



JUL 20 2012

Gregory Clark  
Lodi Gas Storage  
PO Box 230  
Acampo, CA 95220

**Re: Notice of Preliminary Decision - Federally Mandated Operating Permit  
District Facility # N-4238  
Project # N-1110698**

Dear Mr. Clark:

Enclosed for your review and comment is the District's analysis of Lodi Gas Storage's application for the Federally Mandated Operating Permit for its natural gas storage facility at 23265 N. State Route 99 in Acampo, California.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day comment period which begins on the date of publication of the public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Rupi Gill, Permit Services Manager, at (209) 557-6400.

Sincerely,



David Warner  
Director of Permit Services

cc: Mark Schonhoff, Permit Services Engineer

Attachments

**Seyed Sadredin**  
Executive Director/Air Pollution Control Officer

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**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



JUL 20 2012

Gerardo C. Rios, Chief  
Permits Office (AIR-3)  
U.S. EPA - Region IX  
75 Hawthorne St  
San Francisco, CA 94105

**Re: Notice of Preliminary Decision - Federally Mandated Operating Permit  
District Facility # N-4238  
Project # N-1110698**

Dear Mr. Rios:

Enclosed for your review and comment is the District's analysis of Lodi Gas Storage's application for the Federally Mandated Operating Permit for its natural gas storage facility at 23265 N. State Route 99 in Acampo, California.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 45-day comment period which begins on the date of publication of the public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Rupl Gill, Permit Services Manager, at (209) 557-6400.

Sincerely,

David Warner  
Director of Permit Services

cc: Mark Schonhoff, Permit Services Engineer

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JUL 20 2012

Mike Tollstrup, Chief  
Project Assessment Branch  
Air Resources Board  
P O Box 2815  
Sacramento, CA 95812-2815

**Re: Notice of Preliminary Decision - Federally Mandated Operating Permit  
District Facility # N-4238  
Project # N-1110698**

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of Lodi Gas Storage's application for the Federally Mandated Operating Permit for its natural gas storage facility at 23265 N. State Route 99 in Acampo, California.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day comment period which begins on the date of publication of the public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Rupi Gill, Permit Services Manager, at (209) 557-6400.

Sincerely,

David Warner  
Director of Permit Services

cc: Mark Schonhoff, Permit Services Engineer

Attachments

**Seyed Sadredin**  
Executive Director/Air Pollution Control Officer

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**NOTICE OF PRELIMINARY DECISION  
FOR THE PROPOSED ISSUANCE OF  
FEDERALLY MANDATED OPERATING PERMITS**

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Air Pollution Control District solicits public comment on the proposed issuance of the Federally Mandated Operating permits to Lodi Gas Storage for its natural gas storage facility at 23265 N. State Route 99 in Acampo, California.

The District's analysis of the legal and factual basis for this proposed action, project #N-1110698, is available for public inspection at [http://www.valleyair.org/notices/public\\_notices\\_idx.htm](http://www.valleyair.org/notices/public_notices_idx.htm) and the District office at the address below. There are no emission changes associated with this proposed action. This will be the public's only opportunity to comment on the specific conditions of the proposed Federally Mandated Operating initial permits. If requested by the public, the District will hold a public hearing regarding issuance of this initial permit. For additional information, please contact Mr. Rupi Gill, Permit Services Manager, at (209) 557-6400. Written comments on the proposed initial permit must be submitted within 30 days of the publication date of this notice to DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 4800 ENTERPRISE WAY, MODESTO, CA 95356.

**San Joaquin Valley  
Air Pollution Control District**

**Proposed Initial Title V Permit Evaluation  
Lodi Gas Storage LLC  
N-4238**

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**TITLE V PERMIT RENEWAL EVALUATION  
NATURAL GAS STORAGE FACILITY**

Engineer: Mark Schonhoff  
Date: July 11, 2012

Facility Number: N-4238  
Facility Name: Lodi Gas Storage LLC  
Mailing Address: PO Box 230  
Acampo, CA 95220  
Contact Name: Gregory Clark  
Telephone: (109) 368-9277 x 21  
Responsible Official: Robert Russell  
Title: Vice President – Field Operations  
Project Number: N-1110698  
Deemed Complete: April 15, 2012

**I. PROPOSAL**

As required by District Rule 2520, Lodi Gas Storage LLC has applied for a Title V operating permit. The existing permit will be reviewed and modified to reflect all applicable District and federal rules.

The purpose of this evaluation is to provide the legal and factual basis for all applicable requirements and to determine if the facility will comply with these requirements.

**II. FACILITY LOCATION**

23265 N. State Route 99  
Acampo, CA

### **III. EQUIPMENT LISTING**

#### **N-4238-1-2**

4,445 BHP CATERPILLAR MODEL G3616 LEAN BURN NATURAL GAS-FIRED IC ENGINE POWERING A COMPRESSOR. THE ENGINE IS SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM AND A 2-WAY OXIDATION CATALYST

#### **N-4238-2-2**

4,445 BHP CATERPILLAR MODEL G3616 LEAN BURN NATURAL GAS-FIRED IC ENGINE POWERING A COMPRESSOR. THE ENGINE IS SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM AND A 2-WAY OXIDATION CATALYST

#### **N-4238-3-2**

4,445 BHP CATERPILLAR MODEL G3616 LEAN BURN NATURAL GAS-FIRED IC ENGINE POWERING A COMPRESSOR. THE ENGINE IS SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM AND A 2-WAY OXIDATION CATALYST

#### **N-4238-4-2**

4,445 BHP CATERPILLAR MODEL G3616 LEAN BURN NATURAL GAS-FIRED IC ENGINE POWERING A COMPRESSOR. THE ENGINE IS SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM AND A 2-WAY OXIDATION CATALYST

#### **N-4238-5-2**

NATURAL GAS DEHYDRATION OPERATION SERVED BY A 4.1 MMBTU/HR PERTREX GLYCOL REBOILER (PERMIT EXEMPT), 3-PHASE SEPARATOR SYSTEM, AND A 10.0 MMBTU/HR FIRECAT MODEL #2.10.12 THERMAL OXIDIZER SHARED WITH PERMIT UNIT N-4238-5 AND N-4238-6

#### **N-N-4238-6-2**

NATURAL GAS DEHYDRATION OPERATION SERVED BY A 4.1 MMBTU/HR PERTREX GLYCOL REBOILER (PERMIT EXEMPT), 3-PHASE SEPARATOR SYSTEM, AND A 10.0 MMBTU/HR FIRECAT MODEL #2.10.12 THERMAL OXIDIZER SHARED WITH PERMIT UNIT N-4238-5 AND N-4238-6

**N-N-4238-7-2**

1,508 BHP WAUKESHA MODEL VHP7100GSI RICH BURN NATURAL GAS-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR. THE ENGINE IS SERVED BY A 3-WAY CATALYTIC CONVERTER

**N-4238-8-1**

REPAIR AND MAINTENANCE NATURAL GAS VENTING OPERATIONS SERVED BY A 1,250 MMBTU/HR FLARE WITH ONE KALDAIR MODEL I-12-H-VS TIP

**N-4238-9-1**

EMERGENCY GAS VENTING OPERATION SERVED BY A 5,000 MMBTU/HR FLARE WITH FOUR KALDAIR MODEL I-12-H-VS TIPS

**IV. GENERAL PERMIT TEMPLATE USAGE**

The applicant is requesting to use the following model general permit Templates:

**A. Template SJV-UM-0-3 Facility Wide Umbrella**

The applicant has requested the utilization of template Number SJV-UM-0-3, Facility Wide Umbrella. Based on the information submitted in the Template Qualification Form, the applicant qualifies for the use of this template.

**V. SCOPE OF EPA AND PUBLIC REVIEW**

Certain segments of the proposed Operating Permit are based on model general permit templates that have been previously subject to EPA and public review. The terms and conditions from the model general permit templates are included in the proposed permit and are not subject to further EPA and public review.

For permit applications utilizing model general permit templates, public and agency comments on the District's proposed actions are limited to the applicant's eligibility for model general permit template, applicable requirements not covered by the model general permit template, and the applicable procedural requirements for issuance of Title V Operating Permits.



The following permit conditions, including their underlying applicable requirements, originate from model general permit templates and are not subject to further EPA or public review.

Conditions 1 through 40 of the requirements for permit N-4238-0-1.

## **VI. FEDERALLY ENFORCEABLE REQUIREMENTS**

District 1081, Source Sampling  
(last amended December 16, 1993)

District Rule 2201, New and Modified Stationary Source Review Rule  
(last amended April 21, 2011)

District Rule 4201, Particulate Matter Concentration  
(last amended December 17, 1992)

District Rule 4311, Flares  
(last amended June 18, 2009)

District Rule 4408, Glycol Dehydration Systems  
(adopted December 19, 2002)

District Rule 4701, Internal Combustion Engines – Phase 1  
(last amended August 21, 2003)

District Rule 4702, Internal Combustion Engines – Phase 2  
(last amended August 18, 2011)

District Rule 4801, Sulfur Compounds  
(last amended November 18, 1992)

40 CFR Part 64, Compliance Assurance Monitoring (CAM)

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

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

## **VII. RULES NOT FEDERALLY ENFORCEABLE**

District Rule 1070, Inspections (amended December 17, 1992)

District Rule 1160, Emission Statements (amended November 18, 1992)

District Rule 4102, Nuisance (amended December 17, 1992)

## **VIII. Permit Requirements**

This section includes the Federally enforceable requirements. Clarification of equipment descriptions and the correction of typographical errors that do not change the meaning of an equipment description or condition will be made but not be discussed.

**District 1081, Source Sampling  
(last amended December 16, 1993)**

The purpose of this rule is to ensure that any source operation that emits or may emit air contaminants provides adequate and safe facilities for use during emission sampling. This rule also specifies methods and procedures for source testing, sample collection and compliance determinations.

New Title V Permit Number	Condition Numbers	Requirement	Basis
N-4238-1-2 N-4238-2-2 N-4238-3-2 N-4238-4-2	22	Sampling Ports and Access	Section 3.0
	23,24	Sample Collection	Section 4.0
	27, 28, 29, 30	Test Methods	Section 5.0
	25	Test Procedures	Section 6.0
	23, 26	Administrative Requirements	Section 7.0
N-4238-5-2 N-4238-6-2	22	Sampling Ports and Access	Section 3.0
	23,24	Sample Collection	Section 4.0
	27	Test Methods	Section 5.0
	25	Test Procedures	Section 6.0
	23,26	Administrative Requirements	Section 7.0
N-4238-7-2 N-4238-8-1 N-4338-9-1	N/A	These units are not subject to source sampling, therefore, this rule does not apply	N/A

**District Rule 2201, New and Modified Stationary Source Review Rule  
(last amended April 21, 2011)**

The permit units listed on the following table were subject to a District NSR Rule upon application for Authority to Construct (ATC). In accordance with the White Paper for Streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTOs were addressed to define how NSR permit terms should be incorporated into the Title V permit.

New Title V Permit Number	Condition Numbers
N-4238-1-2 N-4238-2-2 N-4238-3-2 N-4238-4-2	4, 7,8,9,10,11,12,13,21,32
N-4238-5-2 N-4238-6-2	4, 5, 6, 7, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 31, 33
N-4238-7-2	3, 7, 8, 9
N-4238-8-1	7, 8, 9, 10, 11, 12, 13, 28, 29
N-4238-9-1	5, 7, 8, 9, 10, 11, 12, 13, 27, 28

**Note:** The SO<sub>x</sub> emission limits for units N-4238-8 and N-4238-9 were changed from 0.00214 lb/MMBtu to 0.00285 lb/MMBtu in accordance with District Policy APR-1110 (Using Revised Emission Factors) and APR-1720 (SO<sub>x</sub> Emission Factor for Combustion of PUC Quality Natural Gas).

**District Rule 2520, Federally Mandated Operating Permits**  
**(last amended June 21, 2001)**

General Umbrella Template SJV-UM-0-3 addresses this rule, therefore, no discussion is required.

**Greenhouse Gas Discussion**

There are no federally applicable Greenhouse Gas (GHG) requirements for this source. It should be noted that the Mandatory Greenhouse Gas Reporting rule (40 CFR Part 98) is not included in the definition of an applicable requirement within Title V (per 40 CFR 71.2). Therefore, there will be no further discussion of GHG in this evaluation.

**District Rule 4201, Particulate Matter Concentration**  
**(last amended December 17, 1992)**

New Title V Permit Number	Condition #	Requirement	Basis
N-4238-1-2 N-4238-2-2 N-4238-3-2 N-4238-4-2	5	Limit the Particulate Matter Concentration	Sect. 3.0
N-4238-5-2 N-4238-6-2	2		
N-4238-7-2	5		
N-4238-8-1	2		
N-4238-9-1	2		

**District Rule 4311, Flares**  
**(last amended June 18, 2009)**

New Title V Permit Number	Condition Number	Requirement	Basis
N-4238-8-1	14	Require a flame to be present at all times that combustible gasses are being vented through the flare.	Sect. 5.2
	15	Ignition system requirements	Sect. 5.3
	16	Ignition system monitoring	Sect. 5.4
	17	Flow sensing automatic ignition system	Sect. 5.5
	N/A	40 CFR Part 60.18 requirements applicable to air assisted, steam assisted and non-assisted flares but not to Coanda affect flares.	Sect. 5.6 N/A – Unit is a Coanda type flare
	N/A	Emission limits (applies only to ground-level enclosed flares)	Sect. 5.7 N/A – not an enclosed unit
	18	Flare Minimization Plan (FMP) requirements	Sect. 5.8 & 6.5
	N/A	Monitoring	
	24	Vent gas flow monitoring	Sect 5.10 – note 1
	25	Vent gas composition monitoring	Sect 6.6
26	Pilot and purge gas flow monitoring	6.7	
26	Water Seal Monitoring	6.8	
19	Restriction on monitoring system downtime	6.9.1	
23	Monitoring equipment maintenance	6.9.3	
		Continued – Next Page	

Note 1: The permit limits the amount of gas burned to less than 500,000 scf/day, therefore, it is not capable of a Reportable Flaring Event as defined in section 3.31. Per section 5.10, units not capable of Reportable Flaring Events are not required to conduct Vent Gas Flow Monitoring.

**District Rule 4311, Flares  
(last amended June 18, 2009) - Continued**

New Title V Permit Number	Condition Number	Requirement	Basis
N-4238-8-1	N/A	Record keeping	
	N/A	Compliance determination records	Sect 6.1.1-note 2
	N/A	Source test results records	Sect 6.1.2-note 3
	N/A	Emergency fuel usage records	Sect 6.1.3-note 4
	N/A	Section 4.3 exemption records	Sect 6.1.4-note 5
	27	Retention of the approved FMP	Sect 6.1.5
	27	Annual report records	Sect 6.1.6
		Monitoring activity records	Sect 6.1.7
	29	Record keeping duration	Sect. 6.1
	N/A	Vent gas flow	Sect. 5.10 – note 1
	27	Vent gas composition	6.6
	27	Pilot and purge gas flow	6.7
	27	Water seal monitoring	6.8
	27	Records of flare monitoring system inoperation	6.9
		Reporting	
	20	Reporting of monitoring system inoperation	Sect. 6.9.1
	21	Reporting of Unplanned Flaring Events	Sect. 6.2.1
N/A	Reporting of Reportable Flaring Events	Sect 6.2.2 – note 1	
22	Annual Monitoring Report	Sect. 6.2.3	

Note 2: The flare is a Coanda Effect unit and is therefore not subject to the compliance determination required by section 6.1.1.

Note 3: The flare is not an enclosed type unit, therefore, the rule emission limits do not apply and source testing is not required

Note 4: The flare is not an emergency unit

Note 5: The flare is not operating under the Section 4.3 exemption

**District Rule 4311, Flares**  
**(last amended June 18, 2009) - Continued**

New Title V Permit Number	Condition Number	Requirement	Basis
N-4238-9-1	14	Require a flame to be present at all times that combustible gasses are being vented through the flare.	Sect. 5.2
	15	Ignition System Requirements	Sect. 5.3
	16	Ignition System Monitoring	Sect. 5.4
	17	Flow Sensing Automatic Ignition System	Sect. 5.5
	N/A	40 CFR Part 60.18 requirements applicable to air assisted, steam assisted and non-assisted flares but not to Coanda affect flares.	Sect. 5.6 (Per section 5.1, emergency flares are not subject to section 5.6)
	N/A	Emission Limits (applies only to ground-level enclosed flares)	Sect. 5.7 (Per section 5.1, emergency flares are not subject to section 5.7)
	N/A	Flare Minimization Plan (FMP) requirements	Sect. 5.8 (Per section 5.8, an FMP is not required for emergency flares)
	N/A	Monitoring	Sect. 5.10 - note 1
	23	Vent gas flow monitoring	Sect. 6.6
	24	Vent gas composition monitoring	Sect 6.7
	25	Pilot and purge gas flow monitoring	Sect 6.7
25	Water seal monitoring	Sect. 6.8	
18	Restrict monitoring system downtime	Sect 6.9.1	
22	Monitoring equipment maintenance	Sect. 6.9.3	
		Continued – Next Page	

Note 1: The permit limits the amount of gas burned to less than 500,000 scf/day, therefore, it is not capable of a Reportable Flaring Event as defined in section 3.31. Per section 5.10, units not capable of Reportable Flaring Events are not required to conduct Vent Gas Flow Monitoring.



**District Rule 4311, Flares  
(last amended June 18, 2009) - Continued**

New Title V Permit Number	Condition Number	Requirement	Basis
N-4238-9-1		<b>Record keeping</b>	
	N/A	Compliance determination records	Sect 6.1.1-note 2
	N/A	Source test results records	Sect 6.1.2-note 3
	26	Emergency fuel usage records	Sect 6.1.3
	N/A	Section 4.3 exemption records	Sect 6.1.4-note 4
	N/A	Retention of the approved FMP	Sect 6.1.5-note 1
	26	Annual report records	Sect 6.1.6
		Monitoring activity records	Sect 6.1.7
	28	Record keeping duration	Sect 6.1
	N/A	Vent Gas Flow	Sect 5.10 – note 1
	26	Vent gas composition	6.6
	26	Pilot and purge gas flow	6.7
	26	Water seal monitoring	6.8
	26	Records of monitoring system inoperation	6.9
		<b>Reporting</b>	
	19	Monitoring system inoperation	Sect 6.9.1
	20	Reporting of unplanned Flaring Events	Sect. 6.2.1
N/A	Reporting of Reportable Flaring Events	Sect 6.2.2 – note 1	
21	Annual Monitoring Report	Sect. 6.2.3	

Note 2: The flare is a Coanda Effect unit and is therefore not subject to the compliance determination required by section 6.1.1.

Note 3: The flare is not an enclosed type unit, therefore, the rule emission limits do not apply and source testing is not required

Note 4: The flare is not operating under the Section 4.3 exemption

Note 5: An FMP is not required per section 5.8, therefore per section 6.2.1, neither an unplanned flaring event or a Reportable Flaring Event report is required

**District Rule 4408, Glycol Dehydration Systems  
(adopted December 19, 2002)**

New Title V Permit Number	Condition Number	Requirement	Basis	
N-4238-5-2 N-4238-6-2	8	<b>Emission Control</b>		
	9	Smokeless Operation	5.1.2.1	
	10	Ignition System Requirements	5.1.2.2	
	11	Knockout Drum Requirement	5.1.2.3	
	20	Sight Glass Requirement	5.1.2.4	
		Minimum VOC control	5.1.3	
			<b>Record Keeping</b>	
	31	Throughput Records	Sect. 6.1.1	
	32	General Records	Sect. 6.1.2	
	33	Record Retention Duration	Sect 6.1.4	
			<b>Source Testing</b>	
	23	Protocol	6.2.2	
	21, 28, 29, 30	Control efficiency determination	5.1.3.1	
	21	Source Testing frequency	5.1.3.2	
	27	Source testing methods	5.1.3.2 & 6.3	

**District Rule 4701, Internal Combustion Engines – Phase 1  
(last amended August 21, 2003)**

New Title V Permit Number	Condition Numbers	Requirement	Basis
N-4238-1-2 N-4238-2-2 N-4238-3-2 N-4238-4-2	7 8 9	NOx Emission Limit (75 ppmvd @ 15% O <sub>2</sub> ) CO Emission Limit (2000 ppmvd @ 15% O <sub>2</sub> ) VOC Emission Limit (750 ppmvd @ 3% O <sub>2</sub> )	Sect. 5.1.3 (Table 3)
	14, 15, 16	Periodic emission monitoring	Sect. 5.4.1, 5.4.3
	N/A	Emission control plan. The units currently comply with this rule utilizing methods known by the District. Modifications to those methods would require Authorities to Construct, therefore, an ECP is not necessary.	Sect. 6.1
	16, 33 34	Record keeping Records to be kept Record keeping duration	Sect. 6.2.1 Sect. 6.2.3
	21,25 24 23 27, 28, 29	Source Testing General requirements and frequency Testing conditions Source Test Protocol Methods	Sect 6.3.1, 6.3.2 Sect. 6.3.2 Sect. 6.3.3 Sect. 6.4
N-4238-7-2	9	Exemption for standby engines (not exempt from the administrative requirements)	Sect. 4.2.1
	N/A	Administrative Requirements Emission Control Plan (ECP) (not subject to an ECP because it is not subject to a section 5.1 emission limit)	6.1
	12 13	Record Keeping Record keeping duration	Sect. 6.2.2 Sect 6.2.3

**District Rule 4702, Internal Combustion Engines – Phase 2  
(last amended August 18, 2011)**

Non-Emergency Units			
New Title V Permit Number	Condition Numbers	Requirement	Basis
N-4238-1-2 N-4238-2-2 N-4238-3-2 N-4238-4-2	7	NOx Emission Limit (25 ppmvd @ 15% O <sub>2</sub> )	Sect. 5.2.1
	8	CO Emission Limit (2000 ppmvd @ 15% O <sub>2</sub> )	Sect. 5.2.1
	9	VOC Emission Limit (250 ppmvd @ 3% O <sub>2</sub> )	Sect. 5.2.1
	2	Fire solely on PUC quality natural gas	Sect. 5.7
	14, 15, 16	Periodically Monitor NOx and CO with District approved equipment	Sect. 5.8.1 Sect. 5.8.5 Sect. 5.8.9
	3	Operate with a properly maintained hour meter	Sect. 5.8.6
	31	Inspection & Maintenance Plan	Sect. 5.8.7 Sect. 6.1
	16, 33	Record keeping requirements	Sect. 6.2.1
	34	Record keeping duration	Sect. 6.2.1
		Source testing	
	21	Pollutants to be tested – Note 1	Sect 6.3.2.1
	21	Source Testing Frequency	Sect 6.3.2.1
	23	Source Test Protocol	Sect 6.3.4
	24,25	Source Testing Conditions	Sect 6.3.3
27, 28, 29	Source Testing Methods	Sect. 6.4	

**Note 1:** Per section 6.3.5 of Rule 4702, engines that are limited by Permit-to-Operate to be fueled exclusively on PUC-quality natural gas are not subject to the reoccurring source test requirements for VOC. However, Rule 4701 still requires that testing.

### Emergency Engine:

The facility includes one emergency engine that is currently permitted to operate for up to 100 hours per year for emergency purposes. Therefore, it is subject only to the rule sections shown on the table below.

Emergency Unit			
New Title V Permit Number	Condition number	Requirement	Basis
N-4238-7-2	9	Exemption Requirements	Sect 4.2 Sect. 4.2.1, 4.2.2
	4	Operating hour limitations Nonresettable elapsed time meter	
	10	Monitoring Requirements (per sect. 5.9.1.3) Proper operation and maintenance	5.9.2
	11	Monitoring of operational characteristics	5.9.3
	12	Record keeping Records to be kept	6.2.1
	13	Record keeping duration	6.2.1

**District Rule 4801, Sulfur Compounds**  
**(last amended November 18, 1992)**

This rule is applicable to units that emit sulfur compounds. The natural gas fired equipment at this facility is expected to emit sulfur compounds. District Rule 4801 was last amended on December 17, 1992, and has been submitted to the EPA to replace San Joaquin County Rule 407 in the SIP. This District Rule is at least as stringent as the county rule, as demonstrated by the following comparison:

Comparison of District Rule 4801 and Stanislaus County Rule 407		
REQUIREMENT	Rule 4801	Rule 407
A person shall not discharge into the atmosphere sulfur compounds exceeding in concentration at the point of discharge 0.2 percent by volume calculated as sulfur dioxide on a dry basis averaged over 15 consecutive minutes.	✓	✓
EPA Method 8 and ARB Method 1-100 shall be used to determine such emissions.	✓	

For natural gas combustion at a reference state of 60 °F, the Rule 4801 limit of 2,000 ppmvd is equivalent to:

$$\frac{(2000 \text{ ppmvd}) \left( 8,578 \frac{\text{dscf}}{\text{MMBtu}} \right) \left( 64 \frac{\text{lb} - \text{SO}_x}{\text{lb} - \text{mol}} \right)}{\left( 379.5 \frac{\text{dscf}}{\text{lb} - \text{mol}} \right) (10^6)} \cong 2.9 \frac{\text{lb} - \text{SO}_x}{\text{MMBtu}}$$

All of the equipment at the facility is limited to burning only PUC-quality natural gas, which has a maximum total fuel sulfur (S) content of 1.0 grain per 100 scf (equivalent to an emission rate of 0.00285 lb/MMBtu). Therefore, it is expected that each unit will have a SO<sub>x</sub> emission concentration less than the 2000 ppmvd.

Emergency Unit			
New Title V Permit Number	Condition number	Requirement	Basis
N-4238-1-2 N-4238-2-2 N-4238-3-2 N-4238-4-2	6	Limit the sulfur compound emissions, as SO <sub>2</sub> , to 2000 ppmv (equivalent to 0.2% by volume)	Sect. 3.1
N-4238-5-2 N-4238-6-2	3		
N-4238-7-2	6		
N-4238-8-1	3		
N-4238-9-1	3		

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

**Units N-4238-1-2, N-4238-2-2, N-4238-3-2, N-4238-4-2 and N-4238-7-2**

Construction of these units was commenced prior to June 12, 2006. Such engines are not subject to this subpart per section 60.4230(a)(4).

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

This subpart applies to each reciprocating internal combustion engine located at a major or area source of HAP emissions. As shown in appendix D of this document, the facility is an area source of HAP emissions.

**Applicability:**

New Title V Permit Number	Description	Subpart ZZZZ Applicability
<p>N-4238-1-2 N-4238-2-2 N-4238-3-2 N-4238-4-2</p>	<p>4,445 bhp lean burn natural gas fired IC engine powering a natural gas compressor</p>	<p>Per section 63.6590(a)(1)(iii), this subpart applies to each existing stationary RICE that is located at an area source of HAP emissions and commenced construction or reconstruction before 6/12/2006. These units are located at an area source of HAP emissions, commenced construction before this date and have not been reconstructed. Therefore, they are subject units. Per section 63.6603(a), such units are subject to the requirements of tables 2b and 2d of this subpart (as applicable).</p>
<p>N-4238-7-2</p>	<p>1,508 bhp rich burn natural gas fired emergency IC emergency engine powering an emergency generator</p>	<p>Per section 63.6590(b)(3)(vii), this engine is not required to comply with the requirements of this subpart because it is an existing commercial emergency stationary units located at an area source of HAP emissions.</p>



**Requirements:**

New Title V Permit Number	Condition Numbers	Requirements	Basis
N-4238-1-2 N-4238-2-2 N-4238-3-2 N-4238-4-2		Per section 63.6603(a), such units are subject to the requirements of tables 2b and 2d of this subpart (as applicable). Per section 63.6595(a), compliance is not required until October 19, 2013. However, the applicant has requested inclusion of conditions requiring compliance with Tables 2b and 2d at this time.	
	18,19	<b>Table 2b Requirements:</b> This table specifies acceptable catalyst pressure drop and catalyst inlet temperature ranges.	Table 2b
	8	<b>Table 2d Requirements:</b> The unit is subject to section 8 of this table, which limits the CO emissions to 47 ppmvd @ 15% O <sub>2</sub> .	Table 2d
		<b>Table 5 Requirements (Table Entry #1)</b> Determine CO emissions during the initial source test and determine appropriate catalyst pressure drop (by the compliance deadline of 10/19/2012).	Table 5
	17, 20	Continuously monitor catalyst inlet temperature (Commencing immediately for compliance with 40 CFR part 64)	Table 5
	18	Determine catalyst pressure drop and catalyst inlet temperature during the initial source test (by the compliance deadline of 10/19/2013)  Continued – Next Page	Table 5

New Title V Permit Number	Condition Numbers	Requirements	Basis
	<p data-bbox="467 449 505 485">21</p> <p data-bbox="467 619 558 655">17, 20</p> <p data-bbox="467 832 505 868">19</p>	<p data-bbox="625 348 1187 385"><b>Table 6 Requirements (Table entry #10)</b></p> <p data-bbox="625 417 1247 517">Determine CO emissions every 8,760 hours of operation or once every 3 years, whichever comes first</p> <p data-bbox="625 555 1268 761">Record catalyst inlet temperature in accordance with section 63.6625(b) – every 15 minutes. And reduce the date to 4 hour rolling averages. Maintain the 4 hour rolling averages within the operating limitations (commencing immediately for compliance with 40 CFR Part 64).</p> <p data-bbox="625 800 1268 921">Measure the catalyst pressure drop once per month and maintain the pressure drop within the operating limitation (commencing on the compliance deadline of 10/19/2012)</p>	<p data-bbox="1295 449 1398 485">Table 6</p> <p data-bbox="1295 619 1398 655">Table 6</p> <p data-bbox="1295 832 1398 868">Table 6</p>

**40 CFR Part 64, Compliance Assurance Monitoring (CAM)**

For a unit to be subject to CAM, all of the following must be true:

1. The facility must be a Major Source
2. The unit must have an emission limit that is complied with utilizing a control device
3. The uncontrolled emissions from the unit must be in excess of the Major Source threshold.

The facility is a Major Source for each NOx and VOC and therefore, CAM may be required.

**N-4238-1-2, N-4238-2-2, N-4238-3-2 and N-4238-4-2  
(4445 bhp natural gas fired IC engines served by a selective catalytic reduction systems and oxidation catalysts)**

As shown in Appendix D of this document, the uncontrolled NOx and VOC emissions from these units are in excess of their respective Major Source thresholds and emission control devices are utilized to meet the emission limits. Therefore, per 40 CFR Part 64.2(a), CAM is required for the SCR system and the oxidation catalyst.

New Title V Condition Number	Requirements	Basis
20	Continuous catalyst system inlet temperature monitoring and recording (at least once every 15 minutes)	40 CFR part 64.3(a)(1)
14	Increase the NOx and CO monitoring frequency from quarterly to monthly (EPA has agreed that CO may be utilized as a surrogate for VOC)	

**N-4238-5-2 and N-4238-6-2  
(4.1 MMBtu/hr glycol reboilers served by a thermal oxidizer)**

The equipment relies on a thermal oxidizer to meet the VOC emission limit of the permit, therefore, CAM may be required. However, as shown in appendix D of this document, the uncontrolled VOC emissions from each unit will be less than the Major Source threshold for VOC. Therefore, CAM is not required.

**N-4238-7-2  
(1,508 bhp natural gas fired emergency IC engine served by a 3-way catalyst)**

The equipment relies on a 3-way catalyst to meet the NOx and VOC emission limits of the permit, therefore, CAM may be required. However, as shown in appendix D of this document, the uncontrolled NOx and VOC emissions from each unit will be less than the Major Source threshold. Therefore, CAM is not required.

**N-4238-8-1 and N-4238-9-1:  
(Maintenance and Emergency Flare)**

Neither unit relies on an emission control device to comply with an emission limit. Therefore, CAM is not required for either unit.

**Non-Federally Enforceable Rules:**

District Rule 1070, Inspections (amended December 17, 1992)  
District Rule 4102, Nuisance (amended December 17, 1992)

Any permit conditions attributable to these rules will be identified as non-Federally enforceable.

## **IX. Permit Shields**

A permit shield legally protects a facility from enforcement of the shielded regulations when a source is in compliance with the terms and conditions of the Title V permit. Compliance with the terms and conditions of the Permit to Operate is considered compliance with all applicable requirements upon which those conditions are based.

### **A. Requirements addressed by Model General Permit Templates**

#### **1. Model General Permit Template SJV-UM-03**

The facility submitted a Title V General Permit Template Qualification form for the use of Facility-Wide Umbrella General Permit Template SJV-UM-0-3. Therefore, the permit shields granted in General Permit Template SJV-UM-03 are included as conditions 39 and 40 of permit N-4238-0-1.

### **B. Permit Shield Requirements Not Addressed by Model General Permit Templates**

#### **1. None.**

## **X. Permit Conditions**

See Appendix A – Draft Initial Title V Operating Permit.

## **XI. Appendices**

Appendix A: Draft Initial Title V Operating Permit  
Appendix B: Detailed Facility List  
Appendix C: CAM Applicability Calculations  
Appendix D: Major HAP Source Determination

**Appendix A**  
**Draft Initial Title V Operating Permit**

**Appendix B**  
**Detailed Facility List**

**Appendix C**  
**CAM Applicability Calculations**



The facility is a Major Source for each NO<sub>x</sub> and VOC, therefore, to determine whether CAM is required, it is necessary to calculate the uncontrolled NO<sub>x</sub> and VOC emissions from each unit that relies on a control device to comply with a NO<sub>x</sub> or VOC limit.

**N-4238-1, N-4238-2, N-4238-3 and N-4328-4  
(4,445 bhp natural gas fired IC engines)**

The engines are identical, therefore, the following calculations apply to all of the units. The emission factors are from the original application package for the engines (project number N-990876). The VOC factor is for NMNEHC (non-methane-non-ethane hydrocarbons). Since neither methane or ethane is a VOC as defined in Rule 1020, this factor applies.

EF <sub>NO<sub>x</sub></sub> (Uncontrolled):	0.5 g/bhp-hr
EF <sub>VOC</sub> (Uncontrolled):	0.50 g/bhp-hr
BSFC:	6,755 Btu/bhp-hr
Fuel Limit (Combined):	424,264 MMBtu/yr

$$(424,264 \times 10^6 \text{ Btu/yr}) / [(4,445 \text{ bhp})(6755 \text{ Btu/bhp-hr})] = 14,130 \text{ hr/yr}$$

As can be seen, any one of the engines could operate for an entire year (8,760 hr). Therefore, the uncontrolled emission calculations will assume that any of the units could operate for an entire year.

$$\text{PE}_{\text{NO}_x} (\text{uncontrolled}) = (4,445 \text{ bhp})(0.5 \text{ g/bhp-hr})(\text{lb}/453.6 \text{ g}) \\ \times (8,760 \text{ hr/yr}) = 42,921 \text{ lb/yr}$$

$$\text{PE}_{\text{VOC}} (\text{uncontrolled}) = (4,445 \text{ bhp})(0.5 \text{ g/bhp-hr})(\text{lb}/453.6 \text{ g}) \\ \times (8,760 \text{ hr/yr}) = 42,921 \text{ lb/yr}$$

The Major Source threshold for each NO<sub>x</sub> and VOC is 20,000 lb/yr, therefore, the uncontrolled potential emissions of each NO<sub>x</sub> and VOC from each engine is in excess of its respective Major Source threshold and CAM is required for NO<sub>x</sub> and VOC.

**N-4238-5-2 and N-4238-6-2****(4.1 MMBtu/hr glycol reboilers served by a thermal oxidizer)**

The units are identical, therefore, the following calculations apply to both units. The control equipment consists solely of a thermal oxidizer. Such a unit will control only VOC, therefore, CAM applicability calculations are necessary only for VOC.

EF<sub>VOC</sub> (Controlled): 0.0031 lb/MMScf of gas treated (current PTO)  
Throughput Limit: 500 MMScf/day  
Annual Operating Limit: None  
VOC Control: 95% (current PTO)

$$EF_{\text{VOC}} (\text{Uncontrolled}) = (0.0031 \text{ lb/MMScf}) / (1-0.95) = 0.062 \text{ lb/MMScf}$$

$$PE_{\text{VOC}} (\text{Uncontrolled}) = (500 \text{ MMScf/day})(0.062 \text{ lb/MMScf}) \\ \times (365 \text{ days/yr}) = 11,315 \text{ lb/yr}$$

The uncontrolled VOC emissions from each unit are less than the Major Source threshold of 20,000 lb/yr, therefore, CAM is not required.

**N-4238-7-2****(1,508 bhp natural gas fired emergency IC engine)**

The unit is equipped with a 3-way catalyst that will control both NO<sub>x</sub> and VOC to the levels required to meet the permitted emission levels. The emission factors are from the original application package (project number N-990876).

EF<sub>NO<sub>x</sub></sub> (Uncontrolled): 10 g/bhp-hr  
EF<sub>VOC</sub> (Uncontrolled): 0.25 g/bhp-hr  
Operating Limit: 100 hr/yr

$$PE_{\text{NO}_x} (\text{uncontrolled}) = (1,508 \text{ bhp})(10 \text{ g/bhp-hr})(\text{lb}/453.6 \text{ g}) \\ \times (100 \text{ hr/yr}) = 3,325 \text{ lb/yr}$$

$$PE_{\text{VOC}} (\text{uncontrolled}) = (1,508 \text{ bhp})(0.25 \text{ g/bhp-hr})(\text{lb}/453.6 \text{ g}) \\ \times (100 \text{ hr/yr}) = 83 \text{ lb/yr}$$

The uncontrolled NO<sub>x</sub> and VOC emissions are less than the Major Source thresholds of 20,000 lb/yr (each), therefore, CAM is not required.

**N-4238-8-1 and N-4238-9-1:  
(Maintenance and Emergency Flare)**

Neither unit relies on an emission control device to comply with an emission limit. Therefore, CAM is not required for either unit.

**Appendix D**  
**Major HAP Source Determination**

**Major Air Toxics Source Determination:**

To determine whether the facility is a Major Air Toxics Source, the facility-wide hazardous air pollutant (HAP) emissions will be compared to the Major Air Toxics Source thresholds. Those thresholds are 10 tons/yr of any single HAP or combined HAP emissions of 25 tons/yr. To determine the facility-wide potential to emit of HAPS, the fuel usage limits will be applied to the appropriate emission factor. The emission factors are from the California Air Toxics Emission Factors (CATEF) database.

**Natural Gas Fired IC Engines N-4238-1-2, N-4238-2-2, N-4238-3-2, N-4238-4-2 and N-4238-7-2):**

The permits for units N-4238-1-2, N-4238-2-2, N-4238-3-2 and N-4238-4-2 include a combined natural gas usage limit of 424,264 MMBtu/yr. Assuming a natural gas heat content of 1,000 Btu/scf, the potential fuel usage is:

$$(424,264 \text{ MMBtu/yr})(\text{ft}^3/1,000 \text{ Btu}) = 424.3 \text{ MMScf/yr}$$

The permit for unit N-4238-7-2 limits its operation to 100 hr/yr and per the original application, the fuel burning capacity of this unit is 13,911,000 Btu/hr. Assuming a natural gas heat content of 1,000 Btu/scf, the potential fuel usage is:

$$(13,911,000 \text{ Btu/hr})(100 \text{ hr/yr})(\text{ft}^3/1,000 \text{ Btu}) = 1.4 \text{ MMScf/yr}$$

New Title V Permit Number	Maximum Fuel Usage (MMScf/yr)
N-4238-1-2	424.3
N-4238-2-2	
N-4238-3-2	
N-4238-4-2	
N-4238-7-2	1.4
Total	425.7

HAP Emissions (IC Engines)		
Compound	Emission Factor (lb/MMScf)	Potential to Emit (lb/yr)
Acenaphthene	0.000217	0.0924
Acenaphthylene	0.000735	0.313
Acetaldehyde	2.62	1,115
Acrolein	0.161	68.5
Anthracene	0.000171	0.073
Benzene	0.259	110.3
Benzo(a)anthracene	0.0000992	0.042
Benzo(a)pyrene	0.000003880	0.002
Benzo(b)fluoranthene	0.0000798	0.034
Benzo(g,h,i)perylene	0.0000171	0.0073
Benzo(k) fluoranthene	0.0000121	0.0052
1,3 Butadiene	0.415	176.7
Chrysene	0.0000225	0.0096
Dibenz(a,h)anthracene	0.00000388	0.0017
Ethylbenzene	0.115	49.0
Fluoranthene	0.000475	0.202
Fluorene	0.000798	0.340
Formaldehyde	20.9	8,897
Indeno(1,2,3cd)pyrene	0.0000109	0.0046
Napthalene	0.0310	13.2
Phenanthrene	0.00275	1.17
Propylene	12.1	5,151
Pyrene	0.000326	0.139
Toluene	0.394	167.7
Xylene (total)	0.965	411
Total	---	16,162

**Natural Gas Fired Reboilers (N-4238-5-2 and N-4238-6-2):**

Each dehydration unit includes a permit exempt burner and they share a 10.0 MMBtu/hr natural gas fired thermal oxidizer. Since the burners are permit exempt, only the thermal oxidizer will be included in the HAP emission calculations.

$$(10.0 \text{ MMBtu/hr})(8,760 \text{ hr/yr})(\text{scf}/1,000 \text{ Btu}) = 87.6 \text{ MMScf/yr}$$

New Title V Permit Number	Maximum Fuel Usage (MMScf/yr)
N-4238-5-2	87.6
N-4238-6-2	
Total	87.6

HAP Emissions (Natural Gas Fired Reboilers)		
Compound	Emission Factor (lb/MMScf)	Potential to Emit (lb/yr)
Benzene	0.283	24.8
Ethylbenzene	0.00915	0.802
Formaldehyde	0.0000490	0.00429
Hydrogen Sulfide	0.115	10.1
Toluene	0.192	16.8
Xylene (m)	0.0231	2.02
Xylene (o)	0.00858	0.752
Xylene (p)	0.00781	0.684
Total	---	56.0

**Natural Gas Fired Flares (N-4238-8-1 and N-4238-9-1):**

The fuel usage limit for unit N-4238-8-1 is 624,175 scf/quarter.

Maximum Fuel Use = (624,175 scf/qtr)(4 qtr/yr) = 2.5 MMScf/yr

The fuel usage limit for unit N-4238-9-1 is 371,645 scf/day.

Maximum Fuel Use = (371,645 scf/day)(365 days/yr) = 135.7 MMScf/yr

New Title V Permit Number	Maximum Fuel Usage (MMScf/yr)
N-4238-8-1	2.5
N-4238-9-1	135.7
Total	138.2

A search for a listing of HAP emissions from natural gas fired flares was conducted and no source of emission factors was located. In the absence of HAP emission factors for natural gas fired flares, the factors for natural gas fired boilers will be utilized. The following are from the CATEF database:

HAP Emissions (Natural Gas Fired Flares)		
Compound	Emission Factor (lb/MMScf)	Potential to Emit (lb/yr)
Acetaldehyde	0.0148	2.05
Benzaldehyde	0.0272	3.76
Benzene	0.00870	1.20
Formaldehyde	0.672	92.9
Total	---	99.9



## Summary of HAP Emissions

Pollutant	Natural gas fired IC Engines (lb/yr)	Dehydrators (lb/yr)	Flares (lb/yr)	Total (each HAP)
Acenaphthene	0.0924	---	---	0.0924
Acenaphthylene	0.313	---	---	0.313
Acetaldehyde	1,115	---	2.05	1,117.1
Acrolein	68.5	---	---	68.5
Anthracene	0.073	---	---	0.073
Benzene	110.3	24.8	1.20	136.3
Benzaldehyde	---	---	3.76	3.76
Benzo(a)anthracene	0.042	---	---	0.042
Benzo(a)pyrene	0.002	---	---	0.002
Benzo(b)fluoranthene	0.034	---	---	0.034
Benzo(g,h,i)perylene	0.0073	---	---	0.0073
Benzo(k) fluoranthene	0.0052	---	---	0.0052
1,3 Butadiene	176.7	---	---	176.7
Chrysene	0.0096	---	---	0.0096
Dibenz(a,h)anthracene	0.0017	---	---	0.0017
Ethylbenzene	49.0	0.802	---	49.8
Fluoranthene	0.202	---	---	0.202
Fluorene	0.340	---	---	0.340
Formaldehyde	8,897	0.00429	92.9	8,990
Hydrogen Sulfide	---	10.1	---	10.1
Indeno(1,2,3cd)pyrene	0.0046	---	---	0.0046
Napthalene	13.2	---	---	13.2
Phenanthrene	1.17	---	---	1.17
Propylene	5,151	---	---	5,151
Pyrene	0.139	---	---	0.139
Toluene	167.7	16.8	---	184.5
Xylene (total)	411	3.46	---	414.5
Total (all HAPs combined)				16,317.9

As can be seen, the combined potential HAP emissions from the permitted equipment at the facility are less than 25 tons per year and the potential to emit of each single HAP is less than 10 tons per year. Therefore, the facility is not a major source of HAP emissions.

**Appendix A**  
**Draft Initial Title V Operating Permit**

# San Joaquin Valley Air Pollution Control District

FACILITY: N-4238-0-1

EXPIRATION DATE: 06/30/2017

## FACILITY-WIDE REQUIREMENTS

1. {4362} The owner or operator shall notify the District of any breakdown condition as soon as reasonably possible, but no later than one hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100, 6.1; County Rules 110 (Fresno, Stanislaus, San Joaquin); 109 (Merced); 113 (Madera); and 111 (Kern, Tulare, Kings)] Federally Enforceable Through Title V Permit
2. {4363} The District shall be notified in writing within ten days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the methods utilized to restore normal operations. [District Rule 1100, 7.0; County Rules 110 (Fresno, Stanislaus, San Joaquin); 109 (Merced); 113 (Madera); and 111 (Kern, Tulare, Kings)] Federally Enforceable Through Title V Permit
3. {4364} The owner or operator of any stationary source operation that emits more than 25 tons per year of nitrogen oxides or reactive organic compounds, shall provide the District annually with a written statement in such form and at such time as the District prescribes, showing actual emissions of nitrogen oxides and reactive organic compounds from that source. [District Rule 1160, 5.0] Federally Enforceable Through Title V Permit
4. {4365} Any person building, altering or replacing any operation, article, machine, equipment, or other contrivance, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce, or control the issuance of air contaminants, shall first obtain an Authority to Construct (ATC) from the District unless exempted by District Rule 2020 (12/20/07). [District Rule 2010, 3.0 and 4.0; and 2020] Federally Enforceable Through Title V Permit
5. {4366} The permittee must comply with all conditions of the permit including permit revisions originated by the District. All terms and conditions of a permit that are required pursuant to the Clean Air Act (CAA), including provisions to limit potential to emit, are enforceable by the EPA and Citizens under the CAA. Any permit noncompliance constitutes a violation of the CAA and the District Rules and Regulations, and is grounds for enforcement action, for permit termination, revocation, reopening and reissuance, or modification; or for denial of a permit renewal application. [District Rules 2070, 7.0; 2080; and 2520, 9.9.1 and 9.13.1] Federally Enforceable Through Title V Permit
6. {4367} A Permit to Operate or an Authority to Construct shall not be transferred unless a new application is filed with and approved by the District. [District Rule 2031] Federally Enforceable Through Title V Permit
7. {4368} Every application for a permit required under Rule 2010 (12/17/92) shall be filed in a manner and form prescribed by the District. [District Rule 2040] Federally Enforceable Through Title V Permit
8. {4369} The operator shall maintain records of required monitoring that include: 1) the date, place, and time of sampling or measurement; 2) the date(s) analyses were performed; 3) the company or entity that performed the analysis; 4) the analytical techniques or methods used; 5) the results of such analysis; and 6) the operating conditions at the time of sampling or measurement. [District Rule 2520, 9.4.1] Federally Enforceable Through Title V Permit

FACILITY-WIDE REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate. Any amendments to these Facility-wide Requirements that affect specific Permit Units may constitute modification of those Permit Units.

Facility Name: LODI GAS STORAGE LLC  
Location: 23265 N STATE ROUTE 99, ACAMPO, CA 95220  
N-4238-0-1: Jul 18 2012 2:00PM - 6CHONHOM

9. {4370} The operator shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, or report. Support information includes copies of all reports required by the permit and, for continuous monitoring instrumentation, all calibration and maintenance records and all original strip-chart recordings. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
10. {4371} The operator shall submit reports of any required monitoring at least every six months unless a different frequency is required by an applicable requirement. All instances of deviations from permit requirements must be clearly identified in such reports. [District Rule 2520, 9.5.1] Federally Enforceable Through Title V Permit
11. {4372} Deviations from permit conditions must be promptly reported, including deviations attributable to upset conditions, as defined in the permit. For the purpose of this condition, promptly means as soon as reasonably possible, but no later than 10 days after detection. The report shall include the probable cause of such deviations, and any corrective actions or preventive measures taken. All required reports must be certified by a responsible official consistent with section 10.0 of District Rule 2520 (6/21/01). [District Rules 2520, 9.5.2 and 1100, 7.0] Federally Enforceable Through Title V Permit
12. {4373} If for any reason a permit requirement or condition is being challenged for its constitutionality or validity by a court of competent jurisdiction, the outcome of such challenge shall not affect or invalidate the remainder of the conditions or requirements in that permit. [District Rule 2520, 9.7] Federally Enforceable Through Title V Permit
13. {4374} It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. [District Rule 2520, 9.8.2] Federally Enforceable Through Title V Permit
14. {4375} The permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. [District Rule 2520, 9.8.3] Federally Enforceable Through Title V Permit
15. {4376} The permit does not convey any property rights of any sort, or any exclusive privilege. [District Rule 2520, 9.8.4] Federally Enforceable Through Title V Permit
16. {4377} The Permittee shall furnish to the District, within a reasonable time, any information that the District may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the District copies of records required to be kept by the permit or, for information claimed to be confidential, the permittee may furnish such records directly to EPA along with a claim of confidentiality. [District Rule 2520, 9.8.5] Federally Enforceable Through Title V Permit
17. {4378} The permittee shall pay annual permit fees and other applicable fees as prescribed in Regulation III of the District Rules and Regulations. [District Rule 2520, 9.9] Federally Enforceable Through Title V Permit
18. {4379} 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 2520, 9.13.2.1] Federally Enforceable Through Title V Permit
19. {4380} 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 2520, 9.13.2.2] Federally Enforceable Through Title V Permit
20. {4381} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to inspect at reasonable times any facilities, equipment, practices, or operations regulated or required under the permit. [District Rule 2520, 9.13.2.3] Federally Enforceable Through Title V Permit
21. {4382} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or applicable requirements. [District Rule 2520, 9.13.2.4] Federally Enforceable Through Title V Permit

FACILITY-WIDE REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

22. {4383} No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (02/17/05). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
23. {4384} No person shall manufacture, blend, repackage, supply, sell, solicit or apply any architectural coating with a VOC content in excess of the corresponding limit specified in Table of Standards 1 effective until 12/30/10 or Table of Standards 2 effective on and after 1/1/11 of District Rule 4601 (12/17/09) for use or sale within the District. [District Rule 4601, 5.1] Federally Enforceable Through Title V Permit
24. {4385} All VOC-containing materials subject to Rule 4601 (12/17/09) shall be stored in closed containers when not in use. [District Rule 4601, 5.4] Federally Enforceable Through Title V Permit
25. {4386} The permittee shall comply with all the Labeling and Test Methods requirements outlined in Rule 4601 sections 6.1 and 6.3 (12/17/09). [District Rule 4601, 6.1 and 6.3] Federally Enforceable Through Title V Permit
26. {4387} With each report or document submitted under a permit requirement or a request for information by the District or EPA, the permittee shall include a certification of truth, accuracy, and completeness by a responsible official. [District Rule 2520, 9.13.1 and 10.0] Federally Enforceable Through Title V Permit
27. {4388} If the permittee performs maintenance on, or services, repairs, or disposes of appliances, the permittee shall comply with the standards for Recycling and Emissions Reduction pursuant to 40 CFR Part 82, Subpart F. [40 CFR 82 Subpart F] Federally Enforceable Through Title V Permit
28. {4389} If the permittee performs service on motor vehicles when this service involves the ozone-depleting refrigerant in the motor vehicle air conditioner (MVAC), the permittee shall comply with the standards for Servicing of Motor Vehicle Air Conditioners pursuant to all the applicable requirements as specified in 40 CFR Part 82, Subpart B. [40 CFR Part 82, Subpart B] Federally Enforceable Through Title V Permit
29. {4390} Disturbances of soil related to any construction, demolition, excavation, extraction, or other earthmoving activities shall comply with the requirements for fugitive dust control in District Rule 8021 unless specifically exempted under Section 4.0 of Rule 8021 (8/19/2004) or Rule 8011 (8/19/2004). [District Rule 8021 and 8011] Federally Enforceable Through Title V Permit
30. {4391} Outdoor handling, storage and transport of any bulk material which emits dust shall comply with the requirements of District Rule 8031, unless specifically exempted under Section 4.0 of Rule 8031 (8/19/2004) or Rule 8011 (8/19/2004). [District Rule 8031 and 8011] Federally Enforceable Through Title V Permit
31. {4392} An owner/operator shall prevent or cleanup any carryout or trackout in accordance with the requirements of District Rule 8041 Section 5.0, unless specifically exempted under Section 4.0 of Rule 8041 (8/19/2004) or Rule 8011 (8/19/2004). [District Rule 8041 and 8011] Federally Enforceable Through Title V Permit
32. {4393} Whenever open areas are disturbed, or vehicles are used in open areas, the facility shall comply with the requirements of Section 5.0 of District Rule 8051, unless specifically exempted under Section 4.0 of Rule 8051 (8/19/2004) or Rule 8011 (8/19/2004). [District Rule 8051 and 8011] Federally Enforceable Through Title V Permit
33. {4394} Any paved road or unpaved road shall comply with the requirements of District Rule 8061 unless specifically exempted under Section 4.0 of Rule 8061 (8/19/2004) or Rule 8011 (8/19/2004). [District Rule 8061 and Rule 8011] Federally Enforceable Through Title V Permit

FACILITY-WIDE REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

34. {4395} Any unpaved vehicle/equipment area that anticipates more than 50 Average annual daily Trips (AADT) shall comply with the requirements of Section 5.1.1 of District Rule 8071. Any unpaved vehicle/equipment area that anticipates more than 150 vehicle trips per day (VDT) shall comply with the requirements of Section 5.1.2 of District Rule 8071. On each day that 25 or more VDT with 3 or more axles will occur on an unpaved vehicle/equipment traffic area, the owner/operator shall comply with the requirements of Section 5.1.3 of District Rule 8071. On each day when a special event will result in 1,000 or more vehicles that will travel/park on an unpaved area, the owner/operator shall comply with the requirements of Section 5.1.4 of District Rule 8071. All sources shall comply with the requirements of Section 5.0 of District Rule 8071 unless specifically exempted under Section 4.0 of Rule 8071 (9/16/2004) or Rule 8011 (8/19/2004). [District Rule 8071 and Rule 8011] Federally Enforceable Through Title V Permit
35. {4396} Any owner or operator of a demolition or renovation activity, as defined in 40 CFR 61.141, shall comply with the applicable inspection, notification, removal, and disposal procedures for asbestos containing materials as specified in 40 CFR 61.145 (Standard for Demolition and Renovation). [40 CFR 61 Subpart M] Federally Enforceable Through Title V Permit
36. {4397} The permittee shall submit certifications of compliance with the terms and standards contained in Title V permits, including emission limits, standards and work practices, to the District and the EPA annually (or more frequently as specified in an applicable requirement or as specified by the District). The certification shall include the identification of each permit term or condition, the compliance status, whether compliance was continuous or intermittent, the methods used for determining the compliance status, and any other facts required by the District to determine the compliance status of the source. [District Rule 2520, 9.16] Federally Enforceable Through Title V Permit
37. {4398} The permittee shall submit an application for Title V permit renewal to the District at least six months, but not greater than 18 months, prior to the permit expiration date. [District Rule 2520, 5.2] Federally Enforceable Through Title V Permit
38. {4399} When a term is not defined in a Title V permit condition, the definition in the rule cited as the origin and authority for the condition in a Title V permits shall apply. [District Rule 2520, 9.1.1] Federally Enforceable Through Title V Permit
39. {4400} Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following outdated SIP requirements: Rule 401 (Madera, Fresno, Kern, Kings, San Joaquin, Stanislaus, Tulare and Merced), Rule 110 (Fresno, Stanislaus, San Joaquin), Rule 109 (Merced), Rule 113 (Madera), Rule 111 (Kern, Tulare, Kings), and Rule 202 (Fresno, Kern, Tulare, Kings, Madera, Stanislaus, Merced, San Joaquin). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
40. {4401} Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: SJVUAPCD Rules 1100, sections 6.1 and 7.0 (12/17/92); 2010, sections 3.0 and 4.0 (12/17/92); 2031 (12/17/92); 2040 (12/17/92); 2070, section 7.0 (12/17/92); 2080 (12/17/92); 4101 (2/17/05); 4601 (12/17/09); 8021 (8/19/2004); 8031 (8/19/2004); 8041 (8/19/2004); 8051 (8/19/2004); 8061 (8/19/2004); and 8071 (9/16/2004). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

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# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: N-4238-1-2

EXPIRATION DATE: 08/30/2017

SECTION: 13 TOWNSHIP: 4N RANGE: 6E

## EQUIPMENT DESCRIPTION:

4,445 BHP CATERPILLAR MODEL G3616 LEAN BURN NATURAL GAS-FIRED IC ENGINE POWERING A COMPRESSOR. THE ENGINE IS SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM AND A 2-WAY OXIDATION CATALYST

## PERMIT UNIT REQUIREMENTS

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. The engine shall be fired solely on PUC-quality natural gas. [District Rule 4702] Federally Enforceable Through Title V Permit
3. The engine shall be equipped and operated with a properly maintained nonresettable elapsed time meter. [District Rule 4702] Federally Enforceable Through Title V Permit
4. The facility shall install and properly maintain a fuel flow meter, a pressure and temperature transmitter and a gas chromatograph for the purpose of monitoring the fuel consumption, in Btu, of the engines operating under N-4238-1, N-4238-2, N-4238-3 and N-4238-4. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
6. The concentration of sulfur compounds in the exhaust shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. [District Rule 4801] Federally Enforceable Through Title V Permit
7. The NO<sub>x</sub> emission concentration shall not exceed 11.9 ppmvd @ 15% O<sub>2</sub>. [District Rules 2201, 4701 and 4702] Federally Enforceable Through Title V Permit
8. The CO emission concentration shall not exceed 40.5 ppmvd @ 15% O<sub>2</sub>. [District Rules 2201, 4701 and 4702 and 40 CFR Part 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
9. The VOC emission concentration shall not exceed 34.1 ppmvd, as methane, @ 15% O<sub>2</sub>. [District Rules 2201, 4701 and 4702] Federally Enforceable Through Title V Permit
10. The SO<sub>x</sub> emission concentration shall not exceed 0.0066 g/bhp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The PM<sub>10</sub> emission concentration shall not exceed 0.1 g/bhp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The ammonia emission concentration shall not exceed 10 ppmvd @ 15% O<sub>2</sub>. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The combined fuel usage of the engines operating under N-4238-1, N-4238-2, N-4238-3 and N-4238-4 shall not exceed 127,279 MMBtu during any one calendar quarter and shall not exceed 424,264 MMBtu during any one calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

14. The permittee shall monitor and record the stack concentration of NO<sub>x</sub> (as NO<sub>2</sub>), CO, and O<sub>2</sub> at least once every calendar month using a portable emission monitor that meets District specifications [In stack O<sub>2</sub> monitors may be allowed if approved by the APCO]. [District Rules 4701, 4702 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
15. If the NO<sub>x</sub> or CO concentrations corrected to 15% O<sub>2</sub>, as measured by the portable analyzer, exceed the permitted emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4701 and 4702] Federally Enforceable Through Title V Permit
16. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 15% O<sub>2</sub>, (3) make and model of the 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] Federally Enforceable Through Title V Permit
17. The catalyst inlet temperature shall be maintained between 450 degrees F and 1,350 degrees F. [40 CFR Part 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
18. The pressure drop across the catalyst shall be determined during the initial source test required by 40 CFR Part 63. The pressure drop across the catalyst shall not change by more than 2 inches of water column at 100% load or plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test. The pressure drop shall be determined during the initial source test and shall occur by the 40 CFR Part 63 Subpart ZZZZ compliance deadline of October 19, 2013. [40 CFR Part 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
19. Commencing on the 40 CFR Part 63 Subpart ZZZZ compliance deadline of October 19, 2013, the permittee shall monitor and record the pressure drop across the catalyst system at least once per calendar month. [40 CFR Part 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
20. The permittee shall monitor and record the catalyst system inlet system temperature at least once every 15 minutes. The data shall be reduced to 4 hour rolling averages. [40 CFR Part 63, Subpart ZZZZ and 40 CFR Part 64] Federally Enforceable Through Title V Permit
21. Source testing for NO<sub>x</sub>, CO, VOC and ammonia slip shall be conducted annually. [District Rules 2201, 4701 and 4702 and 40 CFR Part 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
22. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
23. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rules 1081, 4701 and 4702] Federally Enforceable Through Title V Permit
24. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rules 1081, 4701 and 4702] Federally Enforceable Through Title V Permit
25. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 4701 and 4702] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.



27. Source testing for NOx emissions shall be conducted utilizing CARB method 100 or EPA method 7E. [District Rules 1081, 4701 and 4702] Federally Enforceable Through Title V Permit
28. Source testing for CO emissions shall be conducted utilizing CARB method 100 or EPA method 10. [District Rules 1081, 4701 and 4702] Federally Enforceable Through Title V Permit
29. Source testing for VOC emissions shall be conducted utilizing EPA method 25 or EPA method 18, referenced as methane. [District Rules 1081 and 4701] Federally Enforceable Through Title V Permit
30. Source testing for ammonia slip shall be conducted utilizing BAAQMD method ST-1B. [District Rule 1081] Federally Enforceable Through Title V Permit
31. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702] Federally Enforceable Through Title V Permit
32. Records of the quarterly and the annual fuel consumption, in Btu, of the engines operating under N-4238-1, N-4238-2, N-4238-3 and N-4238-4 shall be kept. [District Rule 2201] Federally Enforceable Through Title V Permit
33. The permittee shall maintain an operating log, on a monthly basis, that includes the following information; (1) Total hours of operation; (2) type and quantity of fuel burned (in cubic feet); (3) maintenance or modifications performed; (4) monitoring data; (5) compliance source test results; (6) the purpose of engine operation; (7) any other information necessary to demonstrate compliance with District Rules 4701 and 4702. [District Rules 4701 and 4702] Federally Enforceable Through Title V Permit
34. All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rule 4701 and 4702] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

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# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** N-4238-2-2

**EXPIRATION DATE:** 06/30/2017

**SECTION:** 13 **TOWNSHIP:** 4N **RANGE:** 6E

**EQUIPMENT DESCRIPTION:**

4,445 BHP CATERPILLAR MODEL G3616 LEAN BURN NATURAL GAS-FIRED IC ENGINE POWERING A COMPRESSOR. THE ENGINE IS SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM AND A 2-WAY OXIDATION CATALYST

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## PERMIT UNIT REQUIREMENTS

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. The engine shall be fired solely on PUC-quality natural gas. [District Rule 4702] Federally Enforceable Through Title V Permit
3. The engine shall be equipped and operated with a properly maintained nonresettable elapsed time meter. [District Rule 4702] Federally Enforceable Through Title V Permit
4. The facility shall install and properly maintain a fuel flow meter, a pressure and temperature transmitter and a gas chromatograph for the purpose of monitoring the fuel consumption, in Btu, of the engines operating under N-4238-1, N-4238-2, N-4238-3 and N-4238-4. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
6. The concentration of sulfur compounds in the exhaust shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. [District Rule 4801] Federally Enforceable Through Title V Permit
7. The NOx emission concentration shall not exceed 11.9 ppmvd @ 15% O2. [District Rules 2201, 4701 and 4702] Federally Enforceable Through Title V Permit
8. The CO emission concentration shall not exceed 40.5 ppmvd @ 15% O2. [District Rules 2201, 4701 and 4702 and 40 CFR Part 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
9. The VOC emission concentration shall not exceed 34.1 ppmvd, as methane, @ 15% O2. [District Rules 2201, 4701 and 4702] Federally Enforceable Through Title V Permit
10. The SOx emission concentration shall not exceed 0.0066 g/bhp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The PM10 emission concentration shall not exceed 0.1 g/bhp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The ammonia emission concentration shall not exceed 10 ppmvd @ 15% O2. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The combined fuel usage of the engines operating under N-4238-1, N-4238-2, N-4238-3 and N-4238-4 shall not exceed 127,279 MMBtu during any one calendar quarter and shall not exceed 424,264 MMBtu during any one calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit

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PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

14. The permittee shall monitor and record the stack concentration of NO<sub>x</sub> (as NO<sub>2</sub>), CO, and O<sub>2</sub> at least once every calendar month using a portable emission monitor that meets District specifications [In stack O<sub>2</sub> monitors may be allowed if approved by the APCO]. [District Rules 4701, 4702 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
15. If the NO<sub>x</sub> or CO concentrations corrected to 15% O<sub>2</sub>, as measured by the portable analyzer, exceed the permitted emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4701 and 4702] Federally Enforceable Through Title V Permit
16. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 15% O<sub>2</sub>, (3) make and model of the 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] Federally Enforceable Through Title V Permit
17. The catalyst inlet temperature shall be maintained between 450 degrees F and 1,350 degrees F. [40 CFR Part 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
18. The pressure drop across the catalyst shall be determined during the initial source test required by 40 CFR Part 63. The pressure drop across the catalyst shall not change by more than 2 inches of water column at 100% load or plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test. The pressure drop shall be determined during the initial source test and shall occur by the 40 CFR Part 63 Subpart ZZZZ compliance deadline of October 19, 2013. [40 CFR Part 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
19. Commencing on the 40 CFR Part 63 Subpart ZZZZ compliance deadline of October 19, 2013, the permittee shall monitor and record the pressure drop across the catalyst system at least once per calendar month. [40 CFR Part 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
20. The permittee shall monitor and record the catalyst system inlet system temperature at least once every 15 minutes. The data shall be reduced to 4 hour rolling averages. [40 CFR Part 63, Subpart ZZZZ and 40 CFR Part 64] Federally Enforceable Through Title V Permit
21. Source testing for NO<sub>x</sub>, CO, VOC and ammonia slip shall be conducted annually. [District Rules 2201, 4701 and 4702 and 40 CFR Part 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
22. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
23. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rules 1081, 4701 and 4702] Federally Enforceable Through Title V Permit
24. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rules 1081, 4701 and 4702] Federally Enforceable Through Title V Permit
25. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 4701 and 4702] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

27. Source testing for NOx emissions shall be conducted utilizing CARB method 100 or EPA method 7E. [District Rules 1081, 4701 and 4702] Federally Enforceable Through Title V Permit
28. Source testing for CO emissions shall be conducted utilizing CARB method 100 or EPA method 10. [District Rules 1081, 4701 and 4702] Federally Enforceable Through Title V Permit
29. Source testing for VOC emissions shall be conducted utilizing EPA method 25 or EPA method 18, referenced as methane. [District Rules 1081 and 4701] Federally Enforceable Through Title V Permit
30. Source testing for ammonia slip shall be conducted utilizing BAAQMD method ST-1B. [District Rule 1081] Federally Enforceable Through Title V Permit
31. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702] Federally Enforceable Through Title V Permit
32. Records of the quarterly and the annual fuel consumption, in Btu, of the engines operating under N-4238-1, N-4238-2, N-4238-3 and N-4238-4 shall be kept. [District Rule 2201] Federally Enforceable Through Title V Permit
33. The permittee shall maintain an operating log, on a monthly basis, that includes the following information; (1) Total hours of operation; (2) type and quantity of fuel burned (in cubic feet); (3) maintenance or modifications performed; (4) monitoring data; (5) compliance source test results; (6) the purpose of engine operation; (7) any other information necessary to demonstrate compliance with District Rules 4701 and 4702. [District Rules 4701 and 4702] Federally Enforceable Through Title V Permit
34. All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rule 4701 and 4702] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

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# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: N-4238-3-2

EXPIRATION DATE: 06/30/2017

SECTION: 13 TOWNSHIP: 4N RANGE: 6E

## EQUIPMENT DESCRIPTION:

4,445 BHP CATERPILLAR MODEL G3616 LEAN BURN NATURAL GAS-FIRED IC ENGINE POWERING A COMPRESSOR. THE ENGINE IS SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM AND A 2-WAY OXIDATION CATALYST

## PERMIT UNIT REQUIREMENTS

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. The engine shall be fired solely on PUC-quality natural gas. [District Rule 4702] Federally Enforceable Through Title V Permit
3. The engine shall be equipped and operated with a properly maintained nonresettable elapsed time meter. [District Rule 4702] Federally Enforceable Through Title V Permit
4. The facility shall install and properly maintain a fuel flow meter, a pressure and temperature transmitter and a gas chromatograph for the purpose of monitoring the fuel consumption, in Btu, of the engines operating under N-4238-1, N-4238-2, N-4238-3 and N-4238-4. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
6. The concentration of sulfur compounds in the exhaust shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. [District Rule 4801] Federally Enforceable Through Title V Permit
7. The NO<sub>x</sub> emission concentration shall not exceed 11.9 ppmvd @ 15% O<sub>2</sub>. [District Rules 2201, 4701 and 4702] Federally Enforceable Through Title V Permit
8. The CO emission concentration shall not exceed 40.5 ppmvd @ 15% O<sub>2</sub>. [District Rules 2201, 4701 and 4702 and 40 CFR Part 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
9. The VOC emission concentration shall not exceed 34.1 ppmvd, as methane, @ 15% O<sub>2</sub>. [District Rules 2201, 4701 and 4702] Federally Enforceable Through Title V Permit
10. The SO<sub>x</sub> emission concentration shall not exceed 0.0066 g/bhp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The PM<sub>10</sub> emission concentration shall not exceed 0.1 g/bhp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The ammonia emission concentration shall not exceed 10 ppmvd @ 15% O<sub>2</sub>. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The combined fuel usage of the engines operating under N-4238-1, N-4238-2, N-4238-3 and N-4238-4 shall not exceed 127,279 MMBtu during any one calendar quarter and shall not exceed 424,264 MMBtu during any one calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

14. The permittee shall monitor and record the stack concentration of NO<sub>x</sub> (as NO<sub>2</sub>), CO, and O<sub>2</sub> at least once every calendar month using a portable emission monitor that meets District specifications [In stack O<sub>2</sub> monitors may be allowed if approved by the APCO]. [District Rules 4701, 4702 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
15. If the NO<sub>x</sub> or CO concentrations corrected to 15% O<sub>2</sub>, as measured by the portable analyzer, exceed the permitted emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4701 and 4702] Federally Enforceable Through Title V Permit
16. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 15% O<sub>2</sub>, (3) make and model of the 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] Federally Enforceable Through Title V Permit
17. The catalyst inlet temperature shall be maintained between 450 degrees F and 1,350 degrees F. [40 CFR Part 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
18. The pressure drop across the catalyst shall be determined during the initial source test required by 40 CFR Part 63. The pressure drop across the catalyst shall not change by more than 2 inches of water column at 100% load or plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test. The pressure drop shall be determined during the initial source test and shall occur by the 40 CFR Part 63 Subpart ZZZZ compliance deadline of October 19, 2013. [40 CFR Part 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
19. Commencing on the 40 CFR Part 63 Subpart ZZZZ compliance deadline of October 19, 2013, the permittee shall monitor and record the pressure drop across the catalyst system at least once per calendar month. [40 CFR Part 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
20. The permittee shall monitor and record the catalyst system inlet system temperature at least once every 15 minutes. The data shall be reduced to 4 hour rolling averages. [40 CFR Part 63, Subpart ZZZZ and 40 CFR Part 64] Federally Enforceable Through Title V Permit
21. Source testing for NO<sub>x</sub>, CO, VOC and ammonia slip shall be conducted annually. [District Rules 2201, 4701 and 4702 and 40 CFR Part 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
22. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
23. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rules 1081, 4701 and 4702] Federally Enforceable Through Title V Permit
24. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rules 1081, 4701 and 4702] Federally Enforceable Through Title V Permit
25. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 4701 and 4702] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

27. Source testing for NOx emissions shall be conducted utilizing CARB method 100 or EPA method 7E. [District Rules 1081, 4701 and 4702] Federally Enforceable Through Title V Permit
28. Source testing for CO emissions shall be conducted utilizing CARB method 100 or EPA method 10. [District Rules 1081, 4701 and 4702] Federally Enforceable Through Title V Permit
29. Source testing for VOC emissions shall be conducted utilizing EPA method 25 or EPA method 18, referenced as methane. [District Rules 1081 and 4701] Federally Enforceable Through Title V Permit
30. Source testing for ammonia slip shall be conducted utilizing BAAQMD method ST-1B. [District Rule 1081] Federally Enforceable Through Title V Permit
31. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702] Federally Enforceable Through Title V Permit
32. Records of the quarterly and the annual fuel consumption, in Btu, of the engines operating under N-4238-1, N-4238-2, N-4238-3 and N-4238-4 shall be kept. [District Rule 2201] Federally Enforceable Through Title V Permit
33. The permittee shall maintain an operating log, on a monthly basis, that includes the following information; (1) Total hours of operation; (2) type and quantity of fuel burned (in cubic feet); (3) maintenance or modifications performed; (4) monitoring data; (5) compliance source test results; (6) the purpose of engine operation; (7) any other information necessary to demonstrate compliance with District Rules 4701 and 4702. [District Rules 4701 and 4702] Federally Enforceable Through Title V Permit
34. All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rule 4701 and 4702] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

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# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: N-4238-4-2

EXPIRATION DATE: 06/30/2017

SECTION: 13 TOWNSHIP: 4N RANGE: 6E

## EQUIPMENT DESCRIPTION:

4,445 BHP CATERPILLAR MODEL G3616 LEAN BURN NATURAL GAS-FIRED IC ENGINE POWERING A COMPRESSOR. THE ENGINE IS SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM AND A 2-WAY OXIDATION CATALYST

## PERMIT UNIT REQUIREMENTS

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. The engine shall be fired solely on PUC-quality natural gas. [District Rule 4702] Federally Enforceable Through Title V Permit
3. The engine shall be equipped and operated with a properly maintained nonresettable elapsed time meter. [District Rule 4702] Federally Enforceable Through Title V Permit
4. The facility shall install and properly maintain a fuel flow meter, a pressure and temperature transmitter and a gas chromatograph for the purpose of monitoring the fuel consumption, in Btu, of the engines operating under N-4238-1, N-4238-2, N-4238-3 and N-4238-4. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
6. The concentration of sulfur compounds in the exhaust shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. [District Rule 4801] Federally Enforceable Through Title V Permit
7. The NO<sub>x</sub> emission concentration shall not exceed 11.9 ppmvd @ 15% O<sub>2</sub>. [District Rules 2201, 4701 and 4702] Federally Enforceable Through Title V Permit
8. The CO emission concentration shall not exceed 40.5 ppmvd @ 15% O<sub>2</sub>. [District Rules 2201, 4701 and 4702 and 40 CFR Part 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
9. The VOC emission concentration shall not exceed 34.1 ppmvd, as methane, @ 15% O<sub>2</sub>. [District Rules 2201, 4701 and 4702] Federally Enforceable Through Title V Permit
10. The SO<sub>x</sub> emission concentration shall not exceed 0.0066 g/bhp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The PM<sub>10</sub> emission concentration shall not exceed 0.1 g/bhp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The ammonia emission concentration shall not exceed 10 ppmvd @ 15% O<sub>2</sub>. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The combined fuel usage of the engines operating under N-4238-1, N-4238-2, N-4238-3 and N-4238-4 shall not exceed 127,279 MMBtu during any one calendar quarter and shall not exceed 424,264 MMBtu during any one calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.



14. The permittee shall monitor and record the stack concentration of NO<sub>x</sub> (as NO<sub>2</sub>), CO, and O<sub>2</sub> at least once every calendar month using a portable emission monitor that meets District specifications [In stack O<sub>2</sub> monitors may be allowed if approved by the APCO]. [District Rules 4701, 4702 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
15. If the NO<sub>x</sub> or CO concentrations corrected to 15% O<sub>2</sub>, as measured by the portable analyzer, exceed the permitted emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4701 and 4702] Federally Enforceable Through Title V Permit
16. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 15% O<sub>2</sub>, (3) make and model of the 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] Federally Enforceable Through Title V Permit
17. The catalyst inlet temperature shall be maintained between 450 degrees F and 1,350 degrees F. [40 CFR Part 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
18. The pressure drop across the catalyst shall be determined during the initial source test required by 40 CFR Part 63. The pressure drop across the catalyst shall not change by more than 2 inches of water column at 100% load or plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test. The pressure drop shall be determined during the initial source test and shall occur by the 40 CFR Part 63 Subpart ZZZZ compliance deadline of October 19, 2013. [40 CFR Part 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
19. Commencing on the 40 CFR Part 63 Subpart ZZZZ compliance deadline of October 19, 2013, the permittee shall monitor and record the pressure drop across the catalyst system at least once per calendar month. [40 CFR Part 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
20. The permittee shall monitor and record the catalyst system inlet system temperature at least once every 15 minutes. The data shall be reduced to 4 hour rolling averages. [40 CFR Part 63, Subpart ZZZZ and 40 CFR Part 64] Federally Enforceable Through Title V Permit
21. Source testing for NO<sub>x</sub>, CO, VOC and ammonia slip shall be conducted annually. [District Rules 2201, 4701 and 4702 and 40 CFR Part 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
22. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
23. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rules 1081, 4701 and 4702] Federally Enforceable Through Title V Permit
24. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rules 1081, 4701 and 4702] Federally Enforceable Through Title V Permit
25. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 4701 and 4702] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

27. Source testing for NOx emissions shall be conducted utilizing CARB method 100 or EPA method 7E. [District Rules 1081, 4701 and 4702] Federally Enforceable Through Title V Permit
28. Source testing for CO emissions shall be conducted utilizing CARB method 100 or EPA method 10. [District Rules 1081, 4701 and 4702] Federally Enforceable Through Title V Permit
29. Source testing for VOC emissions shall be conducted utilizing EPA method 25 or EPA method 18, referenced as methane. [District Rules 1081 and 4701] Federally Enforceable Through Title V Permit
30. Source testing for ammonia slip shall be conducted utilizing BAAQMD method ST-1B. [District Rule 1081] Federally Enforceable Through Title V Permit
31. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702] Federally Enforceable Through Title V Permit
32. Records of the quarterly and the annual fuel consumption, in Btu, of the engines operating under N-4238-1, N-4238-2, N-4238-3 and N-4238-4 shall be kept. [District Rule 2201] Federally Enforceable Through Title V Permit
33. The permittee shall maintain an operating log, on a monthly basis, that includes the following information; (1) Total hours of operation; (2) type and quantity of fuel burned (in cubic feet); (3) maintenance or modifications performed; (4) monitoring data; (5) compliance source test results; (6) the purpose of engine operation; (7) any other information necessary to demonstrate compliance with District Rules 4701 and 4702. [District Rules 4701 and 4702] Federally Enforceable Through Title V Permit
34. All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rule 4701 and 4702] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

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# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: N-4238-5-2

EXPIRATION DATE: 08/30/2017

SECTION: 13 TOWNSHIP: 4N RANGE: 6E

## EQUIPMENT DESCRIPTION:

NATURAL GAS DEHYDRATION OPERATION SERVED BY A 4.1 MMBTU/HR PERTREX GLYCOL REBOILER (PERMIT EXEMPT), 3-PHASE SEPARATOR SYSTEM, AND A 10.0 MMBTU/HR FIRECAT MODEL #2.10.12 THERMAL OXIDIZER SHARED WITH PERMIT UNIT N-4238-5 AND N-4238-6

## PERMIT UNIT REQUIREMENTS

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
3. The concentration of sulfur compounds in the exhaust shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. [District Rule 4801] Federally Enforceable Through Title V Permit
4. The thermal oxidizer shall only be fired on PUC-quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
5. The thermal oxidizer shall be equipped with an operational temperature indicator, and the temperature shall be recorded daily. [District Rule 2201] Federally Enforceable Through Title V Permit
6. The thermal oxidizer shall be heated to at least 1400 degrees Fahrenheit before allowing the contaminated air stream into the thermal oxidizer, and shall operate at a minimum temperature of 1400 degrees Fahrenheit. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The thermal oxidizer shall operate at all times when dehydration is taking place. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The thermal oxidizer shall operate in smokeless mode at all times. [District Rule 4408] Federally Enforceable Through Title V Permit
9. The thermal oxidizer shall be equipped with an electronically controlled ignition system with a malfunction alarm if the pilot flame fails. [District Rule 4408] Federally Enforceable Through Title V Permit
10. The emission control system shall be equipped with a liquid knock-out system to condense any condensable vapors. [District Rule 4408] Federally Enforceable Through Title V Permit
11. The thermal oxidizer shall be equipped with sight glass ports if the flame is not otherwise visible. [District Rule 4408] Federally Enforceable Through Title V Permit
12. Only glycol shall be used as the dehydration media. [District Rule 2201] Federally Enforceable Through Title V Permit
13. NOx emissions from the thermal oxidizer shall not exceed 0.06 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. SOx emissions from the thermal oxidizer shall not exceed 0.00285 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

15. PM10 emissions from the thermal oxidizer shall not exceed 0.0076 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
16. CO emissions from the thermal oxidizer shall not exceed 0.2 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. VOC emissions from the thermal oxidizer shall not exceed 0.0055 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The combined quantity of natural gas treated by permit units N-4238-5 and N-4238-6 shall not exceed 500 MMdscf during any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
19. VOC emissions from the dehydrator/reboiler shall not exceed 0.0031 lb/MMdscf of gas throughput. [District Rule 2201] Federally Enforceable Through Title V Permit
20. VOC control efficiency of the thermal oxidizer shall be at least 95%. [District Rules 2201 and 4408] Federally Enforceable Through Title V Permit
21. Source testing to measure the VOC control efficiency of the thermal oxidizer shall be conducted at least once every 24 months. [District Rules 2201 and 4408] Federally Enforceable Through Title V Permit
22. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
23. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rules 1081 and 4408] Federally Enforceable Through Title V Permit
24. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 1081] Federally Enforceable Through Title V Permit
25. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rule 1081] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. VOC emissions from the emission control system shall be determined by using EPA Method 25, 25A, 25B, or 18. Measurement of vapor flow through pipes shall be determined by EPA Methods 2 or 2A. [District Rules 1081 and 4408] Federally Enforceable Through Title V Permit
28. The VOC control efficiency shall be determined by comparing the measurements of VOC emissions from the uncontrolled glycol dehydration vent with measurements of VOC emissions from the emission control system. For both measurements, the glycol dehydration system shall operate under similar conditions for the following parameters: glycol flow rate, reboiler temperature, gas flow rate, and gas moisture removal efficiency. [District Rule 4408] Federally Enforceable Through Title V Permit
29. VOC emissions from glycol dehydration vents shall be determined using the Glycol Material Balance Method described in Section 6.2.1, or tested according to the methods listed in Section 6.2.2 of Rule 4408. [District Rule 4408] Federally Enforceable Through Title V Permit
30. The GRI-GLYCalc software, version 3.0 or higher, may be used to determine flow rates in lieu of methods listed in Section 6.2.2.6, 6.2.2.7 and 6.3.1.2 of Rule 4408. APCO and EPA approval must be gained prior to the use of this software. [District Rule 4408] Federally Enforceable Through Title V Permit
31. The permittee shall keep a record of the combined amount of natural gas treated by permit units N-4238-5 and N-4238-6, in MMdscf. [District Rules 2201 and 4408] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

32. Permittee shall maintain the following records: APCD permit number; location, size of glycol dehydrator reboiler (MMBTU/hr), and type of glycol used; description of any installed VOC control system; flow diagram of the dehydrator and any VOC controls; maintenance records of the VOC control system; reports of source tests; all records necessary to document inputs to and outputs of the GRI-GLYCalc software, if used. [District Rule 4408] Federally Enforceable Through Title V Permit
33. All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4408] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

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# San Joaquin Valley Air Pollution Control District

EXPIRATION DATE: 06/30/2017

PERMIT UNIT: N-4238-6-2

SECTION: 13 TOWNSHIP: 4N RANGE: 6E

## EQUIPMENT DESCRIPTION:

NATURAL GAS DEHYDRATION OPERATION SERVED BY A 4.1 MMBTU/HR PERTREX GLYCOL REBOILER (PERMIT EXEMPT), 3-PHASE SEPARATOR SYSTEM, AND A 10.0 MMBTU/HR FIRECAT MODEL #2.10.12 THERMAL OXIDIZER SHARED WITH PERMIT UNIT N-4238-5 AND N-4238-6

## PERMIT UNIT REQUIREMENTS

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
3. The concentration of sulfur compounds in the exhaust shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. [District Rule 4801] Federally Enforceable Through Title V Permit
4. The thermal oxidizer shall only be fired on PUC-quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
5. The thermal oxidizer shall be equipped with an operational temperature indicator, and the temperature shall be recorded daily. [District Rule 2201] Federally Enforceable Through Title V Permit
6. The thermal oxidizer shall be heated to at least 1400 degrees Fahrenheit before allowing the contaminated air stream into the thermal oxidizer, and shall operate at a minimum temperature of 1400 degrees Fahrenheit. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The thermal oxidizer shall operate at all times when dehydration is taking place. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The thermal oxidizer shall operate in smokeless mode at all times. [District Rule 4408] Federally Enforceable Through Title V Permit
9. The thermal oxidizer shall be equipped with an electronically controlled ignition system with a malfunction alarm if the pilot flame fails. [District Rule 4408] Federally Enforceable Through Title V Permit
10. The emission control system shall be equipped with a liquid knock-out system to condense any condensable vapors. [District Rule 4408] Federally Enforceable Through Title V Permit
11. The thermal oxidizer shall be equipped with sight glass ports if the flame is not otherwise visible. [District Rule 4408] Federally Enforceable Through Title V Permit
12. Only glycol shall be used as the dehydration media. [District Rule 2201] Federally Enforceable Through Title V Permit
13. NOx emissions from the thermal oxidizer shall not exceed 0.06 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. SOx emissions from the thermal oxidizer shall not exceed 0.00285 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

15. PM10 emissions from the thermal oxidizer shall not exceed 0.0076 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
16. CO emissions from the thermal oxidizer shall not exceed 0.2 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. VOC emissions from the thermal oxidizer shall not exceed 0.0055 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The combined quantity of natural gas treated by permit units N-4238-5 and N-4238-6 shall not exceed 500 MMdscf during any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
19. VOC emissions from the dehydrator/reboiler shall not exceed 0.0031 lb/MMdscf of gas throughput. [District Rule 2201] Federally Enforceable Through Title V Permit
20. VOC control efficiency of the thermal oxidizer shall be at least 95%. [District Rules 2201 and 4408] Federally Enforceable Through Title V Permit
21. Source testing to measure the VOC control efficiency of the thermal oxidizer shall be conducted at least once every 24 months. [District Rules 2201 and 4408] Federally Enforceable Through Title V Permit
22. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
23. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rules 1081 and 4408] Federally Enforceable Through Title V Permit
24. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 1081] Federally Enforceable Through Title V Permit
25. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rule 1081] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. VOC emissions from the emission control system shall be determined by using EPA Method 25, 25A, 25B, or 18. Measurement of vapor flow through pipes shall be determined by EPA Methods 2 or 2A. [District Rules 1081 and 4408] Federally Enforceable Through Title V Permit
28. The VOC control efficiency shall be determined by comparing the measurements of VOC emissions from the uncontrolled glycol dehydration vent with measurements of VOC emissions from the emission control system. For both measurements, the glycol dehydration system shall operate under similar conditions for the following parameters: glycol flow rate, reboiler temperature, gas flow rate, and gas moisture removal efficiency. [District Rule 4408] Federally Enforceable Through Title V Permit
29. VOC emissions from glycol dehydration vents shall be determined using the Glycol Material Balance Method described in Section 6.2.1, or tested according to the methods listed in Section 6.2.2 of Rule 4408. [District Rule 4408] Federally Enforceable Through Title V Permit
30. The GRI-GLYCalc software, version 3.0 or higher, may be used to determine flow rates in lieu of methods listed in Section 6.2.2.6, 6.2.2.7 and 6.3.1.2 of Rule 4408. APCO and EPA approval must be gained prior to the use of this software. [District Rule 4408] Federally Enforceable Through Title V Permit
31. The permittee shall keep a record of the combined amount of natural gas treated by permit units N-4238-5 and N-4238-6, in MMdscf. [District Rules 2201 and 4408] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

32. Permittee shall maintain the following records: APCD permit number; location, size of glycol dehydrator reboiler (MMBTU/hr), and type of glycol used; description of any installed VOC control system; flow diagram of the dehydrator and any VOC controls; maintenance records of the VOC control system; reports of source tests; all records necessary to document inputs to and outputs of the GRI-GLYCalc software, if used. [District Rule 4408] Federally Enforceable Through Title V Permit
33. All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4408] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

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# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: N-4238-7-2

EXPIRATION DATE: 06/30/2017

SECTION: 13 TOWNSHIP: 4N RANGE: 6E

## EQUIPMENT DESCRIPTION:

1,508 BHP WAUKESHA MODEL VHP7100GSI RICH BURN NATURAL GAS-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR. THE ENGINE IS SERVED BY A 3-WAY CATALYTIC CONVERTER.

## PERMIT UNIT REQUIREMENTS

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. The exhaust stack height shall be at least 25 feet above ground level. [District Rule 4102]
3. This engine shall be equipped with either a positive crankcase ventilation (PCV) system that recirculates crankcase emissions into the air intake system for combustion, or a crankcase emissions control device of at least 90% control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
4. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
6. The concentration of sulfur compounds in the exhaust shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. [District Rule 4801] Federally Enforceable Through Title V Permit
7. Only PUC-quality natural gas or LPG shall be used as fuel. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Emissions, shall not exceed any of the following limits: NO<sub>x</sub>, 1.0 g/bhp-hr; CO, 10 g/bhp-hr; VOC, 0.1 g/bhp-hr; PM<sub>10</sub>, 0.1 g/bhp-hr; and SO<sub>x</sub>, 0.0066 g/bhp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
9. This engine shall be operated only for maintenance, testing, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 100 hours per year. [District Rules 2201, 4701 and 4702] Federally Enforceable Through Title V Permit
10. 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] Federally Enforceable Through Title V Permit
11. During periods of operation for maintenance, testing, and required regulatory purposes, 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] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

12. The permittee shall maintain monthly records of emergency and non-emergency operation and of the type of fuel used. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rules 4701 and 4702] Federally Enforceable Through Title V Permit
13. 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] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

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# San Joaquin Valley Air Pollution Control District

EXPIRATION DATE: 06/30/2017

PERMIT UNIT: N-4238-8-1

SECTION: 13 TOWNSHIP: 4N RANGE: 6E

## EQUIPMENT DESCRIPTION:

REPAIR AND MAINTENANCE NATURAL GAS VENTING OPERATIONS SERVED BY A 1,250 MMBTU/HR FLARE WITH ONE KALDAIR MODEL I-12-H-VS TIP

## PERMIT UNIT REQUIREMENTS

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
3. The concentration of sulfur compounds in the exhaust shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. [District Rule 4801] Federally Enforceable Through Title V Permit
4. The maintenance flare (N-4238-8) and the emergency flare (N-4238-9) shall not operate simultaneously. The flares shall be equipped with an interlock system that prevents simultaneous operation. [District Rule 4102]
5. The quantity of natural gas burned by this flare shall not exceed 120,000 scf during any one hour while other fuel burning equipment is operating. [District Rule 4102]
6. The quantity of natural gas burned by this flare shall not exceed 350,000 scf during any one hour while no other fuel burning equipment is operating. [District Rule 4102]
7. The quantity of natural gas burned by this flare shall not exceed 371,645 scf during any one day and shall not exceed 624,175 scf during any one calendar quarter. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The NOx emissions shall not exceed 0.14 lb/MMBtu of heat input. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The CO emissions shall not exceed 0.43 lb/MMBtu of heat input. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The VOC emissions shall not exceed 0.11 lb/MMBtu of heat input. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The SOx emissions shall not exceed 0.00285 lb/MMBtu of heat input. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The PM10 emissions shall not exceed 0.0075 lb/MMBtu of heat input. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The flare shall operate with smokeless combustion. [District Rule 2201] Federally Enforceable Through Title V Permit
14. A flame shall be present at all times that combustible gases are being vented through the flare. [District Rule 4311, Section 5.2] Federally Enforceable Through Title V Permit
15. A pilot flame shall be present at all times that combustible gases are being vented through the flare or the outlet shall be equipped with an automatic ignition system. [District Rule 4311, Section 5.3] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

16. Except for flares equipped with a flow-sensing system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, capable of continuously detecting at least one pilot flame or the flare flame shall be installed and operated. [District Rule 4311, Section 5.4] Federally Enforceable Through Title V Permit
17. Flares that use flow-sensing automatic ignition systems and do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311, Section 5.5] Federally Enforceable Through Title V Permit
18. Flaring is prohibited unless it is consistent with an approved Flare minimization Plan (FMP). The FMP shall be updated at least once every 5 years. [District Rule 4311, Sections 5.8 and 6.5] Federally Enforceable Through Title V Permit
19. Inoperation of the flare monitoring equipment shall not exceed 14 days during any 18-consecutive-month period. During periods of inoperation of flow monitors, flow shall be calculated using good engineering practices. Periods of flare monitoring system inoperation do not include the periods when the system feeding the flare is not operating. [District Rule 4311, Section 6.9.1 and 6.9.2] Federally Enforceable Through Title V Permit
20. Periods of flare monitoring system inoperation of greater than 24 continuous hours shall be reported to the District by the following working day, followed by notification of resumption of monitoring. [District Rule 4311, 6.9.1] Federally Enforceable Through Title V Permit
21. The permittee shall report unplanned flaring events within 24 hours after the start of the next business day or within 24 hours of their discovery, whichever comes first. The notification shall include the flare source identification, the start date and time and the end date and time. [District Rule 4311, 6.2.1] Federally Enforceable Through Title V Permit
22. The permittee shall submit an Annual Monitoring Report in accordance with section 6.2.3 of Rule 4311. [District Rule 4311, 6.2.3] Federally Enforceable Through Title V Permit
23. All required monitoring and recording devices shall be maintained in accordance with the applicable manufacturer's specifications. [District Rule 4311, 6.9.3] Federally Enforceable Through Title V Permit
24. Vent gas composition monitoring shall be conducted by one of the methods specified in section 6.6 of District Rule 4311 (Flares). [District Rule 4311, Section 6.6] Federally Enforceable Through Title V Permit
25. Volumetric flows of both the pilot gases and purge gases shall be monitored utilizing flow measuring devices or other methods approved by the District or they may be calculated based on pilot design and the parameters monitored. [District Rule 4311, Section 6.7] Federally Enforceable Through Title V Permit
26. The operator shall monitor and record the water level and pressure of the water seal each day that the flare operates. [District Rule 4311, Section 6.8] Federally Enforceable Through Title V Permit
27. The following records shall be kept: (1) a copy of the approved Flare Minimization Plan; (2) a copy of the annual reports that were submitted to the District; (3) vent gas composition records; (4) pilot and purge gas flow records; (5) water seal monitoring records ;(6) records of inoperation of the flare monitoring systems. [District Rule 4311, sections 6.1.5, 6.1.6 and 6.1.7] Federally Enforceable Through Title V Permit
28. Records of the hourly, daily, quarterly and annual fuel consumption, in standard cubic feet, shall be kept. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
29. All records shall be maintained, retained on site for a minimum of five years and shall be made available to the District, ARB or EPA upon request. [District Rules 2201, 4102 and 4311, Section 6.1] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

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# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: N-4238-9-1

EXPIRATION DATE: 06/30/2017

SECTION: 13 TOWNSHIP: 4N RANGE: 6E

**EQUIPMENT DESCRIPTION:**

EMERGENCY GAS VENTING OPERATION SERVED BY A 5,000 MMBTU/HR FLARE WITH FOUR KALDAIR MODEL I-12-H-VS TIPS

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## PERMIT UNIT REQUIREMENTS

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
3. The concentration of sulfur compounds in the exhaust shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. [District Rule 4801] Federally Enforceable Through Title V Permit
4. The emergency flare (N-4238-9) and the maintenance flare (N-4238-8) shall not operate simultaneously. The flares shall be equipped with an interlock system that prevents simultaneous operation. [District Rule 4102] Federally Enforceable Through Title V Permit
5. The flare shall be operated only for maintenance, testing, required regulatory purposes, and during emergency situations. Operation of the flare for maintenance, testing, and required regulatory purposes shall not exceed 200 hours per year. [District Rule 2201] Federally Enforceable Through Title V Permit
6. The quantity of natural gas burned for testing and maintenance purposes shall not exceed 120,000 scf during any one hour. [District Rule 4102]
7. The quantity of natural gas burned shall not exceed 371,645 scf during any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The NOx emissions shall not exceed 0.14 lb/MMBtu of heat input. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The CO emissions shall not exceed 0.43 lb/MMBtu of heat input. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The VOC emissions shall not exceed 0.11 lb/MMBtu of heat input. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The SOx emissions shall not exceed 0.00285 lb/MMBtu of heat input. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The PM10 emissions shall not exceed 0.0075 lb/MMBtu of heat input. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The flare shall operate with smokeless combustion. [District Rule 2201] Federally Enforceable Through Title V Permit
14. A flame shall be present at all times that combustible gases are being vented through the flare. [District Rule 4311, Section 5.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

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15. A pilot flame shall be present at all times that combustible gases are being vented through the flare or the outlet shall be equipped with an automatic ignition system. [District Rule 4311, Section 5.3] Federally Enforceable Through Title V Permit
16. Except for flares equipped with a flow-sensing system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, capable of continuously detecting at least one pilot flame or the flare flame shall be installed and operated. [District Rule 4311, Section 5.4] Federally Enforceable Through Title V Permit
17. Flares that use flow-sensing automatic ignition systems and do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311, Section 5.5] Federally Enforceable Through Title V Permit
18. Inoperation of the flare monitoring equipment shall not exceed 14 days during any 18-consecutive-month period. During periods of inoperation of flow monitors, flow shall be calculated using good engineering practices. Periods of flare monitoring system inoperation do not include the periods when the system feeding the flare is not operating. [District Rule 4311, Section 6.9.1 and 6.9.2] Federally Enforceable Through Title V Permit
19. Periods of flare monitoring system inoperation of greater than 24 continuous hours shall be reported to the District by the following working day, followed by notification of resumption of monitoring. [District Rule 4311, 6.9.1] Federally Enforceable Through Title V Permit
20. The permittee shall report unplanned flaring events within 24 hours after the start of the next business day or within 24 hours of their discovery, whichever comes first. The notification shall include the flare source identification, the start date and time and the end date and time. [District Rule 4311, 6.2.1] Federally Enforceable Through Title V Permit
21. The permittee shall submit an Annual Monitoring Report in accordance with section 6.2.3 of Rule 4311. [District Rule 4311, 6.2.3] Federally Enforceable Through Title V Permit
22. All required monitoring and recording devices shall be maintained in accordance with the applicable manufacturer's specifications. [District Rule 4311, 6.9.3] Federally Enforceable Through Title V Permit
23. Vent gas composition monitoring shall be conducted by one of the methods specified in 6.6 of District Rule 4311 (Flares). [District Rule 4311, Section 6.6] Federally Enforceable Through Title V Permit
24. Volumetric flows of both the pilot gases and purge gases shall be monitored utilizing flow measuring devices or other methods approved by the District or they may be calculated based on pilot design and the parameters monitored. [District Rule 4311, Section 6.7] Federally Enforceable Through Title V Permit
25. The operator shall monitor and record the water level and pressure of the water seal each day that the flare operates. [District Rule 4311, Section 6.8] Federally Enforceable Through Title V Permit
26. The following records shall be kept: (1) for emergency operation, the duration of flare operation, amount of fuel burned and the nature of the emergency situation; (2) a copy of the annual reports that were submitted to the District; (3) vent gas composition records; (4) pilot and purge gas flow records; (5) water seal monitoring activities; (6) records of inoperation of the flare monitoring systems; . [District Rule 4311, sections 6.1.3, 6.1.5, 6.1.6 and 6.1.7] Federally Enforceable Through Title V Permit
27. Records of the hourly and daily fuel consumption, in standard cubic feet, shall be kept. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
28. All records shall be maintained, retained on site for a minimum of five years and shall be made available to the District, ARB or EPA upon request. [District Rules 2201, 4102 and 4311, Section 6.1] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

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**Appendix B  
Detailed Facility List**

**Detailed Facility Report**  
For Facility=4238  
Sorted by Facility Name and Permit Number

LODI GAS STORAGE LLC 23265 N STATE ROUTE 99 ACAMPO, CA 95220	FAC # STATUS: TELEPHONE:	N 4238 A	TYPE: TOXIC ID:	TitleV	EXPIRE ON: AREA: INSP. DATE:	06/30/2017 1/ 04/13
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PERMIT NUMBER	FEE DESCRIPTION	FEE RULE	QTY	FEE AMOUNT	FEE TOTAL	PERMIT STATUS	EQUIPMENT DESCRIPTION
N-4238-1-1	4,445 BHP NG-fired IC Engine	3020-10 F	1	749.00	749.00	A	4,445 BHP CATERPILLAR MODEL G3616 LEAN-BURN NATURAL GAS-FIRED IC ENGINE WITH SELECTIVE CATALYTIC REDUCTION AND 2-WAY OXIDATION CATALYST POWERING A COMPRESSOR
N-4238-2-1	4,445 BHP NG-fired IC Engine	3020-10 F	1	749.00	749.00	A	4,445 BHP CATERPILLAR MODEL G3616 LEAN-BURN NATURAL GAS-FIRED IC ENGINE WITH SELECTIVE CATALYTIC REDUCTION AND 2-WAY OXIDATION CATALYST POWERING A COMPRESSOR
N-4238-3-1	4,445 BHP NG-fired IC Engine	3020-10 F	1	749.00	749.00	A	4,445 BHP CATERPILLAR MODEL G3616 LEAN-BURN NATURAL GAS-FIRED IC ENGINE WITH SELECTIVE CATALYTIC REDUCTION AND 2-WAY OXIDATION CATALYST POWERING A COMPRESSOR
N-4238-4-1	4,445 BHP NG-fired IC Engine	3020-10 F	1	749.00	749.00	A	4,445 BHP CATERPILLAR MODEL G3616 LEAN-BURN NATURAL GAS-FIRED IC ENGINE WITH SELECTIVE CATALYTIC REDUCTION AND 2-WAY OXIDATION CATALYST POWERING A COMPRESSOR
N-4238-5-1	10 MMBtu/hr Thermal Oxidizer	3020-02 G	1	815.00	815.00	A	NATURAL GAS DEHYDRATION OPERATION SERVED BY A 4.1 MMBTU/HR PERTREX GLYCOL REBOILER (PERMIT EXEMPT), 3-PHASE SEPARATOR SYSTEM, AND A 10.0 MMBTU/HR FIRECAT MODEL #2.10.12 THERMAL OXIDIZER SHARED WITH PERMIT UNIT N-4238-6
N-4238-6-1	10 MMBtu/hr Thermal Oxidizer	3020-02 G	1	815.00	815.00	A	NATURAL GAS DEHYDRATION OPERATION SERVED BY A 4.1 MMBTU/HR PERTREX GLYCOL REBOILER (PERMIT EXEMPT), 3-PHASE SEPARATOR SYSTEM, AND A 10.0 MMBTU/HR FIRECAT MODEL #2.10.12 THERMAL OXIDIZER SHARED WITH PERMIT UNIT N-4238-5
N-4238-7-1	1,508 BHP NG-fired Emergency Standby ICE	3020-10 F	1	749.00	749.00	A	1,508 BHP WAUKESHA MODEL VHP7100GSI RICH-BURN NATURAL GAS-FIRED EMERGENCY STANDBY IC ENGINE WITH 3-WAY CATALYTIC REDUCTION POWERING AN ELECTRICAL GENERATOR
N-4238-8-0	1,250 MMBtu/hr Flare	3020-02 H	1	1,030.00	1,030.00	A	REPAIR AND MAINTENANCE NATURAL GAS VENTING OPERATIONS SERVED BY A 1,250 MMBTU/HR FLARE WITH ONE KALDAIR MODEL I-12-H-VS TIP
N-4238-9-0	5,000 MMBtu/hr Flare	3020-02 H	1	1,030.00	1,030.00	A	EMERGENCY GAS VENTING OPERATION SERVED BY A 5,000 MMBTU/HR FLARE WITH FOUR KALDAIR MODEL I-12-H-VS TIPS

Number of Facilities Reported: 1



## Appendix C CAM Applicability Calculations

The facility is a Major Source for each NOx and VOC, therefore, to determine whether CAM is required, it is necessary to calculate the uncontrolled NOx and VOC emissions from each unit that relies on a control device to comply with a NOx or VOC limit.

**N-4238-1, N-4238-2, N-4238-3 and N-4328-4  
(4,445 bhp natural gas fired IC engines)**

The engines are identical, therefore, the following calculations apply to all of the units. The emission factors are from the original application package for the engines (project number N-990876). The VOC factor is for NMNEHC (non-methane-non-ethane hydrocarbons). Since neither methane or ethane is a VOC as defined in Rule 1020, this factor applies.

EF <sub>NOx</sub> (Uncontrolled):	0.5 g/bhp-hr
EF <sub>VOC</sub> (Uncontrolled):	0.50 g/bhp-hr
BSFC:	6,755 Btu/bhp-hr
Fuel Limit (Combined):	424,264 MMBtu/yr

$$(424,264 \times 10^6 \text{ Btu/yr}) / [(4,445 \text{ bhp})(6755 \text{ Btu/bhp-hr})] = 14,130 \text{ hr/yr}$$

As can be seen, any one of the engines could operate for an entire year (8,760 hr). Therefore, the uncontrolled emission calculations will assume that any of the units could operate for an entire year.

$$\text{PE}_{\text{NOx}} (\text{uncontrolled}) = (4,445 \text{ bhp})(0.5 \text{ g/bhp-hr})(\text{lb}/453.6 \text{ g}) \\ \times (8,760 \text{ hr/yr}) = 42,921 \text{ lb/yr}$$

$$\text{PE}_{\text{VOC}} (\text{uncontrolled}) = (4,445 \text{ bhp})(0.5 \text{ g/bhp-hr})(\text{lb}/453.6 \text{ g}) \\ \times (8,760 \text{ hr/yr}) = 42,921 \text{ lb/yr}$$

The Major Source threshold for each NOx and VOC is 20,000 lb/yr, therefore, the uncontrolled potential emissions of each NOx and VOC from each engine is in excess of its respective Major Source threshold and CAM is required for NOx and VOC.

**N-4238-5-2 and N-4238-6-2**

**(4.1 MMBtu/hr glycol reboilers served by a thermal oxidizer)**

The units are identical, therefore, the following calculations apply to both units. The control equipment consists solely of a thermal oxidizer. Such a unit will control only VOC, therefore, CAM applicability calculations are necessary only for VOC.

EF<sub>VOC</sub> (Controlled): 0.0031 lb/MMScf of gas treated (current PTO)  
Throughput Limit: 500 MMScf/day  
Annual Operating Limit: None  
VOC Control: 95% (current PTO)

$$EF_{\text{VOC}} (\text{Uncontrolled}) = (0.0031 \text{ lb/MMScf}) / (1-0.95) = 0.062 \text{ lb/MMScf}$$

$$PE_{\text{VOC}} (\text{Uncontrolled}) = (500 \text{ MMScf/day})(0.062 \text{ lb/MMScf}) \\ \times (365 \text{ days/yr}) = 11,315 \text{ lb/yr}$$

The uncontrolled VOC emissions from each unit are less than the Major Source threshold of 20,000 lb/yr, therefore, CAM is not required.

**N-4238-7-2**

**(1,508 bhp natural gas fired emergency IC engine)**

The unit is equipped with a 3-way catalyst that will control both NO<sub>x</sub> and VOC to the levels required to meet the permitted emission levels. The emission factors are from the original application package (project number N-990876).

EF<sub>NO<sub>x</sub></sub> (Uncontrolled): 10 g/bhp-hr  
EF<sub>VOC</sub> (Uncontrolled): 0.25 g/bhp-hr  
Operating Limit: 100 hr/yr

$$PE_{\text{NO}_x} (\text{uncontrolled}) = (1,508 \text{ bhp})(10 \text{ g/bhp-hr})(\text{lb}/453.6 \text{ g}) \\ \times (100 \text{ hr/yr}) = 3,325 \text{ lb/yr}$$

$$PE_{\text{VOC}} (\text{uncontrolled}) = (1,508 \text{ bhp})(0.25 \text{ g/bhp-hr})(\text{lb}/453.6 \text{ g}) \\ \times (100 \text{ hr/yr}) = 83 \text{ lb/yr}$$

The uncontrolled NO<sub>x</sub> and VOC emissions are less than the Major Source thresholds of 20,000 lb/yr (each), therefore, CAM is not required.

**N-4238-8-1 and N-4238-9-1:  
(Maintenance and Emergency Flare)**

Neither unit relies on an emission control device to comply with an emission limit. Therefore, CAM is not required for either unit.

**Appendix D**  
**Major HAP Source Determination**

**Major Air Toxics Source Determination:**

To determine whether the facility is a Major Air Toxics Source, the facility-wide hazardous air pollutant (HAP) emissions will be compared to the Major Air Toxics Source thresholds. Those thresholds are 10 tons/yr of any single HAP or combined HAP emissions of 25 tons/yr. To determine the facility-wide potential to emit of HAPS, the fuel usage limits will be applied to the appropriate emission factor. The emission factors are from the California Air Toxics Emission Factors (CATEF) database.

**Natural Gas Fired IC Engines N-4238-1-2, N-4238-2-2, N-4238-3-2, N-4238-4-2 and N-4238-7-2):**

The permits for units N-4238-1-2, N-4238-2-2, N-4238-3-2 and N-4238-4-2 include a combined natural gas usage limit of 424,264 MMBtu/yr. Assuming a natural gas heat content of 1,000 Btu/scf, the potential fuel usage is:

$$(424,264 \text{ MMBtu/yr})(\text{ft}^3/1,000 \text{ Btu}) = 424.3 \text{ MMScf/yr}$$

The permit for unit N-4238-7-2 limits its operation to 100 hr/yr and per the original application, the fuel burning capacity of this unit is 13,911,000 Btu/hr. Assuming a natural gas heat content of 1,000 Btu/scf, the potential fuel usage is:

$$(13,911,000 \text{ Btu/hr})(100 \text{ hr/yr})(\text{ft}^3/1,000 \text{ Btu}) = 1.4 \text{ MMScf/yr}$$

New Title V Permit Number	Maximum Fuel Usage (MMScf/yr)
N-4238-1-2	424.3
N-4238-2-2	
N-4238-3-2	
N-4238-4-2	
N-4238-7-2	1.4
Total	425.7

HAP Emissions (IC Engines)		
Compound	Emission Factor (lb/MMScf)	Potential to Emit (lb/yr)
Acenaphthene	0.000217	0.0924
Acenaphthylene	0.000735	0.313
Acetaldehyde	2.62	1,115
Acrolein	0.161	68.5
Anthracene	0.000171	0.073
Benzene	0.259	110.3
Benzo(a)anthracene	0.0000992	0.042
Benzo(a)pyrene	0.000003880	0.002
Benzo(b)fluoranthene	0.0000798	0.034
Benzo(g,h,i)perylene	0.0000171	0.0073
Benzo(k) fluoranthene	0.0000121	0.0052
1,3 Butadiene	0.415	176.7
Chrysene	0.0000225	0.0096
Dibenz(a,h)anthracene	0.00000388	0.0017
Ethylbenzene	0.115	49.0
Fluoranthene	0.000475	0.202
Fluorene	0.000798	0.340
Formaldehyde	20.9	8,897
Indeno(1,2,3cd)pyrene	0.0000109	0.0046
Napthalene	0.0310	13.2
Phenanthrene	0.00275	1.17
Propylene	12.1	5,151
Pyrene	0.000326	0.139
Toluene	0.394	167.7
Xylene (total)	0.965	411
Total	---	16,162

**Natural Gas Fired Reboilers (N-4238-5-2 and N-4238-6-2):**

Each dehydration unit includes a permit exempt burner and they share a 10.0 MMBtu/hr natural gas fired thermal oxidizer. Since the burners are permit exempt, only the thermal oxidizer will be included in the HAP emission calculations.

$$(10.0 \text{ MMBtu/hr})(8,760 \text{ hr/yr})(\text{scf}/1,000 \text{ Btu}) = 87.6 \text{ MMScf/yr}$$

New Title V Permit Number	Maximum Fuel Usage (MMScf/yr)
N-4238-5-2	87.6
N-4238-6-2	
Total	87.6

HAP Emissions (Natural Gas Fired Reboilers)		
Compound	Emission Factor (lb/MMScf)	Potential to Emit (lb/yr)
Benzene	0.283	24.8
Ethylbenzene	0.00915	0.802
Formaldehyde	0.0000490	0.00429
Hydrogen Sulfide	0.115	10.1
Toluene	0.192	16.8
Xylene (m)	0.0231	2.02
Xylene (o)	0.00858	0.752
Xylene (p)	0.00781	0.684
Total	---	56.0



**Natural Gas Fired Flares (N-4238-8-1 and N-4238-9-1):**

The fuel usage limit for unit N-4238-8-1 is 624,175 scf/quarter.

Maximum Fuel Use = (624,175 scf/qtr)(4 qtr/yr) = 2.5 MMScf/yr

The fuel usage limit for unit N-4238-9-1 is 371,645 scf/day.

Maximum Fuel Use = (371,645 scf/day)(365 days/yr) = 135.7 MMScf/yr

New Title V Permit Number	Maximum Fuel Usage (MMScf/yr)
N-4238-8-1	2.5
N-4238-9-1	135.7
Total	138.2

A search for a listing of HAP emissions from natural gas fired flares was conducted and no source of emission factors was located. In the absence of HAP emission factors for natural gas fired flares, the factors for natural gas fired boilers will be utilized. The following are from the CATEF database:

HAP Emissions (Natural Gas Fired Flares)		
Compound	Emission Factor (lb/MMScf)	Potential to Emit (lb/yr)
Acetaldehyde	0.0148	2.05
Benzaldehyde	0.0272	3.76
Benzene	0.00870	1.20
Formaldehyde	0.672	92.9
Total	--	99.9

## Summary of HAP Emissions

Pollutant	Natural gas fired IC Engines (lb/yr)	Dehydrators (lb/yr)	Flares (lb/yr)	Total (each HAP)
Acenaphthene	0.0924	---	---	0.0924
Acenaphthylene	0.313	---	---	0.313
Acataldehyde	1,115	---	2.05	1,117.1
Acrolein	68.5	---	---	68.5
Anthracene	0.073	---	---	0.073
Benzene	110.3	24.8	1.20	136.3
Benzaldehyde	---	---	3.76	3.76
Benzo(a)anthracene	0.042	---	---	0.042
Benzo(a)pyrene	0.002	---	---	0.002
Benzo(b)fluoranthene	0.034	---	---	0.034
Benzo(g,h,i)perylene	0.0073	---	---	0.0073
Benzo(k) fluoranthene	0.0052	---	---	0.0052
1,3 Butadiene	176.7	---	---	176.7
Chrysene	0.0096	---	---	0.0096
Dibenz(a,h)anthracene	0.0017	---	---	0.0017
Ethylbenzene	49.0	0.802	---	49.8
Fluoranthene	0.202	---	---	0.202
Fluorene	0.340	---	---	0.340
Formaldehyde	8,897	0.00429	92.9	8,990
Hydrogen Sulfide	---	10.1	---	10.1
Indeno(1,2,3cd)pyrene	0.0046	---	---	0.0046
Napthalene	13.2	---	---	13.2
Phenanthrene	1.17	---	---	1.17
Propylene	5,151	---	---	5,151
Pyrene	0.139	---	---	0.139
Toluene	167.7	16.8	---	184.5
Xylene (total)	411	3.46	---	414.5
<b>Total (all HAPs combined)</b>				<b>16,317.9</b>

As can be seen, the combined potential HAP emissions from the permitted equipment at the facility are less than 25 tons per year and the potential to emit of each single HAP is less than 10 tons per year. Therefore, the facility is not a major source of HAP emissions.