



# South Coast Air Quality Management District

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

January 10, 2012

Mr. Gerardo Rios – sent via email ([R9AirPermits\\_sc@epa.gov](mailto:R9AirPermits_sc@epa.gov))  
Chief – Permits Office  
U. S. EPA, Region IX  
75 Hawthorne Street, Air 3  
San Francisco, CA 94105

Dear Mr. Rios:

Subject: PurEnergy Operating Services, LLC (ID 132192) – Title V/RECLAIM  
Permit Revision

PurEnergy Operating Services, LLC has proposed to revise their Title V/RECLAIM permit under application no. 529125, by removing the non-operational status of the equipment and by changing the quarterly NOx emission limits. This proposed permit revision is considered as a “minor permit revision” to their Title V permit. Attached for your review is the permit evaluation and proposed Section D. With your receipt of the proposed Section D today, we will note that the EPA 45-day review period begins on January 10, 2012.

If you have any questions or need additional information regarding the proposed permit revision, please call Mr. Marcel Saulis at (909) 396-3093.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Brian L. Yeh', is written over a faint, larger signature.

Brian L. Yeh  
Senior Manager  
Mechanical, Chemical and Public Services

BLY:AYL:JTY:MBS

Attachments



## FACILITY PERMIT TO OPERATE PUREENERGY OPERATING SERVICES, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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 1: INTERNAL COMBUSTION</b>					
SELECTIVE CATALYTIC REDUCTION, NO. 1, SERVING GAS TURBINE NO. 1, TECHNIP, MONO-NOX VANADIA/TITANIA, 275 CU.FT.; WIDTH: 10 FT 6 IN; HEIGHT: 22 FT ; LENGTH: 13 FT 6 IN WITH A/N: 400855  AMMONIA INJECTION, GRID	C5	D1 C4		NH3: 5 PPMV (4) [RULE 1303(a) (1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 10-20-2000]	A99.3, A195.3, D12.3, D12.4, D12.5, D28.1, E73.1, E179.1, E179.2
STACK, NO. 1 A/N: 518584	S7				
<b>System 2: Power Generation, Unit No. 2</b>					

\* (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 PUREENERGY OPERATING SERVICES, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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 1: INTERNAL COMBUSTION</b>					
SELECTIVE CATALYTIC REDUCTION, NO. 2 SERVING GAS TURBINE NO. 2, TECHNIP, MONO-NOX VANADIA/TITANIA, 275 CU.FT.; WIDTH: 10 FT 6 IN; HEIGHT: 22 FT ; LENGTH: 13 FT 6 IN WITH A/N: 400857  AMMONIA INJECTION, GRID	C12	D8 C11		NH3: 5 PPMV (4) [RULE 1303(a) (1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 10-20-2000]	A99.3, A195.3, D12.3, D12.4, D12.5, D28.1, E73.1, E179.1, E179.2
STACK, NO. 2 A/N: 518586	S14				
<b>System 3: Power Generation, Unit No. 3</b>					

\* (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 PUREENERGY OPERATING SERVICES, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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 1: INTERNAL COMBUSTION</b>					
GAS TURBINE, NO. 3, NATURAL GAS, GENERAL ELECTRIC, MODEL 10B1, SIMPLE CYCLE, 136.5 MMBTU/HR WITH A/N: 518588	D15	C18 C19	NOX: MAJOR SOURCE**	CO: 6 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 10-20-2000]; CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 5 PPMV NATURAL GAS (4) [RULE 2005, 4-9-1999]; NOX: 79 PPMV NATURAL GAS (8) [40CFR 60 Subpart GG, 3-6-1981]; PM: 0.01 GRAINS/SCF (5B) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; PM: 0.1 GRAINS/SCF (5) [RULE 409, 8-7-1981]; PM: 11 LBS/HR (5A) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; SOX: 150 PPMV (8) [40CFR 60 Subpart GG, 3-6-1981]; VOC: 2 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 10-20-2000]	A63.1, A63.2, A99.1, A99.2, A99.5, A195.1, A195.2, A327.1, C1.1, C1.2, D12.1, D12.2, D29.1, D82.1, D82.2, E57.1, E481.1, H23.1, I296.1
GENERATOR, NO. 3, 10.5 MW					
CO OXIDATION CATALYST, NO. 3, SERVING GAS TURBINE NO. 3, TECNIP OR EQUIVALENT, PRECIOUS METAL (PD, PT) ON METAL FOIL, WITH 40-50 CU. FT. OF TOTAL CATALYTIC VOLUME, HT. 22 FT X 13.5 FT L. X 10.5 FT A/N: 400861	C18	D15 C19			

- \* (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 PUREENERGY OPERATING SERVICES, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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 1: INTERNAL COMBUSTION</b>					
SELECTIVE CATALYTIC REDUCTION, NO. 3, SERVING GAS TURBINE NO. 3, TECHNIP, MONO-NOX VANADIA/TITANIA, 275 CU.FT.; WIDTH: 10 FT 6 IN; HEIGHT: 22 FT ; LENGTH: 13 FT 6 IN WITH A/N: 400861  AMMONIA INJECTION, GRID	C19	D15 C18		NH3: 5 PPMV (4) [RULE 1303(a) (1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 10-20-2000]	A99.3, A195.3, D12.3, D12.4, D12.5, D28.1, E73.1, E179.1, E179.2
STACK, NO. 3 A/N: 518588	S21				
<b>System 4: Power Generation, Unit No. 4</b>					

\* (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 PUREENERGY OPERATING SERVICES, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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 1: INTERNAL COMBUSTION</b>					
GAS TURBINE, NO. 4, NATURAL GAS, GENERAL ELECTRIC, MODEL 10B1, SIMPLE CYCLE, 136.5 MMBTU/HR WITH A/N: 518591	D22	C25 C26	NOX: MAJOR SOURCE**	CO: 6 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 10-20-2000]; CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 5 PPMV NATURAL GAS (4) [RULE 2005, 4-9-1999]; NOX: 79 PPMV NATURAL GAS (8) [40CFR 60 Subpart GG, 3-6-1981]; PM: 0.01 GRAINS/SCF (5B) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; PM: 0.1 GRAINS/SCF (5) [RULE 409, 8-7-1981]; PM: 11 LBS/HR (5A) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; SOX: 150 PPMV (8) [40CFR 60 Subpart GG, 3-6-1981]; VOC: 2 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 10-20-2000]	A63.1, A63.2, A99.1, A99.2, A99.5, A195.1, A195.2, A327.1, C1.1, C1.2, D12.1, D12.2, D29.1, D82.1, D82.2, E57.1, E481.1, H23.1, I296.1
GENERATOR, NO. 4, 10.5 MW					
CO OXIDATION CATALYST, NO. 4, SERVING GAS TURBINE NO. 4, TECNIP OR EQUIVALENT, PRECIOUS METAL (PD, PT) ON METAL FOIL, WITH 40-50 CU. FT. OF TOTAL CATALYTIC VOLUME, HT. 22 FT X 13.5 FT L. X 10.5 FT A/N: 400863	C25	D22 C26			

- \* (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 PUREENERGY OPERATING SERVICES, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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 1: INTERNAL COMBUSTION</b>					
SELECTIVE CATALYTIC REDUCTION, NO. 4, SERVING GAS TURBINE NO. 4, TECHNIP, MONO-NOX VANADIA/TITANIA, 275 CU.FT.; WIDTH: 10 FT 6 IN; HEIGHT: 22 FT ; LENGTH: 13 FT 6 IN WITH  AMMONIA INJECTION, GRID	C26	D22 C25		NH3: 5 PPMV (4) [RULE 1303(a) (1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 10-20-2000]	A99.3, A195.3, D12.3, D12.4, D12.5, D28.1, E73.1, E179.1, E179.2
STACK, NO. 4 A/N: 518591	S28				
<b>Process 2: INORGANIC CHEMICAL STORAGE</b>					
STORAGE TANK, FIXED ROOF, WITH VAPOR RETURN LINE, AQUEOUS AMMONIA 19% SOLUTION, (10,000 GALLONS OR SMALLER) A/N: 400440	D29				C157.1, E144.1
<b>Process 3: R-219 EXEMPT EQUIPMENT SUBJECT TO SOURCE-SPECIFIC RULES</b>					
RULE 219 EXEMPT EQUIPMENT, COATING EQUIPMENT, PORTABLE, ARCHITECTURAL COATINGS	E30			ROG: (9) [RULE 1113, 11-8-1996; RULE 1113, 7-13-2007; RULE 1171, 11-7-2003; RULE 1171, 2-1-2008]	K67.2

\* (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  
PUREENERGY OPERATING SERVICES, LLC**

**SECTION D: 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  
 PUREENERGY OPERATING SERVICES, LLC  
 SECTION D: DEVICE ID INDEX**

<b>Device Index For Section D</b>			
<b>Device ID</b>	<b>Section D Page No.</b>	<b>Process</b>	<b>System</b>
D1	1	1	1
C4	1	1	1
C5	2	1	1
S7	2	1	1
D8	3	1	2
C11	3	1	2
C12	4	1	2
S14	4	1	2
D15	5	1	3
C18	5	1	3
C19	6	1	3
S21	6	1	3
D22	7	1	4
C25	7	1	4
C26	8	1	4
S28	8	1	4
D29	8	2	0
E30	8	3	0

## FACILITY PERMIT TO OPERATE PUREENERGY OPERATING SERVICES, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**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, 9-11-1998]

#### DEVICE CONDITIONS

##### A. Emission Limits

A63.1 The operator shall limit emissions from this equipment as follows:

CONTAMINANT	EMISSIONS LIMIT
CO	Less than or equal to 4984 LBS IN ANY ONE MONTH
PM10	Less than or equal to 2380 LBS IN ANY ONE MONTH
VOC	Less than or equal to 972 LBS IN ANY ONE MONTH
SOX	Less than or equal to 1224 LBS IN ANY ONE MONTH

## FACILITY PERMIT TO OPERATE PUREENERGY OPERATING SERVICES, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

For the purposes of this condition, the limit(s) shall be based on the total combined facility emissions.

The operator shall calculate the emission limit(s) using monthly fuel usage and the following emission factors: PM10:- 6.731 lb/mmcf, VOC:- 2.69 lb/mmcf, and SOx:- 3.469 lb/mmcf.

The operator shall calculate the emission limit(s) for compliance with the monthly CO emission limit through valid CEMS data. In absence of valid CEMS data, the operator shall calculate the monthly CO emissions using monthly fuel use data and the following emissions factors: CO:- 12.25 lbs/mmcf.

[~~RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 10-20-2000~~]

[Devices subject to this condition : D1, D8, D15, D22]

A63.2 The operator shall limit emissions from this equipment as follows:

CONTAMINANT	EMISSIONS LIMIT
CO	Less than or equal to 166 LBS IN ANY ONE DAY
PM10	Less than or equal to 79 LBS IN ANY ONE DAY
VOC	Less than or equal to 32 LBS IN ANY ONE DAY
SOX	Less than or equal to 41 LBS IN ANY ONE DAY

## FACILITY PERMIT TO OPERATE PUREENERGY OPERATING SERVICES, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

The operator shall calculate the emission limit(s) using daily fuel usage and the following emission factors: PM10 6.731 lbs/mmscf, VOC 2.69 lbs/mmscf and SOx 3.469 lbs/mmscf.

The operator shall calculate the emission limit(s) for compliance with daily CO emission limit using valid CEMS data. In absence of valid CEMS data, the operator shall calculate the daily CO emissions using daily fuel usage and the following emission factor: CO 12.25 lbs/mmscf.

For the purposes of this condition, the limit(s) shall be based on the total combined facility emissions.

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

[Devices subject to this condition : D1, D8, D15, D22]

- A99.1 The 5 PPM NOX emission limit(s) shall not apply during retuning of turbines resulting from maintenance or repair of combustion systems, start-up and shutdown periods. The start-up time shall not exceed 60 minutes for each start-up and shutdown time shall not exceed 15 minutes for each shutdown. Retuning of turbines shall not exceed 8 hours per turbine per year. Written records of retuning, start-ups and shutdown shall be maintained and made available upon request from the Executive Officer.

**[RULE 2005, 4-9-1999]**

[Devices subject to this condition : D1, D8, D15, D22]

## FACILITY PERMIT TO OPERATE PUREENERGY OPERATING SERVICES, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

A99.2 The 6 PPM CO emission limit(s) shall not apply during retuning of turbines resulting from maintenance or repair of combustion systems, start-up and shutdown periods. The start-up time shall not exceed 60 minutes for each start-up and shutdown time shall not exceed 15 minutes for each shutdown. Retuning of turbines shall not exceed 8 hours per turbine per year. Written records of retuning, start-ups and shutdowns shall be maintained and made available upon request from the Executive Officer.

[**RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 10-20-2000; RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 10-20-2000**]

[Devices subject to this condition : D1, D8, D15, D22]

A99.3 The 5 PPM NH<sub>3</sub> emission limit(s) shall not apply during retuning of turbines resulting from maintenance or repair of combustion systems, start-up and shutdown periods. The start-up time shall not exceed 60 minutes for each start-up and shutdown time shall not exceed 15 minutes for each shutdown. Retuning of turbines shall not exceed 8 hours per turbine per year. Written records of retuning, start-ups and shutdowns shall be maintained and made available upon request from the Executive Officer.

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

[Devices subject to this condition : C5, C12, C19, C26]

A99.5 The 18.45 LBS/MMSCF CO emission limit(s) shall only apply to report CO emissions during any start-up or shutdown period when CO emissions are not being measured by a certified or provisionally certified CEMS.

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

[Devices subject to this condition : D1, D8, D15, D22]

## FACILITY PERMIT TO OPERATE PUREENERGY OPERATING SERVICES, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

A195.1 The 5 PPMV NOX emission limit(s) is averaged over 60 minutes at 15 percent oxygen dry.

[RULE 2005, 4-9-1999; RULE 2005, 4-20-2001]

[Devices subject to this condition : D1, D8, D15, D22]

A195.2 The 6 PPMV CO emission limit(s) is averaged over 60 minutes at 15 percent oxygen dry.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition : D1, D8, D15, D22]

A195.3 The 5 PPMV NH3 emission limit(s) is averaged over 60 mins at 15 percent O2 dry. The operator shall calculate and continuously record the NH3 slip concentration using the following:  $NH_3 \text{ (ppmv)} = [a - (b * (c * 1.2)/1000000)] * (1000000/b)$ , where a = NH3 injection rate (lb/hr)/(17 lb/lb-mole), b = dry exhaust gas flow rate (lb/hr)/(29 lb/lb-mole) and c = change in measured NOx across the SCR (ppmvd at 15 percent O2).

## FACILITY PERMIT TO OPERATE PUREENERGY OPERATING SERVICES, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

The operator shall install and maintain a NOx analyzer to measure the SCR inlet NOx ppmv accurate to plus or minus 5 percent and calibrated at least once every 12 months.

The determination of ammonia slip based on the above formula shall be adjusted with correction factors. The operator shall determine a equipment-specific procedure for the correction of the formula by comparing the results of the formula with the actual ammonia slip measurement during the performance testing. New correction factors and any changes to the factors are subject to AQMD approval.

The operator shall use the above described method or another alternative method approved by the Executive Officer.

The ammonia slip calculation procedure described above shall not be used for compliance determination or emission information without corroborative data using an approved reference method for determination of ammonia

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

[Devices subject to this condition : C5, C12, C19, C26]

A327.1 For the purpose of determining compliance with District Rule 475, combustion contaminant emissions may exceed the concentration limit or the mass emission limit listed, but not both limits at the same time.

[RULE 475, 10-8-1976; RULE 475, 8-7-1978]

[Devices subject to this condition : D1, D8, D15, D22]

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

C1.1 The operator shall limit the fuel usage to no more than 354 MM cubic feet in any one calendar month.

## FACILITY PERMIT TO OPERATE PUREENERGY OPERATING SERVICES, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

For the purpose of this condition, fuel usage shall be defined as the total natural gas usage of all four turbines.

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]**

[Devices subject to this condition : D1, D8, D15, D22]

C1.2 The operator shall limit the fuel usage to no more than 1188 MM cubic feet per year.

For the purpose of this condition, fuel usage shall be defined as the total natural gas usage of all four turbines.

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]**

[Devices subject to this condition : D1, D8, D15, D22]

C157.1 The operator shall install and maintain a pressure relief valve set at 20 psig.

**[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 10-20-2000]**

[Devices subject to this condition : D29]

#### **D. Monitoring/Testing Requirements**

## FACILITY PERMIT TO OPERATE PUREENERGY OPERATING SERVICES, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

D12.1 The operator shall install and maintain a(n) non-resettable elapsed time meter to accurately indicate the elapsed operating time of the turbine.

[RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 10-20-2000]

[Devices subject to this condition : D1, D8, D15, D22]

D12.2 The operator shall install and maintain a(n) non-resettable totalizing fuel flow meter to accurately indicate the fuel usage being supplied to the turbine.

[RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 10-20-2000]

[Devices subject to this condition : D1, D8, D15, D22]

D12.3 The operator shall install and maintain a(n) flow meter to accurately indicate the flow rate of the total hourly throughput of injected ammonia (NH<sub>3</sub>).

The operator shall also install and maintain a device to continuously record the parameter being measured.

The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every 12 months.

The operator shall maintain the ammonia injection rate between 1 and 7 lbs per hour

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 10-20-2000]

[Devices subject to this condition : C5, C12, C19, C26]

D12.4 The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the exhaust at the inlet to the SCR reactor.

## FACILITY PERMIT TO OPERATE PUREENERGY OPERATING SERVICES, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every 12 months.

The operator shall also install and maintain a device to continuously record the parameter being measured.

**[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 10-20-2000; RULE 2005, 4-9-1999]**

[Devices subject to this condition : C5, C12, C19, C26]

D12.5 The operator shall install and maintain a(n) pressure gauge to accurately indicate the pressure across the SCR catalyst bed in inches of water column.

The operator shall also install and maintain a device to continuously record the parameter being measured.

The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every 12 months.

The operator shall maintain the pressure drop across the SCR bed between 2 and 5 inches of water column

**[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 10-20-2000; RULE 2005, 4-9-1999]**

[Devices subject to this condition : C5, C12, C19, C26]

D28.1 The operator shall conduct source test(s) in accordance with the following specifications:

## FACILITY PERMIT TO OPERATE PUREENERGY OPERATING SERVICES, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

The test shall be conducted and the results submitted to the District within 60 days after the test date.

The test shall be conducted at least quarterly during the first twelve months of operation and at least annually thereafter.

The District shall be notified of the date and time of the test at least 10 days prior to the test.

The test shall be conducted to demonstrate compliance with Rule 1303 concentration limit.

The test shall be conducted to determine the NH3 emissions using District Method 207.1 and 5.3 or EPA Method 17 measured over a 60-minute averaging time period. The NOx concentration, as determined by reading the CEMS, shall be simultaneously recorded during the test. If CEMS is inoperable, a test shall be conducted to determine the NOx emissions using District Method 100.1 measured over a 60-minute averaging time period.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 10-20-2000]

[Devices subject to this condition : C5, C12, C19, C26]

D29.1 The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutant(s) to be tested	Required Test Method(s)	Averaging Time	Test Location
CO emissions	District method 100.1	1 hour	Outlet of the SCR serving this equipment
NOX emissions	District method 100.1	1 hour	Outlet of the SCR serving this equipment

## FACILITY PERMIT TO OPERATE PUREENERGY OPERATING SERVICES, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

PM10 emissions	District Method 5.2 Modified with EPA Method 201A Cyclone (filterables compliance, condensables information)	1 hour	Outlet of the SCR serving this equipment
ROG emissions	Approved District method	1 hour	Outlet of the SCR serving this equipment

The test(s) shall be conducted at least once every three years and as per District approved protocol. within 60 days after the source test, the operator shall submit the source test report to the District..

[RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1303(b)(2)-Offset, 12-6-2002; **RULE 2005, 5-6-2005**]

[Devices subject to this condition : D1, D8, D15, D22]

D82.1 The operator shall install and maintain a CEMS to measure the following parameters:

CO concentration in ppmv

Concentrations shall be corrected to 15 percent oxygen on a dry basis.

The CEMS will convert the actual CO concentrations to mass emission rates (lbs/hr) and record the hourly emission rates on a continuous basis.

The CEMS shall be installed operated and maintained in accordance with an approved AQMD Rule 218 CEMS plan application. The operator shall not install the CEMS prior to receiving the initial approval from AQMD

The CEMS shall be installed and operated to measure CO concentrations over a 15-minute averaging period

## FACILITY PERMIT TO OPERATE PUREENERGY OPERATING SERVICES, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

[**RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 10-20-2000; RULE 1303(b)(1)-Modeling, 5-10-1996; RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 10-20-2000**]

[Devices subject to this condition : D1, D8, D15, D22]

**D82.2** The operator shall install and maintain a CEMS to measure the following parameters:

The CEMS shall be installed and operating no later than 12 months after the initial start-up of the turbine. During the interim period between the initial start-up and the provisional certification date of the CEMS, the operator shall comply with the monitoring requirements of Rule 2012(h)(2) and 2012(h)(3). Within 2 weeks of the turbine start-up date, the operator shall provide written notification to the District of the exact start-up date

NOX concentration in ppmv

[**RULE 2012, 5-11-2001; RULE 2012, 12-5-2003**]

[Devices subject to this condition : D1, D8, D15, D22]

#### **E. Equipment Operation/Construction Requirements**

**E57.1** The operator shall vent this equipment to the CO oxidation and SCR control whenever the turbine is in operation.

[**RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 10-20-2000; RULE 1303(b)(1)-Modeling, 5-10-1996; RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 10-20-2000; RULE 2005, 4-9-1999**]

## FACILITY PERMIT TO OPERATE PUREENERGY OPERATING SERVICES, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

[Devices subject to this condition : D1, D8, D15, D22]

- E73.1 Notwithstanding the requirements of Section E conditions, the operator may, at his discretion, choose not to use ammonia injection if any of the following requirement(s) are met:

The inlet temperature to the SCR reactor is 800 Degrees F or less, not to exceed 1 hour during start-ups and not to exceed 15 minutes during shutdown

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 10-20-2000]

[Devices subject to this condition : C5, C12, C19, C26]

- E144.1 The operator shall vent this equipment, during filling, only to the vessel from which it is being filled.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 10-20-2000]

[Devices subject to this condition : D29]

- E179.1 For the purpose of the following condition number(s), continuously record shall be defined as recording at least once every hour and shall be calculated based upon the average of the continuous monitoring for that hour.

Condition Number D 12- 3

Condition Number D 12- 4

Condition Number A 195- 3

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 10-20-2000]

[Devices subject to this condition : C5, C12, C19, C26]

## FACILITY PERMIT TO OPERATE PURENERGY OPERATING SERVICES, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

E179.2 For the purpose of the following condition number(s), continuously record shall be defined as recording at least once every month and shall be calculated based upon the average of the continuous monitoring for that month.

Condition Number D 12- 5

[**RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 10-20-2000**]

[Devices subject to this condition : C5, C12, C19, C26]

E481.1 This device qualifies as an intermittently operated source. The operator may postpone the due date of a semi-annual assessment for the continuous emission monitoring system (CEMS) serving this device to the end of the next calendar quarter by conducting an alternative relative accuracy test audit during the same quarter the semi-annual assessment is due. The semi-annual assessment due date shall only be postponed if the alternative relative accuracy test audit is conducted according to and meet the criteria specified under Rule 2012, Appendix A, Attachment C, Subparagraph B.2.d, as amended January 7, 2005.

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

[Devices subject to this condition : D1, D8, D15, D22]

#### H. Applicable Rules

H23.1 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
Sulfur compounds	District Rule	431.1

## FACILITY PERMIT TO OPERATE PUREENERGY OPERATING SERVICES, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

[RULE 431.1, 6-12-1998]

[Devices subject to this condition : D1, D8, D15, D22]

#### I. Administrative

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 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 23280 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.

In lieu of holding RTCs for the entire duration specified above, RTCs held for the purpose of demonstrating compliance with this condition may be sold as specified below, provided quarterly emission does not exceed the corresponding quarterly limit listed in the table below. The amount available for sale shall be the quarterly emission limit listed minus the actual emission reportable pursuant to RECLAIM Monitoring, Recordkeeping, and Reporting protocols. Such amount may be sold only after the end of the subject quarter. If the quarterly certified emissions for any quarter exceed the corresponding quarterly emission limit, the facility may only sell RTCs acquired pursuant to Rule 2005(f) for that compliance year after the fourth quarter of that compliance year. This early sale option shall permanently be unavailable in the event that quarterly emissions exceeded the corresponding quarterly limits for a total of 3 times in any five consecutive years.

## FACILITY PERMIT TO OPERATE PUREENERGY OPERATING SERVICES, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

Calendar Quarter	Emission Limit (lbs.)
January 1 through March 31	3760
April 1 through June 30	3760
July 1 through September 30	12000
October 1 through December 31	3760

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

[Devices subject to this condition : D1, D8, D15, D22]

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

K67.2 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

For architectural applications where no thinners, reducers, or other VOC containing materials are added, maintain semi-annual records for all coating consisting of (a) coating type, (b) VOC content as supplied in grams per liter (g/l) of materials for low-solids coatings, (c) VOC content as supplied in g/l of coating, less water and exempt solvent, for other coatings.

For architectural applications where thinners, reducers, or other VOC containing materials are added, maintain daily records for each coating consisting of (a) coating type, (b) VOC content as applied in grams per liter (g/l) of materials used for low-solids coatings, (c) VOC content as applied in g/l of coating, less water and exempt solvent, for other coatings.

**[RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997]**

[Devices subject to this condition : E30]

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**ENGINEERING EVALUATION**

**COMPANY NAME AND ADDRESS**

PurEnergy Operating Services, LLC  
1732 West Genesee Street  
Syracuse, NY 13204

**CONTACT(S):** Thomas Murphy, Vice-President, (315) 448-0264  
Rodney Lee, Plant Manager, (909) 824-2202  
Joel Lepourte, Asset Manager, (714) 746-5960  
Jeff Adkins, Sierra Research, (916) 273-5127

**EQUIPMENT LOCATION**

AQMD ID 132192 (Drews Power Plant)  
559 Pepper Ave.  
Colton, CA 92324

**EQUIPMENT DESCRIPTION**

Section D of the facility permit: Permit to Operate

The changes to Section D will be shown with a ~~strike through~~ for deletions and an underline for additions.

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions and Requirements	Conditions
<b>Process 1: INTERNAL COMBUSTION</b>					
<b>System 1: Power Generation, Unit No. 1</b>					
GAS TURBINE NO. 1, NATURAL GAS, GENERAL ELECTRIC, MODEL 10B1, SIMPLE CYCLE, 136.5 MMBTU/HR WITH A/N 518584 <u>529126</u>	D1	C4 C5	NOX: MAJOR SOURCE	<b>CO:</b> 2000 PPMV (5) [RULE 407]; CO: 6 PPMV NATURAL GAS (4) [RULE 1303 – BACT] <b>NOX:</b> 5 PPMV NATURAL GAS (4) [RULE 2005]; NOX: 79 PPMV NATURAL GAS (8) [40 CFR 60 SUBPART GG] <b>PM:</b> 11 LBS/HR (5A) [RULE 475]; PM: 0.01 GRAINS/SCF (5B) [RULE 475]; PM: 0.1 GRAINS/SCF (5) [RULE 409] <b>SOX:</b> 150 (8) [40 CFR 60 SUBPART GG] <b>VOC:</b> 2 PPMV NATURAL GAS (4) [RULE 1303 – BACT]	A63.1, A63.2, A99.1, A99.2, A99.5, A195.1, A195.2, A327.1, C1.1, C1.2, D12.1, D12.2, D29.1, D82.1, D82.2, E57.1, <del>E343.1</del> , <del>E345.1</del> , E481.1, H23.1, I296.1
GENERATOR, NO. 1, 10.5 MW					

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Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions and Requirements	Conditions
CO OXIDATION CATALYST, NO.1, SERVING GAS TURBINE NO. 1, TECNIP OR EQUIVALENT, PRECIOUS METAL (PD, PT) ON METAL FOIL, WITH 40-50 CU. FT. OF TOTAL CATALYTIC VOLUME, HT. 22 FT X 13.5 X 10.5 FT  A/N: 400855	C4	D1 C5			
SELECTIVE CATALYTIC REDUCTION, NO.1, SERVING GAS TURBINE NO. 1, TECHNIP, MONO-NOX VANADIA/TITANIA, 275 CU. FT.; WIDTH: 10 FT 6 IN; HEIGHT: 22 FT; LENGTH: 13 FT 6 IN WITH A/N 400855  AMMONIA INJECTION, GRID	C5	D1 C4		NH3: 5 PPMV (4) [RULE 1303 - BACT]	A99.3, A195.3, D12.3, D12.4, D12.5, D28.1, E73.1, E179.1, E179.2
STACK NO. 1 A/N 518584 <u>529126</u>	S7				
<b>System 2: Power Generation, Unit No. 2</b>					
GAS TURBINE NO. 2, NATURAL GAS, GENERAL ELECTRIC, MODEL 10B1, SIMPLE CYCLE, 136 MMBTU/HR WITH A/N 518586 <u>529127</u>	D8	C11 C12	NOX: MAJOR SOURCE	CO: 2000 PPMV (5) [RULE 407]; CO: 6 PPMV NATURAL GAS (4) [RULE 1303 - BACT] NOX: 5 PPMV NATURAL GAS (4) [RULE 2005]; NOX: 79 PPMV NATURAL GAS (8) [40 CFR 60 SUBPART GG] PM: 11 LBS/HR (5A) [RULE 475]; PM: 0.01 GRAINS/SCF (5B) [RULE 475]; PM: 0.1 GRAINS/SCF (5) [RULE 409] SOX: 150 (8) [40 CFR 60 SUBPART GG] VOC: 2 PPMV NATURAL GAS (4) [RULE 1303 - BACT]	A63.1, A63.2, A99.1, A99.2, A99.5, A195.1, A195.2, A327.1, C1.1, C1.2, D12.1, D12.2, D29.1, D82.1, D82.2, E57.1, <del>E313.1</del> , <del>E315.1</del> , E481.1, H23.1, I296.1
GENERATOR, NO. 2, 10.5 MW					
CO OXIDATION CATALYST, NO.2, SERVING GAS TURBINE NO. 2, TECNIP OR EQUIVALENT, PRECIOUS METAL (PD, PT) ON METAL FOIL, WITH 40-50 CU. FT. OF TOTAL CATALYTIC VOLUME, HT. 22 FT X 13.5 X 10.5 FT  A/N: 400857	C11	D8 C12			

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Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions and Requirements	Conditions
SELECTIVE CATALYTIC REDUCTION, NO.2, SERVING GAS TURBINE NO. 2, TECHNIP, MONO-NOX VANADIA/TITANIA, 275 CU. FT.; WIDTH: 10 FT 6 IN; HEIGHT: 22 FT; LENGTH: 13 FT 6 IN WITH A/N 400857  AMMONIA INJECTION, GRID	C12	D8 C11		NH3: 5 PPMV (4) [RULE 1303 – BACT]	A99.3, A195.3, D12.3, D12.4, D12.5, D28.1, E73.1, E179.1, E179.2
STACK NO. 2 A/N 518586 <u>529127</u>	S14				
<b>System 3: Power Generation, Unit No. 3</b>					
GAS TURBINE NO. 3, NATURAL GAS, GENERAL ELECTRIC, MODEL 10B1, SIMPLE CYCLE, 136.5 MMBTU/HR WITH A/N 514588 <u>529128</u>  GENERATOR, NO. 2, 10.5 MW	D15	C18 C19	NOX: MAJOR SOURCE	CO: 2000 PPMV (5) [RULE 407]; CO: 6 PPMV NATURAL GAS (4) [RULE 1303 – BACT] NOX: 5 PPMV NATURAL GAS (4) [RULE 2005]; NOX: 79 PPMV NATURAL GAS (8) [40 CFR 60 SUBPART GG] PM: 11 LBS/HR (5A) [RULE 475]; PM: 0.01 GRAINS/SCF (5B) [RULE 475]; PM: 0.1 GRAINS/SCF (5) [RULE 409] SOX: 150 (8) [40 CFR 60 SUBPART GG] VOC: 2 PPMV NATURAL GAS (4) [RULE 1303 – BACT]	A63.1, A63.2, A99.1, A99.2, A99.5, A195.1, A195.2, A327.1, C1.1, C1.2, D12.1, D12.2, D29.1, D82.1, D82.2, E57.1, <del>E313.1</del> , <del>E315.1</del> , E481.1, H23.1, I296.1
CO OXIDATION CATALYST, NO.3, SERVING GAS TURBINE NO. 3, TECNIP OR EQUIVALENT, PRECIOUS METAL (PD, PT) ON METAL FOIL, WITH 40-50 CU. FT. OF TOTAL CATALYTIC VOLUME, HT. 22 FT X 13.5 X 10.5 FT  A/N: 400861	C18	D15 C19			
SELECTIVE CATALYTIC REDUCTION, NO.3, SERVING GAS TURBINE NO. 3, TECHNIP, MONO-NOX VANADIA/TITANIA, 275 CU. FT.; WIDTH: 10 FT 6 IN; HEIGHT: 22 FT; LENGTH: 13 FT 6 IN WITH A/N 400861  AMMONIA INJECTION, GRID	C19	D15 C18		NH3: 5 PPMV (4) [RULE 1303 – BACT]	A99.3, A195.3, D12.3, D12.4, D12.5, D28.1, E73.1, E179.1, E179.2
STACK NO. 3 A/N 514588 <u>529128</u>	S21				

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Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions and Requirements	Conditions
<b>System 4: Power Generation, Unit No. 4</b>					
GAS TURBINE NO. 4, NATURAL GAS, GENERAL ELECTRIC, MODEL 10B1, SIMPLE CYCLE, 136.5 MMBTU/HR WITH A/N 518591 <u>529129</u>	D22	C25 C26	NOX: MAJOR SOURCE	CO: 2000 PPMV (5) [RULE 407]; CO: 6 PPMV NATURAL GAS (4) [RULE 1303 - BACT] NOX: 5 PPMV NATURAL GAS (4) [RULE 2005]; NOX: 79 PPMV NATURAL GAS (8) [40 CFR 60 SUBPART GG] PM: 11 LBS/HR (5A) [RULE 475]; PM: 0.01 GRAINS/SCF (5B) [RULE 475]; PM: 0.1 GRAINS/SCF (5) [RULE 409] SOX: 150 (8) [40 CFR 60 SUBPART GG] VOC: 2 PPMV NATURAL GAS (4) [RULE 1303 - BACT]	A63.1, A63.2, A99.1, A99.2, A99.5, A195.1, A195.2, A327.1, C1.1, C1.2, D12.1, D12.2, D29.1, D82.1, D82.2, E57.1, <del>E313.1</del> , <del>E315.1</del> , E481.1, H23.1, I296.1
GENERATOR, NO. 2, 10.5 MW					
CO OXIDATION CATALYST, NO.4, SERVING GAS TURBINE NO. 4, TECNIP OR EQUIVALENT, PRECIOUS METAL (PD, PT) ON METAL FOIL, WITH 40-50 CU. FT. OF TOTAL CATALYTIC VOLUME, HT. 22 FT X 13.5 X 10.5 FT  A/N: 400863	C25	D22 C26			
SELECTIVE CATALYTIC REDUCTION, NO.4, SERVING GAS TURBINE NO. 4, TECHNIP, MONO-NOX VANADIA/TITANIA, 275 CU. FT.; WIDTH: 10 FT 6 IN; HEIGHT: 22 FT; LENGTH: 13 FT 6 IN WITH A/N 400863  AMMONIA INJECTION, GRID	C26	D22 C25		NH3: 5 PPMV (4) [RULE 1303 - BACT]	A99.3, A195.3, D12.3, D12.4, D12.5, D28.1, E73.1, E179.1, E179.2
STACK NO. 4 A/N 518591 <u>529129</u>	S28				
<b>Process 2: INORGANIC CHEMICAL STORAGE</b>					
STORAGE TANK, FIXED ROOF, WITH VAPOR RETURN LINE, AQUEOUS AMMONIA 19% SOLUTION, (10,000 GALLONS OR SMALLER) A/N 400440	D29				C157.1, E144.1
<b>Process 3: R-219 EXEMPT EQUIPMENT SUBJECT TO SOURCE-SPECIFIC RULES</b>					
RULE 219 EXEMPT EQUIPMENT, COATING EQUIPMENT, PORTABLE, ARCHITECTURAL COATINGS	E30			ROG: (9) [RULE 1113; RULE 1171]	K67.2

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## **BACKGROUND**

PurEnergy Operating Systems, LLC (POS) submitted change of condition applications, as well as a TV/RECLAIM application to remove the designation of a non-operational Major NOx source for each of their turbines at the Century Power Plant. Table 1 below summarizes the applications submitted for the facility.

**Table 1 Application Summary**

A/N	Equipment	Submittal Date	Deemed Complete	BCAT/CCAT	Schedule	Fee
529125	TV/RECLAIM Permit Revision	11/8/11	12/14/11	555009	-	\$1,747.19
529126	TURBINE ENGINE (<=50MW) EL PEAK NG ONLY	11/8/11	12/14/11	012008	D	\$3,071.35
529127	TURBINE ENGINE (<=50MW) EL PEAK NG ONLY	11/8/11	12/14/11	012008	D	\$1,535.68
529128	TURBINE ENGINE (<=50MW) EL PEAK NG ONLY	11/8/11	12/14/11	012008	D	\$1,535.68
529129	TURBINE ENGINE (<=50MW) EL PEAK NG ONLY	11/8/11	12/14/11	012008	D	\$1,535.68

The applications for change of conditions request the following:

- Remove any reference of non-operational status for the turbines at the Century Power Plant;
- Reinstate any monitoring and recordkeeping conditions that were put on hold for the equipment's non-operational status;
- Change the NOx quarterly emission limits.

POS operates the Drews Power Plant as well as the Century Power Plant (ID 132191), which is an identical power plant that has identical equipment. Applications were also submitted for the Century plant requesting the same changes.

The company received a revised TV Facility permit on June 16, 2011 designating the equipment as non-operational major NOx sources in accordance with Rule 2012. A variance was granted to the company for relief from the provisions of Rule 218 and 218.1 for the CO CEMS. The rules that govern the CO CEMS do not have provisions that allow non-operational status for the equipment.

The Title V Facility permit and AQMD Rule 2012 has provisions that allow the facility to start-up the equipment without the need for a revised permit. The request to remove the reference to non-operational status and to change the NOx quarterly emissions will be processed as Title V Minor Permit Revision and subject to EPA 45 Day review.

## **COMPLIANCE REVIEW**

The facility was inspected on March 23, 2011 and received a Notice of Violation P53124 for not completing valid cylinder gas audit (CGA) tests. The facility is in the RECLAIM program and subject to periodic annual inspections.

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**EMISSION CALCULATIONS**

There are no changes in emissions associated with the change in condition applications.

**RULES EVALUATION**

**RULE 212-STANDARDS FOR APPROVING PERMITS AND ISSUING PUBLIC NOTICES**

Rule 212 requires that a person shall not build, erect, install, alter, or replace any equipment, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce, or control the issuance of air contaminants without first obtaining written authorization for such construction from the Executive Officer. Rule 212(c) states that a project requires written notification if there is an emission increase for ANY criteria pollutant in excess of the daily maximums specified in Rule 212(g), if the equipment is located within 1,000 feet of the outer boundary of a school, or if the MICR is equal to or greater than one in a million ( $1 \times 10^6$ ) during a lifetime (70 years) for facilities with more than one permitted unit, source under Regulation XX, or equipment under Regulation XXX, unless the applicant demonstrates to the satisfaction of the Executive Officer that the total facility-wide maximum individual cancer risk is below ten in a million ( $10 \times 10^6$ ) using the risk assessment procedures and toxic air contaminants specified under Rule 1402; or, ten in a million ( $10 \times 10^6$ ) during a lifetime (70 years) for facilities with a single permitted unit, source under Regulation XX, or equipment under Regulation XXX.

There are no changes in emissions in emissions associated with the change in conditions that would trigger the public notice criteria of the rule; therefore, a public notice for Rule 212 is not required.

**RULE 401 – VISIBLE EMISSIONS**

This rule limits visible emissions to an opacity of less than 20 percent (Ringlemann No.1), as published by the United States Bureau of Mines. It is unlikely, with the use of the SCR /CO catalyst configuration on natural gas turbines that there will be visible emissions. However, in the unlikely event that visible emissions do occur, anything greater than 20 percent opacity is not expected to last for greater than 3 minutes. During normal operation, no visible emissions are expected. Therefore, based on the above and on experience with other natural gas fired turbines, compliance with this rule is expected.

**RULE 402 - NUISANCE**

This rule requires that a person not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which cause, or have a natural tendency to cause injury or damage to business or property. The turbines are not expected to create a public nuisance based on experience with identical natural gas fired turbines. A review of the District Compliance database indicates that no nuisance complaints have been received in regards to this facility. Continued compliance is expected.

**RULE 407 – LIQUID AND GASEOUS AIR CONTAMINANTS**

This rule limits CO emissions to 2,000 ppmvd and SO<sub>2</sub> emissions to 500 ppmvd, averaged over 15 minutes. For CO, the limit is 6.0 ppmvd @ 15% O<sub>2</sub>, 1-hr average, verified through source test and CEMS data. For SO<sub>2</sub>, equipment which complies with Rule 431.1 is exempt from the SO<sub>2</sub> limit in Rule

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407. The applicant will be required to comply with Rule 431.1 and thus the SO<sub>2</sub> limit in Rule 407 will not apply.

**RULE 409 – COMBUSTION CONTAMINANTS**

This rule restricts the discharge of contaminants from the combustion of fuel to 0.1 grain per cubic foot of gas, calculated to 12% CO<sub>2</sub>, averaged over 15 minutes. Continued compliance with this rule is expected.

**RULE 431.1-SULFUR CONTENT OF GASEOUS FUELS**

The turbines will use pipeline quality natural gas which will comply with the 16 ppm sulfur limit, calculated as H<sub>2</sub>S, specified in this rule. Natural gas will be supplied by the Southern California Gas Company which has a H<sub>2</sub>S content of less 0.25 gr/100scf, which is equivalent to a concentration of about 4 ppm. It is also much less than the 1 gr/100scf limit typical of pipeline quality natural gas. Continued compliance is expected.

**RULE 475-ELECTRIC POWER GENERATING EQUIPMENT**

This rule applies to power generating equipment greater than 10 MW installed after May 7, 1976. Requirements are that the equipment meet a limit for combustion contaminants of 11 lbs/hr or 0.01 gr/scf. Continued compliance with this rule is expected.

**RULE 1134 – EMISSIONS OF OXIDES OF NITROGEN FROM GAS TURBINES**

This rule applies to gas turbines, 0.3 MW and larger, installed on or before August 4, 1989. The units were installed after the date of applicability; therefore, the requirements of this rule are not applicable.

**RULE 1135 – EMISSIONS OF OXIDES OF NITROGEN FROM ELECTRIC POWER GENERATING SYSTEMS**

This rule applies to the electric power generating systems of several of the major utility companies in the basin. The plants which are included in the RECLAIM program are no longer subject to the requirements of this rule. Therefore, the NO<sub>x</sub> requirements of this rule are not applicable to the turbines.

**40CFR PART 60 SUBPART GG – STANDARDS OF PERFORMANCE FOR STATIONARY GAS TURBINES**

The turbines are rated at 136.5 MMBtu/hr; therefore, they are subject to the requirements of this subpart. The turbines are dry low NO<sub>x</sub> and were constructed in 2001. The change of condition applications to remove the designation of non-operational units will not trigger any new NSPS requirements. Therefore, continued compliance with this subpart is expected.

**REGULATION XX – REGIONAL CLEAN AIR INCENTIVES MARKET (RECLAIM)**

The facility is in NO<sub>x</sub> RECLAIM and in cycle 1.

**RULE 2012 – REQUIREMENTS FOR MONITORING, REPORTING, AND RECORDKEEPING FOR OXIDES OF NITROGEN (NO<sub>x</sub>) EMISSIONS**

The turbines are NO<sub>x</sub> Major Sources under RECLAIM and are required to have CEMS under Rule 2012. The CEMS received final certification on June 21, 2006 and the equipment has been operating in compliance with the rule. The requirements to install, maintain, and operate a NO<sub>x</sub> CEMS are not applicable if the unit is classified as a non-operated major source as outlined in Rule 2012(c)(9). The

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facility had received the non-operational status from a previous Title V RECLAIM facility permit revision. The facility is now in the process of bringing the units back online. Prior to start-up, the facility will be required to notify the District in writing no later than 30 days from the start of operation. In the event that any turbine is operated, the facility must perform RATA within 14 operating days from the start of operation in accordance with the rule. Compliance with the rule is expected.

REGULATION XXX – TITLE V

The facility is a major source for NOx and has Title V permit. Their request to remove the reference to “non-operational” status and to change the quarterly NOx emissions will be processed as a minor permit revision.

RULE 3003 – APPLICATIONS

The “permit revision” is expected to comply with all applicable requirements of this rule.

(i)(4) The permit revision will be issued only after the permit revision application has been found to comply with all conditions of this rule.

(j)(1)(B) The proposed minor permit revision is subject to EPA review prior to issuance.

RULE 3005 – PERMIT REVISION

(c) The proposed Title V permit revision satisfies all the applicable conditions listed in this rule. The modification constitutes a “minor permit revision” as defined in Rule 3000(b)(15).

RULE 3006 – PUBLIC PARTICIPATION

(b) The proposed revision is exempt from public participation.

PERMIT CONDITIONS

Only the changes are shown below. The new conditions are underlined and the conditions that will be removed will have a ~~striketrough~~. The existing modified conditions will also have underlines and ~~striketroughs~~ to represent additions and deletions, respectively.

CONDITION D

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 23,280 lbs. of NOx;

RTC 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.

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In lieu of holding RTCs for the entire duration specified above, RTCs held for the purpose of demonstrating compliance with this condition may be sold as specified below, provided quarterly emission does not exceed the corresponding quarterly limit listed in the table below. The amount available for sale shall be the quarterly emission limit listed minus the actual emission reportable pursuant to RECLAIM Monitoring, Recordkeeping, and Reporting protocols. Such amount may be sold only after the end of the subject quarter. If the quarterly certified emissions for any quarter exceed the corresponding quarterly emission limit, the facility may only sell RTCs acquired pursuant to Rule 2005(f) for that compliance year after the fourth quarter of that compliance year. This early sale option shall permanently be unavailable in the event that quarterly emissions exceeded the corresponding quarterly limits for a total of 3 times in any five consecutive years.

Calendar Quarter	Emission Limit (lbs.)
January 1 through March 31	<del>1,164</del> <u>3,760</u>
April 1 through June 30	<del>1,164</del> <u>3,760</u>
July 1 through September 30	<del>18,624</del> <u>12,000</u>
October 1 through December 31	<del>2,328</del> <u>3,760</u>

~~In lieu of complying with an emission increase of 23280 pounds of NOx, the emission increase shall be 0 lbs of NOx while the device is complying fully with Condition E313.1 which lists the terms for non-operational status.~~

[Rule 2005]

[Devices subject to this condition: D1, D8, D15, D22]

~~E313.1 This device is classified as a non-operated major NOx source as defined under Rule 2012 and shall not be operated unless the facility permit holder provides written notification to the Executive Officer 30 days prior to starting operation. In order to maintain the non-operational status, the Facility Permit holder shall:~~

- ~~(a) Remove a section of fuel feed line(s) to the device and place a blind flange on both ends of the fuel feed line(s); and~~
- ~~(b) Remove a major component of the source necessary for its operation.~~

~~Removal of parts or components solely to qualify the device for non-operated classification pursuant to this condition, or replacement of the same parts or components resulting in the device no longer being classified as non-operated shall be not be deemed to affect the potential to emit within the meanings of Rule 2005, Regulation XIII, and Regulation XXX.~~

~~This device shall not be operated unless the Facility Permit Holder submits a complete application for change of condition to remove this condition from the facility permit 30 days prior to starting operation.~~

~~For the purposes of complying with condition I296.1 while the device is complying with a non-operational status, a NOx annual emissions increase of 0 pounds shall be used due to non-operational status. This 0 pound emission increase shall become void once the subject device is operated and the operator shall fully comply with Condition I296.1 for the current compliance year without proration of the of the specified emission increase amount prior to commencing operation.~~

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[RULE 2012]

[Devices subject to this condition: D1, D8, D15, D22]

E315.1 ~~Once this device is operated, it shall no longer be classified as non-operational. This device shall also meet the monitoring requirements of Rule 2012, subparagraph (c)(2)(A) or (c)(2)(B) no later than 30 calendar days after the start of operation except as provided in Rule 2012, paragraph (c)(10).~~

[RULE 2012]

[Devices subject to this condition: D1, D8, D15, D22]

D28.1 The operator shall conduct source test(s) in accordance with the following specifications:

The test shall be conducted and the results submitted to the District within 60 days after the test date.

The test shall be conducted at least quarterly during the first twelve months of operation and at least annually thereafter.

The District shall be notified of the date and time of the test at least 10 days prior to the test.

The test shall be conducted to demonstrate compliance with Rule 1303 concentration limit.

The test shall be conducted to determine the NH<sub>3</sub> emissions using District Method 207.1 and 5.3 or EPA Method 17 measured over a 60-minute averaging time period. The NO<sub>x</sub> concentration, as determined by reading the CEMS, shall be simultaneously recorded during the test. If CEMS is inoperable, a test shall be conducted to determine the NO<sub>x</sub> emissions using District Method 100.1 measured over a 60-minute averaging time period.

~~Source test shall be conducted when this equipment is operating. The annual source test shall not be required during the period of time that the turbine, to which this control system is connected, is non-operational. For the purposes of this condition, non-operation shall be defined as zero fuel flow to the turbine verified by the removal of a section of fuel feed line(s) and the placement of a blind flange at each end of the fuel feed line(s). The source test shall be performed within 45 calendar days from the day the turbine first fires fuel.~~

[Rule 1303(a)(1) – BACT]

[Devices subject to this condition: C5, C12, C19, C26]

D29.1 The operator shall conduct source test(s) for the pollutants identified below:

Pollutant to be tested	Required Test Method(s)	Averaging Time	Test Location
CO emissions	District Method 100.1	1 hour	Outlet of the SCR serving this equipment
NO <sub>x</sub> emissions	District Method 100.1	1 hour	Outlet of the SCR serving this equipment
PM <sub>10</sub> emissions	District Method 5.2 Modified with EPA Method 201A Cyclone (filterables)	1 hour	Outlet of the SCR serving this equipment

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ROG emissions	compliance, condensables information) Approved District method	1 hour	Outlet of the SCR serving this equipment
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The test shall be conducted at least once every three years and as per District approved protocol. Within 60 days after the source test, the operator shall submit the source test report to the District.

~~Source test shall be conducted when this equipment is operating. The source test shall not be required during the period of time that the turbine is non-operational. For the purposes of this condition, non-operation shall be defined as zero fuel flow to the turbine verified by the removal of a section of fuel feed line(s) and the placement of a blind flange at each end of the fuel feed line(s). The source test shall be performed within 45 calendar days from the day the turbine first fires fuel.~~

[Rule 1303(a)(1) – BACT, RULE 2005]  
[Devices subject to this condition: D1, D8, D15, D22]

A195.3 The 5 ppmv NH3 emission limit(s) is averaged over 60 mins at 15 percent O2 dry. The operator shall calculate and continuously record the NH3 slip concentration using the following:  $NH_3 \text{ (ppmv)} = [a - (b * (c * 1.2)/1000000)] * (1000000/b)$ , where a = NH3 injection rate (lb/hr)/(17 lb/lb-mole), b = dry exhaust gas flow rate (lb/hr)/(29 lb/lb-mole) and c = change in measured NOx across the SCR (ppmvd at 15 percent O2).

The operator shall install and maintain a NOx analyzer to measure the SCR inlet NOx ppmv accurate to plus or minus 5 percent and calibrated at least once every 12 months.

The determination of ammonia slip based on the above formula shall be adjusted with correction factors. The operator shall determine a equipment-specific procedure for the correction of the formula by comparing the results of the formula with the actual ammonia slip measurement during the performance testing. New correction factors and any changes to the factors are subject to AQMD approval.

The operator shall use the above described method or another alternative method approved by the Executive Officer.

The ammonia slip calculation procedure described above shall not be used for compliance determination or emission information without corroborative data using an approved reference method for determination of ammonia.

~~The maintenance of the NOx analyzer and the requirement to calculate and continuously record NH3 slip concentration shall not be required during the period of time that the turbine, to which this control system is connected, is non-operational.~~

~~For the purposes of this condition, non-operation shall be defined as zero fuel flow to the turbine verified by the removal of a section of fuel feed line(s) and the placement of a blind flange at each end of the fuel feed line(s). NOx analyzer maintenance and NH3 slip recording shall commence on the day the turbine first fires fuel.~~

[Rule 1303(a)(1) – BACT]

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[Devices subject to this condition: C5, C12, C19, C26]

- D12.3 The operator shall install and maintain a(n) flow meter to accurately indicate the flow rate of the total hourly throughput of injected ammonia (NH<sub>3</sub>).

The operator shall also install and maintain a device to continuously record the parameter being measured.

The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every 12 months.

The operator shall maintain the ammonia injection rate between 1 and 7 lbs per hour.

~~The requirements to continuously record ammonia flow shall not be required during the period of time that the turbine, to which this control system is connected, is non-operational. For the purposes of this condition, non-operation shall be defined as zero fuel flow to the turbine verified by the removal of a section of fuel feed line(s) and the placement of a blind flange at each end of the fuel feed line(s). Ammonia flow recording shall commence on the day the turbine first fires fuel.~~

[Rule 1303(a)(1) – BACT]

[Devices subject to this condition: C5, C12, C19, C26]

- D12.4 The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the exhaust at the inlet to the SCR reactor.

The operator shall also install and maintain a device to continuously record the parameter being measured.

The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every 12 months.

~~The requirements to continuously record temperature shall not be required during the period of time that the turbine, to which this control system is connected, is non-operational. For the purposes of this condition, non-operation shall be defined as zero fuel flow to the turbine verified by the removal of a section of fuel feed line(s) and the placement of a blind flange at each end of the fuel feed line(s). Temperature recording shall commence on the day the turbine first fires fuel.~~

[Rule 1303(a)(1) – BACT]

[Devices subject to this condition: C5, C12, C19, C26]

- D12.5 The operator shall install and maintain a(n) pressure gauge to accurately indicate the pressure across the SCR reactor bed in inches of water column.

The operator shall also install and maintain a device to continuously record the parameter being measured.

The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every 12 months.

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The operator shall maintain the pressure drop across the SCR bed between 2 and 5 inches of water column.

~~The requirements to continuously record pressure shall not be required during the period of time that the turbine, to which this control system is connected, is non-operational. For the purposes of this condition, non-operation shall be defined as zero fuel flow to the turbine verified by the removal of a section of fuel feed line(s) and the placement of a blind flange at each end of the fuel feed line(s). Pressure recording shall commence on the day the turbine first fires fuel.~~

[Rule 1303(a)(1) – BACT]

[Devices subject to this condition: C5, C12, C19, C26]

D82.2 The operator shall install and maintain a CEMS to measure the following measures:

NOx concentration in ppmv

The CEMS shall be installed and operating no later than 12 months after the initial start-up of the turbine. During the interim period between the initial start-up and the provisional certification date of the CEMS, the operator shall comply with the monitoring requirements of Rule 2012(h)(2) and 2012(h)(3). Within 2 weeks of the turbine start-up date, the operator shall provide written notification to the District of the exact start-up date.

~~The NOx CEMS shall be installed, maintained and operated in the accordance with the requirements of Rule 2012, including the requirements of Rule 2012 (e)(9) for sources qualifying as non-operated major NOx sources.~~

[Rule 2012]

[Devices subject to this condition: D1, D8, D15, D22]