



# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178  
(909) 396-2000 • www.aqmd.gov

May 13, 2015

Mr. Gerardo C. Rios  
Chief, Permit Office  
US EPA Region IX Air 3  
75 Hawthorne Street  
San Francisco, CA 94105-3901

Dear Mr. Rios:

Praxair (ID 007416) has proposed to revise their RECLAIM/Title V Permit due to the addition of two emergency IC engines (D36 & D37), replacement of two boilers (D30 & D31) with a new heater (D35), and changing the responsible official. This is an industrial gas manufacturing facility (SIC 2813) located at 2300 E. Pacific Coast Highway, Wilmington, CA 90744. This proposed permit revision as requested under A/N 568153 is considered a "Significant Revision," to their RECLAIM/Title V Permit. Enclosed for your review are the permit evaluation and the proposed permit. With your receipt of the proposed RECLAIM/Title V permit revision today, we will note that the EPA 45-day review period will begin on May 13, 2015.

If you have any questions or need additional information regarding the proposed permit revision, please contact Ms. Tracy Nguyen at (909) 396-2427.

Sincerely,

Mohan Balagopalan  
Senior Engineering Manager  
Chemical, Mechanical, and Ports Permitting

MB:TN

Enclosures:

Proposed Title V Permit  
Permit Evaluation

**FACILITY PERMIT TO OPERATE  
PRAXAIR INC**

**SECTION A: FACILITY INFORMATION**

**LEGAL OWNER &/OR OPERATOR:** PRAXAIR INC

**LEGAL OPERATOR (if different than owner):**

**EQUIPMENT LOCATION:** 2300 E PACIFIC COAST HWY  
WILMINGTON, CA 90744-2919

**MAILING ADDRESS:** 2300 E PACIFIC COAST HWY  
WILMINGTON, CA 90744-2919

**RESPONSIBLE OFFICIAL:** DOUGLAS SHEARER

**TITLE:** ASSOCIATE DIRECTOR OF OPERATIONS,  
SOCAL

**TELEPHONE NUMBER:** (562) 983-2175

**CONTACT PERSON:** LAURA CREMER

**TITLE:** ENVIRONMENTAL SPECIALIST

**TELEPHONE NUMBER:** (925) 866-6851

**TITLE V PERMIT ISSUED:** August 23, 2013

**TITLE V PERMIT EXPIRATION DATE:** August 22, 2018

<b>TITLE V</b>	<b>RECLAIM</b>
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<b>YES</b>	<b>NOx:</b>	<b>YES</b>
	<b>SOx:</b>	<b>NO</b>
	<b>CYCLE:</b>	<b>1</b>
	<b>ZONE:</b>	<b>COASTAL</b>





## FACILITY PERMIT TO OPERATE PRAXAIR INC

### SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
<b>Process 9: INTERNAL COMBUSTION</b>					
INTERNAL COMBUSTION ENGINE, EMERGENCY POWER, CUMMINS, MODEL QST30-G5, 1490 BHP, WITH AN INTEGRATED AFTERTREATMENT SYSTEM, CUMMINS, MODEL S4F-H-T4F WITH A/N:  FILTER, DIESEL PARTICULATE FILTER, WITH AN ELECTRIC HEATER  SELECTIVE CATALYTIC REDUCTION	D37		NOX: PROCESS UNIT**	CO: 2.6 GRAM/BHP-HR DIESEL (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; 40CFR 60 Subpart III, 1-30-2013]; NOX: 0.5 GRAM/BHP-HR DIESEL (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; 40CFR 60 Subpart III, 1-30-2013]; NOX: 469 LBS/1000 GAL DIESEL (1) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; PM: 0.02 GRAM/BHP-HR DIESEL (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; 40CFR 60 Subpart III, 1-30-2013]; ROG: 0.19 GRAM/BHP-HR DIESEL (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; 40CFR 60 Subpart III, 1-30-2013]	D12.4, E175.1, E193.1, E448.2, H23.6, I296.2, K48.2

\* (1) (1A) (1B) Denotes RECLAIM emission factor  
 (3) Denotes RECLAIM concentration limit  
 (5) (5A) (5B) Denotes command and control emission limit  
 (7) Denotes NSR applicability limit  
 (9) See App B for Emission Limits  
 (2) (2A) (2B) Denotes RECLAIM emission rate  
 (4) Denotes BACT emission limit  
 (6) Denotes air toxic control rule limit  
 (8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)  
 (10) See section J for NESHAP/MACT requirements

\*\* Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

**FACILITY PERMIT TO OPERATE  
PRAXAIR INC**

**SECTION H: DEVICE ID INDEX**

**The following sub-section provides an index  
to the devices that make up the facility  
description sorted by device ID.**

**FACILITY PERMIT TO OPERATE  
PRAXAIR INC**

**SECTION H: DEVICE ID INDEX**

<b>Device Index For Section H</b>			
<b>Device ID</b>	<b>Section H Page No.</b>	<b>Process</b>	<b>System</b>
D35	1	2	0
D36	2	9	0
D37	3	9	0

## FACILITY PERMIT TO OPERATE PRAXAIR INC

### SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

#### FACILITY CONDITIONS

F9.1 Except for open abrasive blasting operations, the operator shall not discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

(a) As dark or darker in shade as that designated No.1 on the Ringelmann Chart, as published by the United States Bureau of Mines; or

(b) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subparagraph (a) of this condition.

[RULE 401, 3-2-1984; RULE 401, 11-9-2001]

F14.1 The operator shall not use diesel fuel containing sulfur compounds in excess of 0.05 percent by weight.

[RULE 431.2, 5-4-1990; RULE 431.2, 9-15-2000]

F14.2 The operator shall not use diesel fuel containing sulfur compounds in excess of 15 ppm by weight as supplied by the supplier.

[RULE 431.2, 5-4-1990; RULE 431.2, 9-15-2000]

F24.1 Accidental release prevention requirements of Section 112(r)(7):

a). The operator shall comply with the accidental release prevention requirements pursuant to 40 CFR Part 68 and shall submit to the Executive Officer, as a part of an annual compliance certification, a statement that certifies compliance with all of the requirements of 40 CFR Part 68, including the registration and submission of a risk management plan (RMP).

b). The operator shall submit any additional relevant information requested by the Executive Officer or designated agency.

[40CFR 68 - Accidental Release Prevention, 5-24-1996]

## FACILITY PERMIT TO OPERATE PRAXAIR INC

### SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

#### DEVICE CONDITIONS

##### C. Throughput or Operating Parameter Limits

C1.4 The operator shall limit the heat input to no more than 90,000 MM Btu in any one year.

The purpose(s) of this condition is to ensure that this equipment qualifies as a large source.

To comply with this condition, the operator shall install and maintain a(n) non-resettable totalizing fuel meter to accurately indicate the fuel usage from the fuel supply line.

The operator shall maintain records in a manner approved by the District, to demonstrate compliance with this condition.

[RULE 2012, 5-6-2005]

[Devices subject to this condition : D35]

C1.6 The operator shall limit the fuel usage to no more than 12,885,715 cubic feet in any one calendar month.

To comply with this condition, the operator shall install and maintain a(n) non-resettable totalizing fuel meter to accurately indicate the fuel usage from the fuel supply line.

The operator shall maintain records in a manner approved by the District, to demonstrate compliance with this condition.

[RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002; RULE 2012, 5-6-2005]

[Devices subject to this condition : D35]

## FACILITY PERMIT TO OPERATE PRAXAIR INC

### SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

#### D. Monitoring/Testing Requirements

D12.4 The operator shall install and maintain a(n) non-resettable elapsed time meter to accurately indicate the elapsed operating time of the engine.

[**RULE 1110.2, 2-1-2008**; **RULE 1110.2, 9-7-2012**; **RULE 1304(a)-Modeling and Offset Exemption, 6-14-1996**; **RULE 1470, 5-4-2012**]

[Devices subject to this condition : D36, D37]

D28.5 The operator shall conduct source test(s) in accordance with the following specifications:

The test shall be conducted to determine the CO emissions at the outlet.

The test shall be conducted at least once every three years.

The test shall be conducted to demonstrate compliance with the CO concentration limits..

[**RULE 1146, 11-17-2000**; **RULE 1146, 11-1-2013**]

[Devices subject to this condition : D35]

#### E. Equipment Operation/Construction Requirements

E175.1 The operator shall not use this equipment unless all exhaust air passes through the following:

The Aftertreatment System, which is in full operation when the engine is operated.

[**RULE 1303(a)(1)-BACT, 5-10-1996**; **RULE 1303(a)(1)-BACT, 12-6-2002**]

[Devices subject to this condition : D36, D37]

E193.1 The operator shall operate and maintain this equipment according to the following requirements:

## FACILITY PERMIT TO OPERATE PRAXAIR INC

### SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

#### **The operator shall comply with the terms and conditions set forth below:**

The aftertreatment system shall be operated and maintained in accordance with manufacturer recommendations.

Diesel Particulate Filter (DPF) must be cleaned or replaced with clean filters after every 3000 hours of operation.

The operator shall install and maintain a backpressure monitoring device to notify the owner or operator when the high backpressure limit of the engine is approached. The high backpressure limit of this equipment shall be set at 30 inches of water column.

The Diesel Exhaust Fluid (DEF) injection rate shall be no more than 3.64 gallons per hour.

The operator shall install and maintain a temperature measuring device to accurately indicate the temperature in the SCR in degrees Fahrenheit. The temperature in the SCR shall not exceed 930 degrees Fahrenheit.

The operator shall keep adequate records of inspections, cleaning, replacements, and maintenance. All records shall be prepared in a format which is acceptable to the District, retained on the premises for at least five years and made available to District personnel upon request.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1470, 5-4-2012]

[Devices subject to this condition : D36, D37]

E448.2 The operator shall comply with the following requirements:

## FACILITY PERMIT TO OPERATE PRAXAIR INC

### SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

**The operator shall comply with the terms and conditions set forth below:**

The engine shall not be operated more than 200 hours in any one year, which includes 50 hours in any one year for maintenance and testing.

Operation beyond the allotted time for engine maintenance and testing shall be allowed only in the event of a loss of grid power or up to 30 minutes prior to a rotating outage, provided that the utility distribution company has ordered rotating outages in the control area where the engine is located or has indicated that it expects to issue such an order at a certain time, and the engine is located in a utility service block that is subject to the rotating outage.

In the event as described in the paragraph above, the engine shall be terminated immediately after the utility distribution company advises that a rotating outage is no longer imminent or in effect.

This engine shall not be used as part of an interruptible service contract in which a facility receives a payment or reduced rates in return for reducing electric load on the grid when requested by the utility or the grid operator.

**[RULE 1110.2, 2-1-2008; RULE 1110.2, 9-7-2012; RULE 1304(a)-Modeling and Offset Exemption, 6-14-1996; RULE 1470, 5-4-2012; RULE 2012, 5-6-2005]**

[Devices subject to this condition : D36, D37]

#### **H. Applicable Rules**

H23.6 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
Sulfur compounds	District Rule	431.2
PM	District Rule	1470

**[RULE 1470, 5-4-2012; RULE 431.2, 5-4-1990; RULE 431.2, 9-15-2000]**

[Devices subject to this condition : D36, D37]

## FACILITY PERMIT TO OPERATE PRAXAIR INC

### SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

**The operator shall comply with the terms and conditions set forth below:**

#### **I. Administrative**

- 1296.1 This equipment shall not be operated unless the operator demonstrates to the Executive Officer that the facility holds sufficient RTCs to offset the annual emissions increase for the first 12 months of operation. In addition, this equipment shall not be operated unless the operator demonstrates to the Executive Officer that, at the commencement of each compliance year after the start of operation, the facility holds sufficient RTCs in an amount equal to the annual emissions increase.

For the purposes of this condition, the annual emission increase is 984 lbs. of NO<sub>x</sub>

RTCs held for the purpose of demonstrating compliance with this condition either at the commencement of initial operation or of a compliance year may be sold only after 12 months of start of initial operation or after the fourth quarter of the applicable compliance year, respectively.

[RULE 2012, 5-6-2005]

[Devices subject to this condition : D35]

- 1296.2 This equipment shall not be operated unless the operator demonstrates to the Executive Officer that the facility holds sufficient RTCs to offset the annual emissions increase for the first 12 months of operation. In addition, this equipment shall not be operated unless the operator demonstrates to the Executive Officer that, at the commencement of each compliance year after the start of operation, the facility holds sufficient RTCs in an amount equal to the annual emissions increase.

For the purposes of this condition, the annual emission increase is 328 lbs. of NO<sub>x</sub>

RTCs held for the purpose of demonstrating compliance with this condition either at the commencement of initial operation or of a compliance year may be sold only after 12 months of start of initial operation or after the fourth quarter of the applicable compliance year, respectively.

[RULE 2012, 5-6-2005]

## FACILITY PERMIT TO OPERATE PRAXAIR INC

### SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

**The operator shall comply with the terms and conditions set forth below:**

[Devices subject to this condition : D36, D37]

#### **K. Record Keeping/Reporting**

K48.2 The operator shall maintain records in a manner approved by the District, to demonstrate compliance with the following condition number(s):

Condition Number D 12- 4

Condition Number E 448- 2

[**RULE 1304(a)-Modeling and Offset Exemption, 6-14-1996; RULE 1470, 5-4-2012**]

[Devices subject to this condition : D36, D37]

#### **L. Expiration Date**

L341.1 Prior to the start-up of operation of this equipment, the following device(s) shall be removed from operation:

D30

D31

[**RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002**]

[Devices subject to this condition : D35]

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**ENGINEERING AND COMPLIANCE**

**APPLICATION PROCESSING AND CALCULATION**

Page 1 of 16

Date: 3/3/15

ANs: 567734-36, 568153

PROCESSED BY: TN

CHECKED BY: DG

**PERMIT TO CONSTRUCT EVALUATION**

Application name: PRAXAIR INC. (FACILITY ID#7416)

Mailing Address: 2300 E. Pacific Coast Highway  
Wilmington, CA 90744

Equipment address: 2300 E. Pacific Coast Highway  
Wilmington, CA 90744

**EQUIPMENT DESCRIPTIONS:**

**SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE**

Equipment	ID No.	Connected to	RECLAIM Source Type/ Monitoring Unit	Emission and Requirements	Conditions
<b>Process 2: EXTERNAL COMBUSTION</b>					
HEATER, NATURAL GAS, CRYOQUIP, MODEL VFTU-11-1000-21-25, FIRE-TUBE TYPE, WITH TWO LOW NOX BURNERS, EACH RATED 20.5 MMBTU/HR A/N: 567734	D 35		NOX: LARGE SOURCE**	CO: 50 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1) -BACT, 12-6-2002]; CO: 400 PPMV NATURAL GAS (5B) [RULE 1146, 11-17-2000]; CO: 2000 PPMV NATURAL GAS (5A) [RULE 407, 4-2-1982]; NOX: 9 PPMV NATURAL GAS (4) [RULE 2005, 6-3-2011]; NOX: 9 PPMV NATURAL GAS (3) [RULE 2012, 5-6-2005]; PM: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]	C1.4, D28.5, I296.1, L341.1
BURNER, NATURAL GAS, INDUSTRIAL COMBUSTION, MODEL MPHG-210, 2 TOTAL; 20.5 MMBTU/HR					
<b>Process 7: INTERNAL COMBUSTION EQUIPMENT</b>					
INTERNAL COMBUSTION ENGINE, EMERGENCY POWER, DIESEL FUEL, CUMMINS, MODEL QST30-G5, WITH AN INTEGRATED AFTERTREATMENT SYSTEM, CUMMINS, MODEL S4F-H-T4F, 1490 BHP A/N: 567735	D36		NOX: PROCESS UNIT**	CO: 2.6 GRAM/BHP-HR DIESEL (4) [RULE1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002];  NOX: 0.5 GRAM/BHP-HR DIESEL (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002];  ROG: 0.19 GRAM/BHP-HR DIESEL (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002];  PM10: 0.02GRAM/BHP-HR DIESEL (4) [RULE 1303(a)(1)-	C1.4, D12.4, I296.1, K48.2

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**ENGINEERING AND COMPLIANCE**

**APPLICATION PROCESSING AND CALCULATION**

Page 2 of 16

Date: 3/3/15

ANs: 567734-36, 568153

PROCESSED BY: TN

CHECKED BY: DG

				<p>BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; 1303(a)(1)-BACT, 12-6-2002</p>	
<p><b>INTERNAL COMBUSTION ENGINE, EMERGENCY POWER, DIESEL FUEL, CUMMINS, MODEL QST30-G5, WITH AN INTEGRATED AFTERTREATMENT SYSTEM, CUMMINS, MODEL S4F-H-T4F, 1490 BHP</b></p> <p>A/N: 567736</p>	<p>D37.</p>		<p><b>NOX: PROCESS UNIT**</b></p>	<p><b>CO: 2.6 GRAM/BHP-HR DIESEL (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002];</b></p> <p><b>NOX: 0.5 GRAM/BHP-HR DIESEL (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002];</b></p> <p><b>ROG: 0.19 GRAM/BHP-HR DIESEL (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002];</b></p> <p><b>PM10: 0.02GRAM/BHP-HR DIESEL (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002</b></p>	<p>C1.4, C1.6, D12.4, I296.1, K48.2</p>

**PERMIT CONDITIONS:**

C1.4 The operator shall limit the heat input to no more than 90,000 MM Btu in any one year.

The purpose(s) of this condition is to ensure that this equipment qualifies as a large source.

To comply with this condition, the operator shall install and maintain a(n) non-resettable totalizing fuel meter to accurately indicate the fuel usage from the fuel supply line.

The operator shall maintain records in a manner approved by the District, to demonstrate compliance with this condition.

[RULE 2012, 5-6-2005]

[Devices subject to this condition: D35]

C1.6 The operator shall limit the fuel usage to no more than 12,885,715 cubic feet in any one calendar month.

To comply with this condition, the operator shall install and maintain a(n) non-resettable totalizing fuel meter to accurately indicate the fuel usage from the fuel supply line.

The operator shall maintain records in a manner approved by the District, to demonstrate compliance with this condition.

[RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition: D35]

D12.4 The operator shall install and maintain a(n) non-resettable elapsed time meter to accurately indicate the elapsed operating time of the engine.

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**ENGINEERING AND COMPLIANCE**

**APPLICATION PROCESSING AND CALCULATION**

Page 3 of 16

Date: 3/3/15

ANs: 567734-36, 568153

PROCESSED BY: TN

CHECKED BY: DG

**[RULE 1304(a)-Modeling and Offset Exemption, 6-14-1996; RULE 1470, 5-4-2012]**  
[Devices subject to this condition: D36, D37]

D28.5 The operator shall conduct source test(s) in accordance with the following specifications:

The test shall be conducted to determine the CO emissions at the outlet.

The test shall be conducted at least once every three years.

The test shall be conducted to demonstrate compliance with the CO concentration limits.

**[RULE 1146, 11-17-2000; RULE 1146, 11-1-2013]**

[Devices subject to this condition: D35]

E175.1 The operator shall not use this equipment unless all exhaust air passes through the following:

The aftertreatment system, which is in full operation when the engine is operated.

**[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]**

[Devices subject to this condition: D36, D37]

E193.1 The operator shall operate and maintain this equipment according to the following requirements:

The aftertreatment system shall be operated and maintained in accordance with manufacturer recommendations.

Diesel Particulate Filter (DPF) must be cleaned or replaced with clean filters after every 3000 hours of operation.

The operator shall install and maintain a backpressure monitoring device to notify the owner or operator when the high backpressure limit of the engine is approached. The high backpressure limit of this equipment shall be set at 30 inches of water column.

The Diesel Exhaust Fluid (DEF) injection rate shall be no more than 3.64 gallons per hour.

The operator shall install and maintain a temperature measuring device to accurately indicate the temperature in the SCR in degrees Fahrenheit. The temperature in the SCR shall not exceed 930 degrees Fahrenheit.

The operator shall keep adequate records of inspections, cleaning, replacements, and maintenance. All records shall be prepared in a format which is acceptable to the District, retained on the premises for at least five years and made available to District personnel upon request.

**[RULE 1470, 5-4-2012]**

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**ENGINEERING AND COMPLIANCE**

**APPLICATION PROCESSING AND CALCULATION**

Page 4 of 16

Date: 3/3/15

ANs: 567734-36, 568153

PROCESSED BY: TN

CHECKED BY: DG

[**RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002**]

[Devices subject to this condition: D36, D37]

E448.2 The operator shall comply with the following requirements:

The engine shall not be operated more than 200 hours in any one year, which includes 50 hours in any one year for maintenance and testing.

Operation beyond the allotted time for engine maintenance and testing shall be allowed only in the event of a loss of grid power or up to 30 minutes prior to a rotating outage, provided that the utility distribution company has ordered rotating outages in the control area where the engine is located or has indicated that it expects to issue such an order at a certain time, and the engine is located in a utility service block that is subject to the rotating outage.

In the event as described in the paragraph above, the engine shall be terminated immediately after the utility distribution company advises that a rotating outage is no longer imminent or in effect.

This engine shall not be used as part of an interruptible service contract in which a facility receives a payment or reduced rates in return for reducing electric load on the grid when requested by the utility or the grid operator.

[**RULE 1110.2, 2-1-2008; RULE 1110.2, 9-7-2012; RULE 1304(a)-Modeling and Offset Exemption, 6-14-1996; RULE 1470, 5-4-2012; RULE 2012, 5-6-2005**]

[Devices subject to this condition: D36, D37]

H23.6 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant Rule	Rule	Rule/ Subpart
Sulfur Compounds	District Rule	341.2
PM	District Rule	1470

[**RULE 1470, 5-4-2012; RULE 431.2, 5-4-1990; RULE 431.2, 9-15-2000**]

[Devices subject to this condition: D36, D37]

I296.1 This equipment shall not be operated unless the operator demonstrates to the Executive Officer that the facility holds sufficient RTCs to offset the annual emissions increase for the first 12 months of operation. In addition, this equipment shall not be operated unless the operator demonstrates to the Executive Officer that, at the commencement of each compliance year after

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**ENGINEERING AND COMPLIANCE**

**APPLICATION PROCESSING AND CALCULATION**

Page 5 of 16

Date: 3/3/15

ANs: 567734-36, 568153

PROCESSED BY: TN

CHECKED BY: DG

the start of operation, the facility holds sufficient RTCs in an amount equal to the annual emissions increase.

For the purposes of this condition, the annual emission increase is 984 lbs. of NOx.

RTCs held for the purpose of demonstrating compliance with this condition either at the commencement of initial operation or of a compliance year may be sold only after 12 months of start of initial operation or after the fourth quarter of the applicable compliance year, respectively.

**[RULE 2012, 5-6-2005]**

[Devices subject to this condition: D35]

I296.2 This equipment shall not be operated unless the operator demonstrates to the Executive Officer that the facility holds sufficient RTCs to offset the annual emissions increase for the first 12 months of operation. In addition, this equipment shall not be operated unless the operator demonstrates to the Executive Officer that, at the commencement of each compliance year after the start of operation, the facility holds sufficient RTCs in an amount equal to the annual emissions increase.

For the purposes of this condition, the annual emission increase is 328 lbs. of NOx.

RTCs held for the purpose of demonstrating compliance with this condition either at the commencement of initial operation or of a compliance year may be sold only after 12 months of start of initial operation or after the fourth quarter of the applicable compliance year, respectively.

**[RULE 2012, 5-6-2005]**

[Devices subject to this condition: D36, D37]

K48.2 The operator shall maintain records in a manner approved by the District, to demonstrate compliance with the following condition number(s):  
Condition Number D 12- 4

**[RULE 1304(a)-Modeling and Offset Exemption, 6-14-1996; RULE 1470, 5-4-2012]**

[Devices subject to this condition: D36, D37]

L341.1 Prior to the start-up of operation of this equipment, the following device(s) shall be removed from operation:

D30

D31

**[RULE 1304(c)-Offset Exemption, 6-14-1996]**

[Devices subject to this condition: D35]

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**ENGINEERING AND COMPLIANCE**

**APPLICATION PROCESSING AND CALCULATION**

Page 6 of 16

Date: 3/3/15

ANs: 567734-36, 568153

PROCESSED BY: TN

CHECKED BY: DG

**BACKGROUND:**

Praxair is a RECLAIM and Title V facility. This facility manufactures industrial gases (nitrogen, oxygen and argon) from ambient air. Praxair submitted the following applications on 08/20/2014:

**AN 567734:** This application was submitted for a new heater, which will replace the two permitted boilers (D30 (AN 446208) and D31 (AN 446209)). The new heater (D35) shall be used to provide heat for a water bath, which will be used to vaporize the liquid nitrogen to nitrogen gas. The boilers D30 and D31 will be required to cease operation when the new heater D35 is installed. A permit condition L341.1 shall be added to the heater D35 to restrict the use of the boilers (D30 and D31) once the new heater (D35) is installed.

In addition, Praxair wants to take the limit of 90 billion Btu per year or less to be classified as Large Source. Permit condition No. C1.4 shall be added to the heater D35 to restrict the usage of the heater.

**ANs 567735-36:** These applications were submitted for two identical emergency backup generators.

**AN 568153:** Facility Permit Amendment for the changes described in the applications above. In addition, Praxair also requested for the following administrative changes for the following:

- Replace rule 219 exempted equipment E28 with a new hot water pressure washer, model No. Landa Hot2-15024D, rated 160,000 Btu/hr. The new hot water pressure washer shall be added in Appendix A as rule 219 exempt NOx emitting equipment. E28 was not supposed to be listed under Section D. Therefore, E28 will be removed from section D.

*(Notes: as last minutes request from the applicant, the new hot pressure washer shall not be installed at the facility (see email dated 4/6/15. Therefore, the hot pressure washer shall not be added in Appendix A of the permit).*

- Change of the Responsible Official from Don Medling to Douglas Shearer.

This is a significant permit revision to their RECLAIM/ Title V facility permit since the IC engines are subject to NSPS & NESHAP (per rule 3000(b)(31)(I).

**PROCESS DESCRIPTION:**

**ANs 567735-36:** These IC engines will be used as emergency power generators. Each engine will consume 72.7 gallons of diesel fuel per hour at full load capacity. The engines will be exercised maximum one hour per day, one day per week, and 52 weeks

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**ENGINEERING AND COMPLIANCE**

**APPLICATION PROCESSING AND CALCULATION**

Page 7 of 16

Date: 3/3/15

ANs: 567734-36, 568153

PROCESSED BY: TN

CHECKED BY: DG

per year; the maximum number of operating hour for this engine is 200 hrs, including testing and maintenance time.

**AN 568153:** The new heater (D35) shall be used to provide heat for a water bath, which will be used to convert liquid nitrogen to nitrogen gas. Liquid nitrogen is fed into a coil imbedded in the water bath tank. The heated water (at 160°F, heated by heater D35) vaporizes the liquid nitrogen, which is then discharged at 70°F. the collected nitrogen gas is then sent to customers by tanker trucks or railcars.

**EMISSION EVALUATION:**

**I. AN 567734- Heater D35:**

Default emission factors for a natural gas heater were taken from "General Instruction Book for the AQMD 2006-2007- Annual Emission Reporting Program", Appendix A- Table 1):

- ROG = 5.5 lb/MMscf.
- SOx = 0.6 lb/MMscf
- PM = 7.5 lb/MMscf (assume PM=PM10- see notes below)
- NOx = 9 ppmv (BACT requirement)
- CO = 50 ppmv (BACT requirement for fire-tube type)

*Notes: We normally assume PM10= PM for combustion emission. However, the previous evaluation for D30 and D31 (ANs 446208-09) assumed PM10= 50% PM (see attached evaluation for ANs 446208-09). Per Stacey Ebner's instruction, PM emission for D30 and D31 should be recalculated and adjusted to reflect current standard. Therefore, PM10 emission for D30 and D31 will be adjusted in NSR as calculated in Appendix E)*

Maximum Load : 100%

Fuel Used: Natural gas

Burner rating: 41 MMBTU/hr

Maximum Operating Schedule: 11 hrs/day; 7 days/week; 52 weeks/yr ( or 90,000 MMBtu/year)

$$\text{Emission}_{\text{ROG,SOX,PM10}} (\text{lb/hr}) = Q \times \frac{1 \text{ ft}^3}{1050 \text{ Btu}} \times \text{EF}_{\text{ROG,SOX,PM10}}$$

$$\text{Emission}_{\text{NOX,CO}} (\text{lb/hr}) = Q \times \frac{8710 \text{ dscf}}{10^6 \text{ Btu}} \times (\text{ppm}) \times \frac{20.9}{(20.9 - \%O_2)} \times \frac{MW}{385 \text{ scf}}$$

- Where: Q= maximum, rated input (MMBtu/hr)= 41 MMBtu/hr
- EF= Emission factor (lb/10<sup>6</sup>ft<sup>3</sup>)
- MW= Molecular weight (lb/lb-mole)
- ppm= part per million (Ex: 9ppm = 9)

Emissions calculated as follow:

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**ENGINEERING AND COMPLIANCE**

**APPLICATION PROCESSING AND CALCULATION**

Page 8 of 16

Date: 3/3/15

ANs: 567734-36, 568153

PROCESSED BY: TN

CHECKED BY: DG

		Lb/hr	Lb/day	Lb/year	30 day ave.
ROG	R1=R2	2.148E-01	2.36	471.43	2.36
SOX	R1=R2	2.343E-02	0.26	51.43	0.26
PM10	R1=R2	2.929E-01	3.22	642.86	3.22
NOX	R1=R2	4.484E-01	4.93	984.22	4.93
CO	R1=R2	1.516E+00	16.68	3328.29	16.68

**Greenhouse gases emissions:**

Greenhouse gases emissions shall be calculated based on the following emission factors (for natural gas) :

$$\text{CO}_2 = 53.02 \text{ kg/MMBtu} = 116.89 \text{ lb/MMBtu}$$

$$\text{CH}_4 = 0.9 \text{ g/MMBtu} = 1.9841 \times 10^{-3} \text{ lb/MMBtu}$$

$$\text{N}_2\text{O} = 0.10 \text{ g/MMBtu} = 2.2046 \times 10^{-4} \text{ lb/MMBtu}$$

Greenhouse gases emissions are calculated in the table below:

	Lb/hr	Lb/day	Lb/year
CO <sub>2</sub>	4.7925E+03	5.2717E+04	1.0520E+07
CH <sub>4</sub>	8.1348E-02	8.9483E-01	1.7857E+02
N <sub>2</sub> O	9.0389E-03	9.9427E-02	1.9841E+01

**Rule 404-particulate matter concentration calculation:**

Discharge air flow = 5,610 cfm.

Calculated PM10 emission = 3.22 lb/day = 0.293 lb/hr

$$\text{PM concentration} = \frac{0.293 \text{ lb}}{\text{hr}} \times \frac{7000 \text{ grains}}{\text{lb}} \times \frac{1 \text{ hr}}{60 \text{ min.}} \times \frac{\text{min.}}{5610 \text{ ft}^3} = 0.006 \text{ grains/ft}^3$$

**Rule 407 calculations:**

$$\text{SOX (ppm)} = \frac{0.02343 \text{ lb/hr}}{\frac{41,000,000 \text{ btu/hr}}{23,440 \text{ btu/lb}} \times 64 \frac{\text{lb}}{\text{mol}} \times 0.618 \frac{\text{mol}}{\text{lb}}} = 0.34 \text{ ppm}$$

$$\text{CO (ppm)} = \frac{1.516 \text{ lb/hr}}{\frac{41,000,000 \text{ btu/hr}}{23,440 \text{ btu/lb}} \times 28 \frac{\text{lb}}{\text{mol}} \times 0.618 \frac{\text{mol}}{\text{lb}}} = 50 \text{ ppm}$$

**Fuel usage Limit:**

This equipment was proposed to operate only 11 hrs/ days; 7 days/week. Therefore, maximum monthly limit of fuel usage shall be calculated for NSR purpose:

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**ENGINEERING AND COMPLIANCE**

**APPLICATION PROCESSING AND CALCULATION**

Page 9 of 16

Date: 3/3/15

ANs: 567734-36, 568153

PROCESSED BY: TN

CHECKED BY: DG

Maximum Operating Schedule: 11 hrs/day; 30 days/month

Burner rating: 41 MMBTU/hr

$$\text{Maximum monthly fuel usage} = \frac{41,000,000 \text{ Btu}}{\text{hr}} \times \frac{1 \text{ ft}^3}{1050 \text{ Btu}} \times \frac{11 \text{ hrs}}{\text{day}} \times \frac{30 \text{ days}}{\text{month}} = 12,885,715 \text{ scf / month}$$

Permit condition No. C1.6 shall be added to the heater D35 to restrict the fuel usage to 12,885,715 scf/month for offset/NSR purposes.

In addition to the monthly fuel usage above, to be classified as Large Source, this equipment shall be limited to 90,000 MMBtu per year (see permit condition No. C1.4).

**Emission Increases/Decreases:**

				Lb/hr	Lb/day	Lb/year	30 day ave.
Current Emission (After NSR adjustment for PM10- See Appendix E)	AN 446208- D30	ROG	R1=R2	0.068	1.63	582	1.63
		SOX	R1=R2	0.008	0.192	70	0.192
		PM10	R1=R2	0.07286	1.75	636.48	1.75
		NOX	R1=R2	0.09	2.16	786	NA
		CO	R1=R2	0.38	9.12	3320	9.12
	AN 446209- D31	ROG	R1=R2	0.068	1.63	582	1.63
		SOX	R1=R2	0.008	0.192	70	0.192
		PM10	R1=R2	0.07286	1.75	636.48	1.75
		NOX	R1=R2	0.09	2.16	786	NA
		CO	R1=R2	0.38	9.12	3320	9.12
After Replacement	AN 567734- D35	ROG	R1=R2	2.148E-01	2.36	471.43	2.36
		SOX	R1=R2	2.343E-02	0.26	51.43	0.26
		PM10	R1=R2	2.929E-01	3.22	642.86	3.22
		NOX	R1=R2	4.484E-01	4.93	984.22	4.93
		CO	R1=R2	1.516E+00	16.68	3328.29	16.68
Emission Increases/Decreases		ROG	R1=R2	0.079	-0.898	-692.571	-0.898
		SOX	R1=R2	0.007	-0.126	-88.571	-0.126
		PM10	R1=R2	0.147	-0.279	-630.103	-0.279
		NOX	R1=R2	0.268	0.612	-587.777	NA
		CO	R1=R2	0.756	-1.562	-3311.709	-1.562

**II. ANs 567735-36-Emergency IC engines (D36 & D37):**

Operating Schedule: 1 hrs/day; 1 day/week; 52 weeks/year (emissions will be calculated based on this operating schedule- see email from Mike Mill (dated 04/24/07) in Appendix B.

I.C Engine rated at: 1490 bhp/engine = 1111kw/engine

Fuel used: Diesel

Fuel consumption rate: 72.7 gallons/hr/engine

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**ENGINEERING AND COMPLIANCE**

**APPLICATION PROCESSING AND CALCULATION**

Page 10 of 16

Date: 3/3/15

ANs: 567734-36, 568153

PROCESSED BY: TN

CHECKED BY: DG

Since this equipment was certified to meet EPA Tier 4 Final Requirements, we will use these Tier 4 requirements as emission factors for calculation:

EF<sub>NMHC</sub> = 0.19 g/kW-hr or 0.14 g/bhp-hr (Tier 4 requirement)

EF<sub>NOX</sub> = 0.67 g/kW-hr or 0.5 g/bhp-hr (Tier 4 requirement)

EF<sub>CO</sub> = 3.5 g/kW-hr or 2.61g/bhp-hr (Tier 4 requirement)

EF<sub>PM</sub> = 0.03 g/kW-hr or 0.022 g/bhp-hr (Tier 4 requirement)

EF<sub>SOX</sub> = 7.1x10<sup>-3</sup> lb/gallon (General Instruction Book for 2005-2006 Annual Emission Report- Appendix A-Table 2)

EF<sub>NH3</sub> = 10 ppmv @ 15% O2 (Manufacturer's guaranty- see email dated May 6, 2015)

$$\text{Emission}_{\text{NOX,CO,PM10}} (\text{lb/hr}) = kW \times EF_{\text{ROG,NOX,CO,PM10}} \times \frac{\text{lb.}}{453.6\text{g}}$$

$$\text{Emission}_{\text{SOX, ROG}} (\text{lb/hr}) = EF_{\text{SOX}} \times FC$$

$$\text{Emission}_{\text{NH3}} (\text{lb/hr}) = Q \times \frac{9190 \text{ dscf}}{10^6 \text{ Btu}} \times (\text{ppm}) \times \frac{20.9}{(20.9 - \%O2)} \times \frac{MW}{385 \text{ scf}}$$

Where: kW= power of the engine= 1490 Hp = 1111 kW  
 Q= maximum, rated input (MMBtu/hr)= 3.794581 MMBtu/hr (converted from 1490Hp)  
 EF= Emission factor (g/kW-hr for CO, PM10, NOx, ROG) or (lb/gallon for SOX)  
 FC= fuel consumption rate (gal/hr)= 72.7 gallons/hr

Emissions calculated for EACH engine as follow:

		lb/hr	lb/day	lb/year	30-day ave. (lb/day)
R1=R2	ROG	4.654E-01	4.654E-01	9.307E+01	0.08
R1=R2	SOx	5.162E-01	5.162E-01	1.032E+02	0.09
R1=R2	PM10	7.348E-02	7.348E-02	1.470E+01	0.01
R1=R2	NOx	1.641E+00	1.641E+00	3.282E+02	0.27
R1=R2	CO	8.573E+00	8.573E+00	1.715E+03	1.43
R1=R2	NH3	0.0545459	0.0545459	1.091E+01	0.009

**Greenhouse gases emissions:**

Greenhouse gases emissions shall be calculated based on the following emission factors (for Diesel):

CO<sub>2</sub> = 1.12886543 lb/bhp-hr

CH<sub>4</sub> = 0.000022 lb/bhp-hr

N<sub>2</sub>O = 0.000015 lb/bhp-hr

Power of the engine= 1490 Hp

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**ENGINEERING AND COMPLIANCE**

**APPLICATION PROCESSING AND CALCULATION**

Page 11 of 16  
 Date: 3/3/15  
 ANs: 567734-36, 568153  
 PROCESSED BY: TN  
 CHECKED BY: DG

Greenhouse gases emissions are calculated in the table below:

	Lb/hr	Lb/day	Lb/year
CO <sub>2</sub>	1.6820E+03	1.6820E+03	8.4100E+04
CH <sub>4</sub>	3.2780E-02	3.2780E-02	1.6390E+00
N <sub>2</sub> O	2.2350E-02	2.2350E-02	1.1175E+00

**EMISSION SUMMARY:**

				Lb/hr	Lb/day	Lb/year	30 day ave.
Current Emission (After NSR adjustment for PM10- See Appendix E)	AN 446208- D30	ROG	R1=R2	0.068	1.63	582	1.63
		SOX	R1=R2	0.008	0.192	70	0.192
		PM10	R1=R2	0.07286	1.75	636.48	1.75
		NOX	R1=R2	0.09	2.16	786	2.16
		CO	R1=R2	0.38	9.12	3320	9.12
	AN 446209- D31	ROG	R1=R2	0.068	1.63	582	1.63
		SOX	R1=R2	0.008	0.192	70	0.192
		PM10	R1=R2	0.07286	1.75	636.48	1.75
		NOX	R1=R2	0.09	2.16	786	2.16
		CO	R1=R2	0.38	9.12	3320	9.12
After Replacement	AN 567734- D35	ROG	R1=R2	2.148E-01	2.36	471.43	2.36
		SOX	R1=R2	2.343E-02	0.26	51.43	0.26
		PM10	R1=R2	2.929E-01	3.22	642.86	3.22
		NOX	R1=R2	4.484E-01	4.93	984.22	4.93
		CO	R1=R2	1.516E+00	16.68	3328.29	16.68
Emission Increases/Decreases	ROG		R1=R2	0.079	-0.898	-692.571	-0.898
	SOX		R1=R2	0.007	-0.126	-88.571	-0.126
	PM10		R1=R2	0.147	-0.279	-630.103	-0.279
	NOX		R1=R2	0.268	0.612	-587.777	0.612
	CO		R1=R2	0.756	-1.562	-3311.709	-1.562

Greenhouse gases emissions from the new heater D35:

	Lb/hr	Lb/day	Lb/year
CO <sub>2</sub>	4.7925E+03	5.2717E+04	1.0520E+07
CH <sub>4</sub>	8.1348E-02	8.9483E-01	1.7857E+02
N <sub>2</sub> O	9.0389E-03	9.9427E-02	1.9841E+01

			lb/hr	lb/day	lb/year	30-day ave.
AN 567735- ICE	ROG	R1=R2	4.654E-01	4.654E-01	9.307E+01	0.08
	SOx	R1=R2	5.162E-01	5.162E-01	1.032E+02	0.09
	PM10	R1=R2	7.348E-02	7.348E-02	1.470E+01	0.01
	NOx	R1=R2	1.641E+00	1.641E+00	3.282E+02	0.27
	CO	R1=R2	8.573E+00	8.573E+00	1.715E+03	1.43
	NH3	R1=R2	0.0545	0.0545	1.091E+01	0.009
AN 567736- ICE	ROG	R1=R2	4.654E-01	4.654E-01	9.307E+01	0.08
	SOx	R1=R2	5.162E-01	5.162E-01	1.032E+02	0.09
	PM10	R1=R2	7.348E-02	7.348E-02	1.470E+01	0.01
	NOx	R1=R2	1.641E+00	1.641E+00	3.282E+02	0.27
	CO	R1=R2	8.573E+00	8.573E+00	1.715E+03	1.43
	NH3	R1=R2	0.0545	0.0545	1.091E+01	0.009

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**ENGINEERING AND COMPLIANCE**

**APPLICATION PROCESSING AND CALCULATION**

Page 12 of 16

Date: 3/3/15

ANs: 567734-36, 568153

PROCESSED BY: TN

CHECKED BY: DG

Greenhouse gases emissions from EACH IC engine (D36 & D37):

	Lb/hr	Lb/day	Lb/year
CO <sub>2</sub>	1.6820E+03	1.6820E+03	8.4100E+04
CH <sub>4</sub>	3.2780E-02	3.2780E-02	1.6390E+00
N <sub>2</sub> O	2.2350E-02	2.2350E-02	1.1175E+00

**RULES EVALUATION:**

**Rule 212- Standards for Approving Permits:**

- **212(c)(1):** The subject equipment is not located within 1,000 feet of a school (see attached map in Appendix C); therefore, a public notice is not required.
- **212(c)(2):** The net emissions increases from this project will not exceed the limits specified in rule 212(g). Therefore, a public notice is not required.

	Emissions (lb/day)				
	ROG	PM <sub>10</sub>	SOx	NOx	CO
<b>AN 567734- D35 (Emission Increases/ Decreases</b>	-0.9	-0.279	-0.128	0.61	-1.54
<b>AN 567735- D36 (Emission Increases/ Decreases</b>	0.08	0.01	0.09	0.27	1.43
<b>AN 567736- D37 (Emission Increases/ Decreases</b>	0.08	0.01	0.09	0.27	1.43
<b>Total Emissions Increases/Decreases</b>	<b>-0.74</b>	<b>-0.26</b>	<b>0.05</b>	<b>1.15</b>	<b>1.32</b>
<b>Threshold Limit (lbs/day)</b>	<b>30</b>	<b>30</b>	<b>60</b>	<b>40</b>	<b>220</b>
<b>Compliance Status</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>

- **212(c)(3):**
  - **AN 567734 (D35):** Risk assessment was done for the net toxic emission increases from D35 (see appendix A). The MICR were  $1.30 \times 10^{-8}$  (residential) and  $9.77 \times 10^{-7}$  (commercial), which are less than one in a million. Public notice is not required.
  - **ANs 567735-36:**
    - Tier 3 risk assessment was done for PM10 (diesel particulate, a carcinogenic compound in Rule 1401), the MICR were  $1.23 \times 10^{-8}$  (residential) and  $2.57 \times 10^{-8}$  (commercial). Public notice is not required.
    - This equipment passed Tier I analysis for ammonia. Public notice is not required.

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**ENGINEERING AND COMPLIANCE**

**APPLICATION PROCESSING AND CALCULATION**

Page 13 of 16

Date: 3/3/15

ANs: 567734-36, 568153

PROCESSED BY: TN

CHECKED BY: DG

**Rule 401- Visible Emission:** AQMD database has no records of visible emission complaints against this facility. Compliance is expected if the equipment is well maintained and properly operated.

**Rule 402- Nuisance:** AQMD database has no records of nuisance complaints against this facility. Compliance is expected if the equipment is well maintained and properly operated.

**Rule 404- Particulate Matter- Concentration:** The rule allows a PM concentration of 0.0417 grains/ft<sup>3</sup> (for a flow rate of 5610 cfm). The calculation shows a PM concentration of 0.006 grains/ft<sup>3</sup>. Compliance with this rule is expected.

**Rule 407-Liquid and Gaseous Air Contaminants:**

- AN567734: The rule allows a SOx concentration of 1,500ppm and a CO concentration of 2,000ppm in the gas discharge to the atmosphere. Calculations show a SOx concentration of 0.34 ppm and a CO concentration of 50 ppm. Compliance with rule 407 is expected.
- ANs 567735-36: This rule does not apply to internal combustion engines per section (b)(1).

**Rule 409- Combustion Contaminants:**

- ANs 567735-36: This rule does not apply to internal combustion engines.
- AN567734: The rule allows a combustion particulate matter emission concentration of 0.1 grain/ft<sup>3</sup>. Calculations show a concentration of 0.0021 grain/ft<sup>3</sup>. Compliance with this rule is expected.

**Rule 431.2- Sulfur Content of Liquid Fuels:** The fuel used for these equipment shall be low sulfur fuel, for which the sulfur content shall not exceed 15 ppm by weight as supplied by the supplier. Facility permit condition F14.2 ensures compliance. Compliance is expected.

**Rule 1110.2- Emissions from Gaseous - and Liquid-Fueled Internal Combustion Engines:** This equipment is used to drive an emergency power generator, and will be operated less than 200 hours per year; therefore, this equipment is exempted from rule 1110.2.

**Rule 1303(a)-BACT:** The BACT requirements for these equipments are:

- BACT guidelines for Heater:

Subcategory/Rating / Size	Criteria Pollutants					Inorganic
	VOC	NOX	SOX	CO	PM10	
Natural Gas or Propane Fired, ≥ 20 MM Btu/hr		<u>With Low-NOx Burner:</u> ≤ 9 ppmv dry corrected to 3% O2 <u>With SCR or LTO:</u> ≤ 7 ppmv dry corrected to 3% O2 (10-20-2000)	Natural Gas (10-20-2000)	Natural Gas (10-20-2000)	Natural Gas (10-20-2000)	<u>With SCR:</u> ≤ 5 ppmvd NH3, corrected to 3% O2 <u>With LTO:</u> ≤ 1 ppmvd ozone, corrected to 3% O2 (10-20-2000)

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**ENGINEERING AND COMPLIANCE**

**APPLICATION PROCESSING AND CALCULATION**

Page 14 of 16

Date: 3/3/15

ANs: 567734-36, 568153

PROCESSED BY: TN

CHECKED BY: DG

The heater was guaranteed to have NOx emission of less than 9 ppmv, and the heater is natural gas fired. Compliance is expected.

- BACT guidelines for IC engines:

Subcategory/Rating / Size	Criteria Pollutants					
	VOC	NOX	NOX + NMHC	SOX	CO	PM10
Emergency, Compression- Ignition for ≥750 HP			Tier 2: 6.4 grams/kW-hr (4.8 grams/bhp-hr) (10-03-2008)		Tier 2: 3.5 grams/kW-hr (2.6 grams/bphr) (10-03-2008)	Tier 2: 0.20 grams/kW-hr (0.15 grams/bhp-hr) (10-03-2008)

The IC engines were certified to comply with EPA Tier 4 requirements as follow:

$$EF_{NMHC} = 0.19 \text{ g/kW-hr or } 0.14 \text{ g/bhp-hr}$$

$$EF_{NOX} = 0.67 \text{ g/kW-hr or } 0.5 \text{ g/bhp-hr}$$

$$EF_{CO} = 3.5 \text{ g/kW-hr or } 2.61 \text{ g/bhp-hr}$$

$$EF_{PM} = 0.03 \text{ g/kW-hr or } 0.022 \text{ g/bhp-hr}$$

Therefore, compliance with this rule is expected.

**Rule 1303(b)(1)-Modeling:**

- ANs 567735-36: These equipment are exempted from this rule per 1304(a)(4).
- AN 567734: this equipment has heat input capacity of 41 MMBtu/hr. However, The NOx, CO and PM10 emissions from this equipment are below the rule limits for combustion sources rated more than 30 MMBtu/hr and less than 40 MMBtu/hr (specified in the table A1-Rule 1303). Therefore, no further screening analysis is required.

		Actual emission (lb/hr)	Allowable Emission (lb/hr)
AN 567734	NOx	0.448	1.31
	CO	1.56	72.1
	PM10	0.293	7.9

**Rule 1303(b)(2)-Offsets:**

- ANs 567735-36: This equipment is exempted from offsets per 1304(a)(4)-emergency equipment.
- AN 567734: The only net emission increase is NOx. The increase in NOx emission from this modification will be offset through the RECLAIM program. The facility has 15,938 NOx RTCs reserved for year of 2015, which is sufficient to offset the emission increases (total of 1640 lbs/year for D35, D36 and D37). Condition Nos.

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**ENGINEERING AND COMPLIANCE**

**APPLICATION PROCESSING AND CALCULATION**

Page 15 of 16

Date: 3/3/15

ANs: 567734-36, 568153

PROCESSED BY: TN

CHECKED BY: DG

I296.1 and I296.2 are added to the permit of D35, D36 and D37 to ensure compliance. Compliance is expected.

Following table show emission decreases for other criteria pollutions:

	Emissions (lb/day)				
	ROG	PM <sub>10</sub>	SO <sub>x</sub>	NO <sub>x</sub>	CO
<b>Current NSR PTE (lbs/day)</b>	<b>27</b>	<b>26</b>	<b>1</b>	<b>29</b>	<b>42</b>
<b>AN 567734- D35</b>	2.36	1.61	0.26	4.9	16.7
<b>Old Permit -AN 446208- D30</b>	-1.63	-1.61	-0.19	-2.16	-9.12
<b>Old Permit- AN 446209-D31</b>	-1.63	-1.61	-0.19	-2.16	-9.12
<b>Total Emissions Increases/Decreases</b>	<b>-0.90</b>	<b>-1.61</b>	<b>-0.12</b>	<b>0.58</b>	<b>-1.54</b>
<b>New PTE (lbs/day)</b>	<b>26.1</b>	<b>24.4</b>	<b>0.9</b>	<b>29.6</b>	<b>40.5</b>
<b>Threshold Limit (lbs/day)</b>	<b>22</b>	<b>22</b>	<b>22</b>	<b>NA</b>	<b>159</b>
<b>Offset Required (lbs/day)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.58</b>	<b>0</b>

**Rule 1401- New Source Review of Toxic Air Contaminants:**

- AN567734: this equipment passed Tier II analysis (See Appendix A). Compliance is expected.
- ANs 567735-36: The emergency IC engine operates less than or equal to 200 hours per year. Therefore, it's exempted from this rule (per 1401(g)(1)(F)).

**Rule 1470- Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines (located > 500 ft from school):**

- The fuel used in this equipment will contain 15 ppm of sulfur or less as requirements of rule 431.2 and rule 1470. Facility permit condition F14.2 ensures compliance. Compliance is expected.
- This equipment shall comply with emission requirements for an emergency Diesel Fueled Direct-Drive IC Engines. Compliance is expected.

For engine >750Hp	Actual emissions <sup>(1)</sup>	Rule requirement <sup>(2)</sup>
NMHC +NO <sub>x</sub>	=(0.67+0.19) g/kW-h =0.86 g/kW-hr	6.4 g/kW-hr
CO	3.5 g/kW-hr	3.5 g/kW-hr

(1) Certified emission data (see Appendix A)

(2) Rule 1470, Table 2: NMHC+NO<sub>x</sub> and CO Emission Standards for New Stationary Emergency Standby Diesel-Fueled CI Engines –

- The maximum number of operating hours will be limited to 200 hours per year (including testing and maintenance time). A log will be maintained to demonstrate compliance.

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**ENGINEERING AND COMPLIANCE**

**APPLICATION PROCESSING AND CALCULATION**

**Page 16 of 16**

**Date: 3/3/15**

**ANs: 567734-36, 568153**

**PROCESSED BY: TN**

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**Rule 2005- New Source Review for RECLAIM:** The facility have 15,938 NOx RTCs reserved for year of 2015, which is sufficient to offset the emission increases (total of 1640 lbs/year for D35, D36 and D37). Condition Nos. I296.1 and I296.2 are added to the permit of D35, D36 and D37, requiring sufficiency RTCs hold for the first year of operation as required per rule 2005(c)(2). Compliance is expected.

**40 CFR Part 60, Subpart IIII- Standards of Performance for Stationary Compression Ignition Internal Combustion Engines:**

- This rule require fuel usage contain 15 ppm of sulfur or less. Facility permit condition F14.2 ensures compliance. Compliance is expected.
- This equipment is EPA Tier 4 certified (see table below). Compliance is expected.

For engine >750Hp	Certificate emissions Data	Standard Emission requirements
NMHC	0.02 g/Bhp-hr	0.14 g/Bhp-hr
NOx	0.08 g/Bhp-hr	0.5 g/Bhp-hr
CO	0.73 g/Bhp-hr	2.6 g/Bhp-hr
PM	0.00 g/Bhp-hr	0.02 g/Bhp-hr

**40 CFR 63, Subpart ZZZZ-National Emissions Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines (RICE):** This rule requires fuel usage contain 15 ppm of sulfur or less. Facility permit condition F14.2 ensures compliance. Compliance is expected.

**CONCLUSIONS AND RECOMMENDATIONS:**

Based on the evaluation contained herein, the subject equipment will comply with all of the District's rules and regulations; therefore, I recommend Permits to Construct be issued to these equipment in section H, and revise section A with new responsible official.