204(b) or Section 60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in Section 60.4205(c), you must comply by purchasing an engine certified to the emission standards in Section 60.4204(b), or Section 60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's specifications.

All the engines in these projects are either Tier 4I or Tier 4F emissions level engines that comply with the emission standards in Section 60.4204(b) and will be installed according to the manufacturer's specifications. Therefore, this section is satisfied.

Section 60.4211(d) applies to owners or operators who must comply with the emission standards specified in Section 60.4204(c) or Section 60.4205(d). The engines in these projects are not subject to the emission standards specified in Sections 60.4204(c) or 60.205(d). Therefore, this section does not apply.

Section 60.4211(e) applies to owners or operators of emergency stationary CI engines. Therefore, this section does not apply.

Section 60.4212 applies to owners or operators of a stationary CI engine with a displacement of less than 30 liters per cylinder and required to conduct performance tests pursuant to Section 60.4211(b). Section 60.4211(b) does not apply to the engines in these projects. Therefore, performance tests are not required and this section does not apply.

Section 60.4213 applies to owners or operators of CI engines with a displacement of greater than or equal to 30 liters per cylinder. Per the CARB/EPA emissions data sheets for the proposed engines, the displacement is less than 30 liters per cylinder. Therefore, this section does not apply.

Section 60.4214(a) states owners and operators of non-emergency stationary CI engines that are greater than 3,000 hp, or have a displacement of greater than or equal to 10 liters per cylinder, or are pre-2007 model year engines that are greater than 175 hp and not certified, must meet the requirements of paragraphs (a)(1) and (2) of this section. The engines in this project

are certified Tier 4I or Tier 4F engines with horsepower ratings less than 3,000 hp and displacements less than 10 liters per cylinder. Therefore, this section does not apply.

Section 60.4214(b) applies to emergency stationary CI engines. Therefore, this section does not apply.

Section 60.4214(c) applies to stationary CI engines equipped with a diesel particulate filter. Therefore, this section does not apply.

Sections 60.4215 and 60.4216 apply to engines operated outside the continental United States. Therefore, these sections do not apply.

Section 60.4217 applies to engines that do not use diesel fuel and can not meet the emission limits that the engine was originally certified to. This section does not apply as the applicant proposes to meet and/or exceed the emission limits that the engine was originally certified to.

Therefore, the engines in this project meet all applicable requirements of this 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) are satisfied by the compliance of 40 CFR Part 60, Subpart IIII which has been demonstrated above.

There are no additional potentially applicable NESHAPs subparts.

Rule 4101 Visible Emissions

Rule 4101 states that no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity). Based on inspections of similar operations, visible emissions are not expected to exceed Ringelmann 1 or 20% opacity. The following permit condition will be added to the ATCs issued in this project as a mechanism to ensure compliance with the requirements of this rule:

- {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 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. The following permit condition will be added to the ATCs issued in this project as a mechanism to ensure compliance with the requirements of this rule:

- {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.

Per District practice, emission units that meet the definition of Replacement Emissions Units in District Rule 2201, do not authorize an increase in the permitted emissions of the units. Based on this practice, a Health Risk Analysis (HRA) is not required for any emissions unit that meets the definition of a Replacement Emissions Unit. Permit units C-6699-30-0, -33-0, and -34-0 were installed as Replacement Emissions Units of existing permit units -19-0, -16-0, and -17-0; therefore, no HRA is required for the installation of units -30-0, -33-0, and -34-0.

Permit units C-6699-29-0, -31-0, and -32-0 do not meet the definition of a Replacement Emissions Unit; therefore, an HRA will be performed for each of these permit units.

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

RMR Summary						
Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required?	Special Permit Requirements?
Unit 29-0 (Diesel ICE)	N/A[1]	N/A[2]	0.00	1.70E-08	No	Yes
Unit 31-0 (Diesel ICE)	N/A[1]	N/A[2]	0.00	6.08E-08	No	Yes
Unit 32-0 (Diesel ICE)	N/A[1]	N/A[2]	0.00	2.27E-06	Yes	Yes
Project Totals	N/A[1]	N/A[2]	0.00	2.35E-06		
Facility Totals	>1	0.00	0.00	19.06E-06		

[1] Prioritization for this unit was not conducted since it has been determined that all diesel-fired IC engines will result in a prioritization score greater than 1.0.
[2] The Acute Hazard Index was not calculated since there is no risk factor or the risk factor is so low that it has been determined to be insignificant for this type of unit.

Discussion of T-BACT

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

As shown in the table above, T-BACT for PM_{10} is triggered for the installation of unit -32-0. T-BACT is satisfied with BACT for PM_{10} (see Appendix D), which is the operation of an engine with the latest available tier certification; therefore, compliance with the District's Risk Management Policy is expected.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification not have acute or chronic indices, or a cancer risk greater than the District's significance levels (i.e. acute and/or chronic indices greater than 1 and a cancer risk greater than 20 in a million). As outlined by the HRA Summary in Appendix E of this report, the emissions increases for this project was determined to be less than significant.

The following permit conditions will be added to the ATCs listed below as a mechanism to ensure compliance with the requirements of this rule:

C-6699-29-0:

The RMR requires that PTO C-6699-2-0 be cancelled prior to the implementation of this ATC and that the engine only be operated at wellsite 10. PTO C-6699-2-0 was for a rental engine, which has been removed from the facility, and the equipment description for this engine limits the operation of the engine to wellsite 10.

- PM_{10} emissions shall not exceed 0.0007 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]

- {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]

- Operation of this engine shall not exceed 5,000 hours per year. [District Rules 2201 and 4102]

C-6699-31-0:

The RMR requires that PTO C-6699-2-0 be cancelled prior to the implementation of this ATC and that the engine only be operated at wellsite 24. PTO C-6699-2-0 was for a rental engine, which has been removed from the facility, and the equipment description for this engine limits the operation of the engine to wellsite 24.

- PM_{10} emissions shall not exceed 0.0007 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]

- {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]

- Operation of this engine shall not exceed 5,000 hours per year. [District Rules 2201 and 4102]

C-6699-32-0:

The RMR requires that PTO C-6699-2-0 be cancelled prior to the implementation of this ATC and that the engine will not be operated within 800 feet of any residential receptor. PTO C-6699-2-0 was for a rental engine, which has been removed from the facility, and the equipment description for this engine limits the operation of the engine to wellsite 5.

- PM_{10} emissions shall not exceed 0.0015 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]

- {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]

- Operation of this engine shall not exceed 5,000 hours per year. [District Rules 2201 and 4102]

- This engine shall not be operated within 800 feet of any residential receptor. [District Rule 4102]

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. The engine with the highest particulate matter emissions in this project is unit C-6699-30-0 (0.007 g/bhp-hr). If the particulate matter concentration for this engine complies with the requirements of Rule 4201, then all engines in this project will comply with the requirements of Rule 4201. The particulate matter concentration calculation for unit -17-0 is shown below:

PM Conc. = 0.007 g-PM_{10}/bhp-hr × 1 g-PM/0.96 g-PM_{10} × 1 bhp-hr/2,542.5 Btu × 1,000,000 Btu/9,051 dscf × 0.35 Btu_{out}/1 Btu_{in} × 15.43 gr/g

PM Conc. = 0.002 gr-PM/dscf

Since 0.002 grain-PM/dscf is ≤ to 0.1 grain per dscf, compliance with Rule 4201 is expected for all engines in this project. The following condition will be listed on the ATCs as a mechanism to ensure compliance:

- {14} Particulate matter emissions shall not exceed 0.1 grains/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 all the permits:

- {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]

Rule 4702 Internal Combustion Engines

All engines in this project are subject to the requirements of Rule 4702.

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 (SOx) from internal combustion engines.

Applicability (Section 2.0):

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

Requirements (Section 5.0):

Section 5.2 requires that the owner of an internal combustion engine shall not operate it in such a manner that results in emissions exceeding the limits in the Engine Emission Limits Table 4 below.

Engine Type	Emission Limit/ Standard	Compliance Date
1. Non-Certified Compression-Ignited Engine		
a. Greater than 50 bhp but not more than 500 bhp	EPA Tier 3 or Tier 4	1/1/2010
b. Greater than 500 bhp but not more than 750 bhp and less than 1000 annual operating hours	EPA Tier 3	1/1/2010
c. Greater than 750 bhp and less than 1000 annual operating hours	EPA Tier 4	7/1/2011
d. Greater than 500 bhp and greater than or equal to 1000 annual operating hours	80 ppm NOx, 2,000 ppm CO, 750 ppm VOC	1/1/2008 or, if owner has an agreement to electrify, comply by 1/1/2010
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

Per Section 5.2.4.4, the owner/operator of an AO compression-ignited engine that is subject to the requirements of Table 4 shall not replace such engine with a compression-ignited engine, respectively, that emits more emissions of NOx, VOC, and CO, on a ppmv basis, (corrected to 15% oxygen on a dry basis) than the engine being replaced.

All proposed engines in these projects are Tier 4I or Tier 4F certified IC engines. These certification standards meet the certified compression-ignited engine standard in effect at the time the engines in these projects were installed (2012 through 2017). Therefore, all engines in these projects are in compliance with the emission requirements of the rule.

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 NOx exhaust control. The engines in this evaluation do not have add-on NOx 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 5.2 shall submit to the APCO an APCO-approvable emission control plan (ECP) of all actions to be taken to satisfy the emission requirements of Section 5.2 and the compliance schedules of Section 7.0.

Section 6.1.1 states that the requirement to submit an emission control plan shall apply to the following engines:

- Engines that have been retrofitted with an exhaust control device, except those certified per Section 9.0;
- Engines subject to Section 8.0;
- An AO spark-ignited engine that is subject to the requirements of Section 8.0;
- 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 engines in this evaluation 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 the operator 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 5.8 and Section 5.9 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 6.3.1 states Sections 6.3.2 through Section 6.3.4 shall apply to the following engines:

- Engines that have been retrofitted with an exhaust control device, except those certified per Section 9.0;
- Engines subject to Section 8.0;
- An AO spark-ignited engine that is subject to the requirements of Section 8.0;
- 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 engines in this evaluation are certified compression-ignited engines not retrofitted with exhaust control and are not subject to Section 8.0. Therefore, compliance testing requirements are 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 5.2 or the requirements of Section 8.0 shall submit to the APCO for approval, an I&M plan that specified all actions to be taken to satisfy the requirements of Section 5.8.

Section 6.5.1 states Sections 6.5.2 through Section 6.5.9 shall apply to the following engines:

- Engines that have been retrofitted with an exhaust control device, except those certified per Section 9.0;
- Engines subject to Section 8.0;
- An AO spark-ignited engine that is subject to the requirements of Section 8.0;
- 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 engines in this evaluation 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.

Permit conditions will be added on the ATCs for all engines in this evaluation as a mechanism to ensure compliance with the requirements of this rule. Therefore, all engines in this evaluation are in compliance with the requirements of this rule.

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 (SO_2), 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:

S Conc. = 0.0015% S × 7.1 lb/gal × 64 lb-SO_2/32 lb-S × MMBtu/9,051 scf × gal-fuel/0.137 MMBtu × lb-mol/64 lb-SO_2 × 10.73 psi-ft^3/lb-mol-°R × 520 °R/14.7 psi

S Conc. = 1 ppmv

Since 1 ppmv is ≤ 2000 ppmv, this project is expected to comply with Rule 4801. Therefore, the following condition will be listed on the ATCs as a mechanism to ensure compliance:

- {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]

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)

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

Section 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.

Section 93115.2 Applicability

(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).

This regulation is applicable to agricultural irrigation pump engines.

Section 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.

Section 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 engines; therefore, this section is satisfied.

Section 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

As shown in Section VII.B, all engines in this evaluation have a PM EF less than 0.15 g-PM10/bhp-hr and therefore are all in compliance with the PM requirements 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 engines are all either Tier 4I of Tier 4F certified; therefore, they meet the standards for NMHC, NOx, and CO.

Section 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 ATCs:

- 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]

Therefore, the engines in this evaluation are in compliance with the requirements of the ATCM.

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.

Greenhouse Gas (GHG) Significance Determination

District is a Lead Agency & GHG emissions increases are from the combustion of fossil fuel other than jet fuels

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 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. Therefore, 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)).

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 is 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.

The criteria pollutant emissions and toxic air contaminant emissions associated with the proposed project are not significant, and there is minimal potential for public concern for this particular type of facility/operation. Therefore, an Indemnification Agreement and/or a Letter of Credit will not be required for this project in the absence of expressed public concern.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATCs C-6699-29-0 through -34-0 subject to the permit conditions on the attached draft ATCs in Appendix A.

X. Billing Information

Annual Permit Fees			
Permit Number	**Fee Schedule**	**Fee Description**	**Annual Fee**
C-6699-29-0	3020-10-D	475 bhp IC engine	$525
C-6699-30-0	3020-10-D	575 bhp IC engine	$525
C-6699-31-0	3020-10-D	475 bhp IC engine	$525
C-6699-32-0	3020-10-C	225 bhp IC engine	$264
C-6699-33-0	3020-10-C	300 bhp IC engine	$264
C-6699-34-0	3020-10-C	340 bhp IC engine	$264

Appendixes

A: Draft ATCs
B: Project Timeline and Emissions Calculator
C: Quarterly Net Emissions Change (QNEC)
D: BACT Guideline and BACT Analysis
E: HRA and AAQA Summary
F: Compliance Certification Statement

APPENDIX A

Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: C-6699-29-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AGRI-WORLD COOPERATIVE
MAILING ADDRESS: 31545 DONALD AVE
MADERA, CA 93636-1475

LOCATION: 31545 DONALD AVE
MADERA, CA 93638-1475

EQUIPMENT DESCRIPTION:
475 BHP (CONTINUOUS) CATERPILLAR MODEL C15 S/N LDN01135 TIER 4I CERTIFIED DIESEL-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP OPERATED AT WELLSITE CC10 (ENGINE 27)

CONDITIONS

1. Permittee shall submit an application to comply with SJVUAPCD District Rule 2520 - Federally Mandated Operating Permits within 30 days of receipt of this Authority to Construct. [District Rule 2520]
2. {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. {3658} This permit does not authorize the violation of any conditions established for this facility in the Conditional Use Permit (CUP), Special Use Permit (SUP), Site Approval, Site Plan Review (SPR), or other approval documents issued by a local, state, or federal agency. [Public Resources Code 21000-21177: California Environmental Quality Act]
5. {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. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 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

DRAFT

Arnaud Marjollet, Director of Permit Services
C-6699-29-0 Feb 12 2016 2 16PM – FUKUDAD : Joint Inspection NOT Required

7. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
8. {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]
9. {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]
10. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
11. {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]
12. The combined annual NOx emissions from permit units C-6699-25 through -32, and -34, calculated on a 12-month rolling basis, shall not exceed 50,000 pounds per year. [District Rule 2201]
13. Operation of this engine shall not exceed 5,000 hours per year. [District Rule 2201]
14. Emissions from this unit shall not exceed any of the following limits: 1.12 g-NOx/bhp-hr, 0.1 g-VOC/bhp-hr, or 0.37 g-CO/bhp-hr. [District Rules 2201 and 4702, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
15. PM10 emissions shall not exceed 0.0007 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
16. 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 and 40 CFR Part 60 Subpart IIII]
17. {4037} During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
18. The 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, quantity of each fuel used and resulting fuel mixture ratio, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rules 2201 and 4702]
19. {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
20. On a monthly basis, the permittee shall calculate and record the combined NOx emissions from permit units C-6699-25 through -32, and -34, for the prior 12 calendar month period. [District Rule 2201]
21. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: C-6699-30-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AGRI-WORLD COOPERATIVE
MAILING ADDRESS: 31545 DONALD AVE
MADERA, CA 93636-1475

LOCATION: 31545 DONALD AVE
MADERA, CA 93638-1475

EQUIPMENT DESCRIPTION:
575 BHP (CONTINUOUS) CATERPILLAR MODEL C18 S/N N8F00533 TIER 4F CERTIFIED DIESEL-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE STATIONARY SOURCE (ENGINE 28) (REPLACEMENT FOR PERMIT UNIT C-6699-19)

CONDITIONS

1. Permittee shall submit an application to comply with SJVUAPCD District Rule 2520 - Federally Mandated Operating Permits within 30 days of receipt of this Authority to Construct. [District Rule 2520]
2. {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. {3658} This permit does not authorize the violation of any conditions established for this facility in the Conditional Use Permit (CUP), Special Use Permit (SUP), Site Approval, Site Plan Review (SPR), or other approval documents issued by a local, state, or federal agency. [Public Resources Code 21000-21177: California Environmental Quality Act]
5. {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. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
C-6699-30-0 : Feb 12 2018 2:16PM – FUKUDAD : Joint Inspection NOT Required

7. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
8. {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]
9. {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]
10. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
11. {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]
12. The combined annual NOx emissions from permit units C-6699-25 through -32, and -34, calculated on a 12-month rolling basis, shall not exceed 50,000 pounds per year. [District Rule 2201]
13. Operation of this engine shall not exceed 5,000 hours per year. [District Rule 2201]
14. Emissions from this unit shall not exceed any of the following limits: 0.08 g-NOx/bhp-hr, 0.03 g-VOC/bhp-hr, or 0.01 g-CO/bhp-hr. [District Rules 2201 and 4702, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
15. PM10 emissions shall not exceed 0.007 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
16. 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 and 40 CFR Part 60 Subpart IIII]
17. {4037} During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
18. The 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, quantity of each fuel used and resulting fuel mixture ratio, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rules 2201 and 4702]
19. {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
20. On a monthly basis, the permittee shall calculate and record the combined NOx emissions from permit units C-6699-25 through -32, and -34, for the prior 12 calendar month period. [District Rule 2201]
21. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: C-6699-31-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AGRI-WORLD COOPERATIVE
MAILING ADDRESS: 31545 DONALD AVE
MADERA, CA 93636-1475

LOCATION: 31545 DONALD AVE
MADERA, CA 93638-1475

EQUIPMENT DESCRIPTION:
475 BHP (CONTINUOUS) CATERPILLAR MODEL C15 S/N LDN01354 TIER 4I CERTIFIED DIESEL-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP OPERATED AT WELLSITE CC24 (ENGINE 29)

CONDITIONS

1. Permittee shall submit an application to comply with SJVUAPCD District Rule 2520 - Federally Mandated Operating Permits within 30 days of receipt of this Authority to Construct. [District Rule 2520]
2. {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. {3658} This permit does not authorize the violation of any conditions established for this facility in the Conditional Use Permit (CUP), Special Use Permit (SUP), Site Approval, Site Plan Review (SPR), or other approval documents issued by a local, state, or federal agency. [Public Resources Code 21000-21177: California Environmental Quality Act]
5. {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. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 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

DRAFT

Arnaud Marjollet, Director of Permit Services

Central Regional Office • 1990 E. Gettysburg Ave. • Fresno, CA 93726 • (559) 230-5900 • Fax (559) 230-6061

7. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
8. {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]
9. {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]
10. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
11. {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]
12. The combined annual NOx emissions from permit units C-6699-25 through -32, and -34, calculated on a 12-month rolling basis, shall not exceed 50,000 pounds per year. [District Rule 2201]
13. Operation of this engine shall not exceed 5,000 hours per year. [District Rule 2201]
14. Emissions from this unit shall not exceed any of the following limits: 1.12 g-NOx/bhp-hr, 0.07 g-VOC/bhp-hr, or 0.37 g-CO/bhp-hr. [District Rules 2201 and 4702, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
15. PM10 emissions shall not exceed 0.0007 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
16. 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 and 40 CFR Part 60 Subpart IIII]
17. {4037} During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
18. The 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, quantity of each fuel used and resulting fuel mixture ratio, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rules 2201 and 4702]
19. {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
20. On a monthly basis, the permittee shall calculate and record the combined NOx emissions from permit units C-6699-25 through -32, and -34, for the prior 12 calendar month period. [District Rule 2201]
21. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: C-6699-32-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AGRI-WORLD COOPERATIVE
MAILING ADDRESS: 31545 DONALD AVE
MADERA, CA 93636-1475

LOCATION: 31545 DONALD AVE
MADERA, CA 93638-1475

EQUIPMENT DESCRIPTION:
225 BHP (CONTINUOUS) CATERPILLAR MODEL C7.1 S/N 88101405 TIER 4F CERTIFIED DIESEL-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE STATIONARY SOURCE (ENGINE 30)

CONDITIONS

1. Permittee shall submit an application to comply with SJVUAPCD District Rule 2520 - Federally Mandated Operating Permits within 30 days of receipt of this Authority to Construct. [District Rule 2520]
2. {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. {3658} This permit does not authorize the violation of any conditions established for this facility in the Conditional Use Permit (CUP), Special Use Permit (SUP), Site Approval, Site Plan Review (SPR), or other approval documents issued by a local, state, or federal agency. [Public Resources Code 21000-21177: California Environmental Quality Act]
5. {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. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 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

DRAFT

Arnaud Marjollet, Director of Permit Services

C-6699-32-0 Feb 12 2018 2 16PM – FUKUDAD Joint Inspection NOT Required

7. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
8. {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]
9. {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]
10. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
11. {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]
12. The combined annual NOx emissions from permit units C-6699-25 through -32, and -34, calculated on a 12-month rolling basis, shall not exceed 50,000 pounds per year. [District Rule 2201]
13. Operation of this engine shall not exceed 5,000 hours per year. [District Rule 2201]
14. Emissions from this unit shall not exceed any of the following limits: 0.2 g-NOx/bhp-hr, 0.01 g-VOC/bhp-hr, or 0.97 g-CO/bhp-hr. [District Rules 2201 and 4702, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
15. PM10 emissions shall not exceed 0.0015 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
16. 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 and 40 CFR Part 60 Subpart IIII]
17. {4037} During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
18. The 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, quantity of each fuel used and resulting fuel mixture ratio, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rules 2201 and 4702]
19. {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
20. On a monthly basis, the permittee shall calculate and record the combined NOx emissions from permit units C-6699-25 through -32, and -34, for the prior 12 calendar month period. [District Rule 2201]
21. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: C-6699-33-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AGRI-WORLD COOPERATIVE
MAILING ADDRESS: 31545 DONALD AVE
MADERA, CA 93636-1475

LOCATION: 31545 DONALD AVE
MADERA, CA 93638-1475

EQUIPMENT DESCRIPTION:
300 BHP (CONTINUOUS) CATERPILLAR MODEL C9.3 TIER 4F CERTIFIED DIESEL-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE STATIONARY SOURCE (ENGINE 31) (REPLACEMENT FOR PERMIT UNIT C-6699-16)

CONDITIONS

1. Permittee shall submit an application to comply with SJVUAPCD District Rule 2520 - Federally Mandated Operating Permits within 30 days of receipt of this Authority to Construct. [District Rule 2520]
2. {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. {3658} This permit does not authorize the violation of any conditions established for this facility in the Conditional Use Permit (CUP), Special Use Permit (SUP), Site Approval, Site Plan Review (SPR), or other approval documents issued by a local, state, or federal agency. [Public Resources Code 21000-21177: California Environmental Quality Act]
5. {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. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 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

DRAFT

Arnaud Marjollet, Director of Permit Services
C-6699-33-0 : Feb 12 2018 2:16PM – FUKUDAD Joint Inspection NOT Required

7. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
8. {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]
9. {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]
10. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
11. {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]
12. Operation of this engine shall not exceed 5,000 hours per year. [District Rule 2201]
13. Emissions from this unit shall not exceed any of the following limits: 0.09 g-NOx/bhp-hr, 0.01 g-VOC/bhp-hr, or 0.07 g-CO/bhp-hr. [District Rules 2201 and 4702, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
14. PM10 emissions shall not exceed 0.0075 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
15. 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 and 40 CFR Part 60 Subpart IIII]
16. {4037} During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
17. The 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, quantity of each fuel used and resulting fuel mixture ratio, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rules 2201 and 4702]
18. {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
19. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: C-6699-34-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: AGRI-WORLD COOPERATIVE
MAILING ADDRESS: 31545 DONALD AVE
MADERA, CA 93636-1475

LOCATION: 31545 DONALD AVE
MADERA, CA 93638-1475

EQUIPMENT DESCRIPTION:
300 BHP (CONTINUOUS) CATERPILLAR MODEL C9.3 TIER 4F CERTIFIED DIESEL-FIRED IC ENGINE POWERING AN AGRICULTURAL IRRIGATION PUMP OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE STATIONARY SOURCE (ENGINE 32) (REPLACEMENT FOR PERMIT UNIT C-6699-17)

CONDITIONS

1. Permittee shall submit an application to comply with SJVUAPCD District Rule 2520 - Federally Mandated Operating Permits within 30 days of receipt of this Authority to Construct. [District Rule 2520]
2. {3215} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. {3216} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. {3658} This permit does not authorize the violation of any conditions established for this facility in the Conditional Use Permit (CUP), Special Use Permit (SUP), Site Approval, Site Plan Review (SPR), or other approval documents issued by a local, state, or federal agency. [Public Resources Code 21000-21177: California Environmental Quality Act]
5. {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. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services

C-6699-34-0 Feb 12 2018 2:16PM – FUKUDAD Joint Inspection NOT Required

7. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
8. {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]
9. {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]
10. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
11. {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]
12. The combined annual NOx emissions from permit units C-6699-25 through -32, and -34, calculated on a 12-month rolling basis, shall not exceed 50,000 pounds per year. [District Rule 2201]
13. Operation of this engine shall not exceed 5,000 hours per year. [District Rule 2201]
14. Emissions from this unit shall not exceed any of the following limits: 0.09 g-NOx/bhp-hr, 0.01 g-VOC/bhp-hr, or 0.07 g-CO/bhp-hr. [District Rules 2201 and 4702, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
15. PM10 emissions shall not exceed 0.0075 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
16. 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 and 40 CFR Part 60 Subpart IIII]
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]
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19. {4051} The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
20. On a monthly basis, the permittee shall calculate and record the combined NOx emissions from permit units C-6699-25 through -32, and -34, for the prior 12 calendar month period. [District Rule 2201]
21. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702]

APPENDIX B

Project Timeline and Emissions Calculator

Engine Installation/Replacement Timeline

Project	Well Site	Engine	Permit	Make	Model	Tier	HP	ESN	Install Date	NOx PE (lb/year)	SOx PE (lb/year)	PM10 PE (lb/year)	CO PE (lb/year)	VOC PE (lb/year)	Action
Project 1 C-1172086	10	27	-29-0	Caterpillar	C15	4I	475	LDN01135	12/01/2012	4,691	21	3	1,550	419	replace eng 18 (eng 18 retained as backup)
Project 2 C-1172087	21A	28	-30-0	Caterpillar	C18	4F	575	N8F00533	12/01/2014	406	26	35	51	152	replace eng 17
Project 3 C-1172088	24	29	-31-0	Caterpillar	C15	4I	475	LDN01354	05/18/2015	4,691	21	3	1,550	293	**install new unit (rec. PEER)**
Project 4 C-1172089	21B	30	-32-0	Catterpillar	C7.1	4F	225	88101405	03/01/2017	397	10	3	1,925	20	replace engine 16 (eng 16 retained as backup)
Project 5 C-1180534	22	31	-33-0	Catterpillar	C9.3	4F	300		2018	238	13	20	185	26	replace eng 14
	11	32	-34-0	Catterpillar	C9.3	4F	300		2018	238	13	20	185	26	replace eng 15
replaced engines	14	-16-0	Caterpillar	C9	3	275	JSC00887	n/a	6,354	12	271	5,602	340	replaced by engine 31
	15	-17-0	Caterpillar	C11	3	325	GLS00145	n/a	7,308	15	428	7,050	373	replaced by engine 32
	17	-19-0	Caterpillar	C-18	3	575	WJH00452	n/a	13,995	26	605	10,597	761	replaced by engine 28

Daily PE

Engine	Permit	NOx PE	SOx PE	PM10 PE	CO PE	VOC PE
14	-16-0	38.1	0.1	1.6	33.6	2.0
15	-17-0	43.8	0.1	2.6	42.3	2.2
17	-19-0	84.0	0.2	3.6	63.6	4.6
27	-29-0	28.1	0.1	0.0	9.3	2.5
28	-30-0	2.4	0.2	0.2	0.3	0.9
29	-31-0	28.1	0.1	0.0	9.3	1.8
30	-32-0	2.4	0.1	0.0	11.5	0.1
31	-33-0	1.4	0.1	0.1	1.1	0.2
32	-34-0	1.4	0.1	0.1	1.1	0.2

Project 1 (December 2012) - C-1172086

Replace engine 18 with engine 27 on well site 10
- Move engine 18 to a backup engine.
- Include engine 27 in the existing SLC with units 15 through 17 and 23 through 26.

PE1 (lb/year)					
Engine	NOx	SOx	PM10	CO	VOC
Engine 18	9,351	20	434	9,855	504

PE2 (lb/year)						
Engine	NOx	SOx	PM10	CO	VOC	
Engine 27	4,691	21	3	1,550	419	
Engine 18	9,351	20	434	9,855	504	engine designated as backup engine

BE (lb/year)						
Engine	NOx	SOx	PM10	CO	VOC	
Engine 18	9,351	20	434	9,855	504	Clean unit (Tier 3 engine was AIP BACT in 2007)
Engine 27	0	0	0	0	0	New unit

Offsets (lb/year)		
Engine	NOx	
Sum PE2	50,000	PE2 SLC = 50,000 lb-NOx/year (SLC).
Sum BE	50,000	BE SLC = 50,000 lb-NOx/year (SLC).
Required (w/ DOR)	0	

SSPE1						
Well Site	Engine	NOx	SOx	PM10	CO	VOC
11	15	0	15	428	7,050	373
4	19	9,351	20	434	9,855	504
12	20	9,351	20	434	9,855	504
21A	17	0	26	605	10,597	761
21B	16	0	10	192	3,115	298
10	18	9,351	20	434	9,855	504
18	21	10,166	20	434	9,855	543
20	22	10,166	20	434	9,855	543
2	25	50,000	20	434	9,855	504
17	23	0	12	326	5,966	340
9	26	0	17	405	6,824	475
22	14	6,354	12	271	5,602	340
23	24	0	20	434	9,855	504
SSPE1		104,738	231	5,267	108,142	6,194

SSPE2							
Well Site	Engine	NOx	SOx	PM10	CO	VOC	Unit
11	15	0	15	428	7,050	373	-17-0
4	19	9,351	20	434	9,855	504	-21-0
12	20	9,351	20	434	9,855	504	-22-0
21A	17	0	26	605	10,597	761	-19-0
21B	16	0	10	192	3,115	298	-18-0
10	27	0	21	3	1,550	419	-29-0
18	21	10,166	20	434	9,855	543	-23-0
20	22	10,166	20	434	9,855	543	-24-0
2	25	50,000	20	434	9,855	504	-27-0
17	23	0	12	326	5,966	340	-25-0
9	26	0	17	405	6,824	475	-28-0
22	14	6,354	12	271	5,602	340	-16-0
23	24	0	20	434	9,855	504	-26-0
backup	18	9,351	20	434	9,855	504	-20-0
SSPE2		104,738	253	5,270	109,692	6,612	

Engines 15, 16, 17, 23, 24, 25, 26, and 27 are limtied to combine NOx emissions of 50,000 lb-NOx. All NOx emissions will be shown on engine 25.

Project 2 (December 2014) - C-1172087

Replace engine 17 with engine 28 on well site 21A
-Include engine 28 in SLC with engines 15, 16, and 23 - 27

PE1 (lb/year)					
Engine	NOx	SOx	PM10	CO	VOC
Engine 17	13,995	26	605	10,597	761

PE2 (lb/year)						
Engine	NOx	SOx	PM10	CO	VOC	
Engine 28	406	26	35	51	152	
Engine 17	0	0	0	0	0	engine removed from facilitiy

BE (lb/year)						
Engine	NOx	SOx	PM10	CO	VOC	
Engine 17	13,995	26	605	10,597	761	Clean unit (Tier 3 engine was AIP BACT in 2007)
Engine 28	0	0	0	0	0	New unit

Offsets (lb/year)		
Engine	NOx	
Sum PE2	50,000	PE2 SLC = 50,000 lb-NOx/year (SLC).
Sum BE	50,000	BE SLC = 50,000 lb-NOx/year (SLC).
Required (w/ DOR)	0	

SSPE1						
Well Site	Engine	NOx	SOx	PM10	CO	VOC
11	15	0	15	428	7,050	373
4	19	9,351	20	434	9,855	504
12	20	9,351	20	434	9,855	504
21A	17	0	26	605	10,597	761
21B	16	0	10	192	3,115	298
10	27	0	21	3	1,550	419
18	21	10,166	20	434	9,855	543
20	22	10,166	20	434	9,855	543
2	25	50,000	20	434	9,855	504
17	23	0	12	326	5,966	340
9	26	0	17	405	6,824	475
22	14	6,354	12	271	5,602	340
23	24	0	20	434	9,855	504
backup	18	9,351	20	434	9,855	504
SSPE1		104,738	253	5,270	109,692	6,612

SSPE2							
Well Site	Engine	NOx	SOx	PM10	CO	VOC	Unit
11	15	0	15	428	7,050	373	-17-0
4	19	9,351	20	434	9,855	504	-21-0
12	20	9,351	20	434	9,855	504	-22-0
21A	28	0	26	35	51	152	-30-0
21B	16	0	10	192	3,115	298	-18-0
10	27	0	21	3	1,550	419	-29-0
18	21	10,166	20	434	9,855	543	-23-0
20	22	10,166	20	434	9,855	543	-24-0
2	25	50,000	20	434	9,855	504	-27-0
17	23	0	12	326	5,966	340	-25-0
9	26	0	17	405	6,824	475	-28-0
22	14	6,354	12	271	5,602	340	-16-0
23	24	0	20	434	9,855	504	-26-0
backup	18	9,351	20	434	9,855	504	-20-0
SSPE2		104,738	253	4,700	99,145	6,004	

Engines 15, 16, 23, 24, 25, 26, 27, and 28 are limtied to combine NOx emissions of 50,000 lb-NOx. All NOx emissions will be shown on engine 25.

Project 3 (May 2014) - C-1172088

Install new engine 29 on new well site 24
- Include engine 29 in 50,000 lb-NOx/year SLC

PE1 (lb/year)					
Engine	NOx	SOx	PM10	CO	VOC
Engine 29	0	0	0	0	0

PE2 (lb/year)					
Engine	NOx	SOx	PM10	CO	VOC
Engine 29	4,691	21	3	1,550	293

BE (lb/year)					
Engine	NOx	SOx	PM10	CO	VOC
Engine 29	0	0	0	0	0

New unit

Offsets (lb/year)	
Engine	NOx
Sum PE2	50,000
Sum BE	50,000
Required (w/ DOR)	0

PE2 SLC = 50,000 lb-NOx/year (SLC).
BE SLC = 50,000 lb-NOx/year (SLC).

SSPE1						
Well Site	Engine	NOx	SOx	PM10	CO	VOC
11	15	0	15	428	7,050	373
4	19	9,351	20	434	9,855	504
12	20	9,351	20	434	9,855	504
21A	28	0	26	35	51	152
21B	16	0	10	192	3,115	298
10	27	0	21	3	1,550	419
18	21	10,166	20	434	9,855	543
20	22	10,166	20	434	9,855	543
2	25	50,000	20	434	9,855	504
17	23	0	12	326	5,966	340
9	26	0	17	405	6,824	475
22	14	6,354	12	271	5,602	340
23	24	0	20	434	9,855	504
backup	18	9,351	20	434	9,855	504
SSPE1		104,738	233	4,266	89,290	5,500

SSPE2							
Well Site	Engine	NOx	SOx	PM10	CO	VOC	Unit
11	15	0	15	428	7,050	373	-17-0
4	19	9,351	20	434	9,855	504	-21-0
12	20	9,351	20	434	9,855	504	-22-0
21A	28	0	26	35	51	152	-30-0
21B	16	0	10	192	3,115	298	-18-0
10	27	0	21	3	1,550	419	-29-0
18	21	10,166	20	434	9,855	543	-23-0
20	22	10,166	20	434	9,855	543	-24-0
2	25	50,000	20	434	9,855	504	-27-0
17	23	0	12	326	5,966	340	-25-0
9	26	0	17	405	6,824	475	-28-0
22	14	6,354	12	271	5,602	340	-16-0
23	24	0	20	434	9,855	504	-26-0
24	29	0	21	3	1,550	293	-31-0
backup	18	9,351	20	434	9,855	504	-20-0
SSPE2		104,738	274	4,703	100,695	6,297	

Engines 15, 16, 23, 24, 25, 26, 27, 28, and 29 are limtied to combine NOx emissions of 50,000 lb-NOx. All NOx emissions will be shown on engine 25.

Project 4 (March 2017) - C-1172089

Replace engine 16 with engine 30 on well site 21B
- Move engine 16 to a back up engine.
- Include engine 30 in 50,000 lb-NOx/year SLC

PE1 (lb/year)					
Engine	NOx	SOx	PM10	CO	VOC
Engine 30	0	0	0	0	0

PE2 (lb/year)					
Engine	NOx	SOx	PM10	CO	VOC
Engine 30	397	10	3	1,925	20
Engine 16	5,476	10	192	3,115	298

BE (lb/year)						
Engine	NOx	SOx	PM10	CO	VOC	
Engine 30	0	0	0	0	0	New unit
Engine 16	5,476	10	192	3,115	298	Clean Emissions Unit (Tier 3)

Offsets (lb/year)		
Engine	NOx	
Sum PE2	50,000	PE2 SLC = 50,000 lb-NOx/year (SLC).
Sum BE	50,000	BE SLC = 50,000 lb-NOx/year (SLC).
Required (w/ DOR)	**0**	

SSPE1						
Well Site	Engine	NOx	SOx	PM10	CO	VOC
11	15	0	15	428	7,050	373
4	19	9,351	20	434	9,855	504
12	20	9,351	20	434	9,855	504
21A	28	0	26	35	51	152
21B	16	0	10	192	3,115	298
10	27	0	21	3	1,550	419
18	21	10,166	20	434	9,855	543
20	22	10,166	20	434	9,855	543
2	25	50,000	20	434	9,855	504
17	23	0	12	326	5,966	340
9	26	0	17	405	6,824	475
22	14	6,354	12	271	5,602	340
23	24	0	20	434	9,855	504
24	29	0	21	3	1,550	293
backup	18	9,351	20	434	9,855	504
SSPE1		**104,738**	**274**	**4,703**	**100,695**	**6,297**

SSPE2							
Well Site	Engine	NOx	SOx	PM10	CO	VOC	Unit
11	15	0	15	428	7,050	373	-17-0
4	19	9,351	20	434	9,855	504	-21-0
12	20	9,351	20	434	9,855	504	-22-0
21A	28	0	26	35	51	152	-30-0
backup	16	0	10	192	3,115	298	-18-0
10	27	0	21	3	1,550	419	-29-0
18	21	10,166	20	434	9,855	543	-23-0
20	22	10,166	20	434	9,855	543	-24-0
2	25	50,000	20	434	9,855	504	-27-0
17	23	0	12	326	5,966	340	-25-0
9	26	0	17	405	6,824	475	-28-0
22	14	6,354	12	271	5,602	340	-16-0
23	24	0	20	434	9,855	504	-26-0
24	29	0	21	3	1,550	293	-31-0
backup	18	9,351	20	434	9,855	504	-20-0
21B	30	0	10	3	1,925	20	-32-0
SSPE2		**104,738**	**284**	**4,706**	**102,619**	**6,317**	

Engines 15, 16, 23, 24, 25, 26, 27, 28, 29, and 30 are limtied to combine NOx emissions of 50,000 lb-NOx. All NOx emissions will be shown on engine 25.

Project 5 (Early 2018) - C-1180534

Replace engine 14 with engine 31 on well site 22
Replace engine 15 with engine 32 on well site 11
- Include engine 32 in 50,000 lb-NOx/year SLC
Remove engines 16, 18, 19, and 21 (engines were replaced with electric motors)

PE1 (lb/year)					
Engine	NOx	SOx	PM10	CO	VOC
Engine 14	6,354	12	271	5,602	340
Engine 15	0	15	428	7,050	373
Engine 31	0	0	0	0	0
Engine 32	0	0	0	0	0

PE2 (lb/year)						
Engine	NOx	SOx	PM10	CO	VOC	
Engine 31	238	13	20	185	26	
Engine 32	238	13	20	185	26	
Engine 14	0	0	0	0	0	engine removed from facilitiy
Engine 15	0	0	0	0	0	engine removed from facilitiy

BE (lb/year)						
Engine	NOx	SOx	PM10	CO	VOC	
Engine 31	0	0	0	0	0	New unit
Engine 32	0	0	0	0	0	New unit
Engine 14	6,354	12	271	5,602	340	Clean Emissions Unit (Tier 4I engines were not yet readily available in 2013; therefore, Tier 3 was considered the latest Tier certification standard)
Engine 15	0	15	428	7,050	373	Clean Emissions Unit (Tier 4I engines were not yet readily available in 2013; therefore, Tier 3 was considered the latest Tier certification standard)

Offsets (lb/year)	
Engine	NOx
PE2 (SLC)	50,000
BE (SLC)	50,000
PE2 (eng 31)	238
BE (eng 14)	6,354
Required (w/ DOR)	0

PE2 SLC = 50,000 lb-NOx/year (SLC).
BE SLC = 50,000 lb-NOx/year (SLC).

SSPE1						
Well Site	Engine	NOx	SOx	PM10	CO	VOC
11	15	0	15	428	7,050	373
4	19	9,351	20	434	9,855	504
12	20	9,351	20	434	9,855	504
21A	28	0	26	35	51	152
backup	16	0	10	192	3,115	298
10	27	0	21	3	1,550	419
18	21	10,166	20	434	9,855	543
20	22	10,166	20	434	9,855	543
2	25	50,000	20	434	9,855	504
17	23	0	12	326	5,966	340
9	26	0	17	405	6,824	475
22	14	6,354	12	271	5,602	340
23	24	0	20	434	9,855	504
24	29	0	21	3	1,550	293
backup	18	9,351	20	434	9,855	504
21B	30	0	10	3	1,925	20
SSPE1		104,738	284	4,706	102,619	6,317

SSPE2							
Well Site	Engine	NOx	SOx	PM10	CO	VOC	Unit
11	32	0	13	20	185	26	-34-0
12	20	9,351	20	434	9,855	504	-22-0
21A	28	0	26	35	51	152	-30-0
10	27	0	21	3	1,550	419	-29-0
20	22	10,166	20	434	9,855	543	-24-0
2	25	50,000	20	434	9,855	504	-27-0
17	23	0	12	326	5,966	340	-25-0
9	26	0	17	405	6,824	475	-28-0
22	31	238	13	20	185	26	-33-0
23	24	0	20	434	9,855	504	-26-0
24	29	0	21	3	1,550	293	-31-0
21B	30	0	13	20	185	20	-32-0
SSPE2		69,755	216	2,569	55,917	3,807	

Engines 23 through 30 and 32 are limtied to combine NOx emissions of 50,000 lb-NOx. All NOx emissions will be shown on engine 25.

Emission Factors

								ARB Certified EF (g/kw-hr)					ARB Certified EF (g/bhp-hr)				
Engine	Permit Unit	Make	Model	Tier	BHP	ESN	EPA Family	NOx + VOC	NOx	VOC	CO	PM	NOx	SOx	PM	CO	VOC
14	-16-0	Caterpillar	C9	3	275	JSC00887	6CPXL08.8ESK	3.7	3.515	0.185	3.1	0.15	2.62	0.0051	0.1119	2.31	0.14
15	-17-0	Caterpillar	C11	3	325	GLS00145	5CPXL11.1ESK	3.6	3.42	0.18	3.3	0.2	2.55	0.0051	0.1493	2.46	0.13
17	-19-0	Caterpillar	C-18	3	575	WJH00452	5CPXL18.1ESK	3.9	3.705	0.195	2.8	0.16	2.76	0.0051	0.119	2.09	0.15
27	-29-0	Caterpillar	C15	4I	475	LDN01135	CCPXL15.2HPA	--	1.5	0.13	0.5	0.001	1.12	0.0051	0.0007	0.37	0.10
28	-30-0	Caterpillar	C18	4F	575	N8F00533	ECPXL18.1HTF	--	0.11	0.04	0.01	0.01	0.08	0.0051	0.007	0.01	0.03
29	-31-0	Caterpillar	C15	4I	475	LDN01354	DCPXL15.2HPA	--	1.5	0.1	0.5	0.001	1.12	0.0051	0.0007	0.37	0.07
30	-32-0	Catterpillar	C7.1	4F	225	88101405	GPKXL07.0BN1	--	0.27	0.01	1.3	0.002	0.20	0.0051	0.0015	0.97	0.01
31	-33-0	Catterpillar	C9.3	4F	300		FCPXL09.3HTF	--	0.12	0.02	0.1	0.01	0.09	0.0051	0.0075	0.07	0.01
21	-34-0	Catterpillar	C9.3	4F	300		FCPXL09.3HTF	--	0.12	0.02	0.1	0.01	0.09	0.0051	0.0075	0.07	0.01

Notes:

- NOx + VOC emissions factors were seperated as follows: 95% NOx, 5% VOC
- EF (g/kw-hr) was converted to g/bhp-hr by dividing the EF (g/kw-hr) by 1.34.
- SOx EF calculated based on a fuel sulfur content of 0.000015 lb-S/lb-fuel.

UNIT -16-0

California Environmental Protection Agency AIR RESOURCES BOARD	CATERPILLAR, INC.	EXECUTIVE ORDER U-R-001-0287 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the December 15, 1998 Settlement Agreement between the Air Resources Board and the manufacturer, and any modifications thereof to the Settlement Agreement;

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engine and emission control system produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2006	6CPXL08.8ESK	8.8	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection, Turbocharger, Charge Air Cooler and Engine Control Module	Loader, Dozer, Scraper and Industrial Equipment

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
130 ≤ KW < 225	Tier 3	STD	N/A	N/A	4.0	3.5	0.20	20	15	50
225 ≤ KW < 450	Tier 3	STD	N/A	N/A	4.0	3.5	0.20	20	15	50
		CERT	--	--	3.7	3.1	0.15	16	3	24

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 21st day of December 2005.

Raphael Susnowitz

for Allen Lyons, Chief
Mobile Source Operations Division

UNIT -17-0

California Environmental Protection Agency AIR RESOURCES BOARD	CATERPILLAR, INC.	EXECUTIVE ORDER U-R-001-0259 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the December 15, 1998 Settlement Agreement between the Air Resources Board and the manufacturer, and any modifications thereof to the Settlement Agreement;

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engine and emission control system produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2005	5CPXL11.1ESK	11.1	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection, Turbocharger, Charge Air Cooler and Engine Control Module	Industrial Equipment

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
225 ≤ KW < 450	Tier 3	STD	N/A	N/A	4.0	3.5	0.20	20	15	50
		CERT	--	--	3.6	3.3	0.20	15	3	24

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 13TH day of July 2004.

Allen Lyons, Chief
Mobile Source Operations Division

UNIT -19-D

California Environmental Protection Agency AIR RESOURCES BOARD	CATERPILLAR, INC.	EXECUTIVE ORDER U-R-001-0262 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the December 15, 1998 Settlement Agreement between the Air Resources Board and the manufacturer, and any modifications thereof to the Settlement Agreement;

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engine and emission control system produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2005	5CPXL18.1ESK	18.1	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection, Turbocharger, Charge Air Cooler and Engine Control Module	Industrial Equipment

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
450 ≤ KW < 560	Tier 3	STD	N/A	N/A	4.0	3.5	0.20	20	15	50
		CERT	--	--	3.9	2.8	0.16	6	4	11

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 13TH day of July 2004.

Allen Lyons, Chief
Mobile Source Operations Division

UNIT – 29-0

California Environmental Protection Agency AIR RESOURCES BOARD	CATERPILLAR INC.	EXECUTIVE ORDER U-R-001-0432 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2012	CCPXL15.2HPA	15.2	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Oxidation Catalyst, Engine Control Module, Exhaust Gas Recirculation, Periodic Trap Oxidizer	Tractor , Dozer

The engine models and codes are attached.

The following are the exhaust certification standards (STD), or family emission limit(s) (FEL) as applicable, and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
130 ≤ kW ≤ 560	Tier 4 Interim ALT NOx	STD	0.19	2.0	N/A	3.5	0.02	N/A	N/A	N/A
		FEL	N/A	1.8	N/A	N/A	0.00	N/A	N/A	N/A
		CERT	0.13	1.5	--	0.5	0.001	--	--	--

BE IT FURTHER RESOLVED: That the family emission limit(s) (FEL) is an emission level declared by the manufacturer for use in any averaging, banking and trading program and in lieu of an emission standard for certification. It serves as the applicable emission standard for determining compliance of any engine within this engine family under 13 CCR Sections 2423 and 2427.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 28 day of October 2011.

Annette Hebert, Chief
Mobile Source Operations Division

UNIT -30-D

California Environmental Protection Agency Air Resources Board	CATERPILLAR INC.	EXECUTIVE ORDER U-R-001-0482-1 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-14-012;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2014	ECPXL18.1HTF	18.1	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Oxidation Catalyst, Engine Control Module, Exhaust Gas Recirculation, Periodic Trap Oxidizer, Selective Catalytic Reduction-Urea, Ammonia Oxidation Catalyst	Loader, Tractor

The engine models and codes are attached.

The following are the exhaust certification standards (STD), or family emission limit(s) (FEL) as applicable, and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
130 ≤ kW ≤ 560	Tier 4 Final	STD	0.19	0.40	N/A	3.5	0.02	N/A	N/A	N/A
		FEL	N/A	N/A	--	N/A	0.01	N/A	N/A	N/A
		CERT	0.04	0.11	--	0.01	0.01	--	--	--

BE IT FURTHER RESOLVED: That the family emission limit(s) (FEL) is an emission level declared by the manufacturer for use in any averaging, banking and trading program and in lieu of an emission standard for certification. It serves as the applicable emission standard for determining compliance of any engine within this engine family under 13 CCR Sections 2423 and 2427.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

This Executive Order hereby supersedes Executive Order U-R-001-0482 dated August 19, 2013.

Executed at El Monte, California on this 31st day of January 2014.

Annette Hebert, Chief
Emissions Compliance, Automotive Regulations and Science Division

UNH -31-0

California Environmental Protection Agency Air Resources Board	CATERPILLAR INC.	EXECUTIVE ORDER U-R-001-0458 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2013	DCPXL15.2HPA	15.2	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Oxidation Catalyst, Engine Control Module, Exhaust Gas Recirculation, Periodic Trap Oxidizer	Tractor, Dozer, Articulate Truck, Commercial Equipment

The engine models and codes are attached.

The following are the exhaust certification standards (STD), or family emission limit(s) (FEL) as applicable, and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
130 ≤ kW ≤ 560	Interim Tier 4 ALT NOx	STD	0.19	2.0	N/A	3.5	0.02	N/A	N/A	N/A
		FEL	N/A	1.8	N/A	N/A	0.01	N/A	N/A	N/A
		CERT	0.10	1.5	--	0.5	0.001	--	--	--

BE IT FURTHER RESOLVED: That the family emission limit(s) (FEL) is an emission level declared by the manufacturer for use in any averaging, banking and trading program and in lieu of an emission standard for certification. It serves as the applicable emission standard for determining compliance of any engine within this engine family under 13 CCR Sections 2423 and 2427.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 27th day of August 2012.

Annette Hebert, Chief
Mobile Source Operations Division

UNIT - 32-O

California Environmental Protection Agency AIR RESOURCES BOARD	PERKINS ENGINES COMPANY LTD.	EXECUTIVE ORDER U-R-022-0202-1 New Off-Road Compression-Ignition Engines Page 1 of 2 Pages

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-14-012;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engine and emission control system produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2016	GPKXL07.0BN1	7.01	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Electronic Control Module, Exhaust Gas Recirculation, Diesel Oxidation Catalyst, Continuous Trap Oxidizer, Selective Catalytic Reduction-Urea, Ammonia Oxidation Catalyst	Cranes, Loaders, Tractor, Dozer, Pump, Compressor, Generator Set

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			NMHC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
75 ≤ KW ≤ 560	Tier 4 Final	STD	0.19	0.40	N/A	3.5	0.02	N/A	N/A	N/A
		FEL	N/A	N/A	N/A	N/A	0.01	N/A	N/A	N/A
		CERT	0.01	0.27	--	1.3	0.002	--	--	--

BE IT FURTHER RESOLVED: That the listed engine models, the manufacturer has complied with the more stringent set of standards from the various power categories in conformance with Section 1039.230 (e) of the "California Exhaust Emissions Standards and Test Procedures for 2008 and Later Tier 4 Off-Road Compression-Ignition Engines, Part I-D" adopted October 20, 2005 and last amended October 25, 2012.

BE IT FURTHER RESOLVED: That the family emissions limit(s) (FEL) is an emissions level declared by the manufacturer for use in any averaging, banking and trading program and in lieu of an emissions standard for certification. It serves as the applicable emission standard for determining compliance of any engine within this engine family under 13 CCR Sections 2423 and 2427.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

BE IT FURTHER RESOLVED: That the manufacturer has elected to include engine models in this engine family which are identified for "emergency equipment use only". These "emergency equipment use only" engines are exempt from requirements imposed pursuant to California law and the regulations adopted pursuant thereto for motor vehicle pollution control devices per California Vehicle Code Section 27156.2. The manufacturer must clearly label these engines for "emergency vehicle use only" on the engines' emission control label.

UNITS -33.0 &
-34.0

California Environmental Protection Agency Air Resources Board	CATERPILLAR INC.	EXECUTIVE ORDER U-R-001-0498 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-14-012;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2015	FCPXL09.3HTF	9.3	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Oxidation Catalyst, Engine Control Module, Exhaust Gas Recirculation, Periodic Trap Oxidizer, Selective Catalytic Reduction-Urea, Ammonia Oxidation Catalyst	Loader, Tractor, Agricultural Combine, Scraper, Excavator, Motor Grader

The engine models and codes are attached.

The following are the exhaust certification standards (STD), or family emission limit(s) (FEL) as applicable, and certification levels (CERT) for non-methane hydrocarbon (NMHC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			NMHC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
130 ≤ kW ≤ 560	Tier 4 Final	STD	0.19	0.40	N/A	3.5	0.02	N/A	N/A	N/A
		FEL	N/A	N/A	--	N/A	0.01	N/A	N/A	N/A
		CERT	0.02	0.12	--	0.1	0.01	--	--	--

BE IT FURTHER RESOLVED: That the family emission limit(s) (FEL) is an emission level declared by the manufacturer for use in any averaging, banking and trading program and in lieu of an emission standard for certification. It serves as the applicable emission standard for determining compliance of any engine within this engine family under 13 CCR Sections 2423 and 2427.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 25 day of September 2014.

Annette Hebert, Chief
Emissions Compliance, Automotive Regulations and Science Division

APPENDIX C

Quarterly Net Emissions Change (QNEC)

Quarterly Net Emissions Change (QNEC)

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

QNEC = PE2 - PE1, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.
PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.
PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

Using the values in Section VII.C.2 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated as follows:

$PE2_{quarterly}$ = $PE2_{annual}$ ÷ 4 quarters/year
$PE1_{quarterly}$= $PE1_{annual}$ ÷ 4 quarters/year

The QNEC for unit C-6699-33-0 is calculated below. Since this unit is a new emissions unit, the PE1 = 0 for all pollutants. Therefore, QNEC = $PE1_{quarterly}$

QNEC					
Permit Unit	**NOx (lb/qtr)**	**SOx (lb/qtr)**	**PM_{10} (lb/qtr)**	**CO (lb/qtr)**	**VOC (lb/qtr)**
C-6699-33-0	59.5	3.25	5	46.25	6.5

Units C-6699-29, -30, -31, -32, and -34 are all included in the annual NOx SLC with existing units C-6699-25 through -28. The QNEC for all the units in the SLC has already been established and are shown on the emissions profile for unit -25; therefore, the NOx QNEC for the units in this project will be 0 lb/qtr. The QNEC for all other pollutants will be determined based on their calculated PE2 and are summarized in the table below:

$QNEC_{SLC}$					
Permit Unit	**NOx (lb/qtr)**	**SOx (lb/qtr)**	**PM_{10} (lb/qtr)**	**CO (lb/qtr)**	**VOC (lb/qtr)**
C-6699-29-0	0	5.25	0.75	387.5	104.75
C-6699-30-0		6.5	8.75	12.75	38
C-6699-31-0		5.25	0.75	387.5	73.25
C-6699-32-0		2.5	0.75	481.25	5
C-6699-34-0		3.25	5	46.25	6.5

APPENDIX D

BACT Guideline and BACT Analysis

San Joaquin Valley Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 3.3.16

Emission Unit: Stationary Compression-Ignited AO IC Engines

Industry Type: Agriculture

Equipment Rating: ≤ 1,000 bhp

Last Update: June 1, 2006

Pollutant	Achieved in Practice	Technologically Feasible	Alternate Basic Equipment
VOC	• The proposed engine shall meet the latest available CARB certification standard for the particular horsepower range. (Example: a 200 bhp engine proposed in 2007 shall emit ≤ 0.149 g-PM10/bhp-hr if triggers BACT for PM10)		• Electrification • NG Fired Engine to meet 4702 • LPG/Propane Fired Engine to meet 4702
NO_x		SCR	
CO			
PM_{10}		PM Filter	• Electrification • NG Fired Engine • LPG/Propane Fired Engine
SO_x	• Very 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

Unit C-6699-29-0:

Permit unit -29-0 was installed at the facility in December 2012. At the time of installation, the engine was subject to the requirements of BACT Guideline 3.3.16. The engine meet the AIP BACT requirements at the time of installation (Tier 4I – Latest available tier certification). Pursuant to District practice, since the engine was installed with BACT, only the types of controls that can be applied to the existing engine will be evaluated.

Top-Down BACT Analysis for NOx Emissions

I. Step 1 - Identify All Possible Control Technologies

Option 1: Latest Available Certified Compression-Ignited Engine, Achieved in Practice (AIP)
Option 2: Natural Gas Fueled Engine, Alternate Basic Equipment (ABE)
Option 3: Propane/Liquid Petroleum Gas (ABE)
Option 4: Electrification (ABE)
Option 5: SCR, Technologically Feasible (TF)

II. Step 2 - Eliminate Technologically Infeasible Options

There are no technologically infeasible options shown in Step 1.

III. Step 3 - Rank Technologies

As stated above, only the types of controls that can be applied to the existing engine will be evaluated in this analysis. The following table has been adjusted to remove all non-add-on control technologies.

Control Technology	Rank	Emissions	Technology Classification for BACT
SCR	1	≥ 81% NO_x reduction	TF
Latest Certification	2	Latest Tier Certification Level	AIP

IV. Step 4 - Cost Effectiveness Analyses

Cost Effectiveness Analysis: SCR

As demonstrated in the cost analysis below, a SCR system for a 475 bhp engine is not cost effective.

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.

V. 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 proposed the latest certification at the time the engine was installed; therefore, BACT is satisfied.

Unit C-6699-31-0:

Permit unit -31-0 was installed at the facility in May 2015. At the time of installation, the engine was subject to the requirements of BACT Guideline 3.3.16. The engine meet the AIP BACT requirements at the time of installation (Tier 4I – Latest available tier certification). Pursuant to District practice, since the engine was installed with BACT, only the types of controls that can be applied to the existing engine will be evaluated.

Top-Down BACT Analysis for NOx Emissions

I. Step 1 - Identify All Possible Control Technologies

Option 1: Latest Available Certified Compression-Ignited Engine, Achieved in Practice (AIP)
Option 2: Natural Gas Fueled Engine, Alternate Basic Equipment (ABE)
Option 3: Propane/Liquid Petroleum Gas (ABE)
Option 4: Electrification (ABE)
Option 5: SCR, Technologically Feasible (TF)

II. Step 2 - Eliminate Technologically Infeasible Options

There are no technologically infeasible options shown in Step 1.

III. Step 3 - Rank Technologies

As stated above, only the types of controls that can be applied to the existing engine will be evaluated in this analysis. The following table has been adjusted to remove all non-add-on control technologies.

Control Technology	Rank	Emissions	Technology Classification for BACT
SCR	1	≥ 81% NO_x reduction	TF
Latest Certification	2	Latest Tier Certification Level	AIP

IV. Step 4 - Cost Effectiveness Analyses

Cost Effectiveness Analysis: SCR

As demonstrated in the cost analysis below, a SCR system for a 475 bhp engine is not cost effective.

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.

V. 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 proposed the latest certification at the time the engine was installed; therefore, BACT is satisfied.

Unit C-6699-32-0:

Permit unit -32-0 was installed at the facility in March 2017. At the time of installation, the engine was subject to the requirements of BACT Guideline 3.3.16. The engine meet the AIP BACT requirements at the time of installation (Tier 4F – Latest available tier certification). Pursuant to District practice, since the engine was installed with BACT, only the types of controls that can be applied to the existing engine will be evaluated.

Top-Down BACT Analysis for NOx Emissions

I. Step 1 - Identify All Possible Control Technologies

Option 1: Latest Available Certified Compression-Ignited Engine, Achieved in Practice (AIP)
Option 2: Natural Gas Fueled Engine, Alternate Basic Equipment (ABE)
Option 3: Propane/Liquid Petroleum Gas (ABE)
Option 4: Electrification (ABE)
Option 5: SCR, Technologically Feasible (TF)

II. Step 2 - Eliminate Technologically Infeasible Options

There are no technologically infeasible options shown in Step 1.

III. Step 3 - Rank Technologies

As stated above, only the types of controls that can be applied to the existing engine will be evaluated in this analysis. The following table has been adjusted to remove all non-add-on control technologies.

Control Technology	Rank	Emissions	Technology Classification for BACT
SCR	1	≥ 81% NO_x reduction	TF
Latest Certification	2	Latest Tier Certification Level	AIP

IV. Step 4 - Cost Effectiveness Analyses

The applicant has proposed the operation of a Tier 4F engine which is equipped with a SCR system. Since the facility has proposed the highest ranking control technology listed above, a cost effectiveness analysis is not required.

V. Step 5 - Select BACT

The applicant has proposed to operate a Tier 4F certified IC engine, which is equipped with an SCR system; therefore, BACT for NOx is satisfied.

Top-Down BACT Analysis for PM_{10} Emissions

I. Step 1 - Identify All Possible Control Technologies

Option 1: Latest Available Certified Compression-Ignited Engine, Achieved in Practice (AIP)
Option 2: Natural Gas Fueled Engine, Alternate Basic Equipment (ABE)
Option 3: Propane/Liquid Petroleum Gas (ABE)
Option 4: Electrification (ABE)
Option 5: Particulate Matter Filter, Technologically Feasible (TF)

II. Step 2 - Eliminate Technologically Infeasible Options

All options from Step 1 are technologically feasible.

III. Step 3 - Rank Remaining Control Technologies

As stated above, only the types of controls that can be applied to the existing engine will be evaluated in this analysis. The following table has been adjusted to remove all non-add-on control technologies.

Control Technology	Rank	Emissions	Technology Classification for BACT
PM Filter	1	≥ 85% control	TF
Latest Certification	2	Latest Tier Certification Level	AIP

IV. Step 4 - Cost Effectiveness Analyses

The applicant has proposed the highest ranking control technology listed above. Therefore, a cost effectiveness analysis is not required.

V. Step 5 - Select BACT

The applicant has proposed to operate a Tier 4F certified IC engine, which is equipped with a PM filter; therefore, BACT for PM_{10} is satisfied.

APPENDIX E

HRA and AAQA Summary

San Joaquin Valley Air Pollution Control District
Risk Management Review

To:	Derek Fukuda – Permit Services
From:	Cheryl Lawler – Technical Services
Date:	November 2, 2017
Facility Name:	Agri-World Cooperative
Location:	31545 Donald Avenue, Madera
Application #(s):	C-6699-29-0, 31-0, 32-0
Project #:	C-1172088

A. RMR SUMMARY

RMR Summary						
Units	**Prioritization Score**	**Acute Hazard Index**	**Chronic Hazard Index**	**Maximum Individual Cancer Risk**	**T-BACT Required?**	**Special Permit Requirements?**
Unit 29-0 (Diesel ICE)	N/A[1]	N/A[2]	0.00	1.70E-08	**No**	**Yes**
Unit 31-0 (Diesel ICE)	N/A[1]	N/A[2]	0.00	6.08E-08	**No**	**Yes**
Unit 32-0 (Diesel ICE)	N/A[1]	N/A[2]	0.00	2.27E-06	**Yes**	**Yes**
Project Totals	N/A[1]	N/A[2]	0.00	2.35E-06		
Facility Totals	>1	0.00	0.00	19.06E-06		

[1]Prioritization for this unit was not conducted since it has been determined that all diesel-fired IC engines will result in a prioritization score greater than 1.0.
[2]The Acute Hazard Index was not calculated since there is no risk factor or the risk factor is so low that it has been determined to be insignificant for this type of unit.

Proposed Permit Requirements

To ensure that human health risks will not exceed District allowable levels; the following shall be included as requirements for:

Unit 29-0

1. The PM10 emissions rate shall not exceed 0.0007 g/bhp-hr based on US EPA certification using ISO 8178 test procedure.
2. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction.
3. Operation of the engine shall not exceed 5,000 hours per calendar year.
4. The unit is only allowed to operate at Well Site #10.
5. Permit to Operate 2-0 will be canceled prior to the implementation of this permit unit.

Unit 31-0

1. The PM10 emissions rate shall not exceed 0.0007 g/bhp-hr based on US EPA certification using ISO 8178 test procedure.
2. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction.
3. Operation of the engine shall not exceed 5,000 hours per calendar year.
4. The unit is only allowed to operate at Well Site #24.
5. Permit to Operate 2-0 will be canceled prior to the implementation of this permit unit.

Unit 32-0

1. The PM10 emissions rate shall not exceed 0.0015 g/bhp-hr based on US EPA certification using ISO 8178 test procedure.
2. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction.
3. Operation of the engine shall not exceed 5,000 hours per calendar year.
4. The unit shall always operate at least 800 feet away from any residential receptor.
5. Permit to Operate 2-0 will be canceled prior to the implementation of this permit unit.

T-BACT is required for Unit 32-0 because of emissions of Diesel Particulate Matter which is a PM-10.

B. RMR REPORT

I. Project Description

Technical Services received a request on October 24, 2017, to perform a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) for three Diesel internal combustion engines.

In PAS, Unit 29-0 is assigned to Project C-1172086, Unit 31-0 is assigned to Project C-1172088, and Unit 32-0 is assigned to Project C-1172089. However, per the processing engineer, all billable time was charged to Project C-1172088 for all three of these units.

II. Analysis

Toxic emissions for this project were calculated using PM10 emission rates calculated and supplied by the processing engineer, and input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). Prioritization for this project was not conducted since it has been determined that all diesel-fired IC engines will result in a prioritization score greater than 1.0. The prioritization score for this facility was greater than 1.0 (see RMR Summary Table). Therefore, a refined health risk assessment was required. The AERMOD model was used, with the parameters outlined below and meteorological data for 2009-2011 from Madera to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Analysis Parameters Unit 29-0			
Source Type	Point	**Location Type**	Rural
Stack Height (m)	2.74	**Closest Receptor (m)**	1955
Stack Diameter (m)	0.13	**Type of Receptor**	Resident
Stack Exit Velocity (m/s)	66.61	**Diesel Exhaust (PM10) Emission Rate**	4 lbs/yr
Stack Exit Temp. (°K)	613		

Analysis Parameters Unit 31-0			
Source Type	Point	**Location Type**	Rural
Stack Height (m)	2.74	**Closest Receptor (m)**	1390
Stack Diameter (m)	0.13	**Type of Receptor**	Resident
Stack Exit Velocity (m/s)	66.61	**Diesel Exhaust (PM10) Emission Rate**	4 lbs/yr
Stack Exit Temp. (°K)	613		

Analysis Parameters Unit 32-0			
Source Type	Point	**Location Type**	Rural
Stack Height (m)	1.83	**Closest Receptor (m)**	244
Stack Diameter (m)	0.06	**Type of Receptor**	Resident
Stack Exit Velocity (m/s)	66.32	**Diesel Exhaust (PM10) Emission Rate**	4 lbs/yr
Stack Exit Temp. (°K)	664		

Technical Services also 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.	Hr.	Yr.
29-0	1.17	5861	0.005	27	0.39	1954	0.001	508
31-0	1.17	5861	0.005	27	0.39	1954	0.001	391
32-0	0.09	496	0.003	13	0.48	2406	0.001	17

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

	Background Site	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Madera - Pump Yard (2015)	Pass	X	Pass	X	X
NO_x	Madera - Pump Yard (2015)	Pass[1]	X	X	X	Pass
SO_x	Fresno - Garland (2015)	Pass	Pass	X	Pass	Pass
PM_{10}	Madera - City (2015)	X	X	X	Pass[2]	Pass[2]
$PM_{2.5}$	Madera - City (2015)	X	X	X	Pass[3]	Pass[3]

*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).
[3]The court has vacated EPA's $PM_{2.5}$ SILs. Until such time as new SIL values are approved, the District will use the corresponding PM_{10} SILs for both PM_{10} and $PM_{2.5}$ analyses.

III. Conclusion

Unit 32-0

The Acute and Chronic Indices are below 1.0, and the Cancer Risk associated with the unit is greater than 1.0 in a million, but less than 20 in a million. **In accordance with the District's Risk Management Policy, the unit is approved with Toxic Best Available Control Technology (T-BACT).**

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

Units 29-0 & 31-0

The Acute and Chronic Indices are below 1.0, and the Cancer Risk factor associated with these units is less than 1.0 in a million. **In accordance with the District's Risk Management Policy, the units are approved without Toxic Best Available Control Technology (T-BACT).**

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

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

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

IV. Attachments

A. RMR Request Form & Attachments
B. Convert Calculations
C. Risk Results
D. Facility Summary
E. AAQA Results

APPENDIX F

Compliance Certification Statement

May 10, 2018

Compliance Certification Statement
For Federal Major Permit Modifications
Compliance with District Rule 2201, Section 4.15.2

Mr. Derek Fukuda
Senior Air Quality Engineer
San Joaquin Valley Unified APCD

"I certify under penalty of law that all major stationary sources (Title V facilities) operated under my control in California are compliant with all applicable air emissions limitations and standards."

Devin Aviles
General Manager

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