



MAY 07 2014

Ms. Diana Williams  
Pacific Gas & Electric Company  
PO Box 7640  
San Francisco, CA 94120

**Re: Notice of Preliminary Decision – ATC / Certificate of Conformity  
District Facility # N-608  
Project # N-1140284**

Dear Ms. Williams:

Enclosed for your review is the District's analysis of an application for Authorities to Construct for the facility identified above. You requested that Certificates of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The modification is to replace the thermal oxidizer serving the glycol reboilers at the Turner Cut Station.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authorities to Construct with Certificates of Conformity. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice. Prior to operating with modifications authorized by the Authorities to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Rupj Gill, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,

Arnaud Marjollet  
Director of Permit Services

Enclosures

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

**Seyed Sadredin**  
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# Authority to Construct Application Review

Facility Name: Pacific Gas & Electric Company  
Mailing Address: PO Box 7640  
San Francisco, CA 94120

Date: April 26, 2014

Contact Person: Diana Williams (Facility Contact)  
Telephone: (925) 270-8209

Contact Person: Randy Frazier (Authorized Agent)  
Telephone: (925) 413-1818

Engineer: Mark Schonhoff  
Application #: N-608-7-5

N-608-24-4

Project #: N-1140284

Deemed Complete: April 10, 2014

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## I. Proposal

Pacific Gas and Electric Company is proposing to receive Authority to Construct Permits (ATCs) authorizing the replacement of the currently permitted 6.75 MMBtu/hr thermal oxidizer, that is shared by permit units N-608-7 and N-608-24, with an 11.23 MMBtu/hr thermal oxidizer. The replacement thermal oxidizer will also be shared by units N-608-7 and N-608-24.

The facility is operating under a Title V permit and proposed to receive the ATCs with Certificates of Conformity (COC). Therefore, the required 45 day EPA notice will be conducted prior to the issuance of the ATCs. The notice will run concurrently with the required Rule 2201 public notice (Federal Major Modification).

## II. Applicable Rules

2201 New and Modified Stationary Source Review Rule (4/21/11)

2410 Prevention of Significant Deterioration (6/16/11)

2520 Federally Mandated Operating Permits (6/21/01)

4101 Visible Emissions (2/17/05)

4102 Nuisance (12/17/92)

4201 Particulate Matter Concentration (12/17/92)

4408 Glycol Dehydration Systems (12/19/02)

4801 Sulfur Compounds (12/17/92)

Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)

California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387:

CEQA Guidelines

CH&SC 41700

CH&SC 42301.6

### III. Project Location

McDonald Island  
Holt, CA

The equipment is not located within 1,000 feet of a K-12 school.

### IV. Process Description

Natural gas is received from a pipeline and stored in underground geologic formations until it is withdrawn and placed back into the pipeline. While in storage, the natural gas accumulates water that must be removed prior to returning it to the pipeline. The necessary water removal is performed with the dehydration systems that are being modified at this time.

The process starts by routing the natural gas from storage to filter-separators that remove liquid water droplets and solid particles. At this point the gas still contains water. The gas is then routed to the contact towers, where it is dehydrated with triethylene glycol (TEG). The gas stream enters the bottom of each tower, and flows counter-current to the TEG that flows downward after being pumped into the top of the tower. The TEG absorbs the water and produces dry, pipeline-quality gas that exits from the top of each contact tower. The water rich TEG (rich TEG) is then routed through a 3-phase separator, where the dissolved gas, the hydrocarbon condensate and the TEG are separated. The dissolved gasses flash into the vapor phase, while the hydrocarbon liquid is piped to a production fluids tank and periodically transported offsite for disposal. The rich TEG is then routed to the reboiler where it is heated to 375 to 400 degrees F in order to boil off the absorbed water and flash off any remaining dissolved gasses. The reconcentrated or "lean" TEG is then cooled and returned to the contactor towers. The water vapor and dissolved gasses will be routed through the thermal oxidizer that is expected to provide at least 97.5% VOC control.

### V. Equipment Listing

#### Premodification Equipment Listing:

#### **N-608-7-4:**

NATURAL GAS DEHYDRATION SYSTEM (TURNER CUT STATION) AND ODORIZING SYSTEM (SHARED WITH N-608-24) INCLUDING TWO CONTACTOR TOWERS AND A 3-PHASE GAS SEPARATOR SERVED BY A 6.75 MMBTU/HR THERMAL OXIDIZER (SHARED WITH N-608-24) AND A PERMIT EXEMPT < 5 MMBTU/HR REBOILER (#1).

**N-608-24-3:**

NATURAL GAS DEHYDRATION SYSTEM (TURNER CUT STATION) AND ODORIZING SYSTEM (SHARED WITH N-608-7) INCLUDING TWO CONTACTOR TOWERS AND A 3-PHASE GAS SEPARATOR SERVED BY A 6.75 MMBTU/HR THERMAL OXIDIZER (SHARED WITH N-608-7) AND A PERMIT EXEMPT < 5 MMBTU/HR REBOILER (#2)

**Post modification Equipment Listing:**

**N-608-7-5:**

NATURAL GAS DEHYDRATION SYSTEM (TURNER CUT STATION) AND ODORIZING SYSTEM (SHARED WITH N-608-24) INCLUDING TWO CONTACTOR TOWERS AND A 3-PHASE GAS SEPARATOR SERVED BY AN 11.23 MMBTU/HR THERMAL OXIDIZER (SHARED WITH N-608-24) AND A PERMIT EXEMPT < 5 MMBTU/HR REBOILER (#1).

**N-608-24-4:**

NATURAL GAS DEHYDRATION SYSTEM (TURNER CUT STATION) AND ODORIZING SYSTEM (SHARED WITH N-608-7) INCLUDING TWO CONTACTOR TOWERS AND A 3-PHASE GAS SEPARATOR SERVED BY AN 11.23 MMBTU/HR THERMAL OXIDIZER (SHARED WITH N-608-7) AND A PERMIT EXEMPT < 5 MMBTU/HR REBOILER (#2)

**VI. Emission Control Technology Evaluation**

VOC emissions from the natural gas dehydration system will be controlled by the new thermal oxidizer that will provide at least 97.5% VOC control.

**VII. General Calculations**

**A. Assumptions**

Assumptions will be stated as they are made.

## B. Emission Factors

The equipment consists of glycol reboilers with permit exempt natural gas fired burners and a shared thermal oxidizer. The emission factors below represent the thermal oxidizer emission point, which will be the point of emissions for all of the permitted equipment. The premodification emission factors are from the current Permits-to-Operate and postmodification emission factors, except SOx, were proposed by the applicant. The SOx emission factor is from District Policy APR-1720.

Pollutant	Emission Factors	
	Premodification	Postmodification
NOx	0.1 lb/MMBtu	0.1 lb/MMBtu
CO	0.084 lb/MMBtu	0.084 lb/MMBtu
VOC	1.95 lb/hr	1.95 lb/hr
SOx	0.00285 lb/MMBtu	0.00285 lb/MMBtu
PM10	0.0076 lb/MMBtu	0.0076 lb/MMBtu

### Greenhouse Gasses:

The following emission factors are from District policy APR-2015.

CO <sub>2</sub> :	53.06 kg/MMBtu
CH <sub>4</sub> : (0.005)(24) kg/MMBtu:	0.12 kg/MMBtu
N <sub>2</sub> O: (0.001)(296)kg/MMBtu:	0.30 kg/MMBtu
Total	53.48 kg/MMBtu

## C. Potential to Emit (PE)

There are three possible operating scenarios:

- Unit N-608-7 operates while unit N-608-24 does not.
- Unit N-608-24 operates while unit N-608-7 does not.
- Units N-608-7 and N-608-24 operate simultaneously.

Regardless of the operating scenario, the permitted potential to emit will be the same, therefore, the following calculations represent the potential to emit from any of the three possible scenarios.

## 1. Potential to Emit

### Premodification Potential to Emit:

Oxidizer Rating: 6.75 MMBtu/hr

$$PE_{NOx} = (6.75 \text{ MMBtu/hr})(0.1 \text{ lb/MMBtu})(24 \text{ hr/day}) = 16.2 \text{ lb/day}$$

$$PE_{NOx} = (6.75 \text{ MMBtu/hr})(0.1 \text{ lb/MMBtu})(8,760 \text{ hr/yr}) = 5,913 \text{ lb/yr}$$

$$PE_{CO} = (6.75 \text{ MMBtu/hr})(0.084 \text{ lb/MMBtu})(24 \text{ hr/day}) = 13.6 \text{ lb/day}$$

$$PE_{CO} = (6.75 \text{ MMBtu/hr})(0.084 \text{ lb/MMBtu})(8,760 \text{ hr/yr}) = 4,967 \text{ lb/yr}$$

$$PE_{VOC} = (1.95 \text{ lb/hr})(24 \text{ hr/day}) = 46.8 \text{ lb/day}$$

$$PE_{VOC} = (1.95 \text{ lb/hr})(8,760 \text{ hr/yr}) = 17,082 \text{ lb/yr}$$

$$PE_{SOx} = (6.75 \text{ MMBtu/hr})(0.00285 \text{ lb/MMBtu})(24 \text{ hr/day}) = 0.5 \text{ lb/day}$$

$$PE_{SOx} = (6.75 \text{ MMBtu/hr})(0.00285 \text{ lb/MMBtu})(8,760 \text{ hr/yr}) = 169 \text{ lb/yr}$$

$$PE_{PM10} = (6.75 \text{ MMBtu/hr})(0.0076 \text{ lb/MMBtu})(24 \text{ hr/day}) = 1.2 \text{ lb/day}$$

$$PE_{PM10} = (6.75 \text{ MMBtu/hr})(0.0076 \text{ lb/MMBtu})(8,760 \text{ hr/yr}) = 449 \text{ lb/yr}$$

### Postmodification Potential to Emit:

Oxidizer Rating: 11.23 MMBtu/hr

$$PE_{NOx} = (11.23 \text{ MMBtu/hr})(0.1 \text{ lb/MMBtu})(24 \text{ hr/day}) = 27.0 \text{ lb/day}$$

$$PE_{NOx} = (11.23 \text{ MMBtu/hr})(0.1 \text{ lb/MMBtu})(8,760 \text{ hr/yr}) = 9,837 \text{ lb/yr}$$

$$PE_{CO} = (11.23 \text{ MMBtu/hr})(0.084 \text{ lb/MMBtu})(24 \text{ hr/day}) = 22.6 \text{ lb/day}$$

$$PE_{CO} = (11.23 \text{ MMBtu/hr})(0.084 \text{ lb/MMBtu})(8,760 \text{ hr/yr}) = 8,263 \text{ lb/yr}$$

$$PE_{VOC} = (1.95 \text{ lb/hr})(24 \text{ hr/day}) = 46.8 \text{ lb/day}$$

$$PE_{VOC} = (1.95 \text{ lb/hr})(8,760 \text{ hr/yr}) = 17,082 \text{ lb/yr}$$

$$PE_{SOx} = (11.23 \text{ MMBtu/hr})(0.00285 \text{ lb/MMBtu})(24 \text{ hr/day}) = 0.8 \text{ lb/day}$$

$$PE_{SOx} = (11.23 \text{ MMBtu/hr})(0.00285 \text{ lb/MMBtu})(8,760 \text{ hr/yr}) = 280 \text{ lb/yr}$$

$$PE_{PM10} = (11.23 \text{ MMBtu/hr})(0.0076 \text{ lb/MMBtu})(24 \text{ hr/day}) = 2.0 \text{ lb/day}$$

$$PE_{PM10} = (11.23 \text{ MMBtu/hr})(0.0076 \text{ lb/MMBtu})(8,760 \text{ hr/yr}) = 748 \text{ lb/yr}$$

## D. Increase in Permitted Emissions (IPE)

### 1. Quarterly IPE

$$PE_{NOx} = 9,837 \text{ lb/yr} - 5,913 \text{ lb/yr} = 3,924 \text{ lb/yr}$$

$$PE_{CO} = 8,263 \text{ lb/yr} - 4,967 \text{ lb/yr} = 3,296 \text{ lb/yr}$$

$$PE_{VOC} = 17,082 \text{ lb/yr} - 17,082 \text{ lb/yr} = 0 \text{ lb/yr}$$

$$PE_{SOx} = 280 \text{ lb/yr} - 169 \text{ lb/yr} = 111 \text{ lb/yr}$$

$$PE_{PM10} = 748 \text{ lb/yr} - 449 \text{ lb/yr} = 299 \text{ lb/yr}$$

The emission increases will be divided between the two units as shown on the emission profile tables below.

#### N-608-7-5:

The emission profile for this ATC will include the following:

	NOx (lb)	SOx (lb)	PM10 (lb)	CO (lb)	VOC (lb)
Annual PE	9,837	280	748	8,263	17,082
Daily PE	27.0	0.8	2.0	22.6	46.8
Δ PE (Qtr 1)	490	13	37	412	0
Δ PE (Qtr 2)	490	13	37	412	0
Δ PE (Qtr 3)	491	14	37	412	0
Δ PE (Qtr 4)	491	15	38	412	0

#### N-608-24-4:

The emission profile for this ATC will include the following:

	NOx (lb)	SOx (lb)	PM10 (lb)	CO (lb)	VOC (lb)
Annual PE	9,837	280	748	8,263	17,082
Daily PE	27.0	0.8	2.0	22.6	46.8
Δ PE (Qtr 1)	490	13	37	412	0
Δ PE (Qtr 2)	490	14	37	412	0
Δ PE (Qtr 3)	491	14	38	412	0
Δ PE (Qtr 4)	491	15	38	412	0

## 2. Adjusted Increase in Permitted Emissions (AIPE)

AIPE is used to determine whether or not Best Available Control Technology (BACT) is required for modified emission units. Each permit unit consists of two separate units, a reboiler with a permit exempt burner and a shared thermal oxidizer. In this case, the reboilers are considered to be the emission units and the thermal oxidizer is considered to be an emission control device. Since BACT can be required for only emission units, AIPE calculations are necessary only the non-permit-exempt portion of the reboilers. Since the burners are permit exempt, AIPE calculations are required only for the VOC emissions from the reboilers.

$$\text{AIPE} = \text{PE}_2 - \text{HAPE}$$

Where: PE<sub>2</sub> is the post project PE, in lb/day  
HAPE is the Historically Adjusted Potential to Emit, in lb/day.

Where:  $\text{HAPE} = \text{PE}_1(\text{EF}_2/\text{EF}_1)$

Where: PE<sub>1</sub> is the pre-project PE, in lb/day  
EF<sub>1</sub> is the pre-project emission factor  
EF<sub>2</sub> is the post-project emission factor

Note: If EF<sub>2</sub> is greater than EF<sub>1</sub>, then EF<sub>2</sub>/EF<sub>1</sub> is set to 1

PE<sub>1</sub><sub>voc</sub> (reboilers): 46.8 lb/day

PE<sub>2</sub><sub>voc</sub> (reboilers): 46.8 lb/day

EF<sub>1</sub><sub>voc</sub>: 1.95 lb/hr

EF<sub>2</sub><sub>voc</sub>: 1.95 lb/hr

$$\text{AIPE}_{\text{voc}} = 46.8 \text{ lb/day} - 46.8 \text{ lb/day}(1.95/1.95) = 0.0 \text{ lb/day}$$



## E. Facility Emissions

### 1. Pre Project Stationary Source Potential to Emit (SSPE1)

The contributions are from the Application Review document for Project Number N-1120252.

Permit Number	SSPE1 (lb/yr)				
	NOx	CO	VOC	SOx	PM10
N-608-1-5	2,315	95	147	1	9
N-608-2-5	2,315	95	147	1	9
N-608-3-5	2,315	95	147	1	9
N-608-4-5	2,315	95	147	1	9
N-608-7-4	5,913	4,967	17,082	169	449
N-608-24-3					
N-608-8-3	0	0	479	0	0
N-608-13-5	830	178	67	0	59
N-608-14-5	830	178	67	0	59
N-608-15-2	297	489	4	0	3
N-608-16-3	0	0	1	0	0
N-608-17-3	0	0	1	0	0
N-608-18-3	19,643	65,476	19,643	44	2,183
N-608-19-3	19,643	65,476	19,643	44	2,183
N-608-20-3	15,060	50,198	15,060	33	1,673
N-608-21-3	15,060	50,198	15,060	33	1,673
N-608-25-5	10,021	8,418	17,082	286	762
N-608-26-5					
N-608-27-1	1,711	11,611	2,958	269	489
N-608-28-1	1,711	11,611	2,958	269	489
N-608-29-1	1,711	11,611	2,958	269	489
N-608-30-1	0	0	160	0	0
N-608-31-1	0	0	160	0	0
PE without ERC	101,690	280,791	113,971	1,420	10,547
ERC N-126-3	0	60,300	0	0	0
ERC N-868-1	0	0	12,402	0	0
ERC N-1076-2	1,152	0	0	0	0
SSPE1	102,842	341,091	126,373	1,420	10,547

## 2. Post Project Stationary Source Potential to Emit (SSPE2)

Permit Number	SSPE2 (lb/yr)				
	NOx	CO	VOC	SOx	PM10
N-608-1-5	2,315	95	147	1	9
N-608-2-5	2,315	95	147	1	9
N-608-3-5	2,315	95	147	1	9
N-608-4-5	2,315	95	147	1	9
N-608-7-5	9,837	8,263	17,082	280	748
N-608-24-4					
N-608-8-3	0	0	479	0	0
N-608-13-5	830	178	67	0	59
N-608-14-5	830	178	67	0	59
N-608-15-2	297	489	4	0	3
N-608-16-3	0	0	1	0	0
N-608-17-3	0	0	1	0	0
N-608-18-3	19,643	65,476	19,643	44	2,183
N-608-19-3	19,643	65,476	19,643	44	2,183
N-608-20-3	15,060	50,198	15,060	33	1,673
N-608-21-3	15,060	50,198	15,060	33	1,673
N-608-25-5	10,021	8,418	17,082	286	762
N-608-26-5					
N-608-27-1	1,711	11,611	2,958	269	489
N-608-28-1	1,711	11,611	2,958	269	489
N-608-29-1	1,711	11,611	2,958	269	489
N-608-30-1	0	0	160	0	0
N-608-31-1	0	0	160	0	0
PE without ERC	105,614	284,087	113,971	1,531	10,846
ERC N-126-3	0	60,300	0	0	0
ERC N-868-1	0	0	12,402	0	0
ERC N-1076-2	0	0	0	0	0
SSPE2	105,614	344,387	126,373	1,531	10,846

Note: Emission Reduction Certificate N-1076-2 is being used in its entirety. Therefore, its postmodification value will be zero.

### 3. Stationary Source Increase in Permitted Emissions (SSIPE)

$$\text{SSIPE} = \text{SSPE2} - \text{SSPE1}$$

The SSPE1 and SSPE2 balances are from sections VII.E.1 and VII.E.2 of this document.

	SSPE2 (lb/yr)	SSPE1 (lb/yr)	SSIPE (lb/yr)
NOx	105,614	102,842	2,772
CO	344,387	341,091	3,296
VOC	126,373	126,373	0
SOx	1,531	1,420	111
PM10	10,846	10,547	299

### 4. Baseline Emissions

The reboilers operate under a Specific Limiting Condition (SLC) for VOC and are both served by a shared thermal oxidizer. The oxidizer has been shown to provide at least 95% VOC control, therefore both units are Clean Emission Units as defined in section 3.13 of Rule 2201. Per section 3.8.1.4 of Rule 2201, the Baseline Emissions for Clean Emission Units are equal to the pre-modification potential to emit. Therefore, the Baseline Emissions are:

NOx (lb/yr)	CO (lb/yr)	VOC (lb/yr)	SOx (lb/yr)	PM10 (lb/yr)
5,913	4,967	17,082	169	449

### F. Major Source Determination

#### Rule 2201 Major Source Determination:

The Major Source thresholds, the facility potentials to emit and whether or not the facility is a Major Source are presented on the following table. The Major Source thresholds are from Section 3.24. The potentials to emit are from Section VII.E.2 of this document.

Pollutant	Threshold (lb/yr)	Facility PE (lb/yr)	Major Source
NOx	20,000	105,614	Yes
CO	200,000	284,087	Yes
VOC	20,000	113,971	Yes
SOx	140,000	1,531	No
PM10	140,000	10,846	No

**Rule 2410 Major Source Determination (Currently Permitted Configuration):**

**Greenhouse Gas Emissions:**

**N-608-1-5, N-608-2-5, N-608-3-5, N-608-4-5, N-608-15-2, N-608-18-3, N-608-19-3, N-608-20-3, N-608-21-3, N-608-27-1, N-608-28-1 and N-608-29-1 (Natural Gas Fired Engines):**

The sources of the fuel usages are:

N-608-1-5 through N-608-4-5:           Calculated below  
 N-608-15-2:                               Application for project N-960648  
 N-608-18-3 through N-608-21-3:    Application for project N-970763  
 N-608-27-1 through N-608-29-1:    Application for project N-1060086

Permit Unit	Fuel Use (scf/hr)	Hour Limit	Annual Fuel Usage (MMScf)
N-608-1-5	See Below		0.454
N-608-2-5			0.454
N-608-3-5			0.454
N-608-4-5			0.454
N-608-15-2	1,833	82	0.150
N-608-18-3	9,998	6,600	66.0
N-608-19-3	9,998	6,600	66.0
N-608-20-3	7,774	6,600	51.3
N-608-21-3	7,774	6,600	51.3
N-608-27-1	14,488	6,600	95.6
N-608-28-1	14,488	6,600	95.6
N-608-29-1	14,488	6,600	95.6
<b>Total</b>			<b>523.4</b>

The fuel use ratings of these units are not known, therefore, they will be calculated.

Rating:                                       625 bhp  
 BHP to Btu/hr conversion:       2,542.5 Btu/bhp-hr (GEAR 11NG)  
 Thermal Efficiency of Engines: 35% (GEAR 11NG)  
 Hour Limit:                               100 hr (same for each) – Current Permits to Operate  
 Natural gas heat content:       1,000 Btu/scf  
 EF<sub>GHG</sub>:                                   53.48 kg/MMBtu (Section VII.B of this document)

$$\text{Fuel Use} = (625 \text{ bhp})(2,542.5 \text{ Btu/bhp-hr})(100 \text{ hr/yr})(\text{scf}/1,000 \text{ Btu})/(0.35) = 0.454 \text{ MMScf/yr}$$

$$\text{PE}_{\text{GHG}} = (523.4 \times 10^6 \text{ scf/yr})(1,000 \text{ Btu/scf})(53.48 \text{ kg}/10^6 \text{ Btu})(\text{lb}/0.4536 \text{ kg}) \times (\text{ton}/2000 \text{ lb}) = 30,854.8 \text{ tons/yr}$$

**N-608-7-4 and N-608-24-3 (Natural Gas Fired Dehydration Units):**

Current Combined Rating: 6.75 MMBtu/hr  
Natural Gas Heat Content: 1,000 Btu/scf  
Operating Limit: None – assume 8,760 hr/yr  
EF<sub>GHG</sub>: 53.48 kg/MMBtu (Section VII.B of this document)

Combined Fuel Use = (6.75 MMBtu/hr)(8,760 hr/yr)(scf/1,000 Btu) = 59.1 MMScf/yr

PE<sub>GHG</sub> = (59.1 x 10<sup>6</sup> scf/yr)(1,000 Btu/scf)(53.48 kg/10<sup>6</sup> Btu)(lb/0.4536 kg)  
X (ton/2000 lb)] = 3,484.0 tons/yr

**N-608-25-5 and N-608-26-5 (Natural Gas Fired Dehydration Units):**

Combined Rating: 11.44 MMBtu/hr  
Natural Gas Heat Content: 1,000 Btu/scf  
Operating Limit: None – assume 8,760 hr/yr  
EF<sub>GHG</sub>: 53.48 kg/MMBtu (Section VII.B of this document)

Combined Fuel Use = (11.44 MMBtu/hr)(8,760 hr/yr)(scf/1,000 Btu)  
= 100.2 MMScf/yr

PE<sub>GHG</sub> = (100.2 x 10<sup>6</sup> scf/yr)(1,000 Btu/scf)(53.48 kg/10<sup>6</sup> Btu)(lb/0.4536 kg)  
X (ton/2000 lb)] = 5,906.9 tons/yr

**N-608-13-5 and N-608-14-5 (Diesel Fired Emergency Engines):**

Rating: 267 bhp (each)  
Operating Limit: 100 hr/yr (each)  
EF<sub>GHG</sub>: 0.000187 metric tons/bhp-hr (CARB greenhouse gas emission factor)

PE<sub>GHG</sub> = (2)[(0.000187 MT/bhp-hr)(267 bhp)(100 hr/yr)(2,205 lb/MT)(ton/2000 lb)]  
= 11.0 tons/yr

**N-608-8-3 (Gasoline Dispensing Operation):**

This unit will not have GHG emissions.

**N-6-0-16-2 and N-608-17-3 (Methanol Tanks):**

These units will not have GHG emissions.

**Total GHG Emissions:**

PE<sub>GHG</sub> = 30,854.8 tons/yr + 3,484.0 tons/yr + 5,906.9 tons/yr + 11.0 tons/yr  
= 40,256.7 tons/yr

The equipment currently under consideration is not a source category listed in 40 CFR Part 52.21(b)(1)(i), therefore, the applicable thresholds are those shown on the table below.

Pollutant	Threshold (tons/yr)	Facility PE (tons/yr)	Major Source (currently)
NOx	250	50.8	No
CO	250	140.4	No
VOC	250	57.0	No
SOx	250	0.71	No
PM	250	5.3	No
PM10	250	5.3	No
CO <sub>2e</sub>	100,000	40,256.7	No

As shown above, the facility is not currently a PSD Major Source for any pollutant

### G. Major Modification Determination

#### **SB-288 Major Modification:**

The purpose of SB-288 Major Modification calculations is to determine the following:

If Best Available Control Technology (BACT) is triggered for a new or modified emission unit that results in a Major Modification (District Rule 2201, §4.1.3); and

If a public notification is triggered (District Rule 2201, §5.4.1).

The facility is a Major Source only for NOx, CO and VOC. Therefore, an SB-288 Major Modification determination may be required only for NOx, CO and VOC. As shown in section 3.36 of Rule 2201, the SB-288 Major Modification threshold for NOx is 50,000 lb/yr and the threshold for VOC is 50,000 lb/yr. As shown in section 3.36, there is not a threshold for CO, therefore, an SB-288 Major Modification cannot be triggered for CO.

As shown in Section VII.C.1 of this document, the potentials to emit of NOx and VOC from the units in this permitting action are:

PE<sub>NOx</sub>: 9,837 lb/yr  
 PE<sub>VOC</sub>: 17,082 lb/yr

As can be seen, the potential to emit of each pollutant is below its SB-288 Major Modification threshold. Therefore, an SB-288 Major Modification is not triggered.

**Federal Major Modification:**

This facility is an existing Major Source for NO<sub>x</sub>, CO, and VOC emissions, however, pursuant to Rule 2201, section 3.18.1.4, Table 3-1, there is no significance threshold established for CO. Therefore, only the emission increase (EI) for NO<sub>x</sub> and VOC are calculated and compared with the Federal Major Modification Thresholds.

The District draft policy "Implementation of Rule 2201 (as amended on 12/18/08 and effective on 6/10/10) for SB 288 Major Modifications and Federal Major Modifications (2/8/11)" is referenced to determine the emissions increase.

Case 2 in the draft policy states "If the proposed modification does not result in an increase in design capacity or potential to emit, and it does not impact the ability of the emission unit to operate at a higher utilization rate, then the unused baseline capacity emissions can also be excluded from the emission increase (EI).

Although the heat input rating of the thermal oxidizer will increase, neither the rating nor the utilization rate of the process equipment (dehydration systems) will increase. Therefore, the above referenced draft policy allows the unused baseline capacity emissions to be excluded from the EI, and is calculated as follows:

$$EI = PAE - BAE - UBC$$

Where, PAE = Projected Actual Emissions,  
BAE = Baseline Actual Emissions,  
UBC = Unused Baseline Capacity  
UBC = PE1 - BAE

As discussed above, the proposed modification will not increase the permitted utilization rate of the dehydration systems, and the PAE is equal to PE2. Thus,

$$\begin{aligned} EI &= PAE - BAE - UBC \\ &= PE2 - BAE - (PE1 - BAE) \\ &= PE2 - PE1 \end{aligned}$$

Federal Major Modification Calculation and Determination					
Pollutant	PE2 (lb/yr)	PE1 (lb/yr)	EI (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
NO <sub>x</sub>	9,837	5,913	3,924	0	Yes
VOC	17,082	17,082	0	0	No

As shown in above table, the proposed project is a Federal Major Modification for NO<sub>x</sub> emissions, but not for VOC emissions.

## VIII. Compliance

### Rule 2201 New and Modified Stationary Source Review Rule

#### A. BACT

##### 1. BACT Applicability

###### **New or Relocated Units:**

Except for CO, BACT is required for each pollutant with a PE of greater than 2.0 pounds per day. For CO, BACT is required if the PE of CO is greater than 2.0 pounds per day and the SSPE2 of CO is 200,000 pounds per year or greater.

###### **Modified Units:**

Except for CO, BACT is required for each pollutant with an AIPE of greater than 2.0 pounds per day. For CO, BACT is required if the AIPE of CO is greater than 2.0 pounds per day and the SSPE2 of CO is 200,000 pounds or greater.

###### **Major Modifications:**

BACT is required for the pollutants for which an SB-288 or a Federal Major Modification is triggered.

###### **Applicability:**

The equipment currently under consideration consists of two glycol reboilers and a single thermal oxidizer. Since BACT can be required only for emission units, BACT need be considered only for the glycol reboilers. The reboilers consist of permit exempt burners and non-permit-exempt VOC emission points (vents). As shown in section VII.D.2 of this document, the AIPE of VOC is zero for each reboiler. Therefore, BACT is not required.

Note: As shown in section VII.G of this document, this permitting action is a Federal Major Modification for NO<sub>x</sub>, therefore, it appears that BACT may be required for NO<sub>x</sub>. However, the NO<sub>x</sub> emissions are from the VOC emission control device. The District does not require that BACT be applied to emission control devices, therefore, BACT is not required for NO<sub>x</sub>.

##### 2. BACT Analysis

BACT is not required, therefore, a BACT analysis is not necessary.



## B. OFFSETS

### 1. Offset Applicability

Per Rule 2201, section 4.5.3, offsets are examined on a pollutant by pollutant basis and are triggered for any pollutant with a SSPE2 equal to or greater than the value on the following table:

Pollutant	SSPE2 (lb/yr)
NOx	20,000
CO (in CO attainment areas)	200,000
VOC	20,000
SOx	54,750
PM10	29,200

As shown in section VII.E.2 of this document, the SSPE2 of each pollutant is:

Pollutant	SSPE2 (lb/yr)	Offsets Triggered
NOx	105,614	Yes
CO	344,387	Yes
VOC	126,373	Yes
SOx	1,531	No
PM10	10,846	No

### 2. Quantity of Offsets Required

As shown above, offsets are triggered for NOx, CO and VOC. The SSPE2 of each of these pollutants is in excess of its offset threshold, therefore, per section 4.7.1 of District Rule 2201, the quantity of offsets required is the difference between the PE2 of the new and modified units and the BE of the new and modified units.

#### NOx and VOC:

The table below shows PE2 and the BE of each of these pollutants as well as the quantity of offsets required:

Pollutant	PE2 (lb/yr)	BE (lb/yr)	Offset Quantity (lb/yr)
NOx	9,837	5,913	3,924
VOC	17,082	17,082	0

As shown in Appendix D of this document, the applicant has identified sufficient NOx offsets.

## CO:

Per section 4.6.1 of Rule 2201, increases in CO, in CO attainment areas are exempt from offsets provided it is demonstrated that no CO Air Quality Standards are currently being violated in the area to be affected, the increase is consistent with Reasonable Further Progress and the increase will not cause or contribute to a violation of an Ambient Air Quality Standard.

*The facility is located in a CO attainment area, therefore, no CO air quality standards are currently being violated in the area of concern.*

*Reasonable Further Progress, as defined in section 182(c)(2)(b) of the Federal Clean Air Act is a measure of progress toward attaining compliance with emission standards. This area is currently in attainment with CO standards, therefore, this increase in CO is consistent with Reasonable Further Progress.*

*The District performed an Ambient Air Quality Analysis and showed that the increase in CO emissions will not cause or contribute to a violation of an Ambient Air Quality Standard. The Ambient Air Quality Analysis summary is in Appendix C of this document.*

All of the criteria of Section 4.6.1 are met, therefore this permitting action is exempt from offsets for CO.

## C. PUBLIC NOTIFICATION

### 1. Applicability

District Rule 2201 Section 5.4 requires a public notification for the affected pollutants from the following types of projects:

- a. New Major Sources
- b. Major Modifications
- c. New emission units with a PE > 100 lb/day of any one pollutant (IPE Notifications)
- d. Modifications with SSPE1 below an offset threshold and SSPE 2 above an offset threshold on a pollutant by pollutant basis (Existing Facility Offset Threshold Exceedence Notification)
- e. New stationary sources with SSPE2 exceeding offset thresholds (New Facility Offset Threshold Exceedence Notification)
- f. Any permitting action with a SSIPE exceeding 20,000 lb/yr for any one pollutant. (SSIPE Notice)

#### a. New Major Source Notice Determination:

The facility is not new, therefore, a New Major Source Determination notice is not required.

**b. Major Modification Notice:**

As shown in section VIII.G of this document, this permitting action is a Federal Major Modification for NOx. Therefore a notification is required.

**c. PE Notification:**

A notification is required for each new emission unit with the potential to emit more than 100 pounds per day of any one affected pollutant.

As shown in section VII.C.1 of this document, the potential to emit of each pollutant, from each unit, will be less than 100 lb/day. Therefore, a public notice is not required.

**d. Existing Facility Offset Threshold Exceedence Notification**

The SSPE of no pollutant will go from below to above an offset threshold. Therefore, a public notification is not required.

**e. New Facility Offset Threshold Exceedence Notification**

This is an existing facility. This section does not require a public notification.

**f. SSIPE Notification:**

A notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/yr of any affected pollutant. As shown in section VII.E.3 of this document, the SSIPE of each pollutant will be less than 20,000 pounds per year. An SSIPE notification is not required.

**2. Public Notice**

As shown above, a public notification is required because this modification is a Federal Major Modification.

**D. DAILY EMISSION LIMITS**

NOx emissions from natural gas combustion in the thermal oxidizer shall not exceed 0.1 lb/MMBtu. [District NSR Rule]

CO emissions from natural gas combustion in the thermal oxidizer shall not exceed 0.084 lb/MMBtu. [District NSR Rule]

The combined VOC emissions from dehydration units N-608-7 and N-608-24, including the combustion contaminants from the thermal oxidizer, shall not exceed 1.95 lb/hr. [District NSR Rule]

SOx emissions from natural gas combustion in the thermal oxidizer shall not exceed 0.00285 lb/MMBtu. [District NSR Rule]

PM10 emissions from natural gas combustion in the thermal oxidizer shall not exceed 0.0076 lb/MMBtu. [District NSR Rule]

## **E. Compliance Assurance**

### **1. Source Testing**

Per District Policy APR 1705, initial and annual source testing is required for operations served by thermal oxidizers used to control VOC emissions. The Authorities-to-Construct and Permits-to-Operate will include such source testing requirements.

The District normally requires that initial source testing be conducted within 60 days after initial startup of the equipment, however, the applicant has presented a compelling case for delaying the initial source test.

Construction of the thermal oxidizer is planned for the warmer summer months, and although the oxidizer burners will be test fired, the dehydrators will not be in operation because natural gas withdrawal does not commence until at least fall. Since natural gas withdrawal will not be occurring during initial oxidizer start-up, such operation would not represent normal source operation, which is a requirement for source testing. Although some natural gas withdrawal will likely be conducted beginning in the fall, such events are spotty because of fluctuations in weather. The spotty nature of gas withdrawal would make it impractical to schedule and conduct a test early in the gas withdrawal season. Therefore, the facility will be given until 90 days after the first natural gas withdrawal event to conduct the initial source test. The initial source testing condition is below.

*Source testing to determine the thermal oxidizer VOC control efficiency and the combined VOC emissions from units N-608-7 and N-608-24 shall be conducted within 90 days after initial operation for dehydration. The facility operator shall record the date of first operation for dehydration and shall report that date to the District within 15 days thereafter.*

### **2. Monitoring**

The new thermal oxidizer is required to be equipped with a continuous temperature monitoring device to indicate the combustion chamber temperature.

### **3. Record Keeping**

Records to verify compliance with the emission limits and the thermal oxidizer operating temperature requirements of this permit will be required. The Rule 4408 record keeping requirements will be addressed in Section VIII (Rule 4408 Compliance) of this document.

#### **4. Reporting**

As they apply to the units currently under consideration, no District rule or policy requires reporting.

#### **E. Ambient Air Quality Impact Analysis**

Section 4.14.2 of this rule requires that an ambient air quality analysis (AAQA) be conducted to determine whether the operation of the proposed equipment will cause or make worse a violation of an air quality standard. The required analysis was conducted by the Technical Services Division of the SJVAPCD. Refer to appendix C of this document for the AQIA summary sheet.

As shown in the AAQA, the addition of the proposed equipment will not cause, or make worse a violation of an ambient air quality standard

#### **F. Alternative Siting Analysis (Rule 2201, Section 4.15.1)**

Section 21002 of the Public Resources Code states that projects should not be approved as proposed if there are feasible alternatives or feasible mitigation measures that would substantially lessen the environmental impacts associated with that project. This section also states that in the event of specific economic, social or other conditions would make such a project infeasible then the project may be approved in spite of the significant effects.

Since the current project involves only the replacement of an emission control device, remaining at the existing site will result in the least possible impact from the project. Alternative sites would involve the relocation and/or construction of various support structures and facilities on a much greater scale, and would therefore result in a much greater impact.

#### **G. Compliance by Other Owned, Operated or Controlled Sources (Rule 2201, Section 4.15.2)**

This section requires that the owner of a New Major Source or the owner of a facility undergoing a Federal Major Modification demonstrate, to the satisfaction of the District, that all Major Sources it owns, operates or controls, are located in California and are subject to emission limits be in compliance, or on schedule to be in compliance with all applicable.

This permitting action is a Federal Major Modification, therefore, a compliance certification is required. A copy of compliance certification from the facility is in Appendix E of this document.

## **2410 Prevention of Significant Deterioration**

Rule 2410 applies to pollutants for which the District is in attainment or for unclassified pollutants. The pollutants addressed in the PSD applicability determination are listed as follows:

- NO<sub>2</sub> (as a primary pollutant)
- SO<sub>2</sub> (as a primary pollutant)
- CO
- PM
- PM<sub>10</sub>
- Greenhouse gases (GHG): CO<sub>2</sub>, N<sub>2</sub>O, CH<sub>4</sub>, HFCs, PFCs, and SF<sub>6</sub>

The first step of this PSD applicability evaluation consists of determining whether the facility is an existing PSD Major Source. This facility is not an existing PSD Major source (See Section VII.F of this document).

In the case if a facility that is NOT an existing PSD Major Source, the second step of the PSD evaluation is to determine if the project, by itself, would be a PSD major source.

### **Potential to Emit for All Emission Units at the Facility vs PSD Major Source Thresholds:**

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

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable.

PSD Major Source Determination: Potential to Emit (tons/year)							
	NO <sub>2</sub>	VOC	SO <sub>2</sub>	CO	PM	PM <sub>10</sub>	CO <sub>2e</sub>
Total PE from New and Modified Units	4.9	8.5	0.14	4.1	0.37	0.37	5,799.0
PSD Major Source threshold	250	250	250	250	250	250	100,000
New PSD Major Source?	No	No	No	No	No	No	No

Combined Rating: 11.23 MMBtu/hr  
 Natural Gas Heat Content: 1,000 Btu/scf  
 Operating Limit: None – assume 8,760 hr/yr  
 EF<sub>GHG</sub>: 53.48 kg/MMBtu (Section VII.B of this document)

$$\text{Combined Fuel Use} = (11.23 \text{ MMBtu/hr})(8,760 \text{ hr/yr})(\text{scf}/1,000 \text{ Btu}) \\ = 98.37 \text{ MMScf/yr}$$

$$\text{PE}_{\text{GHG}} = (98.37 \times 10^6 \text{ scf/yr})(1,000 \text{ Btu/scf})(53.48 \text{ kg}/10^6 \text{ Btu})(\text{lb}/0.4536 \text{ kg}) \\ \times (\text{ton}/2000 \text{ lb}) = 5,799.0 \text{ tons/yr}$$

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

## Rule 2520 Federally Mandated Operating Permits

PG&E currently is operating under a Title V permit and has requested that the ATCs be issued with a Certificate of Conformity. Therefore, the following conditions will be listed on each ATC:

- *{1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule]*
- *{1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4]*

This permitting action is a Federal Major Modification, therefore, it is a Significant Modification to the Title V permit (as defined in this rule).

In accordance with Rule 2520, the application meets the procedural requirements of section 11.4 by including:

- A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs and
- The source's suggested draft permit (Appendix A of this document) and
- Certification by a responsible official that the proposed modification meets the criteria for use of major permit modification procedures and a request that such procedures be used (Appendix E of this document)

Section 5.3.4 of this rule requires the permittee to file an application for administrative permit amendments prior to implementing the requested change except when allowed by the operational flexibility provisions of section 6.4 of this rule. The conditions above will enforce this requirement.

Therefore, compliance with the requirements of this Rule is expected.

#### **Rule 4101 Visible Emissions**

As long as the equipment is properly maintained and operated, the visible emissions are not expected to exceed 20% opacity for a period or periods aggregating more than 3 minutes in any one hour. Compliance with the provisions of this rule is expected.

#### **Rule 4102 Nuisance**

##### **A. California Health & Safety Code 41700 (Risk Management Review)**

A Risk Management Review (RMR) was conducted by the Technical Services Division of the SJVAPCD. As shown in the RMR Summary that is in Appendix C of this document, the acute hazard index, the chronic hazard index and the cancer risk are zero. Therefore, this modification will not cause a significant health hazard to the public.

##### **B. Toxics BACT (T-BACT)**

As shown in the RMR Summary, which is in Appendix C of this document, Toxics BACT is not required.

#### **Rule 4201 Particulate Matter Concentration**

This rule limits the particulate matter emissions to 0.1 gr/dscf of exhaust flow.

Flow Rate: 20,240 acfm (applicant)

PM Rate: (0.0076 lb/MMBtu)(11.23 MMBtu/hr) = 0.09 lb/hr

$$\text{PM Concentration} = (\text{min}/20,240 \text{ ft}^3)(0.09 \text{ lb PM/hr})(7,000 \text{ gr/lb})(1 \text{ hr}/60 \text{ min}) \\ = 0.001 \text{ gr/ft}^3$$

The PM concentration in the terms of ACF is much less than the 0.1 gr/dscf standard. Therefore, compliance at dry standard conditions is expected.



## Rule 4408 Glycol Dehydration Systems

The purpose of this rule is to limit VOC emissions from glycol dehydration systems.

Section 5.1 requires that VOC emissions from the glycol dehydration system vents be controlled utilizing a system that meets one of the following sections:

Section 5.1.1: a vapor recovery system, a fuel gas system or a sales system or;

Section 5.1.2: that all VOC emissions be combusted by a flare, incinerator, reboilers or thermal oxidizer or;

Section 5.1.3: any other emission control system that controls glycol dehydration system vent VOC emissions by at least 95% (averaged over 1 hour) or that controls glycol dehydration system vent VOC emissions to a level no higher than 1.7 lb VOC per million dscf of gas dehydrated (averaged over 24 hours).

The VOC emissions are currently, and will continue to be controlled by a thermal oxidizer. Therefore, compliance with section 5.1 will be achieved by complying section 5.1.2.

Section 5.2 requires that the condensed hydrocarbon liquid stream from the glycol dehydration vent be stored and handled in a manner that will not cause or allow evaporation of VOC to the atmosphere. To enforce compliance with this requirement, the following condition will be included on the ATCs and the PTOs:

*The condensed hydrocarbon liquid stream from the glycol dehydration vent shall be stored and handled in a manner that will not cause or allow evaporation of VOCs to the atmosphere.*

Section 6.1.1 requires the operator of a glycol dehydration system to maintain monthly records of the amount of gas dehydrated.

Section 6.1.2 requires the operator of a glycol dehydration system to maintain information specified in § 6.1.2.1 thru 6.1.2.7.

Section 6.1.4 requires that all records be retained for a period of at least 5 years and that they be made available to the District upon request.

To enforce the requirements of sections 6.1.1, 6.1.2 and 6.1.4, the following conditions will be included on the ATCs and PTOs:

*Permittee shall maintain monthly records of the amount of gas dehydrated by dehydration units N-608-7 and -24. [District Rule 2201 and 4408]*

*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 Rules 2201 and 4408]*

*All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rules 2201 and 4408]*

Continuous compliance with the requirements of this Rule is expected.

## **Rule 4801 Sulfur Compounds**

This rule limits the sulfur compound emissions to 2000 ppmv. The unit will fire solely on PUC quality natural gas. The low sulfur content of the natural gas fuel will ensure compliance with this rule.

## **California Environmental Quality Act (CEQA)**

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

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

The District performed an Engineering Evaluation (this document) for the proposed project and determined that none of the project specific emission units trigger Best Available Control Technology (BACT) requirements. Furthermore, the District has determined that potential emission increases would have a less than significant health impact on sensitive receptors.

Issuance of permits for emissions units not subject to BACT requirements and with health impact less than significant is a matter of ensuring conformity with applicable District rules and regulations and does not require discretionary judgment or deliberation. Thus, the District concludes that this permitting action constitutes a ministerial approval. Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which a public agency exercises only ministerial approval. Therefore, the District finds that this project is exempt from the provisions of CEQA.

**California Health & Safety Code 42301.6 (School Notice)**

The equipment will not be located within 1,000 feet of a K-12 school, therefore, a school notice is not required.

**IX. Recommendation**

Issue Authorities-to-Construct with the conditions on the attached Draft Authorities-to-Construct after completion of the required public and EPA notices.

**X. Billing Information**

**Premodification:**

Permit #	Description	Fee Schedule
N-608-7-4	3.75 MMBtu/hr	3020-2-F
N-608-24-3	3.75 MMBtu/hr	3020-2-F

**Post modification:**

Permit #	Description	Fee Schedule
N-608-7-5	5.615 MMBtu/hr	3020-2-G
N-608-24-4	5.615 MMBtu/hr	3020-2-G

**Appendices**

- Appendix A: Draft ATC's
- Appendix B: Current PTO's
- Appendix C: RMR Summary and Ambient Air Quality Analysis
- Appendix D: Offset Analysis
- Appendix E: Title V Modification – Compliance Certification Form

**Appendix A**  
**Draft ATC's**

San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: N-608-7-5

LEGAL OWNER OR OPERATOR: PACIFIC GAS & ELECTRIC CO.  
MAILING ADDRESS: ATTN: AIR QUALITY PERMITS  
P O BOX 7640  
SAN FRANCISCO, CA 94120

LOCATION: MCDONALD ISLAND COMPRESSOR STATION  
HOLT, CA 95234

**EQUIPMENT DESCRIPTION:**

NATURAL GAS DEHYDRATION SYSTEM (TURNER CUT STATION) AND ODORIZING SYSTEM (SHARED WITH N-608-24) INCLUDING TWO CONTACTOR TOWERS AND A 3-PHASE GAS SEPARATOR SERVED BY A 6.75 MMBTU/HR THERMAL OXIDIZER (SHARED WITH N-608-24) AND A PERMIT EXEMPT < 5 MMBTU/HR REBOILER (#1). MODIFICATION TO REPLACE THE 6.75 MMBTU/HR THERMAL OXIDIZER WITH AN 11.23 MMBTU/HR THERMAL OXIDIZER. THE POSTMODIFICATION EQUIPMENT DESCRIPTION WILL BE: NATURAL GAS DEHYDRATION SYSTEM (TURNER CUT STATION) AND ODORIZING SYSTEM (SHARED WITH N-608-24) INCLUDING TWO CONTACTOR TOWERS AND A 3-PHASE GAS SEPARATOR SERVED BY AN 11.23 MMBTU/HR THERMAL OXIDIZER (SHARED WITH N-608-24) AND A PERMIT EXEMPT < 5 MMBTU/HR REBOILER (#1).

**CONDITIONS**

1. Authorities-to-Construct N-608-7-5 and N-608-24-4 shall be implemented simultaneously. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
3. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
4. Prior to operating equipment under Authorities to Construct N-608-7-5 and N-608-24-4, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 981 lb; 2nd quarter - 981 lb; 3rd quarter - 981 lb, and 4th quarter - 981 lb. Offsets shall be provided at a ratio of 1.5 to 1. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

**DRAFT**  
Arnaud Marjolle, Director of Permit Services

N-608-7-51 Apr 30 2014 2:55PM - SCHONHOM - Joint Inspection NOT Required

5. ERC certificates N-1076-2 and S-4170-2 (or a certificates split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued administratively, specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to the reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
6. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
7. {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
8. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
9. The condensed hydrocarbon liquid stream from the glycol dehydration vents shall be stored and handled in a manner that will not cause or allow evaporation of VOCs to the atmosphere. [District Rule 4408] Federally Enforceable Through Title V Permit
10. The thermal oxidizer shall be fired solely on PUC quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The thermal oxidizer shall be equipped with an operational temperature indicator at the combustion chamber. The temperature shall be monitored and recorded continuously. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The thermal oxidizer shall be heated to at least 1400 degrees Fahrenheit prior to any contaminated air steam entering the oxidizer, and shall operate at a minimum temperature of 1400 degrees Fahrenheit. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The thermal oxidizer shall operate at all times when dehydration is taking place. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Only glycol shall be used as the dehydration medium. [District Rule 2201] Federally Enforceable Through Title V Permit
15. The VOC control efficiency of the thermal oxidizer shall not be less than 97.5%. [District Rules 2201 and 4408] Federally Enforceable Through Title V Permit
16. NOx emissions from natural gas combustion in the thermal oxidizer shall not exceed 0.1 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. CO emissions from natural gas combustion in the thermal oxidizer shall not exceed 0.084 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. PM10 emissions from natural gas combustion in the thermal oxidizer shall not exceed 0.0076 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
19. SOx emissions from natural gas combustion in the thermal oxidizer shall not exceed 0.00285 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
20. The combined VOC emissions from dehydration units N-608-7 and N-608-24, including the combustion contaminants from the thermal oxidizer, shall not exceed 1.95 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Source testing to determine the thermal oxidizer VOC control efficiency and the combined VOC emissions from units N-608-7 and N-608-24 shall be conducted within 90 days after initial operation for dehydration. The facility operator shall record the date of first operation for dehydration and shall report that date to the District within 15 days thereafter. [District Rule]

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CONDITIONS CONTINUE ON NEXT PAGE

22. Source testing to determine the thermal oxidizer VOC control efficiency and the combined VOC emissions from units N-608-7 and -24 shall be conducted annually. [District Rules 1081, 7.2 and 4408, 5.1.3.2] 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 Rule 1081] Federally Enforceable Through Title V Permit
24. 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
25. VOC emissions shall be measured by EPA Method 25, 25A, 25B, or 18. [District Rules 1081 and 4408] Federally Enforceable Through Title V Permit
26. Permittee shall maintain monthly records of the amount of gas dehydrated by dehydration units N-608-7 and -24. [District Rules 2201 and 4408] Federally Enforceable Through Title V Permit
27. 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 Rules 2201 and 4408] Federally Enforceable Through Title V Permit
28. All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rules 2201 and 4408] Federally Enforceable Through Title V Permit

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: N-608-24-4

LEGAL OWNER OR OPERATOR: PACIFIC GAS & ELECTRIC CO.  
MAILING ADDRESS: ATTN: AIR QUALITY PERMITS  
P O BOX 7640  
SAN FRANCISCO, CA 94120

LOCATION: MCDONALD ISLAND COMPRESSOR STATION  
HOLT, CA 95234

**EQUIPMENT DESCRIPTION:**

NATURAL GAS DEHYDRATION SYSTEM (TURNER CUT STATION) AND ODORIZING SYSTEM (SHARED WITH N-608-7) INCLUDING TWO CONTACTOR TOWERS AND A 3-PHASE GAS SEPARATOR SERVED BY A 6.75 MMBTU/HR THERMAL OXIDIZER (SHARED WITH N-608-7) AND A PERMIT EXEMPT < 5 MMBTU/HR REBOILER (#2). MODIFICATION TO REPLACE THE 6.75 MMBTU/HR THERMAL OXIDIZER WITH AN 11.23 MMBTU/HR THERMAL OXIDIZER. THE POSTMODIFICATION EQUIPMENT DESCRIPTION WILL BE: NATURAL GAS DEHYDRATION SYSTEM (TURNER CUT STATION) AND ODORIZING SYSTEM (SHARED WITH N-608-7) INCLUDING TWO CONTACTOR TOWERS AND A 3-PHASE GAS SEPARATOR SERVED BY AN 11.23 MMBTU/HR THERMAL OXIDIZER (SHARED WITH N-608-7) AND A PERMIT EXEMPT < 5 MMBTU/HR REBOILER (#2).

**CONDITIONS**

1. Authorities-to-Construct N-608-7-5 and N-608-24-4 shall be implemented simultaneously. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
3. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
4. Prior to operating equipment under Authorities to Construct N-608-7-5 and N-608-24-4, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 981 lb; 2nd quarter - 981 lb; 3rd quarter - 981 lb, and 4th quarter - 981 lb. Offsets shall be provided at a ratio of 1.5 to 1. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCD

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Arnaud Marjollet, Director of Permit Services

N-608-24-4 Apr 30 2014 2:46PM - SCHONHOM Joint Inspection NOT Required



5. ERC certificates N-1076-2 and S-4170-2 (or a certificates split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued administratively, specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to the reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
6. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
7. {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
8. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
9. The condensed hydrocarbon liquid stream from the glycol dehydration vents shall be stored and handled in a manner that will not cause or allow evaporation of VOCs to the atmosphere. [District Rule 4408] Federally Enforceable Through Title V Permit
10. The thermal oxidizer shall be fired solely on PUC quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The thermal oxidizer shall be equipped with an operational temperature indicator at the combustion chamber. The temperature shall be monitored and recorded continuously. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The thermal oxidizer shall be heated to at least 1400 degrees Fahrenheit prior to any contaminated air steam entering the oxidizer, and shall operate at a minimum temperature of 1400 degrees Fahrenheit. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The thermal oxidizer shall operate at all times when dehydration is taking place. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Only glycol shall be used as the dehydration medium. [District Rule 2201] Federally Enforceable Through Title V Permit
15. The VOC control efficiency of the thermal oxidizer shall not be less than 97.5%. [District Rules 2201 and 4408] Federally Enforceable Through Title V Permit
16. NOx emissions from natural gas combustion in the thermal oxidizer shall not exceed 0.1 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. CO emissions from natural gas combustion in the thermal oxidizer shall not exceed 0.084 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. PM10 emissions from natural gas combustion in the thermal oxidizer shall not exceed 0.0076 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
19. SOx emissions from natural gas combustion in the thermal oxidizer shall not exceed 0.00285 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
20. The combined VOC emissions from dehydration units N-608-7 and N-608-24, including the combustion contaminants from the thermal oxidizer, shall not exceed 1.95 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Source testing to determine the thermal oxidizer VOC control efficiency and the combined VOC emissions from units N-608-7 and N-608-24 shall be conducted within 90 days after initial operation for dehydration. The facility operator shall record the date of first operation for dehydration and shall report that date to the District within 15 days thereafter. [District Rule]

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CONDITIONS CONTINUE ON NEXT PAGE

22. Source testing to determine the thermal oxidizer VOC control efficiency and the combined VOC emissions from units N-608-7 and -24 shall be conducted annually. [District Rules 1081, 7.2 and 4408, 5.1.3.2] 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 Rule 1081] Federally Enforceable Through Title V Permit
24. 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
25. VOC emissions shall be measured by EPA Method 25, 25A, 25B, or 18. [District Rules 1081 and 4408] Federally Enforceable Through Title V Permit
26. Permittee shall maintain monthly records of the amount of gas dehydrated by dehydration units N-608-7 and -24. [District Rules 2201 and 4408] Federally Enforceable Through Title V Permit
27. 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 Rules 2201 and 4408] Federally Enforceable Through Title V Permit
28. All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rules 2201 and 4408] Federally Enforceable Through Title V Permit

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## **Appendix B Current PTO's**

# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** N-608-7-4

**EXPIRATION DATE:** 10/31/2015

**EQUIPMENT DESCRIPTION:**

NATURAL GAS DEHYDRATION SYSTEM (TURNER CUT STATION) AND ODORIZING SYSTEM (SHARED WITH N-608-24) INCLUDING TWO CONTACTOR TOWERS AND A 3-PHASE GAS SEPARATOR SERVED BY A 6.75 MMBTU/HR THERMAL OXIDIZER (SHARED WITH N-608-24) AND A PERMIT EXEMPT < 5 MMBTU/HR REBOILER (#1).

## PERMIT UNIT REQUIREMENTS

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1. The thermal oxidizer shall be fired solely on PUC quality natural gas. [District NSR Rule] Federally Enforceable Through Title V Permit
2. The thermal oxidizer shall be equipped with an operational temperature indicator at the combustion chamber. The temperature shall be monitored and recorded continuously. [District NSR Rule] Federally Enforceable Through Title V Permit
3. The thermal oxidizer shall be heated to at least 1400 degrees Fahrenheit prior to any contaminated air steam entering the oxidizer, and shall operate at a minimum temperature of 1400 degrees Fahrenheit. [District NSR Rule] Federally Enforceable Through Title V Permit
4. The thermal oxidizer shall operate at all times when dehydration is taking place. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Only glycol shall be used as the dehydration medium. [District NSR Rule] Federally Enforceable Through Title V Permit
6. The VOC control efficiency of the thermal oxidizer shall not be less than 97.5%. [District NSR Rule and District Rule 4408, 5.1.3] Federally Enforceable Through Title V Permit
7. NOx emissions from natural gas combustion in the thermal oxidizer shall not exceed 0.1 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
8. CO emissions from natural gas combustion in the thermal oxidizer shall not exceed 0.084 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
9. PM10 emissions from natural gas combustion in the thermal oxidizer shall not exceed 0.0076 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
10. SOx emissions from natural gas combustion in the thermal oxidizer shall not exceed 0.00285 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
11. The combined VOC emissions from dehydration units N-608-7 and N-608-24, including the combustion contaminants from the thermal oxidizer, shall not exceed 1.95 lb/hr. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Source testing to determine the thermal oxidizer VOC control efficiency and the combined VOC emissions from units N-608-7 and -24 shall be conducted annually. [District Rules 1081, 7.2 and 4408, 5.1.3.2] Federally Enforceable Through Title V Permit
13. 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 Rule 1081, 7.1] 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 results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081, 7.3]  
Federally Enforceable Through Title V Permit
15. VOC emissions shall be measured by EPA Method 25, 25A, 25B, or 18. [District Rules 1081, 5.0 and 4408, 6.2.2.4]  
Federally Enforceable Through Title V Permit
16. Permittee shall maintain monthly records of the amount of gas dehydrated by dehydration units N-608-7 and -24.  
[District NSR Rule and District Rule 4408, 6.1.1] Federally Enforceable Through Title V Permit
17. 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 NSR Rule and District Rule 4408, 6.1.2] Federally Enforceable Through Title V Permit
18. All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rule 4408, 6.1.4] Federally Enforceable Through Title V Permit

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

# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: N-608-24-3

EXPIRATION DATE: 10/31/2015

## EQUIPMENT DESCRIPTION:

NATURAL GAS DEHYDRATION SYSTEM (TURNER CUT STATION) AND ODORIZING SYSTEM (SHARED WITH N-608-7) INCLUDING TWO CONTACTOR TOWERS AND A 3-PHASE GAS SEPARATOR SERVED BY A 6.75 MMBTU/HR THERMAL OXIDIZER (SHARED WITH N-608-7) AND A PERMIT EXEMPT < 5 MMBTU/HR REBOILER (#2)

## PERMIT UNIT REQUIREMENTS

1. The thermal oxidizer shall be fired solely on PUC quality natural gas. [District NSR Rule] Federally Enforceable Through Title V Permit
2. The thermal oxidizer shall be equipped with an operational temperature indicator at the combustion chamber. The temperature shall be monitored and recorded continuously. [District NSR Rule] Federally Enforceable Through Title V Permit
3. The thermal oxidizer shall be heated to at least 1400 degrees Fahrenheit prior to any contaminated air steam entering the oxidizer, and shall operate at a minimum temperature of 1400 degrees Fahrenheit. [District NSR Rule] Federally Enforceable Through Title V Permit
4. The thermal oxidizer shall operate at all times when dehydration is taking place. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Only glycol shall be used as the dehydration medium. [District NSR Rule] Federally Enforceable Through Title V Permit
6. The VOC control efficiency of the thermal oxidizer shall not be less than 97.5%. [District NSR Rule and District Rule 4408, 5.1.3] Federally Enforceable Through Title V Permit
7. NOx emissions from natural gas combustion in the thermal oxidizer shall not exceed 0.1 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
8. CO emissions from natural gas combustion in the thermal oxidizer shall not exceed 0.084 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
9. PM10 emissions from natural gas combustion in the thermal oxidizer shall not exceed 0.0076 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
10. SOx emissions from natural gas combustion in the thermal oxidizer shall not exceed 0.00285 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
11. The combined VOC emissions from dehydration units N-608-7 and N-608-24, including the combustion contaminants from the thermal oxidizer, shall not exceed 1.95 lb/hr. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Source testing to determine the thermal oxidizer VOC control efficiency and the combined VOC emissions from units N-608-7 and -24 shall be conducted annually. [District Rules 1081, 7.2 and 4408, 5.1.3.2] Federally Enforceable Through Title V Permit
13. 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 Rule 1081, 7.1] 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 results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081, 7.3]  
Federally Enforceable Through Title V Permit
15. VOC emissions shall be measured by EPA Method 25, 25A, 25B, or 18. [District Rules 1081, 5.0 and 4408, 6.2.2.4]  
Federally Enforceable Through Title V Permit
16. Permittee shall maintain monthly records of the amount of gas dehydrated by dehydration units N-608-7 and -24.  
[District NSR Rule and District Rule 4408, 6.1.1] Federally Enforceable Through Title V Permit
17. 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 NSR Rule and District Rule 4408, 6.1.2] Federally Enforceable Through Title V Permit
18. All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rule 4408, 6.1.4] Federally Enforceable Through Title V Permit

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

**Appendix C**  
**RMR Summary and Ambient Air Quality Analysis**



## San Joaquin Valley Air Pollution Control District Risk Management Review

To: Mark Schonhoff, AQE – Permit Services  
 From: Trevor Joy, AQS – Compliance  
 Date: April 16, 2014  
 Facility Name: Pacific Gas & Electric  
 Location: McDonald Island Holt, CA  
 Application #(s): N-608-7-5 and -24-4  
 Project #: 1140284

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### A. RMR SUMMARY

Categories	Units 7-5 and 24-4 NG Thermal Oxidizer	Project Totals	Facility Totals
Prioritization Score	0.0	0.0	>1
Acute Hazard Index	0.00	0.00	0.60
Chronic Hazard Index	0.00	0.00	0.00
Maximum Individual Cancer Risk ( $10^{-6}$ )	0.0	0.0	3.5
T-BACT Required?	No		
Special Permit Conditions?	Yes		

### Proposed Permit Conditions

To ensure that human health risks will not exceed District allowable levels; the following permit conditions must be included for:

#### Units # 7-5 and 24-4

{1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102] N

**B. RMR REPORT**

**I. Project Description**

Technical Services received a revised request on April 10, 2014 to perform an Ambient Air Quality Analysis and a Risk Management Review for the proposed modification to units 7-5 and 24-4, the installation of a 11.23 MMBtu/hr NG Thermal Oxidizer replacing the 6.25 MMBtu NG Thermal Oxidizer. The oxidizer serves a glycol reboiler used for natural gas dehydration.

**II. Analysis**

Technical Services performed a prioritization using the District's HEARTs database. Emissions were calculated using "NG 10-100 MMBTU/Hr External Combustion" emission factors. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905, March 2, 2001), risks from the proposed units' toxic emissions were prioritized using the procedure in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEARTs database. The prioritization score for the facility was greater than 1.0 (see RMR Summary Table). Therefore, a refined analysis was required and performed. AERMOD was used, with the parameters outlined below and concatenated meteorological data for Stockton 2005 to 2009 to determine the maximum dispersion factor at the nearest residential and business receptors. These dispersion factors were input into the HARP model to calculate the chronic and acute hazard indices and the carcinogenic risk for the project. AERMOD was also used for the AAQA analysis, with the parameters outlined below and meteorological data for Stockton 2005 – 2009 to determine the maximum dispersion factors.

The following parameters were used for the review:

Analysis Parameter Units 7-5 and 24-4 (Oxidizer is shared by the two units)			
Closest Receptor - Business (m)	402	Closest Receptor - Resident (m)	402
NG usage (MMBtu/hr)	11.23	NG Usage (MMBtu/yr)	98374
Stack Height (m)	22	Gas Exit Temperature (K)	1088
Stack Inside Diameter (m)	1.5	Gas Exit Velocity (acfm)	20,240

Technical Services also performed modeling for criteria pollutants CO, NOx, SOx and PM<sub>10</sub>; as well as a RMR. The emission rates used for criteria pollutant modeling were

	NOx	Sox	CO	PM10	PM2.5
Lbs/hr	1.1	0.032	0.94	0.085	0.085
Lbs/yr	9,837	280	8,263	748	748

The results from the Criteria Pollutant Modeling are as follows:

**Criteria Pollutant Modeling Results\***  
Values are in  $\mu\text{g}/\text{m}^3$

Steam Generator	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO <sub>x</sub>	Pass <sup>1</sup>	X	X	X	Pass
SO <sub>x</sub>	Pass <sup>2</sup>	Pass	X	Pass	Pass
PM <sub>10</sub>	X	X	X	Pass <sup>3</sup>	Pass <sup>3</sup>
PM2.5	X	X	X	Pass <sup>3</sup>	Pass <sup>3</sup>

\*Results were taken from the attached PSD spreadsheet.

<sup>1</sup>The project was compared to the 1-hour NO<sub>2</sub> National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures. The criteria pollutant 1-hour value passed using TIER I NO<sub>2</sub> NAAQS modeling

<sup>2</sup>The project was compared to the 1-hour SO<sub>2</sub> National Ambient Air Quality Standard that became effective on August 23, 2010 using the District's approved procedures.

<sup>3</sup>The maximum predicted concentration for emissions of these criteria pollutants from the proposed unit are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

### III. Conclusion

The acute and chronic hazard indices were below 1.0; and the cancer risk is less than or equal to 1.0 in a million. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

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

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

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

#### Attachments:

- A. RMR request from the project engineer
- B. Prioritization score with toxic emissions summary
- C. HEARTS – Facility Summary
- D. AAQA spreadsheet

## **Appendix D Offset Analysis**

NOx Offset Quantity: 3,924 lb/yr (Section VIII, Rule 2201 Compliance)

Emission increases will be shown as positive numbers and credits will be shown as negative numbers.

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Emissions Increase (lb)	981	981	981	981
Offset Ratio (federal major modification)	1.5	1.5	1.5	1.5
Residual Offset Liability (lb)	1,472	1,472	1,472	1,472
ERC N-1076-2 (lb)	0	-904	-248	0
Residual Offset Liability (lb)	1,472	568	1,224	1,472
ERC S-4170-2	-1,502	-584	-1,279	1,535
Extra NOx (lb)	-30	-16	-55	-63

**Appendix E:  
Title V Modification – Compliance Certification Form**



**San Joaquin Valley  
Unified Air Pollution Control District**



**TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM**

**I. TYPE OF PERMIT ACTION (Check appropriate box)**

- SIGNIFICANT PERMIT MODIFICATION                       ADMINISTRATIVE  
 MINOR PERMIT MODIFICATION                                       AMENDMENT

COMPANY NAME: Pacific Gas & Electric Co.	FACILITY ID: N-608
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name: Pacific Gas & Electric Co.	
3. Agent to the Owner: Jane Yura	

**II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial all circles for confirmation):**

- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).
- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.
- Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
- Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

Signature of Responsible Official

1/27/14  
 Date

Jane Yura  
 Name of Responsible Official (please print)

Vice President, Gas Operations Asset and Risk Management  
 Title of Responsible Official (please print)