



# South Coast Air Quality Management District

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



May 2, 2008

Mr. Gerardo Rios  
U.S. EPA, Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

Re: LADWP Valley Generation Station, facility ID 800193

Dear Mr. Rios:

The South Coast Air Quality Management District (AQMD) has received and reviewed an application from Los Angeles Department of Water and Power (LADWP) for a minor permit revision to the Title V permit of its Valley Generation Station (VGS). The proposed permit revision would increase the gas turbine diesel readiness test from 30 minutes per month to 60 minutes per month. The following is a summary of the applications.

Application #	Device #	Section #	Proposed Actions
477846	D130, GT#5	H	Conditions A75.2, D29.7
477852			Title V facility permit revision

A copy of our engineering analysis and the proposed revision to the existing Title V permit are enclosed for the 45-day EPA review. If you have any questions or wish to provide comments regarding this project, please call Mr. Li Chen (909) 396-2426 or Mr. John Yee (909) 396-2531.

Very truly yours,

*Michael D. Mills*

Michael D. Mills, P.E.  
Senior Manager  
General Commercial and Energy Permitting  
Engineering and Compliance

Attachments

cc: Bruce Moore, LADWP  
Energy Unit Files

*Cleaning the air that we breathe.*



## FACILITY PERMIT TO OPERATE LA CITY, DWP VALLEY GENERATING STATION

### 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 3 : INTERNAL COMBUSTION</b>					
<b>System 1 : Power Generation</b>					
GAS TURBINE, UNIT NO. 5, DIESEL FUEL, NATURAL GAS, GE, MODEL GE LM6000 ENHANCED SPRINT, SIMPLE CYCLE, LOW NITROGEN FUEL, WITH STEAM OR WATER INJECTION, 466.8 MMBTU/HR WITH A/N:	D130	C132 C134 S135	NOX: MAJOR SOURCE**	<p>CO: 2000 PPMV (5) [RULE 407,4-2-1982] ; CO: 6 PPMV (4) [RULE 1303(a)(1)-BACT,5-10-1996;RULE 1303(a)(1)-BACT,12-6-2002]</p> <p>NOX: 34 LBS/HR (4) [RULE 2005,4-20-2001;RULE 2005,5-6-2005] ; NOX: 5 PPMV (4) [RULE 2005,4-20-2001;RULE 2005,5-6-2005]</p> <p>NOX: 114.5 PPMV NATURAL GAS (8) [40CFR 60 Subpart GG,3-6-1981] ; NOX: 23.2 LBS/1000 GAL DIESEL (1) [RULE 2012,12-5-2003;RULE 2012,5-6-2005]</p> <p>NOX: 130.3 PPMV DIESEL (8) [40CFR 60 Subpart GG,3-6-1981] ; PM: 0.1 GRAINS/SCF (5) [RULE 409,8-7-1981] ; PM: 0.01 GRAINS/SCF (5A) [RULE 475,10-8-1976 RULE 475,8-7-1978] ; PM: 11 LBS/HR (5A) [RULE 475,10-8-1976;RULE 475,8-7-1978] ; SO2: (9) [40CFR 72 - Acid Rain Provisions,11-24-1997]</p>	A63.2, A99.1, A99.2, A99.4, A195.1, A195.2, A195.6, A327.1, B75.2, C1.5, C6.2, D12.3, D29.2, D29.7, D82.1, D82.2, D371.2, E57.1, E73.1, I296.1, K40.1

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

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<b>Process 3 : INTERNAL COMBUSTION</b>					
GENERATOR, (LIMITED BY TURBINE OUTPUT TO 47.4 MW), 60.5 MW				SOX: 150 PPMV (8) [40CFR 60 Subpart GG,3-6-1981] ; VOC: 2 PPMV (4) [RULE 1303(a)(1)-BACT,5-10-1996;RULE 1303(a)(1)-BACT,12-6-2002]	
SELECTIVE CATALYTIC REDUCTION, NO. 5, ENGELHARD, WITH 1671 CUBIC FEET OF TOTAL CATALYST VOLUME, WIDTH: 3 FT; HEIGHT: 51 FT; LENGTH: 11 FT WITH A/N: 453705 Permit to Construct Issued: 11/08/06 AMMONIA INJECTION	C132	D130		NH3: 5 PPMV (4) [RULE 1303(a)(1)-BACT,5-10-1996;RULE 1303(a)(1)-BACT,12-6-2002]	A195.3, D12.4, D12.5, D12.6, D29.1, E179.1, E179.2, E193.1
CO OXIDATION CATALYST, NO. 5, ENGELHARD, WITH 835 CUBIC FEET OF TOTAL CATALYST VOLUME A/N: 453705 Permit to Construct Issued: 11/08/06	C134	D130			
STACK, TURBINE NO. 5 A/N:	S135	D130			

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<b>Process 3 : INTERNAL COMBUSTION</b>					
GAS TURBINE, UNIT NO. 6, DIESEL FUEL, NATURAL GAS, GENERAL ELECTRIC, MODEL 7241FA, COMBINED CYCLE, WITH LOW NITROGEN DIESEL FUEL, WITH LOW NOX BURNER, WATER INJECTION, 1865 MMBTU/HR WITH A/N: 465786 Permit to Construct Issued: 12/06/07	D143	C148 C149 S151	NOX: MAJOR SOURCE**	CO: 2000 PPMV (5) [RULE 407,4-2-1982] ; CO: 6 PPMV (4) [RULE 1303(a)(1)-BACT,5-10-1996;RULE 1303(a)(1)-BACT,12-6-2002]  NOX: 42 PPMV DIESEL (4) [RULE 1703 - PSD Analysis,10-7-1988;RULE 2005,5-6-2005] ; NOX: 2.5 PPMV (4) [RULE 2005,5-6-2005]  NOX: 109.4 PPMV NATURAL GAS (8) [40CFR 60 Subpart GG,3-6-1981] ; NOX: 26 LBS/1000 GAL DIESEL (1) [RULE 2012,5-6-2005]  NOX: 114.7 PPMV DIESEL (8) [40CFR 60 Subpart GG,3-6-1981] ; PM: 0.1 GRAINS/SCF (5) [RULE 409,8-7-1981] ; PM: 0.01 GRAINS/SCF (5B) [RULE 475,10-8-1976 RULE 475,8-7-1978] ; PM: 11 LBS/HR (5C) [RULE 475,10-8-1976;RULE 475,8-7-1978] ; SO2: (9) [40CFR 72 - Acid Rain Provisions,11-24-1997]	A63.3, A99.5, A99.6, A99.7, A195.4, A195.5, A195.6, A327.1, A433.1, B75.3, D29.3, D29.4, D29.6,  D82.4, D82.5, D371.2, D372.1, E57.1, E193.3, I296.2, K40.2, K67.6

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GENERATOR, 178 MW (MAX GROSS OUTPUT AT 22 DEG F)  GENERATOR, HEAT RECOVERY STEAM  STEAM TURBINE, STEAM, COMMON WITH GAS TURBINE NO. 7, 223.5 MW				SOX: 150 PPMV (8) [40CFR 60 Subpart GG,3-6-1981] ; VOC: 2 PPMV (4) [RULE 1303(a)(1)-BACT,5-10-1996;RULE 1303(a)(1)-BACT,12-6-2002]	
BURNER, DUCT, 183.5 MMBTUH DERATED TO 125 MMBTUH, NATURAL GAS, LOCATED IN THE HRSG OF TURBINE NO. 6 A/N: 465786 Permit to Construct Issued: 12/06/07	D147		NOX: MAJOR SOURCE**	CO: 2000 PPMV (5) [RULE 407,4-2-1982] ; CO: 6 PPMV (4) [RULE 1303(a)(1)-BACT,5-10-1996;RULE 1303(a)(1)-BACT,12-6-2002]  NOX: 109.4 PPMV NATURAL GAS (8) [40CFR 60 Subpart GG,3-6-1981] ; NOX: 2.5 PPMV (4) [RULE 2005,5-6-2005] ; PM: 0.01 GRAINS/SCF (5A) [RULE 475,10-8-1976]	A63.3, A99.5, A99.6, A99.7, A195.4, A195.5, A195.6, A327.1, A433.1, B75.3, D29.3, D29.4, D29.6,  D82.4, D82.5, D371.2, D372.1, E57.1, E193.3, I296.2, K40.2, K67:6

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				<p><i>RULE 475,8-7-1978</i>] ; PM: 11 LBS/HR (5B) [<i>RULE 475,10-8-1976;RULE 475,8-7-1978</i>] ; PM10: 0.1 GRAINS/SCF (5) [<i>RULE 409,8-7-1981</i>]</p> <p>SO2: (9) [40CFR 72 - Acid Rain Provisions,11-24-1997] ; SOX: 150 PPMV (8) [40CFR 60 Subpart GG,3-6-1981] ; VOC: 2 PPMV (4) [RULE 1303(a)(1)-BACT,5-10-1996</p> <p><i>RULE 1303(a)(1)-BACT,12-6-2002]</i></p>	
CO OXIDATION CATALYST, SERVING TURBINE NO. 6, ENGELHARD, HEIGHT 61 FT X LENGTH 26 FT X WIDTH 4 FT; WITH 6344 CU FT OF CATALYST VOLUME A/N: 374497 Permit to Construct Issued: 02/01/02	C148	D143			
SELECTIVE CATALYTIC REDUCTION, SERVING TURBINE NO. 6, ENGELHARD, TITANIUM-VANADIUM, WITH 7930 CU FT OF CATALYST VOLUME, WIDTH: 5 FT; HEIGHT: 61 FT; LENGTH: 26 FT WITH A/N: 374497 Permit to Construct Issued: 02/01/02	C149	D143		NH3: 5 PPMV (4) [RULE 1303(a)(1)-BACT,5-10-1996;RULE 1303(a)(1)-BACT,12-6-2002]	A195.12, D12.4, D12.5, D12.7, D29.5, E73.2, E179.3, E179.4, E193.3

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<b>Process 3 : INTERNAL COMBUSTION</b>					
AMMONIA INJECTION, INJECTION GRID.					
STACK, SERVING TURBINE NO. 6, HEIGHT: 140 FT; DIAMETER: 19 FT A/N: 465786 Permit to Construct Issued: 12/06/07	S151	D143			
GAS TURBINE, UNIT NO. 7, DIESEL FUEL, NATURAL GAS. GENERAL ELECTRIC, MODEL 7241FA, COMBINED CYCLE, WITH LOW NITROGEN DIESEL FUEL, WITH LOW NOX BURNER, WATER INJECTION, 1865 MMBTU/HR WITH A/N: 465787 Permit to Construct Issued: 12/06/07	D152	C156 C157 S159	NOX: MAJOR SOURCE**	CO: 6 PPMV (4) [RULE 1303(a)(1)-BACT,5-10-1996;RULE 1303(a)(1)-BACT,12-6-2002] ; CO: 2000 PPMV (1) [RULE 407,4- 2-1982]  NOX: 42 PPMV DIESEL (4) [RULE 1703 - PSD Analysis,10-7- 1988;RULE 2005,5-6-2005] ; NOX: 2.5 PPMV (4) [RULE 2005,5-6-2005]  NOX: 109.4 PPMV NATURAL GAS (8) [40CFR 60 Subpart GG,3-6-1981] ; NOX: 26 LBS/1000 GAL DIESEL (1) [RULE 2012,5-6-2005]	A63.5, A99.5, A99.6, A99.7, A195.4, A195.5, A195.6, A327.1, A433.1, B75.3, D29.3, D29.4, D29.6,  D82.4, D82.5, D371.2, D372.1, E57.1, E193.3, I296.2, K40.2, K67.6

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<b>Process 3 : INTERNAL COMBUSTION</b>					
<p>GENERATOR, 178 MW (MAX GROSS OUTPUT AT 22 DEG F)</p> <p>GENERATOR, HEAT RECOVERY STEAM</p> <p>STEAM TURBINE, STEAM, COMMON WITH GAS TURBINE NO. 7, 223.5 MW</p>				<p><b>NOX:</b> 114.7 PPMV DIESEL (8) [40CFR 60 Subpart GG,3-6-1981] ; <b>PM:</b> 0.1 GRAINS/SCF (5) [RULE 409,8-7-1981] ; <b>PM:</b> 11 LBS/HR (5A) [RULE 475,10-8-1976 ; <i>RULE 475,8-7-1978</i>] ; <b>PM:</b> 0.01 GRAINS/SCF (5B) [RULE 475,10-8-1976;<i>RULE 475,8-7-1978</i>] ; <b>SO2:</b> (9) [40CFR 72 - Acid Rain Provisions,11-24-1997]</p> <p><b>SOX:</b> 150 PPMV (8) [40CFR 60 Subpart GG,3-6-1981] ; <b>VOC:</b> 2 PPMV (4) [RULE 1303(a)(1)-BACT,5-10-1996;<i>RULE 1303(a)(1)-BACT,12-6-2002</i>]</p>	

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<b>Process 3 : INTERNAL COMBUSTION</b>					
BURNER, DUCT, 183.5 MMBTUH DERATED TO 125 MMBTUH, NATURAL GAS, LOCATED IN THE HRSG OF TURBINE NO. 7 A/N: 465787 Permit to Construct Issued: 12/06/07	D160		NOX: MAJOR SOURCE**	CO: 2000 PPMV (5) [RULE 407,4-2-1982] ; CO: 6 PPMV (4) [RULE 1303(a)(1)-BACT,5-10-1996;RULE 1303(a)(1)-BACT,12-6-2002]  NOX: 109.4 PPMV NATURAL GAS (8) [40CFR 60 Subpart GG,3-6-1981] ; NOX: 2.6 PPMV (4) [RULE 2005,5-6-2005] ; PM: 0.1 GRAINS/SCF (5) [RULE 409,8-7-1981]  PM: 0.01 GRAINS/SCF (5A) [RULE 475,10-8-1976;RULE 475,8-7-1978] ; PM: 11 LBS/HR (5B) [RULE 475,10-8-1976;RULE 475,8-7-1978]  SO2: (9) [40CFR 72 - Acid Rain Provisions,11-24-1997] ; SOX: 150 PPMV (8) [40CFR 60 Subpart GG,3-6-1981] ; VOC: 2 PPMV (4) [RULE 1303(a)(1)-BACT,5-10-1996 RULE 1303(a)(1)-BACT,12-6-2002]	A63.5, A99.5, A99.6, A99.7, A195.4, A195.5, A195.6, A327.1, A433.1, B75.3, D29.3, D29.4, D29.6,  D82.4, D82.5, D371.2, D372.1, E57.1, E193.3, I296.2, K40.2, K67.6

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<b>Process 3 : INTERNAL COMBUSTION</b>					
CO OXIDATION CATALYST, SERVING TURBINE NO. 7, ENGELHARD, HEIGHT 61 FT X LENGTH 26 FT X WIDTH 4 FT, WITH 6344 CU FT OF CATALYST VOLUME A/N: 374499 Permit to Construct Issued: 02/01/02	C156	D152			
SELECTIVE CATALYTIC REDUCTION, SERVING TURBINE NO. 7, ENGELHARD, TITANIUM-VANADIUM, 7930 CU FT CATALYST VOLUME, WIDTH: 5 FT; HEIGHT: 61 FT; LENGTH: 26 FT WITH A/N: 374499 Permit to Construct Issued: 02/01/02  AMMONIA INJECTION, INJECTION GRID	C157	D152		NH3: 5 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT,5-10-1996;RULE 1303(a)(1)-BACT,12-6-2002]	A195.12, D12.4, D12.5, D12.7, D29.5, E73.2, E179.3, E179.4, E193.3
STACK, SERVING TURBINE NO. 7, HEIGHT: 140 FT; DIAMETER: 19 FT A/N: 465787 Permit to Construct Issued: 12/06/07	S159	D152			
<b>System 2 : Emergency Power</b>					
INTERNAL COMBUSTION ENGINE, EMERGENCY POWER, DIESEL FUEL, CATERPILLAR, MODEL 3412 DITTA, 40 TIMING RETARD, TURBOCHARGED AFTERCOOLED, 896 HP A/N: 379720 Permit to Construct Issued: 05/18/01	D136		NOX: PROCESS UNIT**	CO: 8.5 GRAM/BHP-HR (4) [RULE 1303(a)(1)-BACT,5-10-1996;RULE 1303(a)(1)-BACT,12-6-2002] ; NOX: 469 LBS/1000 GAL (1) [RULE 2012,12-7-1995	B59.1, C1.4, D12.2, E162.1, E193.2, K67.4

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				<i>RULE 2012,3-16-2001</i> ] ; <b>NOX:</b> 6.9 GRAM/BHP-HR (4) [ <i>RULE 2005,4-20-2001;RULE 2005,5-6-2005</i> ] ; <b>PM:</b> 0.38 GRAM/BHP-HR (4) [ <i>RULE 1303(a)(1)-BACT,10-20-2000</i> ]  <i>RULE 1303(a)(1)-BACT,12-6-2002</i> ] ; <b>VOC:</b> 1 GRAM/BHP-HR (4) [ <i>RULE 1303(a)(1)-BACT,10-20-2000;RULE 1303(a)(1)-BACT,12-6-2002</i> ]	
<b>Process 11 : AMMONIA STORAGE</b>					
STORAGE TANK, NO.1, AQUEOUS AMMONIA 29% SOLUTION, WITH A VAPOR RETURN LINE, 20000 GALS A/N: 374504 Permit to Construct Issued: 05/18/01	D137	C138			C157.1, E57.2, E57.6
SCRUBBER, PACKED BED, WITH POLYPROPYLENE PACKING AND MIST ELIMNATOR, SERVING TANK NO.1, HEIGHT: 8 FT 4 IN; DIAMETER: 2 FT A/N: 374504 Permit to Construct Issued: 05/18/01	C138	D137			C157.1

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**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 11 : AMMONIA STORAGE</b>					
STORAGE TANK, FIXED ROOF, NO. 2, AQUEOUS AMMONIA 29%, WITH A VAPOR RETURN LINE, TRANSFER PUMP, AND PRV SET AT 50 PSIG, 20000 GALS; DIAMETER: 11 FT 11 IN; LENGTH: 30 FT 9 IN A/N: 374500 Permit to Construct Issued: 02/01/02	D139	C140			C157.1, E57.5, E193.3
SCRUBBER, WATER, SERVING TANK NO. 2 A/N: 374500 Permit to Construct Issued: 02/01/02	C140	D139			
STORAGE TANK, FIXED ROOF, NO. 3, AQUEOUS AMMONIA 29% SOLUTION, WITH A VAPOR RETURN LINE, A TRANSFER PUMP, AND A PRV SET AT 50 PSIG, 20000 GALS; DIAMETER: 11 FT 11 IN; LENGTH: 30 FT 9 IN A/N: 374501 Permit to Construct Issued: 02/01/02	D141	C142			C157.1, E57.5, E193.3
SCRUBBER, WATER, SERVING TANK NO. 3 A/N: 374501 Permit to Construct Issued: 02/01/02	C142	D141			

\* (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  
LA CITY, DWP VALLEY GENERATING STATION**

**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  
LA CITY, DWP VALLEY GENERATING STATION**

**SECTION H: DEVICE ID INDEX**

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C149	5	3	1
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D152	6	3	1
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C157	9	3	1
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## FACILITY PERMIT TO OPERATE LA CITY, DWP VALLEY GENERATING STATION

### 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, 9-11-1998]

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

[RULE 431.2, 5-4-1990]

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

This condition shall become effective on or after June 1, 2004.

[RULE 431.2, 9-15-2000]

F16.1 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

purchase records of fuel oil and sulfur content of the fuel

[RULE 3004(a)(4)-Periodic Monitoring, 8-11-1995]



**FACILITY PERMIT TO OPERATE  
LA CITY, DWP VALLEY GENERATING STATION**

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

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

F18.1 Acid Rain SO2 Allowance Allocation for affected units are as follows:

Device ID	Boiler ID	Contaminant	Tons in any year
1	Boiler No. 1	SO2	121
5	Boiler No. 2	SO2	140
9	Boiler No. 3	SO2	388
13	Boiler No. 4	SO2	349

a). The allowance allocation(s) shall apply to calendar years 2000 through 2009.

b). The number of allowances allocated to Phase II affected units by U.S. EPA may change in a 1998 revision to 40CFR73 Tables 2,3, and 4. In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U.S. EPA. Neither of the aforementioned conditions necessitate a revision to the unit SO2 allowance allocations identified in this permit (see 40 CFR 72.84)

**[40CFR 73 Subpart B, 1-11-1993]**

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]**

**PROCESS CONDITIONS**



**FACILITY PERMIT TO OPERATE  
LA CITY, DWP VALLEY GENERATING STATION**

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

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

PI.1 The operator shall limit the throughput to no more than 210600 gallon(s) per day.

For the purpose of this condition, throughput shall be defined as the treatment of waste-oil mixtures.

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

[Processes subject to this condition : 8]

**DEVICE CONDITIONS**

**A. Emission Limits**

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

CONTAMINANT	EMISSIONS LIMIT
CO	Less than or equal to 2100 LBS IN ANY ONE MONTH
VOC	Less than or equal to 570 LBS IN ANY ONE MONTH
PM10	Less than or equal to 1320 LBS IN ANY ONE MONTH
SOX	Less than or equal to 180 LBS IN ANY ONE MONTH

The operator shall calculate the emission limit(s) by using monthly fuel use data, and the following emission factors: Natural Gas: VOC - 2.88 lbs/mmescf, PM10 - 6.93 lbs/mmescf, and SOx - 0.83 lbs/mmescf. Diesel: VOC - 1.11 lbs/1000 gals, PM10 - 1.67 lbs/1000 gals, and SOx - 7.02 lbs/1000 gals.

The operator shall calculate CO emissions after the CO CEMS certification based upon readings from the AQMD certified CEMS. In the event the CO CEMS is not operating or the emissions exceed the valid upper range of the analyzer, the emissions shall be calculated in accordance with the approved CEMS plan. The CO CEMS is not required to be certified for diesel readiness test. During diesel readiness testing, CO emissions shall be calculated using the fuel use data and a 13.19 lbs/Mgal emission factor.

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

[Devices subject to this condition : D130]



**FACILITY PERMIT TO OPERATE  
LA CITY, DWP VALLEY GENERATING STATION**

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

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

A63.3 The operator shall limit emissions from this equipment as follows:

CONTAMINANT	EMISSIONS LIMIT
CO	Less than 25000.3 LBS IN ANY ONE MONTH
PM10	Less than 9901.5 LBS IN ANY ONE MONTH
VOC	Less than 4127.1 LBS IN ANY ONE MONTH
SOX	Less than 363.3 LBS IN ANY ONE MONTH

The operator shall calculate the emission limit(s) by using calendar monthly fuel use data and the following emission factors: Natural Gas: PM10 8.04 lbs/MMscf , VOC 3.04 lbs/MMscf, and SOx 0.29 lbs/mmscf. Diesel Fuel: PM10 1.67 lbs/Mgal , VOC 0.43 lbs/Mgal, and SOx 0.21 lbs/Mgal

The operator shall calculate the emission limit(s) for CO after the CO CEMS certification based upon readings from the AQMD certified CEMS. In the event the CO CEMS is not operating or the emissions exceed the valid upper range of the analyzer, the emissions shall be calculated in accordance with the approved CEMS plan. During diesel readiness testing, the CO shall be calculated using the fuel use data and a 24.2 lbs/Mgal emission factor

For the purposes of this condition, the limit(s) shall be based on the total combined emissions from gas turbine No. 6 and its associated duct burner during any calendar month after the initial commissioning period.

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

[Devices subject to this condition : D143, D147]



**FACILITY PERMIT TO OPERATE  
LA CITY, DWP VALLEY GENERATING STATION**

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

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

A63.5 The operator shall limit emissions from this equipment as follows:

CONTAMINANT	EMISSIONS LIMIT
CO	Less than 25000.3 LBS IN ANY ONE MONTH
PM10	Less than 9901.5 LBS IN ANY ONE MONTH
VOC	Less than 4127.1 LBS IN ANY ONE MONTH
SOX	Less than 363.3 LBS IN ANY ONE MONTH

The operator shall calculate the emission limit(s) by using calendar monthly fuel use data and the following emission factors: Natural Gas: PM10 8.04 lbs/MMscf , VOC 3.04 lbs/MMscf, and SOx 0.29 lbs/mmscf. Diesel Fuel: PM10 1.67 lbs/Mgal , VOC 0.43 lbs/Mgal, and SOx 0.21 lbs/Mgal

The operator shall calculate the emission limit(s) for CO after the CO CEMS certification based upon readings from the AQMD certified CEMS. In the event the CO CEMS is not operating or the emissions exceed the valid upper range of the analyzer, the emissions shall be calculated in accordance with the approved CEMS plan. During diesel readiness testing, the CO shall be calculated using the fuel use data and a 24.2 lbs/Mgal emission factor

For the purposes of this condition, the limit(s) shall be based on the total combined emissions from gas turbine No. 7 and its associated duct burner during any calendar month after the initial commissioning period.

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

[Devices subject to this condition : D152, D160]

A99.1 The 5 PPM NOX emission limit(s) shall not apply during startup, shutdown, and diesel readiness tests. Startup time shall not exceed 1 hour per occurrence and shutdown time shall not exceed 12 minutes per occurrence. The 5.0 ppmv NOx emission limit shall apply at all other operating times.

[RULE 2005, 5-6-2005]

[Devices subject to this condition : D130]



## FACILITY PERMIT TO OPERATE LA CITY, DWP VALLEY GENERATING STATION

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

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 startup, shutdown, and diesel readiness tests. Startup time shall not exceed 1 hour per occurrence and shutdown time shall not exceed 12 minutes per occurrence. The 6.0 ppmv CO emission limit shall apply at all other operating times.

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

[Devices subject to this condition : D130]

A99.4 The 34 Lbs/hr NOX emission limit(s) shall only apply during turbine start-ups.

[RULE 2005, 5-6-2005]

[Devices subject to this condition : D130]

A99.5 The 2.5 PPM NOX emission limit(s) shall not apply during turbine commissioning, startup, diesel readiness testing, and shutdown. Shutdown shall not exceed 30 minutes.

For the purposes of this condition, cold start up shall be defined as , when the gas turbine is in the combined cycle mode and the steam stop valve is open, a start up which occurs after the steam turbine has been shutdown for 72 hours or more. All other startups are considered non-cold startups. The beginning of start up occurs at initial fire in the combustor and the end of start up occurs when the BACT levels are achieved, or the combustion turbine is shut down. No more than one turbine shall be in start-up mode at any one time.

For the purposes of this condition, steam turbine shutdown period shall be defined as the number of hours between the closing of the steam stop valve following shutdown of the steam turbine and the reopening of the steam stop valve after combustion has been established in either combustion turbine. The operator shall keep records of the date and time of the steam stop valve opening and closing, and make these records available to AQMD personnel upon request.

[RULE 2005, 5-6-2005]

[Devices subject to this condition : D143, D147, D152, D160]



## FACILITY PERMIT TO OPERATE LA CITY, DWP VALLEY GENERATING STATION

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

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

- A99.6 The 6.0 PPM CO emission limit(s) shall not apply during turbine commissioning, startup, diesel readiness testing, and shutdown. Shutdown shall not exceed 30 minutes.

For the purposes of this condition, cold start up shall be defined as , when the gas turbine is in the combined cycle mode and the steam stop valve is open, a start up which occurs after the steam turbine has been shutdown for 72 hours or more. All other startups are considered non-cold startups. The beginning of start up occurs at initial fire in the combustor and the end of start up occurs when the BACT levels are achieved, or the combustion turbine is shut down. No more than one turbine shall be in start-up mode at any one time.

For the purposes of this condition, steam turbine shutdown period shall be defined as the number of hours between the closing of the steam stop valve following shutdown of the steam turbine and the reopening of the steam stop valve after combustion has been established in either combustion turbine. The operator shall keep records of the date and time of the steam stop valve opening and closing, and make these records available to AQMD personnel upon request.

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

[Devices subject to this condition : D143, D147, D152, D160]

- A99.7 The 42.0 PPM NOX emission limit(s) shall only apply during the diesel readiness tests.

[RULE 1703 - PSD Analysis, 10-7-1988; RULE 2005, 5-6-2005]

[Devices subject to this condition : D143, D147, D152, D160]

- A195.1 The 5 PPM NOX emission limit(s) is averaged over 3 hours at 15 percent oxygen, dry.

[RULE 2005, 5-6-2005]

[Devices subject to this condition : D130]

- A195.2 The 6 PPM CO emission limit(s) is averaged over 3 hours at 15 percent oxygen, dry.

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

[Devices subject to this condition : D130]



## FACILITY PERMIT TO OPERATE LA CITY, DWP VALLEY GENERATING STATION

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

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

A195.3 The 5 PPM NH<sub>3</sub> emission limit(s) is averaged over 60 mins at 15 percent O<sub>2</sub> dry. The operator shall calculate and continuously record the NH<sub>3</sub> slip concentration using:  $NH_3(ppmv) = [a-b*c/1E6]*1E6/b$ , a=NH<sub>3</sub> injection rate (lb/hr)/17(lb/lbmole), b=dry exhaust gas flow rate(lb/hr)/29(lb/lbmole), and c=change in measured NO<sub>x</sub> across the SCR (ppmvd at 15 percent O<sub>2</sub>). The operator shall install and maintain a NO<sub>x</sub> analyzer, or other method as approved by the AQMD, to measure the SCR inlet NO<sub>x</sub> ppm accurate to within +/- 5 percent calibrated at least every 12 months.

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

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

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

[Devices subject to this condition : C132]

A195.4 The 2.5 PPMV NO<sub>x</sub> emission limit(s) is averaged over 60 minutes at 15 percent oxygen, dry.

[RULE 2005, 5-6-2005]

[Devices subject to this condition : D143, D147, D152, D160]

A195.5 The 6.0 PPMV CO emission limit(s) is averaged over 3 hours at 15 percent oxygen, dry.

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

[Devices subject to this condition : D143, D147, D152, D160]

A195.6 The 2.0 PPMV VOC emission limit(s) is averaged over 60 minutes at 15 percent oxygen, dry. The limit does not apply during the diesel readiness tests.

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

[Devices subject to this condition : D130, D143, D147, D152, D160]



## FACILITY PERMIT TO OPERATE LA CITY, DWP VALLEY GENERATING STATION

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

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

A195.12 The 5 PPM NH<sub>3</sub> emission limit(s) is averaged over 60 mins at 15 percent O<sub>2</sub>-dry. The operator shall calculate and continuously record the NH<sub>3</sub> slip concentration using:  $NH_3(ppmv) = [a - b * c / 1E6] * 1E6 / b$ , a = NH<sub>3</sub> injection rate (lb/hr)/17(lb/lbmole), b = dry exhaust gas flow rate(lb/hr)/29(lb/lbmole), and c = change in measured NO<sub>x</sub> across the SCR (ppmvd at 15 percent O<sub>2</sub>). The operator shall install and maintain a NO<sub>x</sub> analyzer to measure the SCR inlet NO<sub>x</sub> ppm accurate to within +/- 5 percent calibrated at least every 12 months.

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

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

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

[Devices subject to this condition : C149, C157]

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 : D130, D143, D147, D152, D160]



**FACILITY PERMIT TO OPERATE  
LA CITY, DWP VALLEY GENERATING STATION**

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

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

A433.1 The operator shall comply at all times with the 2.5 ppm 1 hour BACT limit for NOx, except as specified in Condition A99.5, and for the following operating scenarios:

Operating Scenario	Hourly Maximum Emission Limit	Operational Limit
Cold Start	225 lbs/hr	NOx emissions not to exceed 600 lbs total per cold start. Cold start not to exceed 360 minutes total, 4 starts per month, and 48 starts per year combined total for both turbines
Non-cold Start	170 lbs/hr	NOx emissions not to exceed 300 lbs total per non cold start. Non cold start not to exceed 180 minutes total, 28 starts per month, and 280 starts per year per turbine

[RULE 2005, 5-6-2005]

[Devices subject to this condition : D143, D147, D152, D160]

**B. Material/Fuel Type Limits**

B59.1 The operator shall only use the following material(s) in this device :

diesel which meets the specifications of Rule 431.2

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

[Devices subject to this condition : D136]



## FACILITY PERMIT TO OPERATE LA CITY, DWP VALLEY GENERATING STATION

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

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

B75.2 The operator shall not use fuel oil in this equipment except under the following circumstance(s):

1). Interruption in natural gas service due to unforeseeable failure, malfunction, or natural disaster, not resulting from an intentional or negligent act or omission on the part of the owner or operator

2) for diesel fuel readiness testing not to exceed 1 hour per month

Fuel oil shall be low nitrogen low sulfur diesel. Sulfur content shall not exceed 15 ppm. Nitrogen content shall not exceed 30 ppm. The operator shall keep records of the date diesel was used, the amount of diesel used, and the reason for use

Vendor specifications for the initial and each subsequent shipment of diesel shall be maintained to verify sulfur and nitrogen content. If the vendor information is not available, the operator shall have a sample of each shipment of fuel analyzed by an independent lab for sulfur and nitrogen concentration. These records shall be kept for a minimum of 5 years and be made available for AQMD inspection upon request.

[**RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 2005, 4-20-2001; RULE 2005, 5-6-2005**]

[Devices subject to this condition : D130]



## FACILITY PERMIT TO OPERATE LA CITY, DWP VALLEY GENERATING STATION

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

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

B75.3 The operator shall not use fuel oil in this equipment except under the following circumstance(s):

- 1). Interruption in natural gas service due to unforeseeable failure, malfunction, or natural disaster, not resulting from an intentional or negligent act or omission on the part of the owner or operator
- 2). For distillate fuel readiness testing not to exceed 60 minutes per month

Fuel oil shall be low nitrogen, low sulfur diesel. Sulfur content shall not exceed 15 ppm or other more stringent limit specified in Rule 431.2. The operator shall keep records of the date diesel was used, the amount of diesel used, and the reason for use. These records shall be kept for a minimum of 5 years and be made available for AQMD inspection upon request

Vendor specification for the initial and each subsequent shipment of diesel shall be maintained to verify sulfur and nitrogen content. If the vendor information is not available, the operator shall have a sample of each shipment of fuel analyzed by an independent lab for sulfur and nitrogen concentration. These records shall be kept for a minimum of 5 years and be made available for AQMD inspection upon request

[**RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 2005, 4-9-1999; RULE 2005, 5-6-2005**]

[Devices subject to this condition : D143, D147, D152, D160]

### C. Throughput or Operating Parameter Limits

C1.4 The operator shall limit the operating time to no more than 199 hour(s) in any one year.

[**RULE 1110.2, 11-14-1997; RULE 1304(a)-Modeling and Offset Exemption, 6-14-1996**]

[Devices subject to this condition : D136]



**FACILITY PERMIT TO OPERATE  
LA CITY, DWP VALLEY GENERATING STATION**

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

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

- C1.5 The operator shall limit the fuel usage to no more than 192.1 MM cubic feet per month.

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

The purpose(s) of this condition is to ensure compliance with Rule 1303 Offsets. The fuel use records shall be maintained for a minimum of 5 years. The operator shall submit to the AQMD monthly fuel use data at the end of each month during the first 12 months of operation.

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

[Devices subject to this condition : D130]

- C6.2 The operator shall use this equipment in such a manner that the power output being monitored, as indicated below, does not exceed 47.4 MW.

To comply with this condition, the operator shall install and maintain a(n) measuring device to accurately indicate the power output of the turbine.

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 averaging time to determine compliance with the limit shall be 1 hour.

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

[Devices subject to this condition : D130]

- C157.1 The operator shall install and maintain a pressure relief valve set at 50 psig.

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

[Devices subject to this condition : D137, C138, D139, D141]

**D. Monitoring/Testing Requirements**



**FACILITY PERMIT TO OPERATE  
LA CITY, DWP VALLEY GENERATING STATION**

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

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

- D12.2 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, 6-3-2005; RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1304(a)-Modeling and Offset Exemption, 6-14-1996; RULE 2012, 12-5-2003; RULE 2012, 5-6-2005]

[Devices subject to this condition : D136]

- D12.3 The operator shall install and maintain a(n) measuring device to accurately indicate the water-to-fuel ratio of the turbine.

[RULE 2012, 5-6-2005; 40CFR 60 Subpart GG, 3-6-1981]

[Devices subject to this condition : D130]

- D12.4 The operator shall install and maintain a(n) continuous monitoring system to accurately indicate the ammonia injection rate of the ammonia injection system.

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.

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

[Devices subject to this condition : C132, C149, C157]

- D12.5 The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature in 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.

[RULE 2012, 5-6-2005]

[Devices subject to this condition : C132, C149, C157]



## FACILITY PERMIT TO OPERATE LA CITY, DWP VALLEY GENERATING STATION

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

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

- D12.6 The operator shall install and maintain a(n) pressure gauge to accurately indicate the pressure across the SCR catalyst bed in inches 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.

[RULE 2012, 5-6-2005]

[Devices subject to this condition : C132]

- D12.7 The operator shall install and maintain a(n) pressure gauge to accurately indicate the differential pressure across the SCR catalyst bed in inches 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.

[RULE 2012, 5-6-2005]

[Devices subject to this condition : C149, C157]



**FACILITY PERMIT TO OPERATE  
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The operator shall comply with the terms and conditions set forth below:

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
NH3 emissions	Approved District method	1 hour	Outlet

The test shall be conducted at least quarterly during the first 12 months of operation of the SCR, and at least annually thereafter. The NOx concentration, as determined by the CEMS, shall be simultaneously recorded during the ammonia slip test. If the CEMS is inoperable, a test shall be conducted to determine the NOx emissions using District method 100.1.

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

The test shall be conducted when the equipment is operating at 80 percent load or greater.

The test shall be conducted test shall be conducted and the results submitted to the District within 45 days after the test date.

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

[Devices subject to this condition : C132]



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

D29.2 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
NOX emissions	District method 100.1	1 hour	Outlet
CO emissions	District method 100.1	1 hour	Outlet
SOX emissions	District method 6.1	1 hour	Outlet
VOC	Approved District method	1 hour	Outlet
PM emissions	Approved District method	1 hour	Outlet
NH3 emissions	Approved District method	1 hour	Outlet

The test shall be conducted in accordance with a District approved source test protocol. The protocol shall be submitted to the District engineer no later than 45 days before the proposed test date and shall be approved by the District before the test commences. The test protocol shall include the proposed operating conditions of the turbine during the test, the identity of the testing lab, a statement from the testing lab certifying that it meets the criteria of R304, and a description of all sampling and analytical procedures.

The test(s) shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up.

The test shall be conducted to determine the oxygen levels in the exhaust. In addition, the test shall measure the fuel flow rate (CFH), the flue gas flow rate, and the turbine generating output (MW).

The test shall be conducted for compliance verification of the BACT VOC 2.0 ppmv limit. The test results must be reported with two significant digits.

For natural gas fired turbines only, this shall be demonstrated by: a) Stack gas samples are extracted into Summa canisters, keeping a final canister pressure between 400-500 mm Hg absolute, b) Pressurization of Summa canisters is done with zero gas analyzed/certified of less than 0.05 ppmv total hydrocarbons as carbon, and c) Analysis of Summa canisters is per EPA Method TO-12 (with pre-concentration) and the temperature of the Summa canisters when extracting samples for analysis is not below 70 degree F.

The use of this alternative method does not mean that it is more accurate than AQMD Method 25.3, nor does it mean that it may be used in lieu of AQMD method 25.3 without approval, except for the determination of compliance with the VOC BACT level of 2.0 ppmv calculated as carbon for natural gas fired turbines. Because the BACT level was set using data derived from various source test methods, this alternate method provides a fair comparison and represents the best sampling and analysis technique.



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

The test shall be conducted when this equipment is operating at loads of 100, 75, and 50 percent of maximum load.

[**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; RULE 2005, 4-20-2001; RULE 2005, 5-6-2005**]

[Devices subject to this condition : D130]



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

D29.3 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
SOX emissions	Approved District method	District-approved averaging time	District Approved test location
VOC	Approved District method	1 hour	Outlet of the SCR
PM emissions	District method 5.2	District-approved averaging time	Outlet of the SCR
NH3 emissions	District method 207.1 and 5.3 or EPA method 17	1 hour	Outlet of the SCR
NOX emissions	District method 100.1	1 hour	Outlet of the SCR

The test shall be conducted after approval of the source test protocol, but no later than 180 days after initial start-up.

The test shall be conducted to determine the oxygen levels in the exhaust. In addition, the tests shall measure the fuel flow rate (CFH), the flue gas flow rate, and the turbine and steam turbine generating output (MW).

The test shall be conducted in accordance with a District approved source test protocol. The protocol shall be submitted to the District engineer no later than 45 days before the proposed test date and shall be approved by the District before the test commences. The protocol shall include the proposed operating conditions of the turbine during the tests, the identity of the testing lab, a statement from the lab certifying that it meets the criteria of R304, and a description of all sampling and analytical procedures.

The test shall be conducted for all pollutants 1) when the gas turbine and duct burner are operating simultaneously at 100 percent of maximum heat input and 2) when the gas turbine is operating alone at 100 percent of maximum heat input. In addition, tests shall be conducted when the gas turbine is operating alone at loads of 75 and 50 percent of maximum heat input for the NOx, CO, VOC, and NH3 tests.

[RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1303(b)(2)-Offset, 12-6-2002; **RULE 2005, 4-20-2001; RULE 2005, 5-6-2005**]

[Devices subject to this condition : D143, D147, D152, D160]



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

D29.4 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
SOX emissions	Approved District method	District-approved averaging time	District Approved test location
VOC	Approved District method	1 hour	Outlet of the SCR

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

The test shall be conducted at least once every three years, on natural gas fuel at 80% load or greater.

The test shall be conducted and the results submitted to the District within 60 days after the test date. The AQMD shall be notified of the date and time of the test at least 7 days prior to the test.

[**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 : D143, D147, D152, D160]



**FACILITY PERMIT TO OPERATE  
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The operator shall comply with the terms and conditions set forth below:

D29.5 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
NH3 emissions	District method 207.1 and 5.3 or EPA method 17	1 hour	Outlet of the SCR

The test shall be conducted at least quarterly during the first 12 months of operation and at least annually thereafter. The NOx concentration, as determined by the CEMS, shall be simultaneously recorded during the ammonia slip test. If the 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.

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

The test shall be conducted when the equipment is operating at 80 percent load or greater.

The test shall be conducted and the results submitted to the District within 45 days after the test date.

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

[Devices subject to this condition : C149, C157]



**FACILITY PERMIT TO OPERATE  
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The operator shall comply with the terms and conditions set forth below:

D29.6 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
NOX emissions	District method 100.1	30 minutes	Outlet of the SCR serving this equipment

The test shall be conducted when the unit is firing diesel fuel in order to determine the emissions profile of the unit. A minimum of 6 tests shall be performed and the operator shall record the turbine output, ammonia injection rate, and temperature of the exhaust during each test, based on a 30 minutes averaging time. Test results shall also include the fuel flow rate (CFH), the flue gas flow rate, and the duct burner fuel use during the test.

The test shall be conducted in order to generate a load curve for NOx (lbs/MW) vs. MW output over the span of tested loads. The operator may, after receiving approval from the AQMD, use this curve to report NOx emissions during the monthly 60 minute (total) diesel readiness testing periods.

[RULE 2012, 5-6-2005]

[Devices subject to this condition : D143, D147, D152, D160]



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

D29.7 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
NOX emissions	District method 100.1	15 minutes	Outlet

The test shall be conducted when the unit is firing diesel fuel in order to determine the emissions profile of the unit. The SCR is not required to be operational during the tests. A minimum of 6 tests shall be performed and the operator shall record the turbine output, ammonia injection rate, and temperature of the exhaust during each test, based on an average time of 15 minutes. Test results shall also include the fuel flow rate (CFH) and the flue gas flow rate during the test.

The test shall be conducted in order to generate a load curve for NOx (lbs/MW) vs. MW output over the span of tested loads. The operator may, after receiving approval from the AQMD, use this curve to report NOx emissions during the monthly 60 minutes (total) diesel readiness testing periods.

[RULE 2012, 5-6-2005]

[Devices subject to this condition : D130]



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

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

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

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

CO Emission Rate, lbs/hr =  $K * C_{co} * F_d * [20.9 / (20.9 - \%O_2d)] * [Q_g * HHV]$ , where:

$K = 7.267 * 0.01$

$C_{co}$  = Average of four consecutive 15-min. average CO concentration in ppm

$F_d$  = 8710 dscf/mmbtu natural gas

$\%O_2d$  = Hourly average percentage by volume O<sub>2</sub> dry, corresponding to  $C_{co}$

$Q_g$  = Fuel gas usage during the hour, scf/hr

HHV = Higher Heating Value of fuel gas, Btu/scf.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 218, 8-7-1981; RULE 218, 5-14-1999]

[Devices subject to this condition : D130]



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

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

NOX concentration in ppmv

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

The CEMS shall be installed and operating no later than 12 months after the initial start-up of the turbine and shall comply with all requirements of Rule 2012. 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 date of start-up

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

[Devices subject to this condition : D130]

D82.4 The operator shall install and maintain a CEMS to measure the following parameters:

CO concentration in ppmv

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 to measure CO concentration over a 15 minute averaging time period. The CEMS is not required to be certified for diesel firing

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

The CEMS shall be installed no later than 90 days after start up, and in accordance with an approved AQMD Rule 218 CEMS plan application. The operator shall not install the CEMS prior to receiving initial approval from AQMD. Within two weeks of the turbine startup date, the operator shall provide written notification to the District of the exact date of start-up

**[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 218, 8-7-1981; RULE 218, 5-14-1999]**

[Devices subject to this condition : D143, D147, D152, D160]



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

D82.5 The operator shall install and maintain a CEMS to measure the following parameters:

NOX concentration in ppmv

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

The CEMS shall be installed no later than 12 months after initial start-up of the turbine and shall comply with the requirements of Rule 2012. 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 two weeks of the turbine startup date, the operator shall provide written notification to the District of the exact date of start-up

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

[Devices subject to this condition : D143, D147, D152, D160]

D371.2 The operator shall conduct an inspection for visible emissions from all stacks and other emission points of this equipment on an annual basis whenever this equipment is fired on fuel oil for training/testing purposes; and after every 400 cumulative hours of operation on diesel fuel or after every two million gallons of diesel fuel combusted, to be counted cumulatively over a five year period. The inspection shall be conducted while the equipment is in operation and during daylight hours. If any visible emissions (not including condensed water vapor) are detected, the operator shall:

Have a CARB-certified smoke reader determine compliance with the opacity standard, using EPA Method 9 or the procedures in the CARB manual "Visible Emission Evaluation", within three working days (or during the next fuel oil firing period if the unit ceases firing on fuel oil within the three working day time frame) and report any deviations to AQMD.

In addition, the operator shall keep the records in accordance with the recordkeeping requirements in Section K of this permit and the following records:

- a). Stack or emission point identification;
- b). Description of any corrective actions taken to abate visible emissions;
- c). Date and time visible emission was abated; and
- d). Visible emission observation record by a certified smoke reader.

**[RULE 3004(a)(4)-Periodic Monitoring, 8-11-1995; RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997]**

[Devices subject to this condition : D130, D143, D147, D152, D160]



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

D372.1 The operator shall determine compliance with the particulate matter (PM) emission limit by conducting a source test at the outlet of the exhaust stack annually using AQMD Method 5.1. Each test shall include:

(a) One test using natural gas operating at minimum load under normal operating conditions, if natural gas is burned more than 120 consecutive hours or 200 hours accumulated over any 12 consecutive months. The test shall be conducted no later than six months after the time limit has been exceeded;

(b) One test using natural gas operating at maximum load under normal operating conditions, if natural gas is burned more than 120 consecutive hours or 200 hours accumulated over any 12 consecutive months. The test shall be conducted no later than six months after the time limit has been exceeded;

(c) One test using fuel oil operating at maximum load under normal operating conditions, if fuel oil is burned more than 120 consecutive hours or 200 hours accumulated over any twelve consecutive months. The test shall be conducted no later than six months after the time limit has been exceeded.

[RULE 3004(a)(4)-Periodic Monitoring, 8-11-1995; RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997]

[Devices subject to this condition : D143, D147, D152, D160]

### E. Equipment Operation/Construction Requirements

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

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 2005, 4-20-2001; RULE 2005, 5-6-2005]

[Devices subject to this condition : D130, D143, D147, D152, D160]

E57.2 The operator shall vent this equipment to the loading truck through the vapor return line whenever the tank is being filled. The pressure relief valve shall vent only to the scrubber, Device C138.

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

[Devices subject to this condition : D137]



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

E57.5 The operator shall vent this equipment to the loading truck through the vapor return line whenever the tank is being filled. The pressure relief valve shall vent only to the scrubber.

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

[Devices subject to this condition : D139, D141]

E57.6 The operator shall vent this equipment to the loading truck through the vapor return line whenever the tank is being filled. The pressure relief valve shall vent only to the scrubber, Device C138.

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

[Devices subject to this condition : D137]

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:

When the inlet exhaust temperature to the SCR reactor is 800 degrees F or less, not to exceed 1 hour during startups

During diesel readiness tests not to exceed 30 minutes per month

[**RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 402, 5-7-1976**]

[Devices subject to this condition : D130]

E73.2 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:

During exclusive natural gas firing, the inlet exhaust temperature to the SCR is 450 degrees F or less, not to exceed 6 hours during a cold startup, and 3 hours during a non-cold startup.

during diesel readiness testing

[**RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 2005, 4-20-2001; RULE 2005, 5-6-2005**]

[Devices subject to this condition : C149, C157]



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

E162.1 The operator shall use this equipment only during utility failure periods, except for maintenance purposes.

[RULE 1110.2, 6-3-2005; **RULE 1304(a)-Modeling and Offset Exemption, 6-14-1996**]

[Devices subject to this condition : D136]

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

Condition Number 12-4

Condition Number 12-5

[**RULE 1303(a)(1)-BACT, 5-10-1996**; **RULE 1303(a)(1)-BACT, 12-6-2002**; **RULE 2012, 12-5-2003**; **RULE 2012, 5-6-2005**]

[Devices subject to this condition : C132]

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

Condition Number 12-6

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

[Devices subject to this condition : C132]

E179.3 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- 4

Condition Number D 12- 5

[**RULE 1303(a)(1)-BACT, 5-10-1996**; **RULE 1303(a)(1)-BACT, 12-6-2002**; **RULE 2012, 12-5-2003**; **RULE 2012, 5-6-2005**]

[Devices subject to this condition : C149, C157]



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

E179.4 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 month.

Condition Number D 12- 7

[RULE 2012, 5-6-2005]

[Devices subject to this condition : C149, C157]

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

In accordance with all mitigation measures as stipulated by the "Statement of Findings, Statement of Overriding Considerations, and Mitigation Monitoring Plan" Attachment 1 of the Final EIR (SCH No. 2000101008) dated January 2001

[CA PRC CEQA, 11-23-1970]

[Devices subject to this condition : C132]

E193.2 The operator shall operate and maintain this equipment according to the following specifications:

The fuel injection timing of this engine shall be set and maintained at 4 degrees retarded relative to standard production timing at the factory as established by Caterpillar Product News Bulletin "3412 DITTA 500 kw California Configuration" dated July 1993

The equipment may operate for maintenance and testing purpose for up to 30 hours per year.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1470, 3-4-2005]

[Devices subject to this condition : D136]



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

E193.3 The operator shall upon completion of construction, operate and maintain this equipment according to the following specifications:

In compliance with all mitigation measures as stipulated by the "Statement of Findings, Statement of Overriding Considerations, and Mitigation Monitoring Plan" and final Environmental Impact Report (FEIR) dated January, 2002 (SCH No. 2001051035), and addendum to the FEIR dated January 2005.

[CA PRC CEQA, 11-23-1970]

[Devices subject to this condition : D139, D141, D143, D147, C149, D152, C157, D160]

#### 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 prorated annual emissions increase for the first compliance year 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 first compliance year of operation, the facility holds sufficient RTCs in an amount equal to the annual emissions increase.

To comply with this condition, the operator shall, prior to the beginning of all compliance years, hold a minimum NOx RTCs of 59,112 lbs. In accordance with Rule 2005(f), unused RTC's may be sold only during the reconciliation period for the fourth quarter of the applicable compliance year inclusive of the 1st compliance year

[RULE 2005, 5-6-2005]

[Devices subject to this condition : D130]



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

- 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 prorated annual emissions increase for the first compliance year 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 first compliance year of operation, the facility holds sufficient RTCs in an amount equal to the annual emissions increase.

For purposes of this condition, the amount of RTCs to be held shall be 364,257 lbs NOx total for Turbines 6 and 7 and their associated duct burners. To comply with this condition, the operator shall limit the total compliance year NOx emissions to 364,257 lbs NOx for Turbines 6 and 7 and their associated duct burners

[RULE 2005, 5-6-2005]

[Devices subject to this condition : D143, D147, D152, D160]

### K. Record Keeping/Reporting



## FACILITY PERMIT TO OPERATE LA CITY, DWP VALLEY GENERATING STATION

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

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

K40.1 The operator shall provide to the District a source test report in accordance with the following specifications:

Source test results shall be submitted to the District no later than 60 days after the source test was conducted.

Emission data shall be expressed in terms of concentration (ppmv), corrected to 15 percent oxygen, dry basis.

All exhaust flow rate shall be expressed in terms of dry standard cubic feet per minute (DSCFM) and dry actual cubic feet per minute (DACFM).

All moisture concentration shall be expressed in terms of percent corrected to 15 percent oxygen.

Emission data shall be expressed in terms of mass rate (lbs/hr). In addition, solid PM emissions, if required to be tested, shall also be reported in terms of grains per DSCF.

Emission data shall be expressed in terms of lbs/MM cubic feet.

Source test results shall also include turbine fuel flow and exhaust gas rate under which the test was conducted.

Source test results shall also include turbine and generator output under which the test was conducted.

[**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; RULE 2005, 4-20-2001; RULE 2005, 5-6-2005**]

[Devices subject to this condition : D130]



## FACILITY PERMIT TO OPERATE LA CITY, DWP VALLEY GENERATING STATION

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

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

K40.2 The operator shall provide to the District a source test report in accordance with the following specifications:

Source test results shall be submitted to the District no later than 60 days after the source test was conducted.

Emission data shall be expressed in terms of concentration (ppmv), corrected to 15 percent oxygen, dry basis.

All exhaust flow rate shall be expressed in terms of dry standard cubic feet per minute (DSCFM) and dry actual cubic feet per minute (DACFM).

All moisture concentration shall be expressed in terms of percent corrected to 15 percent oxygen.

Emission data shall be expressed in terms of mass rate (lbs/hr). In addition, solid PM emissions, if required to be tested, shall also be reported in terms of grains per DSCF.

Source test results shall also include turbine fuel flow, exhaust gas rate, turbine and generator output under which the test was conducted.

Emission data shall be expressed in terms of lbs/MM cubic feet.

[**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; RULE 2005, 4-20-2001; RULE 2005, 5-6-2005**]

[Devices subject to this condition : D143, D147, D152, D160]

K67.4 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

date of operation, the elapsed time, in hours, and the reason for operation. Records shall be kept and maintained on file for a minimum of two years and made available to district personnel upon request

[**RULE 1110.2, 6-3-2005; RULE 1304(a)-Modeling and Offset Exemption, 6-14-1996**]

[Devices subject to this condition : D136]



## FACILITY PERMIT TO OPERATE LA CITY, DWP VALLEY GENERATING STATION

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

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

K67.6 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

During commissioning - written records of the natural gas and distillate fuel use, the dates of operation and the operating parameters of the equipment. After commissioning - the date, time, duration, and CEMS minute data for start-ups. These records shall be maintained and made available upon request from AQMD

[RULE 2012, 5-6-2005]

[Devices subject to this condition : D143, D147, D152, D160]

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	PROCESSED BY LI CHEN	CHECKED BY <i>J. Lee</i>

**PERMIT TO CONSTRUCT**
**COMPANY NAME AND ADDRESS**

LA DWP Valley Generation Station  
11801 Sheldon Street  
Sun Valley, CA 91352  
SCAQMD ID #800193

Contact: Bruce Moore (213) 367-3772

**EQUIPMENT LOCATION**

LA DWP Valley Generation Station  
11801 Sheldon Street  
Sun Valley, CA 91352

**EQUIPMENT DESCRIPTION**

Section H of the Facility Permit, Permit to construct and temporary permit to operate

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions	Conditions
<b>PROCESS 3: INTERNAL COMBUSTION</b>					
<b>SYSTEM 1: POWER GENERATION</b>					
GAS TURBINE, UNIT NO. 5, DIESEL FUEL, NATURAL GAS, GE, MODEL GE LM6000 ENHANCED SPRINT SIMPLE CYCLE, LOW NITROGEN FUEL, WITH STEAM OR WATER INJECTION, 466.8 MMBTU/HR WITH  A/N: 453703 A/N: 477846	D130	C132, C134	NOx: MAJOR SOURCE	CO: 6.0 PPMV (4) [RULE 1303-BACT]; CO: 2,000 PPMV (5) [RULE 407]  NOx: 5.0 PPMV (4) [RULE 2005]; NOx: 34 lb/hr (4) [RULE 2005]; NOx: 114.5 PPMV NATURAL GAS (8) [40CFR 60 SUBPART GG]; NOx: 23.2 LBS/1000 GAL DIESEL (1) [RULE 2012]; NOx: 130.3 PPMV	A63.2, <u>A99.1</u> , <u>A99.2</u> , <u>A99.4</u> , A195.1, A195.2, A195.6, A327.1, <u>B75.2</u> , C1.5, C6.2, D12.3, D29.1,

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Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions	Conditions
GENERATOR, 60.5 MW (LIMITED TO 47.4 MW BY TURBINE OUTPUT)				DIESEL(8) [40CFR 60 SUBPART GG];  <b>PM:</b> 11 LBS/HR (5B) [RULE 475]; PM: 0.01 GRAINS/SCF (5A) [RULE 475]; PM: 0.1 GRAINS /SCF (5) [RULE 409]  <b>SO<sub>2</sub>:</b> (9) [40CFR 72 – ACID RAIN PROVISION]; SO <sub>x</sub> : 150 PPMV NATURAL GAS (8) [40CFR 60 SUBPART GG]  <b>VOC:</b> 2.0 PPMV (4) [ RULE 1303-BACT]	D29.2, <del>D29.7</del> , D82.1, D82.2, E57.1, E73.1, <del>I296.1</del> , K40.1, <del>K67.5</del>
STACK, NO. 5 WITH:  A/N: 453703 A/N: <u>477846</u>	S135				

## BACKGROUND

The Los Angeles Department of Water and Power (LADWP) operates the Valley Generation Station (VGS) for electricity generation. In 2000 LADWP added a peaking unit, a 47 MW GE LM6000 Sprint simple cycle turbine. The gas turbine can be fueled with natural gas, fuel oil or diesel. LADWP installed SCR and CO catalysts for emission controls. AQMD issued a permit to construct on May 18, 2001. The unit has been in operation since 2002.

In September 2002 LADWP applied to increase the number of gas turbine startups per month to 120. The previous number of startup allowed is one per day, or 30 per month. The changes to the permit were approved under A/N's 407260 and 407875 in September of 2003.

In February 2006 LADWP applied to modify the following operating conditions. It requested to 1) add a condition that would allow an alternative means of measuring NO<sub>x</sub> emissions during diesel readiness tests, 2) allow exemption to the BACT emission limits during diesel readiness tests and during shutdowns, 3) allow the facility to conduct diesel readiness test without the use of SCR for NO<sub>x</sub> control, 4) clarify in Condition 82.1 that the CO CEMS is not required to be

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certified for diesel readiness tests, and 5) modify Condition A63.2 to allow use of an emission factor for calculating CO emissions during diesel readiness test. The application number is 453703. The District approved the application and issued the revised permit in November 2006.

LADWP now applies to the District to change gas turbine condition B75.2. LADWP requests that the District modify the permit to allow 60 minutes per month for diesel readiness test. The current permit allows 30 minutes per month.

The following is a list of the applications submitted by LADWP.

Table 1      Application Numbers

Applications	Facility
477846	LADWP Valley Unit #5
477852	Title V Facility Permit Modification

The applications were received on February 5, 2008. The applications were deemed complete on February 26, 2008. LADWP is a federal Title V facility. It participates in the RECLAIM NOx program.

## **DISCUSSIONS**

1. Proposal to increase diesel readiness test period from 30 minutes per month to 60 minutes per month

The LADWP is required by the Western Electric Coordinating Council (WECC) to periodically perform black-start tests at Harbor and Valley Generating Stations. These tests simulate bringing the stations back on-line after a total blackout. The test begins by starting the emergency diesel engine and using it to startup an LM6000 gas turbine on diesel fuel. The energy from the LM6000 is then used to start other units and eventually the plant's output is synchronized with the power grid. The LADWP also has plans to perform periodic (monthly or quarterly) Fuel Oil Readiness Tests to ensure that the LM6000's are capable of operating on fuel oil in the event of a major emergency that interrupts the supply of natural gas.

The permit allows 30 minutes per month of fuel oil for each LM6000 gas turbine, as specified in Conditions B75.2 and D29.7. Some of the black-start tests have been unsuccessful because all of the test objectives could not be achieved in the time allowed. This is the reason the LADWP has requested that the time allowed for diesel fuel firing be increased from 30 to 60 minutes per month.

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Such an increase shall have minimal impacts to the gas turbine's emissions and its environmental impact. It is necessary due to the requirements of ensuring public safety. It is recommended that the request be approved by AQMD. In doing so Conditions B75.2 and D29.7 will be modified accordingly.

2. Modification of A99.1, A99.2 and A99.4

The conditions are modified to specify that a shutdown takes 12 minutes. The original permit did not specify the shutdown duration. However, LADWP requested that shutdown be exempted from BACT emission limits. AQMD had granted the requests. Consequently the permit shall clarify the shutdown period.

3. Annual NOx emissions and RTC requirement

Condition I296.1 specifies the NOx RTC requirement. It is necessary to clearly identify the RTC requirement. The original application A/N374502 had calculated that the anticipated annual NOx emissions will be 91,715 lbs, inclusive of the natural gas and diesel commissioning periods. It is under this threshold that the PSD analysis was performed. Subsequently LADWP requested and the District approved to have the number of startups per month increase from 30 to 120, and to adopt a 60% load factor. Thus, in A/N407260 it was calculated the annual NOx emissions will be 62,475 lbs. Taking away the 3,621 lbs emissions associated with the commissioning periods the annual emissions becomes 58,854 lbs.

Considering the 258 lbs of projected annual increase the annual NOx emissions will be 59,112 lbs. Condition I296.1 will be modified accordingly.

4. Condition K67.5

This condition no longer applies. It is deleted from the permit.

**COMPLIANCE HISTORY**

According to the District's compliance database the facility had the following issues in the last five years.

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1. A notice of violation (NOV) #P37118 was issued on September 19, 2003 for failure to perform annual verification test within 12 months of the previous successful test on gasoline fuel storage and dispensing equipment: D94-D104, D109 and D121. This NOV has been resolved and the facility is shown as currently in compliance.
2. A NOV #P37120 was issued on December 10, 2003 for Unit 6 exceeded daily limit for CO. This NOV has been resolved and the facility is shown as currently in compliance.
3. A NOV #P37124 was issued on June 1, 2006 for Violation of permit conditions (1) A99.5 for exceeding NOx PPM limit on D143 (11/25-26/03 & 123/16/03) & D152 (12/17/03 & 12/19/03); (2) A99.6 for exceeding CO PPM limit on D143 (12/4/03); (3) A99.8 for exceeding NOx lb/hr limit on D143 (12/4/03). The facility has obtained a variance for the above violations.

There are no other currently outstanding compliance issues.

### EMISSIONS

The emissions of non-RECLAIM pollutants are provided in the next table, as determined in the previous applications A/N374502 and A/N407260. The emissions presented in the table were based on a 60% load factor. A memorandum date May 11, 2001 by Chris Perri is included in the file folder for reference. The proposed change of diesel readiness test condition will not change the monthly total emissions of these pollutants.

#### Pre Modification and Post Modification Emissions

	CO	PM10	VOC	SOx
Potential to Emit (lb/day), pre-modification	70	44	19	6
Potential to Emit (lb/day), post-modification	70	44	19	6
Emission Increase	0	0	0	0

For NOx emissions that are subject to RECLAIM regulations it is necessary to calculate the hourly emission rate during diesel readiness test. In the previous application A/N374502 the 30-minute process was divided into the first 5 minutes of testing without water injection and the next 25 minutes of testing with water injection.

Pollutant	0-5 Minutes Emission Factor	0-5 Minutes Emission Rate	6-30 Minutes Emission Factor	6-30 Minutes Emission Rate	Total
	lbs/MMBtu	lbs/hr	lbs/MMBtu	lbs/hr	lbs
NOx	403 ppm	201.72 <sup>(3)</sup>	42 ppm <sup>(2)</sup>	43.04 <sup>(4)</sup>	34.74

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The hourly emission rate associated with diesel readiness tests is then 34.74 lbs/hour, assuming the gas turbine does not immediately proceed to another firing.

To extend the diesel readiness test to 60 minutes per event the NOx emissions are calculated in the next table.

Pollutant	0-5 Minutes Emission Factor	0-5 Minutes Emission Rate	6-60 Minutes Emission Factor	6-60 Minutes Emission Rate	Total
	lbs/MMBtu	lbs/hr	lbs/MMBtu	lbs/hr	lbs
NOx	403 ppm	201.72 <sup>(3)</sup>	42 ppm <sup>(2)</sup>	43.04 <sup>(4)</sup>	56.26

The maximum hourly NOx emission rate, however, is not associated with diesel readiness testing. As determined in A/N374502 the process of diesel commissioning has the highest hourly emission rate of 200.39 lbs/hr. Therefore, although the hourly NOx emission rate of diesel readiness testing will increase, the gas turbine's maximum hourly emission rate will remain unchanged at 200.39 lbs/hr. There will be no increases in the maximum hourly emission rates.

Annual NOx emissions will increase. As each event will increase NOx emissions by 21.5 lb the yearly emissions will increase by 258 lbs. As determined in A/N407260 the annual emissions was 62,475 lbs, including 3,621 lbs from the commissioning periods. Since the commissioning periods have expired the annual emissions are:

$$6,2475 - 3,621 = 58,854 \text{ lbs/year}$$

The new annual emissions will be:

$$58,854 + 258 = 59,112 \text{ lbs/year}$$

## RULES EVALUATION

### 40CFR Part 60 Subpart GG – NSPS for Gas Turbines

This regulation applies to the turbine generator since the heat input is greater than 10.7 gigajoules per hour. Based on the calculations of A/N374502 the turbine shall be subject to the following emissions limits.

NOx = 114.5 ppmv natural gas firing

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= 130.3 ppmv diesel firing  
 SOx = 150 ppmv

Compliance is expected.

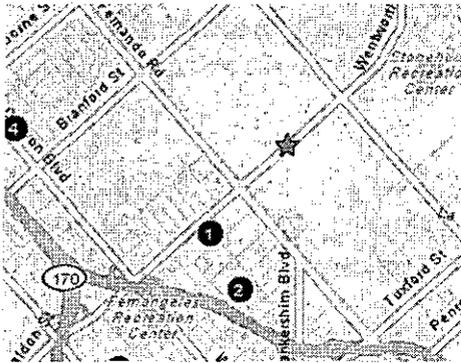
40CFR Part 64 – Compliance Assurance Monitoring (CAM)

The CAM regulation applies to major stationary sources which use control equipment to achieve specified emission limits, such as the BACT limits. The turbine needs to comply with the NOx, CO, and VOC BACT emissions limits. Control equipments are used for NOx and CO emissions control, but not for VOC emissions. Therefore, the regulation applies to NOx and CO emissions control.

Since the turbine has installed NOx and CO CEMS the exemption of 64.2(b)(vi) applies. The CAM requirement is satisfied.

Rule 212 – Standards for Approving Permits

As shown in the map below there is no school within 1,000 feet of the facility boundary. The closest school is more than a half mile away. In addition, there is no emission increase from the proposed change of conditions. Public notice is not required.



**1. Richard E Byrd Middle School**      **0.6 miles**  
 9171 Telfair Ave  
 Sun Valley, CA  
 Phone: (818) 767-9550

**2. Fernangeles Elementary School**      **0.8 miles**  
 12001 Art St  
 Sun Valley, CA  
 Phone: (818) 767-0380

Rule 218 – Continuous Emissions Monitoring

The turbine is required by this rule to have a CO CEMS to verify CO emissions meet the hourly and daily emission limits. The facility has installed a CO CEMS, and has obtained District's approval of the CEMS.

Rule 401 – Visible Emissions

Visible emissions are not expected under normal operating conditions of the turbine.

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Rule 402 – Nuisance

Nuisance problems are not expected under normal operating conditions of the turbine.

RULE 407 – Liquid and Gaseous Air Contaminants

This rule limits the CO emissions to a maximum of 2,000 ppm, and the sulfur content of the exhaust to 500 ppm for equipment not subject to the emission concentration limits of 431.1. Since the turbines are subject to the limits of Rule 431.1, only the 2,000 ppm CO limit applies. The turbine has a BACT CO emission limit of 6.0 ppmv. This limit is achieved with an oxidation catalyst. It also has a CO CEMS. Compliance is anticipated and will be verified through the CEMS data.

RULE 409 – Combustion Contaminants

The rule limits PM emissions to 0.1 gr/scf at 12% CO<sub>2</sub>. The previous application has determined that the equipment is expected to comply with this. The proposed change of conditions does not affect compliance with this rule.

RULE 431.1 – Sulfur Content of Natural Gas

The rule requires that gas fired equipment meet a sulfur content limit of 40 ppm on a 4 hour averaging time. LADWP is using pipeline quality natural gas. Pipeline quality natural gas has a sulfur content (measured as H<sub>2</sub>S) of less than 1 grain per 100 cubic feet, or about 16 ppm. Thus, compliance is expected.

RULE 431.2 – Sulfur Content of Liquid Fuels

The rule requires that any diesel fuel combusted in the turbine must not exceed 15 ppm sulfur. LADWP is required by permit condition to use 15 ppm low sulfur fuel in order to meet BACT requirements. Therefore, compliance with this rule's limit is expected.

RULE 475 – Electric Power Generating Equipment

The rule requires that power generating equipment having a net power of more than 10MW and installed after May 7, 1976 must not emit combustion contaminants exceeding either the mass limit of 11 lbs/hr or the concentration limit of 0.01 grains/dscf. As determined by the previous application mass PM10 emissions from the turbine are estimated at 3.08 lbs/hr, and 0.00564 gr/scf during natural gas firing, and 5.60 lbs/hr and 0.0102 gr/scf during diesel firing. Compliance is anticipated and will be demonstrated through the initial source test.

REGULATION XIII – New Source Review for Non-RECLAIM Pollutants

New source review (NSR) is required for new or modifying existing source if there are increases in the source's potential to emit, which is the monthly averaged emission rates. Since the turbine

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will continue to be subject to Condition A63.2, which limits the monthly total emissions of CO, PM10, VOC, and SOx, the potential to emission will not increase. This regulation does not apply to the proposed change of conditions.

RULE 1401 – New Source Review for Toxic Air Contaminants

There are toxic air contaminants released from the gas turbine. At the time when AQMD issued the permit to construct the applicant assessed health risks from the toxic air contaminants emissions. The assessment included diesel commissioning, diesel readiness tests, and normal operation. The proposed change of conditions will not require additional modeling analysis. Compliance is expected.

REGULATION XVII – Prevention of Significant Deterioration (PSD)

The South Coast Air Basin is in attainment for NOx, CO, and SOx emissions. PSD regulations apply to these pollutants. The proposed change of conditions will not increase the yearly emissions of CO and SOx. The proposed modification of the diesel readiness test could potentially increase the annual NOx emissions by 258 lbs. The annual NOx emissions will be 59,112 lbs. However, the facility conducted the PSD analysis under the initial application A/N374502 which has an annual emissions of 91,715 lbs. This regulation does not apply to the proposed change of condition.

Rule 2005 – New Source Review for RECLAIM Pollutants

The facility participates in the NOx RECLAIM program. NOx emissions are subject to RECLAIM rules, including the new source review.

- BACT and Modeling

BACT review and modeling analysis will be triggered if there is an increase of hourly emission rate. The current maximum hourly NOx emissions was calculated based on diesel commissioning. The increase of diesel readiness testing to 1 hour per month will not increase the maximum hourly emission rate. BACT review and modeling analysis are not required for the proposed change of conditions.

- Offset

The proposed change of conditions could increase annual NOx emissions by 35 lbs/year. LADWP have sufficient RTC to provide offset if needed.

Regulation XXX – Title V

The DWP Valley facility is currently subject to the Title V requirements. The final “initial” Title V permit was issued on July 19, 1999. The change of conditions is considered a minor permit

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revision according to the definition provided in Rule 3000(b)(12). As required, EPA is afforded the opportunity to review and comment on the project within a 45 day review period.

**RECOMMENDATION**

The equipment is expected to comply with all the federal, state, and local regulations. It is recommended that the District approves the requested change of conditions.

**CONDITIONS**

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

CONTAMINANT	EMISSIONS LIMIT
CO	Less than 2,100 LBS IN ANY ONE MONTH
PM10	Less than 1,320 LBS IN ANY ONE MONTH
VOC	Less than 570 LBS IN ANY ONE MONTH
SOX	Less than 180 LBS IN ANY ONE MONTH

The operator shall calculate the emission limit(s) by using monthly fuel use data, and the following emission factors: Natural Gas: VOC - 2.88 lbs/mmscf, PM10 - 6.93 lbs/mmscf, and SOx - 0.83 lbs/mmscf. Diesel: VOC - 1.11 lbs/1000 gals, PM10 - 1.67 lbs/1000 gals, and SOx - 7.02 lbs/1000 gals.

The operator shall calculate the CO emission limit(s) after the CO CEMS certification based upon readings from the AQMD certified CEMS. In the event the CO CEMS is not operating or the emissions exceed the valid upper range of the analyzer, the emissions shall be calculated in accordance with the approved CEMS plan. The CO CEMS is not required to be certified for diesel readiness test. During diesel readiness testing, the CO shall be calculated using the fuel use data and a 13.19 lbs/1000 gals emission factor.

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

[Devices subject to this condition: D130]

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A99.1 The 5.0 PPM NO<sub>x</sub> emission limit(s) shall not apply during startup, shutdown, and diesel readiness tests. Startup time shall not exceed 1 hour per occurrence and shutdown time shall not exceed 12 minutes per occurrence. The 5.0 ppmv NO<sub>x</sub> emission limit shall apply at all other operating times.

[RULE 2005, 4-20-2001; RULE 2005, 5-6-2005]

[Devices subject to this condition : D143, D147, D152, D160]

A99.2 The 6.0 PPM CO emission limit(s) shall not apply during startup, shutdown, and diesel readiness tests. Startup time shall not exceed 1 hour per occurrence and shutdown time shall not exceed 12 minutes per occurrence. The 6.0 ppmv CO emission limit shall apply at all other operating times.

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

[Devices subject to this condition : D143, D147, D152, D160]

A99.4 The 34 Lbs/hr NO<sub>x</sub> emission limit(s) shall only apply during turbine start-ups. Start-up shall not exceed 1 hour per occurrence.

[RULE 2005, 4-20-2001; RULE 2005, 5-6-2005]

[Devices subject to this condition : D130]

A195.1 The 5 PPM NO<sub>x</sub> emission limit(s) is averaged over 3 hours at 15 percent oxygen, dry.

[RULE 2005, 4-20-2001; RULE 2005, 5-6-2005]

[Devices subject to this condition : D130]

A195.2 The 6 PPM CO emission limit(s) is averaged over 3 hours at 15 percent oxygen, dry.

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

[Devices subject to this condition : D130]

A195.3 The 5 PPM NH<sub>3</sub> emission limit(s) is averaged over 60 mins at 15 percent O<sub>2</sub> dry. The operator shall calculate and continuously record the NH<sub>3</sub> slip concentration using:  

$$\text{NH}_3(\text{ppmv}) = [a - b * c / 1E6] * 1E6 / b$$
 a= NH<sub>3</sub> injection rate (lb/hr)/17(lb/lbmole), b= dry exhaust gas flow rate(lb/hr)/29(lb/lbmole), and c= change in measured NO<sub>x</sub> across the

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SCR (ppmvd at 15 percent O2). The operator shall install and maintain a NOx analyzer to measure the SCR inlet NOx ppm accurate to within +/- 5 percent calibrated at least every 12 months.

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

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

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

[Devices subject to this condition: C132]

A195.6 The 2.0 PPMV VOC emission limit(s) is averaged over 60 minutes at 15 percent oxygen, dry. The limit does not apply during the diesel readiness tests.

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

[Devices subject to this condition : D130, D143, D147, D152, D160]

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 : D130, D143, D147, D152, D160]

B75.2 The operator shall not use fuel oil in this equipment except under the following circumstance(s):

- 1). Interruption in natural gas service due to unforeseeable failure, malfunction, or natural disaster, not resulting from an intentional or negligent act or omission on the part of the owner or operator.
- 2). for diesel fuel readiness testing not to exceed ~~1/2~~ 1 hour per month.

Fuel oil shall be low nitrogen low sulfur diesel. Sulfur content shall not exceed 15 ppm. Nitrogen content shall not exceed 30 ppm. The operator shall keep records of the date diesel was used, the amount of diesel used, and the reason for use

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Vendor specifications for the initial and each subsequent shipment of diesel shall be maintained to verify sulfur and nitrogen content. If the vendor information is available, the operator shall have a sample of each shipment of fuel analyzed by an independent lab for sulfur and nitrogen concentration. These records shall be kept for a minimum of 5 years and be made available for AQMD inspection upon request.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 2005, 4-20-2001; RULE 2005, 5-6-2005]

[Devices subject to this condition : D130]

C1.5 The operator shall limit the fuel usage to no more than 192.1 MM cubic feet per month.

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

The purpose(s) of this condition is to ensure compliance with Rule 1303 Offsets. The fuel use records shall be maintained for a minimum of 5 years. The operator shall submit to the AQMD monthly fuel use data at the end of each month during the first 12 months of operation.

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

[Devices subject to this condition : D130]

C6.2 The operator shall use this equipment in such a manner that the power output being monitored, as indicated below, does not exceed 47.4 MW.

To comply with this condition, the operator shall install and maintain a(n) measuring device to accurately indicate the power output of the turbine.

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 averaging time to determine compliance with the limit shall be 1 hour.

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

[Devices subject to this condition : D130]

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D12.3 The operator shall install and maintain a(n) measuring device to accurately indicate the water-to-fuel ratio of the turbine.

[RULE 2012, 12-7-1995; RULE 2012, 3-16-2001; 40CFR 60 Subpart GG, 3-6-1981]

[Devices subject to this condition : D130]

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

Pollutant to be tested	Required Test Method	Avg. Time	Test Location
NH3 emissions	Approved District Method	1 hour	Outlet

The test shall be conducted at least quarterly during the first 12 months of operation of the SCR, and at least annually thereafter. The NOx concentration, as determined by the CEMS, shall be simultaneously recorded during the ammonia slip test. If the CEMS is inoperable, a test shall be conducted to determine the NOx emissions using District method 100.1.

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

The test shall be conducted when the equipment is operating at 80 percent load or greater.

The test shall be conducted test shall be conducted and the results submitted to the District within 45 days after the test date.

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

[Devices subject to this condition : D130]

D29.2 The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutant to be tested	Required Test Method	Avg. Time	Test Location
NOx emissions	District method 100.1	1 hour	Outlet of the SCR
CO emissions	District method 100.1	1 hour	Outlet of the SCR
SOx emissions	District Method 6.1	1 hour	Outlet of the SCR
VOC emissions	Approved District method	1 hour	Outlet of the SCR
PM emissions	Approved District method	1 hour	Outlet of the SCR

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NH3 emissions | Approved District method | 1 hour | Outlet of the SCR

The test shall be conducted in accordance with a District approved source test protocol. The protocol shall be submitted to the District engineer no later than 45 days before the proposed test date and shall be approved by the District before the test commences. The test protocol shall include the proposed operating conditions of the turbine during the test, the identity of the testing lab, a statement from the testing lab certifying that it meets the criteria of R304, and a description of all sampling and analytical procedures.

The test(s) shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up.

The test shall be conducted to determine the oxygen levels in the exhaust. In addition, the test shall measure the fuel flow rate (CFH), the flue gas flow rate, and the turbine generating output (MW).

The test shall be conducted for compliance verification of the BACT VOC 2.0 ppmv limit. The test results must be reported with two significant digits.

For natural gas fired turbines only, this shall be demonstrated by: a) Stack gas samples are extracted into Summa canisters, keeping a final canister pressure between 400-500 mm Hg absolute, b) Pressurization of Summa canisters is done with zero gas analyzed/certified of less than 0.05 ppmv total hydrocarbons as carbon, and c) Analysis of Summa canisters is per EPA Method TO-12 (with pre-concentration) and the temperature of the Summa canisters when extracting samples for analysis is not below 70 degree F.

The use of this alternative method does not mean that it is more accurate than AQMD Method 25.3, nor does it mean that it may be used in lieu of AQMD method 25.3 without approval, except for the determination of compliance with the VOC BACT level of 2.0 ppmv calculated as carbon for natural gas fired turbines. Because the BACT level was set using data derived from various source test methods, this alternate method provides a fair comparison and represents the best sampling and analysis technique.

The test shall be conducted when this equipment is operating at loads of 100, 75, and 50 percent of maximum load.

[RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1303(b)(2)-Offset, 12-6-2002; RULE 2005, 4-9-1999; RULE 2005, 4-20-2001; RULE 2005, 5-6-2005]

[Devices subject to this condition : D130]

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D29.7 The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutant to be tested	Required Test Method	Avg. Time	Test Location
NOx emissions	District method 100.1	15 minutes	Outlet

The test shall be conducted when the unit is firing diesel fuel in order to determine the emissions profile of the unit. The SCR is not required to be operational during the tests. A minimum of 6 tests shall be performed and the operator shall record the turbine output, ammonia injection rate, and temperature of the exhaust during each test, based on an average time of 15 minutes. Test results shall also include the fuel flow rate (CFH) and the flue gas flow rate during the test.

The test shall be conducted in order to generate a load curve for NOx (lbs/MW) vs. MW output over the span of tested loads. The operator may, after receiving approval from the AQMD, use this curve to report NOx emissions during the monthly ~~30~~ 60 minutes (total) diesel readiness testing periods.

[RULE 2012, 12-5-2003]

[Devices subject to this condition: D130]

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

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

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

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CO Emission Rate, lbs/hr =  $K * C_{co} * F_d * [20.9 / (20.9 - \%O_2d)] * [Q_g * HHV]$ , where:

$K = 7.267 * 10^{-2}$

$C_{co}$  = Average of four consecutive 15-min. average CO concentration in ppm

$F_d$  = 8710 dscf/mmbtu natural gas

$\%O_2d$  = Hourly average percentage by volume O<sub>2</sub> dry, corresponding to  $C_{co}$

$Q_g$  = Fuel gas usage during the hour, scf/hr

HHV = Higher Heating Value of fuel gas, Btu/scf.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 218, 8-7-1981; RULE 218, 5-14-1999]

[Devices subject to this condition: D130]

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

NOX concentration in ppmv

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

The CEMS shall be installed and operating no later than 12 months after the initial start-up of the turbine and shall comply with all requirements of Rule 2012. 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 date of start-up

[RULE 2012, 12-7-1995; RULE 2012, 3-16-2001]

[Devices subject to this condition : D130]

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

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[RULE 1303(a)(1)-BACT, 12-6-2002; RULE 2005, 2-14-1997; RULE 2005, 4-20-2001; RULE 2005, 5-6-2005]

[Devices subject to this condition: D130, D143, D147, D152, D160]

- E73.1 Notwithstanding the requirements of Section E conditions, the operator may, at his discretion, choose not to use ammonia injection when the inlet exhaust temperature to the SCR reactor is 800 Deg F or less, not to exceed 1 hour during start ups:

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 402, 5-7-1976]

[Devices subject to this condition: D130]

- 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 prorated annual emissions increase for the first compliance year 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 first compliance year of operation, the facility holds sufficient RTCs in an amount equal to the annual emissions increase.

To comply with this condition, the operator shall, prior to the beginning of all compliance years, hold a minimum NOx RTCs of 59,112 lbs. In accordance with Rule 2005(f), unused RTC's may be sold only during the reconciliation period for the fourth quarter of the applicable compliance year inclusive of the 1<sup>st</sup> compliance year.

[RULE 2005, 5-6-2005]

Devices subject to this condition : D130]

- K40.1 The operator shall provide to the District a source test report in accordance with the following specifications:

Source test results shall be submitted to the District no later than 60 days after the source test was conducted.

Emission data shall be expressed in terms of concentration (ppmv), corrected to 15 percent oxygen, dry basis.

All exhaust flow rate shall be expressed in terms of dry standard cubic feet per minute (DSCFM) and dry actual cubic feet per minute (DACFM).

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All moisture concentration shall be expressed in terms of percent corrected to 15 percent oxygen.

Emission data shall be expressed in terms of mass rate (lbs/hr). In addition, solid PM emissions, if required to be tested, shall also be reported in terms of grains per DSCF.

Emission data shall be expressed in terms of lbs/MM cubic feet.

Source test results shall also include turbine fuel flow and exhaust gas rate under which the test was conducted.

Source test results shall also include turbine and generator output under which the test was conducted.

[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; RULE 2005, 4-20-2001; RULE 2005, 5-6-2005]

[Devices subject to this condition : D130]

~~K67.5~~ The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

~~Natural gas and diesel fuel use during the commissioning period~~

~~[RULE 2012, 12-7-1995; RULE 2012, 3-16-2001]~~

~~[Devices subject to this condition : D130]~~

