San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

JAN 30 2020

Chris Huy
Phillips 66 Pipeline LLC
3900 Kilroy Airport Way, Ste 210
Long Beach, CA 90806

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: C-1301
Project Number: C-1193227

Dear Mr. Huy:

Enclosed for your review and comment is the District's analysis of Phillips 66 Pipeline LLC's application for an Authority to Construct for an IC engine, at 34960 Amador Ave, near Coalinga.

The notice of preliminary decision for this project has been posted on the District's website (www.valleyair.org). After addressing all comments made during the 30-day public notice period, the District intends to issue the Authority to Construct. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Dan Klevann of Permit Services at (661) 392-5500.

Sincerely,

Arnaud Marjollet
Director of Permit Services

AM:dk

Enclosures

cc: Courtney Graham, CARB (w/ enclosure) via email

Samir Sheikh
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review

Facility Name:	Phillips 66 Pipeline LLC	Date:	January 21, 2020
Mailing Address:	3900 Kilroy Airport Way, Ste. 21(	Engineer:	Dan Klevan
	Long Beach, CA 90806	Lead Engineer:	Rich Karrs
Contact Person:	Chris Huy		
Telephone:	562-290-1546		
E-Mail:	Chris.M.Huy@p66.com		
Application #(s):	C-1301-15-0		
Project #:	C-1193227		
Deemed Complete:	November 13, 2019		

I. Proposal

Phillips 66 Pipeline, LLC (Phillips) has requested an Authority to Construct (ATC) permit for the installation of an IC engine to replace IC engine C-1301-3. The engine will be authorized to operate up to 40 hours to commission the engine which will allow it to "bake off" residual oil and to clear all debris from the engine which can foul the catalyst. The draft ATC(s) are included in Appendix A.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (8/15/19)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (8/15/19)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4701	Internal Combustion Engines – Phase I (8/21/03)
Rule 4702	Internal Combustion Engines (11/14/13)
Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice

Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

The equipment will be located at 34960 Amador Avenue, within Section 32, Township 19S, Range 16E, near Coalinga, CA. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

The proposed stationary IC engine in this project will power a crude oil pipeline pump.

Commissioning Period

The engine requires an initial "run in" (commissioning) period of 40 hours to clear all debris and preservation-oil in the flow path upstream of the catalyst. This protects the catalyst elements from experiencing any adverse conditions such as over-temperature or contamination during initial set up, which can irreversibly reduce catalyst efficiency and negatively affect catalyst out emission values."

During commissioning applicant proposes to install sufficient sacrificial catalyst elements required to achieve 3.3 g/bhp-hr (this is the emission limit required to satisfy AAQA requirements for Project C-1172573 and may require adjustment following dispersion modeling). Daily monitoring of the engine's exhaust during commissioning will be done using a portable analyzer to detect loss in catalyst activity with fouling. If the proposed emissions limits are exceeded during commissioning the catalyst unit will be replaced and the engine will be restarted. If a second exceedance of the NOx emission limit occurs additional catalyst element will be installed. The time duration of commissioning will be restricted to a maximum of 40 hours

V. Equipment Listing

Pre-Project Equipment Description (see PTO in **Appendix B**):

C-1301-3-9: 765 BHP DELAVAL MODEL #GSG8 NATURAL GAS-FIRED IC ENGINE (#2) WITH CATALYTIC CONVERTER POWERING A CRUDE OIL PIPELINE PUMP WITH BACKUP LPG FUEL DURING NATURAL GAS CURTAILMENT

Proposed ATC:

C-1301-15-0: 1,150 BHP GE WAUKESHA L5794GSI NATURAL GAS-FIRED IC ENGINE WITH CATALYTIC CONVERTER (OR EQUIVALENT) POWERING A CRUDE OIL PIPELINE PUMP WITH BACKUP LPG FUEL DURING NATURAL GAS CURTAILMENT

VI. Emission Control Technology Evaluation

The engine is equipped with a 3-way, Non-Selective Catalyst Reduction (NSCR) system and an air-to-fuel ratio controller for control of NOx, CO and VOC.
NSCR systems decrease NOx, CO, and VOC emissions by using a catalyst to promote the chemical reduction of NO_x into N_2 and O_2, and the chemical oxidation of VOC and CO into H_2O and CO_2.

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

VII. General Calculations

A. Assumptions

- Daily operating schedule: 24 hours/day
- Annual operating schedule: 8,760 hours/year
- EPA F-factor (adjusted to 60°F): 8,578 dscf/MMBtu (40 CFR 60 Appendix B)
- Natural gas heating value: 1,000 Btu/scf (District Policy APR 1720
- LPG/propane heating value: 94,000 Btu/gal (AP-42, Appendix A, pg. 5, dated 9/85)
- Conversion Btu to bhp-hr: 2,542.5 Btu/bhp-hr (AP 42 Appendix A-14)
- Thermal efficiency of engine: 32%

Assumptions for Commissioning Period

- The applicant has requested that the ATC permit include a commissioning period to allow testing, adjustment, tuning, and calibration of the engine without the catalyst installed. The commissioning period will consist of no more than 40 hours of operation of the engine without the catalyst installed (proposed by applicant).

To streamline emission calculations, PM2.5 emissions are assumed to be equal to PM10 emissions. Only if needed to determine if a project is a Federal major modification for PM2.5 will specific PM2.5 emission calculations be performed.

B. Emission Factors

Engine Emission Factors Normal/Post Commissioning Period			
Pollutant	ppmv (@ 15%O2)	g/bhp-hr	Source
NOx	5	0.07	BACT, proposed
SOx		0.013 (LPG)	LPG EF per GEAR 11
PM_{10}		0.03	PTO C-1301-1, '-2 and '-3, proposed
CO	56	0.6	BACT, proposed
VOC	12	0.055*	BACT, proposed

Engine Emission Factors Commissioning Period			
Pollutant	ppmv (@ 15%O2)	g/bhp-hr	Source
NOx		3.3	Required to satisfy AAQA requirements
SOx		0.013	LPG EF per GEAR 11
PM_{10}		0.03	PTO C-1301-1, '-2 and '-3, proposed
CO		10.10	Waukesha
VOC		0.30	Waukesha

C. Calculations

1. Pre-Project Potential to Emit (PE1)

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

2. Post-Project Potential to Emit (PE2)

For the engine in this project, the daily and annual PE are summarized in the tables below:

Daily Post-Project Potential to Emit (PE2) – Commissioning Period									
NO_x	3.3	(g/bhp·hr) x	1,150	(bhp) x	24	(hr/day) ÷ 453.6 (g/lb) =	200.8	(lb/day)
SO_x	0.013	(g/bhp·hr) x	1,150	(bhp) x	24	(hr/day) ÷ 453.6 (g/lb) =	0.8	(lb/day)
PM_{10}	0.03	(g/bhp·hr) x	1,150	(bhp) x	24	(hr/day) ÷ 453.6 (g/lb) =	1.8	(lb/day)
CO	10.10	(g/bhp·hr) x	1,150	(bhp) x	24	(hr/day) ÷ 453.6 (g/lb) =	614.6	(lb/day)
VOC	0.3	(g/bhp·hr) x	1,150	(bhp) x	24	(hr/day) ÷ 453.6 (g/lb) =	18.3	(lb/day)

Daily Post-Project Potential to Emit (PE2) – Normal /Post-Commissioning Period									
NO_x	0.07	(g/bhp·hr) x	1,150	(bhp) x	24	(hr/day) ÷ 453.6 (g/lb) =	4.3	(lb/day)
SO_x	0.013	(g/bhp·hr) x	1,150	(bhp) x	24	(hr/day) ÷ 453.6 (g/lb) =	0.8	(lb/day)
PM_{10}	0.03	(g/bhp·hr) x	1,150	(bhp) x	24	(hr/day) ÷ 453.6 (g/lb) =	1.8	(lb/day)
CO	0.45	(g/bhp·hr) x	1,150	(bhp) x	24	(hr/day) ÷ 453.6 (g/lb) =	27.4	(lb/day)
VOC	0.055	(g/bhp·hr) x	1,150	(bhp) x	24	(hr/day) ÷ 453.6 (g/lb) =	3.3	(lb/day)

Annual Post-Project Potential to Emit (PE2) - Commissioning Period								
NO_x	3.3	(g/bhp·hr) x	1,150	(bhp) x	40	(hr/yr) ÷ 453.6 (g/lb) =	355	(lb/yr)
SO_x	0.013	(g/bhp·hr) x	1,150	(bhp) x	40	(hr/yr) ÷ 453.6 (g/lb) =	1	(lb/yr)
PM_{10}	0.03	(g/bhp·hr) x	1,150	(bhp) x	40	(hr/yr) ÷ 453.6 (g/lb) =	3	(lb/yr)
CO	10.10	(g/bhp·hr) x	1,150	(bhp) x	40	(hr/yr) ÷ 453.6 (g/lb) =	1,024	(lb/yr)
VOC	0.3	(g/bhp·hr) x	1,150	(bhp) x	40	(hr/yr) ÷ 453.6 (g/lb) =	30	(lb/yr)

Annual Post-Project Potential to Emit (PE2) – Normal /Post-Commissioning Period								
NO_x	0.07	(g/bhp·hr) x	1,150	(bhp) x	8,720	(hr/yr) ÷ 453.6 (g/lb) =	1,548	(lb/yr)
SO_x	0.013	(g/bhp·hr) x	1,150	(bhp) x	8,720	(hr/yr) ÷ 453.6 (g/lb) =	287	(lb/yr)
PM_{10}	0.03	(g/bhp·hr) x	1,150	(bhp) x	8,720	(hr/yr) ÷ 453.6 (g/lb) =	663	(lb/yr)
CO	0.6	(g/bhp·hr) x	1,150	(bhp) x	8,720	(hr/yr) ÷ 453.6 (g/lb) =	9,948	(lb/yr)
VOC	0.055	(g/bhp·hr) x	1,150	(bhp) x	8,720	(hr/yr) ÷ 453.6 (g/lb) =	1,216	(lb/yr)

Total Annual Emissions Commissioning Period + Normal Operation (lb/year)			
Pollutant	Commissioning Period	Normal Operation	PE2 Total
NOx	335	1,548	1,883
SOx	1	287	288
PM_{10}	3	663	666
CO	1,024	9,948	10,972
VOC	30	1,216	1,246

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.

SSPE1 (lb/year)					
Permit Unit	**NO_X**	**SO_X**	**PM_{10}**	**CO**	**VOC**
C-1301-2-8	4,429	34	444	43,119	1,229
C-1301-3-8	4,429	34	444	43,119	1,229
C-1301-4-7	0	0	0	0	16,258
C-1301-5-6	0	0	0	0	
C-1301-6-6	0	0	0	0	
C-1301-7-6	0	0	0	0	
C-1301-8-6	0	0	0	0	
C-1301-9-7	0	0	0	0	
C-1301-12-0	433	0	23	61	4
C-1301-13-0	0	0	0	0	22
C-1301-14-0	1,555	267	666	9,994	1,221
ERC Certificate C-239-3	0	0	0	337,316	0
SSPE1	**10,846**	**335**	**1577**	**433,609**	**19,963**

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.

SSPE2 (lb/year)					
Permit Unit	**NO_X**	**SO_X**	**PM_{10}**	**CO**	**VOC**
C-1301-2-8	4,429	34	444	43,119	1,229
C-1301-4-7	0	0	0	0	16,258
C-1301-5-6	0	0	0	0	
C-1301-6-6	0	0	0	0	
C-1301-7-6	0	0	0	0	
C-1301-8-6	0	0	0	0	
C-1301-9-7	0	0	0	0	
C-1301-12-0	433	0	23	61	4
C-1301-13-0	0	0	0	0	22
C-1301-14-0	1,555	267	666	9,994	1,221
C-1301-15-0	1,548	287	663	9,948	1,216
ERC Certificate C-239-3	0	0	0	337,316	0
SSPE2	**7,965**	**588**	**1796**	**400,438**	**19,950**

5. Major Source Determination

Rule 2201 Major Source Determination:

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

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

Rule 2201 Major Source Determination (lb/year)						
	NO_X	SO_X	PM_{10}	$PM_{2.5}$	CO	VOC
SSPE1	10,846	355	1,577	1,577	96,293	19,963
SSPE2	7,965	588	1,796	1,796	63,122	19,950
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	No	No

Note: PM2.5 assumed to be equal to PM10

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

Rule 2410 Major Source Determination:

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

PSD Major Source Determination (tons/year)						
	NO_2	VOC	SO_2	CO	PM	PM_{10}
Estimated Facility PE before Project Increase	3.9	9.9	0.3	31.6	0.9	0.9
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source?	No	No	No	No	No	No

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

6. Baseline Emissions (BE)

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

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

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

Therefore BE = PE1.

7. SB 288 Major Modification

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

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

8. Federal Major Modification

District Rule 2201 states that a Federal Major Modification is the same as a "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

Since this facility is not a Major Source for any pollutants, this project does not constitute a Federal Major Modification.

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.

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	0.9	0.6	0.1	5.0	0.3	0.3
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 above, the potential to emit for the project, by itself, does not exceed any PSD major source threshold. Therefore Rule 2410 is not applicable and no further analysis is required.

10. Quarterly Net Emissions Change (QNEC)

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

VIII. Compliance Determination

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

Pursuant to District Rule 2201, Section 4.1, 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 Adjusted Increase in Permitted Emissions (AIPE) exceeding two pounds per day, and/or
d. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

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

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

As seen in Section VII.C.2 above, the applicant is proposing to install a new natural gas-fired IC engine with a PE greater than 2 lb/day for NOx, CO, and VOC during normal operation. Therefore, BACT for new units with PE > 2 lb/day purposes is triggered for NOx, CO, and VOC during normal operation.
As seen in Section VII.C.2 above, the applicant is proposing to install a new natural gas fired IC engine with a PE greater than 2 lb/day for NOx, CO, and VOC **during the commissioning period**. Therefore, BACT for new units with PE > 2 lb/day purposes is triggered for NOx, CO, and VOC during the commissioning period.

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

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

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

As discussed in Section I above, there are no modified emissions units associated with this project. Therefore BACT is not triggered.

d. SB 288/Federal Major Modification

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

2. BACT Guideline

There is not a current BACT guideline that applies to the IC engine. The previous guideline is being proactively reviewed. Therefore, a project specific BACT analysis is done for this project. (See Appendix C)

There is no existing BACT Guideline for an IC engine commissioning period, which is considered non-routine and highly unusual. Therefore, a project specific BACT Analysis is done for this project commissioning period.

3. Top-Down BACT Analysis

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

Normal Operation:

NOx: 5 ppmv NOx @ 15% O_2
CO: 56 ppmv CO @ 15% O_2
VOC: 12 ppmvd @ 15% O2 or 0.069 g/bhp-hr

Commissioning Period:

NOx, CO and VOC: Commissioning period not to exceed 40 cumulative hours during the initial startup of the engine. During the commissioning period, the operator shall perform expeditious completion of commissioning activities, and shall use good work practice standards to minimize emissions.

B. Offsets

1. Offset Applicability

Pursuant to District Rule 2201, Section 4.5, 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 is compared to the offset thresholds in the following table.

Offset Determination (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE2	7,965	588	1796	400,438	19,950
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	No	No	No	Yes	No

2. Quantity of Offsets Required

As seen above, the SSPE2 is greater than the offset thresholds for CO only. Therefore offset calculations will be required for this project.

The quantity of offsets in pounds per year for CO is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

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

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 = HAE

The facility is proposing to replace IC engine C-1301-1 with new IC engine C-1301-14-0. Also, there are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

Offsets Required (lb/year) = ([PE2 – BE] + ICCE) x DOR

C-1301-3 BE = 43,119 lb-CO/year
C-1301-15-0 BE = 0 lb-CO/year
C-1301-3 PE2 = 0 lb-CO/year
C-1301-15-0 PE2 = 9,948 lb-CO/year
ICCE = 0 lb/year

Therefore,

Offsets Required (lb/year) = ([(0 + 9,948) – (43,119 + 0)] + 0) x DOR
= (-33,171 lb-CO/year) x DOR
= 0 lb-CO/year

As demonstrated in the calculation above, the amount of offsets is zero. Therefore, offsets will not be required for this project.

C. Public Notification

1. Applicability

Pursuant to District Rule 2201, Section 5.4, 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 this project for New Major Source purposes.

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

b. PE > 100 lb/day

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

PE > 100 lb/day Public Notice Thresholds			
Pollutant	**PE2 (lb/day)**	**Public Notice Threshold**	**Public Notice Triggered?**
NO_X	200.8	100 lb/day	Yes
SO_X	0.8	100 lb/day	No
PM_{10}	1.8	100 lb/day	No
CO	614.6	100 lb/day	Yes
VOC	18.3	100 lb/day	No

Therefore, public noticing for PE > 100 lb/day purposes is required.

c. Offset Threshold

Public notification is required if the pre-project Stationary Source Potential to Emit (SSPE1) is increased to a level exceeding the offset threshold levels. The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Thresholds				
Pollutant	**SSPE1 (lb/year)**	**SSPE2 (lb/year)**	**Offset Threshold**	**Public Notice Required?**
NO_X	10,846	7,965	20,000 lb/year	No
SO_X	335	588	54,750 lb/year	No
PM_{10}	1,577	1,796	29,200 lb/year	No
CO	433,609	400,438	200,000 lb/year	No
VOC	19,963	19,950	20,000 lb/year	No

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

d. SSIPE > 20,000 lb/year

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

SSIPE Public Notice Thresholds					
Pollutant	**SSPE2 (lb/year)**	**SSPE1 (lb/year)**	**SSIPE (lb/year)**	**SSIPE Public Notice Threshold**	**Public Notice Required?**
NO_x	7,965	10,846	-2,881	20,000 lb/year	No
SO_x	588	335	253	20,000 lb/year	No
PM_{10}	1,796	1,577	219	20,000 lb/year	No
CO	400,438	433,609	-33,171	20,000 lb/year	No
VOC	19,950	19,963	-13	20,000 lb/year	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 this project for NOx emissions in excess of 100 lb/day. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be electronically published on the District's website prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

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.

Proposed Rule 2201 (DEL) Conditions:

- Except during the commissioning period emissions from this IC engine shall not exceed any of the following limits: 5 ppmvd NOx @ 15% O2 or 0.07 g-NOx/bhp-hr, 0.012 g-SOx/bhp-hr , 0.03 g-PM10/bhp-hr, 56 ppmvd CO @ 15% O2 or 0.45 g-CO/bhp-hr, or 12 ppmvd VOC @ 15% O2 or 0.55 g-VOC/bhp-hr. [District Rules 2201, 4701, and 4702] N

- During the commissioning period not to exceed 40 cumulative hours emissions from this IC engine shall not exceed 3.3 g-NOx/bhp-hr, 0.013 g-SOx/bhp-hr, 0.03 g-PM10/bhp-hr or 10.10 g-CO/bhp-hr , 0.30 g-VOC/bhp-hr. [District Rule 2201] N

E. Compliance Assurance

1. Source Testing

Source testing to measure natural gas-combustion NOx, CO, and VOC emissions from this unit shall be conducted within 60 days of initial start-up and at least once every 24 months. [District Rules 2201 and 4702]

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

District Rule 4702 requires periodic monitoring of NOx and CO as shown below in the Rule 4702 compliance discussion.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following condition(s) are listed on the permit to operate:

The permittee shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, the total duration of the commissioning period; 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. [District Rule 2201, 4701 and 4702] N

{2995} The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 15% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4701 and 4702] N

The permittee shall maintain on file copies of natural gas and LPG bills. [District Rule 2201] N

The permittee shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, the total duration of the commissioning period; 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. [District Rules 2201, 4701 and 4702] N

During both commissioning and non-commissioning operation, the permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 15% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4702] Y

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 4701 and 4702] N

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

Section 4.14 of District Rule 2201 requires that an AAQA be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The District's Technical Services Division conducted the required analysis. Refer to **Appendix D** of this document for the AAQA summary sheet.

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

The proposed location is in a non-attainment area for the state's PM_{10} as well as federal and state $PM_{2.5}$ thresholds. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for PM_{10} and $PM_{2.5}$.

Rule 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

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

Rule 4001 New Source Performance Standards (NSPS)

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

The purpose of 40 CFR 60 Subpart JJJJ is to establish New Source Performance Standards to reduce emissions of NO_x, SO_x, PM, CO, and VOC from new stationary spark ignition (SI) internal combustion (IC) engines.

Pursuant to Section 60.4230, compliance with this subpart is required for owners and operators of stationary SI IC engines that commence construction after June 12, 2006, where the stationary SI ICE are manufactured: (a) on or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP); (b) on or after January 1, 2008, for lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP; (c) on or after July 1, 2008, for engines with a maximum engine power less than 500 HP; or (d) on or after January 1, 2009, for emergency engines with a maximum engine power greater than 19 KW (25 HP).

The proposed engine is a 1,150 bhp SI ICE that will be constructed after June 12, 2006 and manufactured after July 1, 2007; therefore, the engine is subject to this subpart. However, the District has not been delegated the authority to implement 40 CFR 60, Subpart JJJJ for non-Major Sources; therefore, the requirements from this subpart will not be included in the permit. However, the applicant will be responsible for compliance with the applicable requirements of this regulation.

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

40 CFR 63 Subpart ZZZZ National Emission Standards for Hazardous Air Pollutants for Stationary Internal Combustion Engines

40 CFR 63 Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAPs) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. A major source of HAP emissions is a facility that has the potential to emit any single HAP at a rate of 10 tons/year or greater or any combinations of HAPs at a rate of 25 tons/year or greater. An area source of HAPs is a facility is not a major source of HAPs.

Pursuant to Section 63.6590(c), an affected source that is a new or reconstructed stationary Reciprocating Internal Combustion Engine (RICE) located at an area source must meet the requirements of 40 CFR 63, Subpart ZZZZ by meeting the requirements of 40 CFR 60, Subpart IIII, for compression ignition engines or 40 CFR 60, Subpart JJJJ, for spark ignition engines and no further requirements apply for such engines under this part.

As with 40 CFR 60, Subpart JJJJ, the District has not been delegated the authority to implement 40 CFR 63, Subpart ZZZ for non-Major Sources; therefore, no requirements from this subpart

will be included in the permit. However, the applicant will be responsible for compliance with the applicable requirements of this regulation.

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).

Since the engine is fired solely on gaseous fuel, visible emissions are not expected to exceed Ringelmann 1 or 20% opacity.
The following condition will be listed on the permit to ensure compliance:

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

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.

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905 – *Risk Management Policy for Permitting New and Modified Sources* specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

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

Discussion of T-BACT

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

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

Rule 4201 Particulate Matter Concentration

This Rule requires the particulate matter emissions from each engine to be less than or equal to the rule limit of 0.1 grain per dry standard cubic foot. The following calculation demonstrates compliance with this limit.

$$\frac{0.03\,g \cdot PM}{hp \cdot hr} \times \frac{1\,hp \cdot hr}{2{,}543\ Btu} \times \frac{10^6\,Btu}{8{,}578\,ft^3} \times \frac{0.25\,Btu_{out}}{1\,Btu_{in}} \times \frac{15.43\,grain}{gram} = 0.005\frac{grain \cdot PM}{ft^3}$$

The following condition is listed on each engine permit to ensure compliance.

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

Rule 4701 Internal Combustion Engines

The purpose of this rule is to limit the emissions of nitrogen oxides (NOx), carbon monoxide (CO), and volatile organic compounds (VOC) from internal combustion engines. Except as provided in Section 4.0, the provisions of this rule apply to any internal combustion engine, rated greater than 25 bhp, which requires a PTO.

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

Rule 4702 Stationary Internal Combustion Engines – Phase 2

The purpose of this Rule is to limit NO_x, CO, and VOC emissions from internal combustion engines rates 25 bhp or greater.

The spark-ignited internal combustion engine is rich-burn and greater than 25 bhp. Therefore, the engine is subject to the requirements of this rule.

Section 5.1 applies to non-agricultural engines rated between 25 and 50 bhp. The engine is rated greater than 50 bhp. Therefore, this section does not apply.

Section 5.2.1 states the operator of a spark-ignited IC engine rated greater than 50 bhp that is used exclusively in non-agricultural operations (AO) shall not operate it in such a manner that results in emissions exceeding the limits in Table 1 for the appropriate engine type until such time that the engine has demonstrated compliance with Table 2 emission limits pursuant to the compliance deadlines in Section 7.5. In lieu of complying with Table 1 emission limits, the operator of a spark-ignited engine shall comply with the applicable emissions limits pursuant to Section 8.0.

Since the section 7.5 deadlines have passed, the engine will comply with the emission limits specified in Table 2 (discussed below).

5.2.2.1 On and after the compliance schedule specified in Section 7.5, the operator of a spark-ignited engine that is used exclusively in non-AO shall comply with the following requirements on an engine-by-engine basis:

5.2.2.1.1 NOx, CO, and VOC emission limits pursuant to Table 2;
5.2.2.1.2 SOx control requirements of Section 5.7, pursuant to the deadlines specified in Section 7.5; and
5.2.2.1.3 Monitoring requirements of Section 5.10, pursuant to the deadlines specified in Section 7.5.

5.2.2.2, 5.2.2.3 Emissions fee and alternative emission control plan requirements pursuant to Section 8.0 – not applicable.

Table 2: Rule 4702 Emission Limits

Engine Type	NO_x Emission Limit (ppmv @ 15% O_2, dry)	CO Emission Limit (ppmv @ 15% O_2, dry)	VOC Emission Limit (ppmv @ 15% O_2, dry)
Rich-Burn Engine, not listed above	11	2000	250

The proposed emissions are 5 ppmv @3% NOx, 56 ppmv @ 3% CO, and 12 ppmv @ 3% VOCs. Therefore compliance with Table 2 is expected.

Sections 5.2.3, 5.2.4, 5.2.5, and 5.3 apply to spark-ignited AO and CI engines and engines equipped with CEMs. Therefore these sections do not apply.

Sections 5.4 and 5.5 pertain to engines using a percent emission reduction to comply with the NOx emission limits specified in Section 5.2. The ATC's emissions limits are in units of ppmv @ 15% O_2 and therefore percent emission reduction is not being used. These sections of the rule are not applicable.

Section 5.6 applies to operators who elect to pay an annual fee in lieu of complying with the NOx emission limit requirements of Section 5.2.2.1.1. The engine will comply with the NOx emission limit requirement of Section 5.2.2.1.1. Therefore, this section does not apply.

Section 5.7 states that on and after the compliance schedule specified in Section 7.5, operators of non-AO spark-ignited engines and non-AO compression-ignited engines shall comply with one of the following requirements:

5.7.1 Operate the engine exclusively on PUC-quality natural gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases; or
5.7.2 Limit gaseous fuel sulfur content to no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet; or
5.7.3 Use California Reformulated Gasoline for all gasoline-fired spark-ignited engines; or
5.7.4 Use California Reformulated Diesel for all compression-ignited engines; or
5.7.5 Operate the engine on liquid fuel that contains no more than 15 ppm sulfur, as determined by the test method specified in Section 6.4.6; or
5.7.6 Install and properly operate an emission control system that reduces SO2 emissions by at least 95% by weight as determined by the test method specified in Section 6.4.6.

The IC engine will combust PUC-quality natural gas, commercial propane or liquefied petroleum gas, or a combination of such gases and therefore meets the requirement of Section 5.7.2, 5 gr S/100 scf.

Section 5.8 requires that the operator of a non-agricultural spark-ignited IC engine subject to the requirements of Section 5.2 or any engine subject to the requirements of Section 8.0 shall comply with the following requirements of Sections 5.8.1 – 5.8.11:

Section 5.8.1 stipulates that for each engine with a rated brake horsepower of 1,000 hp or greater and which is allowed to operate more than 2,000 hours per calendar year, or with an external emission control device, shall either install, operate, and maintain continuous monitoring equipment for NOx, CO, and oxygen, as identified in Rule 1080 (Stack Monitoring), or install, operate, and maintain APCO-approved alternate monitoring. The monitoring system may be a continuous emissions monitoring system (CEMS), a parametric emissions monitoring system (PEMS), or an alternative monitoring system approved by the APCO. APCO-approved alternate monitoring shall consist of one or more of the following:

5.8.1.1 Periodic NOx and CO emission concentrations,
5.8.1.2 Engine exhaust oxygen concentration,
5.8.1.3 Air-to-fuel ratio,
5.8.1.4 Flow rate of reducing agents added to engine exhaust,
5.8.1.5 Catalyst inlet and exhaust temperature,
5.8.1.6 Catalyst inlet and exhaust oxygen concentration, or
5.8.1.7 Other operational characteristics.

The applicant has proposed to comply with this section of the Rule by proposing a pre-approved alternate emissions monitoring plan that specifies that the permittee perform periodic monitoring of NOx, CO, and O_2 emissions concentrations as specified in District Policy SSP-1810, dated 4/29/04. Therefore, the following condition will be placed on the permit to ensure compliance:

During non-commissioning operation the permittee shall monitor and record the stack concentration of NOX, CO, and O2 at least once every calendar quarter (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rules 4701 and 4702] N

During non-commissioning operation, if either the NOx or CO concentrations corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4701 and 4702] N

During non-commissioning operation, all alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4701 and 4702] N

During both commissioning and non-commissioning operation, the permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 15% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4701 and 4702] Y

Section 5.8.3 requires each engine using an alternative monitoring system to submit to and receive approval from the APCO adequate verification of the alternative monitoring system's acceptability. The applicant has satisfied the requirements of Section 5.8.3 by using a District pre-approved alternate monitoring procedure as indicated in Section 5.8.1 above.

Section 5.8.6 requires the operator to install and operate a nonresettable elapsed operating time meter. In lieu of installing a nonresettable time meter, the owner or operator may use an