

## FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC

### 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 1 : INTERNAL COMBUSTION</b>					
<b>System 2 : GAS TURBINE POWER GENERATION</b>					
GAS TURBINE, UNIT NO.8, NATURAL GAS, SIEMENS, MODEL SGT6-5000F RAPID-RESPONSE, COMBINED CYCLE, 2,096 MMBTU/HR AT 78 DEGREES F, WITH DRY LOW-NOX COMBUSTORS WITH A/N:	D67	C75	NOX: MAJOR SOURCE**	<p><b>CO:</b> 2000 PPMV NATURAL GAS (5) [RULE 407,4-2-1982] ; <b>CO:</b> 2 PPMV NATURAL GAS (4) [RULE 1703(a)(2) - PSD-BACT,10-7-1988]</p> <p><b>NOX:</b> 8.66 LBS/MMSCF NATURAL GAS (1A) [RULE 2012,5-6-2005] ; <b>NOX:</b> 2 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT,5-10-1996;RULE 1303(a)(1)-BACT,12-6-2002]</p> <p><b>RULE 1703(a)(2) - PSD-BACT,10-7-1988] ; NOX:</b> 15 PPMV NATURAL GAS (8) [40CFR 60 Subpart KKKK,7-6-2006] ; <b>NOX:</b> 16.55 LBS/MMSCF NATURAL GAS (1) [RULE 2012,5-6-2005]</p> <p><b>NOX:</b> 0.08 LBS/MEGAWATT-HOUR NATURAL GAS (5) [RULE 1309.1,5-3-2002;RULE 1309.1,8-3-2007] ; <b>PM10:</b> 0.01 GRAINS/SCF NATURAL GAS (5) [RULE 475,10-8-1976]</p>	<p>A63.2, A99.7, A99.8, A99.9, A99.10, A99.11, A195.8, A195.9, A195.10, A327.1, A433.1, B61.2,</p> <p>C1.6, D12.10, D29.7, D29.8, D29.9, D29.10, D82.4, D82.5, E193.2, E193.3, I296.2, K40.4, K67.5</p>

\* (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.

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

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
<b>Process 1 : INTERNAL COMBUSTION</b>					
GENERATOR, HEAT RECOVERY STEAM, UNFIRED  TURBINE, STEAM, 67.7 MW  GENERATOR, 219 MW				<i>RULE 475,8-7-1978</i> ; <b>PM10:</b> 0.1 GRAINS/SCF NATURAL GAS (5A) [ <i>RULE 409,8-7-1981;RULE 410,10-6-2006</i> ] ; <b>PM10:</b> 11 LBS/HR NATURAL GAS (5B) [ <i>RULE 475,10-8-1976</i> ]  <i>RULE 475,8-7-1978</i> ; <b>PM10:</b> 0.06 LBS/MEGAWATT-HOUR NATURAL GAS (5C) [ <i>RULE 1309.1,5-3-2002;RULE 1309.1,8-3-2007</i> ] ; <b>SO2:</b> (9) [ <i>40CFR 72 - Acid Rain Provisions,11-24-1997</i> ]  <b>SOX:</b> 0.06 LBS/MMBTU NATURAL GAS (8) [ <i>40CFR 60 Subpart KKKK,7-6-2006</i> ] ; <b>VOC:</b> 2 PPMV NATURAL GAS (4) [ <i>RULE 1303(a)(1)-BACT,5-10-1996</i> ]  <i>RULE 1303(a)(1)-BACT,12-6-2002</i> ]	

\* (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

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

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Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
<b>Process 1 : INTERNAL COMBUSTION</b>					
CO OXIDATION CATALYST, UNIT NO. 8, BASF, 290 CUBIC FEET OF TOTAL CATALYST VOLUME A/N:	C75	D67 C76			
SELECTIVE CATALYTIC REDUCTION, UNIT NO. 8, CORMETECH, MODEL CM21HT, WITH 2,050 CUBIC FEET OF TOTAL CATALYST VOLUME, WIDTH: 25 FT; HEIGHT: 70 FT; LENGTH: 24 FT 3 IN WITH A/N: AMMONIA INJECTION, GRID	C76	C75 S78		<b>NH3:</b> 5 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT,5-10-1996;RULE 1303(a)(1)-BACT,12-6-2002]	A195.11, D12.11, D12.12, D12.13, E179.5, E179.6
STACK, NO. 8, HEIGHT: 210 FT; DIAMETER: 20 FT 11 IN A/N:	S78	C76			
GAS TURBINE, UNIT NO.9, NATURAL GAS, SIEMENS, MODEL SGT6-5000F RAPID-RESPONSE, COMBINED CYCLE, 2,096 MMBTU/HR AT 78 DEGREES F, WITH DRY LOW-NOX COMBUSTORS WITH A/N:	D68	C79	NOX: MAJOR SOURCE**	<b>CO:</b> 2000 PPMV NATURAL GAS (5) [RULE 407,4-2-1982] ; <b>CO:</b> 2 PPMV NATURAL GAS (4) [RULE 1703(a)(2) - PSD-BACT,10-7-1988]  <b>NOX:</b> 8.66 LBS/MMSCF NATURAL GAS (1A) [RULE 2012,5-6-2005] ; <b>NOX:</b> 2 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT,5-10-1996;RULE 1303(a)(1)-BACT,12-6-2002]	A63.2, A99.7, A99.8, A99.9, A99.10, A99.11, A195.8, A195.9, A195.10, A327.1, A433.1, B61.2, C1.6, D12.10, D29.7, D29.8, D29.9, D29.10, D82.4, D82.5, E193.2, E193.3, I296.2, K40.4, K67.5

\* (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 EL SEGUNDO POWER, LLC

### 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 1 : INTERNAL COMBUSTION</b>					
				<p><b>RULE 1703(a)(2) - PSD-BACT,10-7-1988] ; NOX: 15 PPMV NATURAL GAS (8) [40CFR 60 Subpart KKKK,7-6-2006] ; NOX: 16.55 LBS/MMSCF NATURAL GAS (1) [RULE 2012,5-6-2005]</b></p> <p><b>NOX: 0.08 LBS/MEGAWATT-HOUR NATURAL GAS (5) [RULE 1309.1,5-3-2002;RULE 1309.1,8-3-2007] ; PM10: 0.01 GRAINS/SCF NATURAL GAS (5) [RULE 475,10-8-1976 RULE 475,8-7-1978] ; PM10: 0.1 GRAINS/SCF NATURAL GAS (5A) [RULE 409,8-7-1981] ; PM10: 11 LBS/HR NATURAL GAS (5B) [RULE 475,10-8-1976 RULE 475,8-7-1978] ; PM10: 0.06 LBS/MEGAWATT-HOUR NATURAL GAS (5C) [RULE 1309.1,5-3-2002;RULE 1309.1,8-3-2007] ; SO2: (9) [40CFR 72 - Acid Rain Provisions,11-24-1997]</b></p> <p><b>SOX: 0.06 LBS/MMBTU NATURAL GAS (8) [40CFR 60 Subpart KKKK,7-6-2006] ; VOC: 2 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT,5-10-1996</b></p>	

\* (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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## FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC

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

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<b>Process 1 : INTERNAL COMBUSTION</b>					
GENERATOR, HEAT RECOVERY STEAM, UNFIRED  TURBINE, STEAM, 67.7 MW  GENERATOR, 219 MW				<i>RULE 1303(a)(1)-BACT,12-6-2002]</i>	
CO OXIDATION CATALYST, UNIT NO. 9, BASF, 290 CUBIC FEET OF TOTAL CATALYST VOLUME A/N:	C79	D68 C80			
SELECTIVE CATALYTIC REDUCTION, UNIT NO. 9, CORMETECH, MODEL CM21HT, WITH 2,050 CUBIC FEET OF TOTAL CATALYST VOLUME, WIDTH: 25 FT; HEIGHT: 70 FT; LENGTH: 24 FT 3 IN WITH A/N: AMMONIA INJECTION, GRID	C80	C79 S82		<b>NH3: 5 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT,5-10-1996;RULE 1303(a)(1)-BACT,12-6-2002]</b>	A195.11, D12.11, D12.12, D12.13, E179.5, E179.6
STACK, NO. 9, HEIGHT: 210 FT; DIAMETER: 20 FT 11 IN A/N:	S82	C80			

\* (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  
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 (8)(8A)(8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)  
 (10) See Section J for NESHAP/MACT requirements  
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## FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC

### 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 2 : EXTERNAL COMBUSTION</b>					
<b>System 2 : BOILER, POWER GENERATION</b>					
BOILER, UNIT NO. 3, FUEL OIL, NATURAL GAS, REFINERY GAS, COMBUSTION ENGINEERING, WITH 24 COMBUSTION ENGINEERING BURNERS, 3350 MMBTU/HR WITH A/N: 408007 Permit to Construct Issued: 12/20/02	D11	C39	NOX: MAJOR SOURCE**	<p><b>CO:</b> 2000 PPMV (5A) [RULE 407,4-2-1982] ; <b>CO:</b> 300 PPMV REFINERY GAS (5) [RULE 1303(b)(2)-Offset,5-10-1996;RULE 1303(b)(2)-Offset,12-6-2002]</p> <p><b>CO:</b> 250 PPMV FUEL OIL (5) [RULE 1303(b)(2)-Offset,5-10-1996;RULE 1303(b)(2)-Offset,12-6-2002;RULE 2012,5-11-2001;RULE 2012,12-5-2003]</p> <p><b>CO:</b> 300 PPMV NATURAL GAS (5) [RULE 1303(b)(2)-Offset,5-10-1996;RULE 1303(b)(2)-Offset,12-6-2002] ; <b>NOX:</b> 10.75 LBS/1000 GAL FUEL OIL (1) [RULE 2012,5-11-2001</p> <p><b>RULE 2012,12-5-2003] ; NOX:</b> 7 PPMV (5B) [RULE 2009,5-11-2001] ; <b>PM:</b> 0.1 GRAINS/SCF (5) [RULE 409,8-7-1981]</p> <p><b>SO<sub>2</sub>:</b> (9) [40CFR 72 - Acid Rain Provisions,11-24-1997] ; <b>SOX:</b> 500 PPMV FUEL OIL (5) [RULE 407,4-2-1982]</p>	A195.7, A305.1, B61.1, C1.2, C1.4, D28.2, D28.4, D90.1, D371.1, E193.1, I331.1, 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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**FACILITY PERMIT TO OPERATE  
EL SEGUNDO POWER, LLC**

**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 EL SEGUNDO POWER, LLC

### SECTION H: DEVICE ID INDEX

Device Index For Section H			
Device ID	Section H Page No.	Process	System
D11	6	2	2
D30	8	5	0
C31	7	2	2
C32	7	2	2
C39	7	2	2
C41	8	2	2
C64	8	5	0
D67	1	1	2
D68	3	1	2
C75	3	1	2
C76	3	1	2
S78	3	1	2
C79	5	1	2
C80	5	1	2
S82	5	1	2

## **FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC**

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

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

#### **FACILITY CONDITIONS**

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

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

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

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

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

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

F14.2 The operator shall not 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; RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997]**

## FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC

### 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
7	Boiler No. 1	SO2	437
9	Boiler No. 2	SO2	90
11	Boiler No. 3	SO2	182
13	Boiler No. 4	SO2	370

- 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]**

## DEVICE CONDITIONS

### A. Emission Limits

**FACILITY PERMIT TO OPERATE  
 EL SEGUNDO POWER, LLC**

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

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

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

CONTAMINANT	EMISSIONS LIMIT
PM10	Less than or equal to 6935 LBS IN ANY ONE MONTH
SOX	Less than or equal to 1065 LBS IN ANY ONE MONTH
VOC	Less than or equal to 4930 LBS IN ANY ONE MONTH

The operator shall calculate the monthly emissions for VOC, PM10, and SOx, using the equation below and the following emission factors: VOC 2.93 lb/mmcf; PM10 4.66 lb/mmcf; and SOx 0.72 lb/mmcf

$$\text{Monthly Emissions, lb/month} = X * (\text{EF})$$

where X = monthly fuel usage, mmcf/month; and EF = emission factor indicated above

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

[Devices subject to this condition : D67, D68]

A99.7 The 2.0 PPM NOX emission limit(s) shall not apply during turbine commissioning, start-up, and shutdown periods. The commissioning period shall not exceed 415 hours. Start-up shall not exceed 60 minutes for each start-up. Shutdown periods shall not exceed 60 minutes for each shutdown. The turbine shall be limited to a maximum of 200 start-ups per year. Written records of commissioning, start-ups and shutdowns shall be maintained and made available upon request from the Executive Officer.

**[RULE 1703(a)(2) - PSD-BACT, 10-7-1988; RULE 2005, 5-6-2005]**

[Devices subject to this condition : D67, D68]

A99.8 The 2.0 PPM CO emission limit(s) shall not apply during turbine commissioning, start-up, and shutdown periods. The commissioning period shall not exceed 415 hours. Start-up shall not exceed 60 minutes for each start-up. Shutdown periods shall not exceed 60 minutes for each shutdown. The turbine shall be limited to a maximum of 200 start-ups per year. Written records of commissioning, start-ups and shutdowns shall be maintained and made available upon request from the Executive Officer.

**[RULE 1703(a)(2) - PSD-BACT, 10-7-1988]**

[Devices subject to this condition : D67, D68]

## **FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC**

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

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

- A99.9 The 2.0 PPM ROG emission limit(s) shall not apply during turbine commissioning, start-up, and shutdown periods. The commissioning period shall not exceed 415 hours. Start-up shall not exceed 60 minutes for each start-up. Shutdown periods shall not exceed 60 minutes for each shutdown. The turbine shall be limited to a maximum of 200 start-ups per year. Written records of commissioning, start-ups and shutdowns shall be maintained and made available upon request from the Executive Officer.

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

[Devices subject to this condition : D67, D68]

- A99.10 The 16.55 LBS/MMCF NOX emission limit(s) shall only apply during the interim reporting period during initial turbine commissioning to report RECLAIM emissions. The interim reporting period shall not exceed 12 months from entry into RECLAIM.

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

[Devices subject to this condition : D67, D68]

- A99.11 The 8.66 LBS/MMCF NOX emission limit(s) shall only apply during the interim reporting period after initial turbine commissioning to report RECLAIM emissions. The interim reporting period shall not exceed 12 months from entry into RECLAIM.

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

[Devices subject to this condition : D67, D68]

- A195.1 The 10 PPMV NH<sub>3</sub> emission limit(s) is averaged over 60 minutes at 3 percent oxygen, dry. This limit shall be determined and measured in the combined exhaust from the North and South ducts.

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

[Devices subject to this condition : C39, C41]

- A195.4 The 20 PPMV NH<sub>3</sub> emission limit(s) is averaged over 60 minutes at 3 percent oxygen, dry. This limit shall be determined and measured in the combined exhaust from the North and South ducts.

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

[Devices subject to this condition : C31]

## FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC

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

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

A195.7 The 7 PPMV NOX emission limit(s) is averaged over 720 operating hours (heat input weighted average).

A data acquisition system shall be installed and maintained to continuously calculate and record the NOx ppm based on the 720 operating hour average.

The average shall be calculated based on emissions during all boiler operating hours, except:

1. Startups defined as whenever the unit is being brought up to normal operating temperature from an inactive status, and the exhaust temperature entering the SCR catalyst is less than 500 degrees F.
2. Shutdowns are defined as whenever the unit is allowed to cool from a normal operating temperature to inactive status, and the exhaust temperature entering the SCR unit is less than 500 degrees F.
3. CEMS calibration and maintenance periods, Part 75 linearity testing, RATA testing, equipment breakdown periods as defined in Rule 2004, and periods of zero fuel flow.

The heat input weighted average NOx concentration shall be calculated using the following equation, or other equivalent equation:

$PPMV(3\%O_2) = (Et/Qt)*K$ ; where  $PPMV(3\%O_2)$  = the concentration of NOx in PPMV at 3% O2; K = a conversion factor from lbs/MMBtu to PPM, which can be determined using EPA 40 CFR60 Method 19. The default K value is 819; Et = Total reported NOx emissions during the averaging period including emissions reported as a result of missing data procedures pursuant to Rule 2012; Qt = Total heat input during the averaging period

[RULE 2009, 5-11-2001]

[Devices subject to this condition : D11]

A195.8 The 2.0 PPMV CO emission limit(s) is averaged over 60 minutes at 15 percent O2, dry basis.

[RULE 1703(a)(2) - PSD-BACT, 10-7-1988]

[Devices subject to this condition : D67, D68]

A195.9 The 2.0 PPMV NOX emission limit(s) is averaged over 60 minutes at 15 percent O2, dry basis.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1303(b)(1)-Modeling, 5-10-1996; RULE 1303(b)(1)-Modeling, 12-6-2002; RULE 1703(a)(2) - PSD-BACT, 10-7-1988]

[Devices subject to this condition : D67, D68]

## FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC

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

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

A195.10 The 2.0 PPMV VOC emission limit(s) is averaged over 60 minutes at 15 percent O<sub>2</sub>, dry basis.

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

[Devices subject to this condition : D67, D68]

A195.11 The 5 PPMV NH<sub>3</sub> emission limit(s) is averaged over 60 minutes at 15 percent O<sub>2</sub>, dry basis. The operator shall calculate and continuously record the NH<sub>3</sub> slip concentration using the following:.

$NH_3 \text{ (ppmv)} = [a - b \cdot c / 1EE + 06] \cdot 1EE + 06 / b$ ; where

a = NH<sub>3</sub> injection rate (lb/hr)/17 lb/lb-mol

b = dry exhaust gas flow rate (scf/hr)/385.3 scf/lb-mol

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> ppmv accurate to plus or minus 5 percent calibrated at least once every twelve months.

The NO<sub>x</sub> analyzer shall be installed and operated within 90 days of initial start-up.

The operator shall use the above described method 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 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; RULE 2012, 5-6-2005]**

[Devices subject to this condition : C76, C80]

A305.1 Whenever this equipment is in operation, control devices C39 and C41 may be operated at any control efficiency provided that the emission concentrations being monitored by the certified CEMS serving this equipment is below the valid upper range specified in the approved CEMS plan.

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

[Devices subject to this condition : D11]

## FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC

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

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

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 : D67, D68]

A433.1 The operator shall comply at all times with the 2.0 ppm 1-hour BACT limit for NOx, except as defined in condition A99.1 and for the following scenario:

Operating Scenario	Maximum Hourly Emission Limit	Operational Limit
Start-up	112 lb/day	NOx emissions not to exceed 112 lbs total per start-up per turbine. Each turbine shall be limited to 100 start-ups per year, with each start-up not to exceed 60 minutes

**[RULE 1703(a)(2) - PSD-BACT, 10-7-1988; RULE 2005, 5-6-2005]**

[Devices subject to this condition : D67, D68]

### **B. Material/Fuel Type Limits**

## FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC

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

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

B61.1 The operator shall not use refinery gas containing the following specified compounds:

Compound	ppm by volume
sulfur compounds calculated as hydrogen sulfide greater than	40

the 40 ppm limit is averaged over 4 hours

**[RULE 431.1, 6-12-1998]**

[Devices subject to this condition : D11]

B61.2 The operator shall not use natural gas containing the following specified compounds:

Compound	Range	grain per 100 scf
H2S	greater than	0.25

This concentration limit is an annual average based on monthly samples of natural gas composition or gas supplier documentation. The gaseous fuel sample shall be tested using District Method 307-91 for total sulfur calculated as H2S

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

[Devices subject to this condition : D67, D68]

### C. Throughput or Operating Parameter Limits

## **FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC**

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

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

- C1.2 The operator shall limit the refinery gas fuel usage to no more than 34 MM cubic feet per day.

This limit shall be based on the total combined limit for equipment D11, D13.

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

[Devices subject to this condition : D11]

- C1.4 The operator shall limit the operating time to no more than 2 hour(s) in any one day.

The purpose(s) of this condition is to insure that there is no increase in PM10 emissions requiring BACT.  
This condition shall only apply when the equipment is firing fuel oil.

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

[Devices subject to this condition : D11]

- C1.6 The operator shall limit the fuel usage to no more than 1500 MM cubic feet in any one calendar month.

For the purpose of this condition, fuel usage shall be defined as the total natural gas usage of a single turbine.

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

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

[Devices subject to this condition : D67, D68]

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

[RULE 402, 5-7-1976]

[Devices subject to this condition : D30]

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

## **FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC**

### 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) temperature reading device to accurately indicate the temperature at the inlet to the SCR reactor.

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

[Devices subject to this condition : C31]

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

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

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

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

[Devices subject to this condition : C31, C39, C41]

- D12.4 The operator shall install and maintain a(n) continuous monitoring system to accurately indicate the ammonia-to-emitted-NO<sub>x</sub> mole ratio applied 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, 5-11-2001; RULE 2012, 12-5-2003]**

[Devices subject to this condition : C39, C41]

## **FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC**

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

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

- D12.5 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, 5-11-2001; RULE 2012, 12-5-2003]**

[Devices subject to this condition : C39, C41]

- D12.6 The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the boiler exhaust at the inlet of 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, 5-11-2001; RULE 2012, 12-5-2003]**

[Devices subject to this condition : C39, C41]

- D12.10 The operator shall install and maintain a(n) flow meter to accurately indicate the fuel usage of the turbine.

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

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

[Devices subject to this condition : D67, D68]

## FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC

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

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

- D12.11 The operator shall install and maintain a(n) flow meter to accurately indicate the flow rate of the total hourly throughput of injected ammonia.

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 ammonia injection rate shall remain between 13.5 gallons per hour and 16.5 gallons per hour

**[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1703(a)(2) - PSD-BACT, 10-7-1988; RULE 2005, 5-6-2005]**

[Devices subject to this condition : C76, C80]

- D12.12 The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the 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.

The temperature shall remain between 450 degrees F and 750 degrees F

The catalyst temperature shall not exceed 750 degrees F during the start-up period.

**[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1703(a)(2) - PSD-BACT, 10-7-1988; RULE 2005, 5-6-2005]**

[Devices subject to this condition : C76, C80]

## FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC

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

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

D12.13 The operator shall install and maintain a(n) pressure gauge to accurately indicate the differential pressure across the SCR catalyst bed in inches of water column.

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

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

The pressure drop across the catalyst shall remain between 5 inches of water column and 7.6 inches of water column

The pressure drop across the catalyst shall not exceed 7.6 inches of water during the start-up period.

**[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1703(a)(2) - PSD-BACT, 10-7-1988; RULE 2005, 5-6-2005]**

[Devices subject to this condition : C76, C80]

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

The test shall be conducted at least annually.

The test shall be conducted to determine the NH<sub>3</sub> emissions at the outlet.

The test shall be conducted to determine the NH<sub>3</sub> emissions using District method 207.1 measured over a 60 minute averaging time period.

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

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

[Devices subject to this condition : C31]

## **FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC**

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

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

D28.2 The operator shall conduct source test(s) in accordance with the following specifications:

The test shall be conducted at least annually.

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

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

The test shall be conducted when the equipment is operating under normal conditions. No test shall be required in any one year for which the equipment is not in operation.

The test shall be conducted to determine compliance with the CO emissions by either: (a) conducting a source test using District method 100.1 measured over a 30 minute averaging time, or (b) using a portable analyzer and a District-approved test method.

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

[Devices subject to this condition : D11]

D28.3 The operator shall conduct source test(s) in accordance with the following specifications:

The District shall be notified of the date and time of the test at least 7 days prior to the test.

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

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

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

The test shall be conducted shall be conducted at least quarterly during the first 12 months of operation of the SCR, and at least annually thereafter.

**[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1401, 3-17-2000]**

[Devices subject to this condition : C39, C41]

## FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC

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

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

D28.4 The operator shall conduct source test(s) in accordance with the following specifications:

The 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 determine the CO emissions using District method 100.1 measured over a 60 minute averaging time period.

The test shall be conducted to determine the SOX emissions using District method 6.1 measured over a 60 minute averaging time period.

The test shall be conducted to determine the ROG emissions using approved District method measured over a 60 minute averaging time period.

The test shall be conducted to determine the PM emissions using District method 5.2 measured over a 60 minute averaging time period.

The test shall be conducted to determine the NH3 emissions using District Methods 207.1 and 5.3, or EPA Method 17 measured over a 60 minute averaging time period.

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

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

The test shall be conducted in accordance with a District approved source test protocol. The protocol shall be submitted to the AQMD engineer no later than 45 days prior to the proposed test date. The source test protocol shall include the proposed operating conditions of the boiler during the tests, identity of the testing lab, a statement from the test lab certifying that it meets the criteria of Rule 304, and a description of all sampling and analytical procedures.

The test shall be conducted with and without ammonia injection when this equipment is operating at loads of 100, 75, and 50 percent and the minimum load at which ammonia injection occurs during the NOx and PM tests. For CO, SOx, and ROG, the test shall be conducted at 100 percent load with ammonia injection only.

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

The test shall be conducted with ammonia injection when this equipment is operating at loads of 100, 75, and 50 percent and the minimum load at which ammonia injection occurs during the NH3 tests.

**[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1401, 3-17-2000; RULE 2012, 12-7-1995; RULE 2012, 3-16-2001]**

[Devices subject to this condition : D11]

## FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC

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

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	1 hour	Outlet of the SCR serving this equipment
CO emissions	District method 100.1	1 hour	Outlet of the SCR serving this equipment
PM10 emissions	District Method 5	4 hours	Outlet of the SCR serving this equipment
ROG emissions	District Method 25.3	1 hour	Outlet of the SCR serving this equipment
SOX emissions	AQMD Laboratory Method 307-91	Not Applicable	Fuel sample
NH3 emissions	District method 207.1 and 5.3 or EPA method 17	1 hour	Outlet of the SCR serving this equipment

The test shall be conducted after AQMD approval of the source test protocol, but no later than 180 days after initial start-up. The AQMD shall be notified of the date and time of the test at least 10 days prior to the test.

The test shall be conducted to 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 in megawatts (MW).

The test shall be conducted in accordance with AQMD approved test protocol. The protocol shall be submitted to the AQMD engineer no later than 45 days before the proposed test date and shall be approved by the AQMD before the test commences. The test protocol shall include the proposed operating conditions of the turbine during the tests, the identity of the testing lab, a statement from the testing lab certifying that it meets the criteria of Rule 304, and a description of all sampling and analytical procedures.

The test shall be conducted when this equipment is operating at maximum, average, and minimum loads.

The test shall be conducted for compliance verification of the BACT VOC 2.0 ppmv limit.

For natural gas fired turbines only, VOC compliance shall be demonstrated as follows: a) Stack gas samples are extracted into Summa canisters maintaining a final canister pressure between 400-500 mm Hg absolute, b) Pressurization of canisters is done with zero gas analyzed/certified to contain less than 0.05 ppmv total hydrocarbon as carbon, and c) Analysis of canisters are per EPA method TO-12 (with preconcentration) and temperature of canisters when extracting samples for analysis is not below 70 deg F

## **FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC**

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

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

The use of this alternative method for VOC compliance determination 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 prior approval except for the determination of compliance with the VOC BACT level of 2.0 ppmv calculated as carbon for natural gas fired turbines.

ate VOC compliance method provides a fair comparison and represents the best sampling and analysis technique for this purpose at this time. The results shall be reported to two (2) significant digits.

For the purpose of this condition, alternative test methods may be allowed for each of the above pollutants upon concurrence of AQMD and EPA

**[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 1703(a)(2) - PSD-BACT, 10-7-1988]**

[Devices subject to this condition : D67, D68]

## FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC

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

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

D29.8 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 serving this equipment

The test shall be conducted and the results submitted to the AQMD within 45 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.

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 determine compliance with the Rule 1303 BACT concentration limit.

If the equipment is not operated in any given quarter, the operator may elect to defer the required testing to a quarter in which the equipment is operated.

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

[Devices subject to this condition : D67, D68]

## FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC

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

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

D29.9 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	AQMD Laboratory Method 307-91	Not Applicable	Fuel sample
VOC emissions	District Method 25.3	1 hour	Outlet of the SCR serving this equipment
PM10 emissions	District Method 5	4 hours	Outlet of the SCR serving this equipment

The test(s) shall be conducted at least once every three years for SOx and PM10, and yearly for VOC.

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 in megawatts (MW).

The test shall be conducted in accordance with AQMD approved test protocol. The protocol shall be submitted to the AQMD engineer no later than 45 days before the proposed test date and shall be approved by the AQMD before the test commences. The test protocol shall include the proposed operating conditions of the turbine during the tests, the identity of the testing lab, a statement from the testing lab certifying that it meets the criteria of Rule 304, and a description of all sampling and analytical procedures.

The test shall be conducted when this equipment is operating at 100 percent load.

The test shall be conducted for compliance verification of the BACT VOC 2.0 ppmv limit.

For natural gas fired turbines only, VOC compliance shall be demonstrated as follows: a) Stack gas samples are extracted into Summa canisters maintaining a final canister pressure between 400-500 mm Hg absolute, b) Pressurization of canisters is done with zero gas analyzed/certified to contain less than 0.05 ppmv total hydrocarbon as carbon, and c) Analysis of canisters are per EPA method TO-12 (with preconcentration) and temperature of canisters when extracting samples for analysis is not below 70 deg F

The use of this alternative method for VOC compliance determination 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 prior approval except for the determination of compliance with the VOC BACT level of 2.0 ppmv calculated as carbon for natural gas fired turbines.

ate VOC compliance method provides a fair comparison and represents the best sampling and analysis technique for this purpose at this time. The results shall be reported to two (2) significant digits.

For the purpose of this condition, alternative test methods may be allowed for each of the above pollutants

## **FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC**

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

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

upon concurrence of AQMD and EPA

**[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 1703(a)(2) - PSD-BACT, 10-7-1988]**

[Devices subject to this condition : D67, D68]

## FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC

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

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

D29.10 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 of the SCR serving this equipment
PM10 emissions	District Method 5	4 hours	Outlet of the SCR serving this equipment

The test shall be conducted after AQMD approval of the source test protocol, but no later than 180 days after initial start-up. AQMD shall be notified of the date and time of the test at least 10 days prior to the test.

The test shall be conducted at full load to demonstrate compliance with the 0.080 lb/MW-hr NOx and 0.060 lb/MW-hr PM10 requirements set forth in Rule 1309.1. If the actual measurement is within the accuracy of the devices used for electrical power measurement, the result will be acceptable.

The lb/MW-hr emission rate of each electrical generating unit shall be determined by dividing (a) the lb/hr emission rate measured at the location and in accordance with the test method specified above, by (b) the adjusted gross electrical output of each electrical generating unit.

The adjusted gross electrical output of each electrical generating unit shall be determined by making the following adjustments to the measured gross electrical output:

1) Apply the manufacturer's standard correction factors to calculate gross electrical output at ISO conditions.

Apply the Siemens site-specific SGT6-5000F power degradation curve to adjust measured gross electrical output, as measured at ISO conditions, to undegraded electrical generating unit conditions as defined by the turbine manufacturer. The maximum power degradation adjustment shall not exceed 1 percent.

The test shall be conducted in accordance with AQMD approved test protocol. The protocol shall be submitted to the AQMD engineer no later than 45 days before the proposed test date and shall be approved by the AQMD before the test commences.

The test protocol shall include the proposed operating conditions of the electrical generating unit during the test, the correction and degradation factors and documentation of their validity, the identity of the testing lab, a statement from the testing lab certifying that it meets the criteria of Rule 304, and a description of all sampling and analytical procedures.

For the purpose of this condition, alternative test methods may be allowed upon concurrence of AQMD and EPA.

## FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC

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

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

[**RULE 1309.1, 5-3-2002**; RULE 1309.1, 8-3-2007]

[Devices subject to this condition : D67, D68]

D82.4 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 shall be installed and operated no later than 90 days after initial start-up of the turbine, 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 turbine start-up, the operator shall provide written notification to the AQMD of the exact date of start-up.

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

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

CO Emission Rate, (lb/hr) =  $K C_{co} F_d [20.9 / (20.9 - \%O_2)] [(Q_g * HHV) / 1000000]$ , where

$K = 7.267 \text{ EE-8 (lb/scf)/ppm}$

$C_{co} = \text{Average of four consecutive 15 min avg CO concentrations, ppm}$

$F_d = 8710 \text{ dscf/MMBTU natural gas}$

$\%O_2 = \text{Hourly avg \% by volume O}_2, \text{ dry basis, corresponding to } C_{co}$

$Q_g = \text{Fuel gas usage during the hour, scf/hr}$

$HHV = \text{Gross high heating value of fuel gas, BTU/scf}$

[**RULE 1703(a)(2) - PSD-BACT, 10-7-1988**; **RULE 218, 8-7-1981**; RULE 218, 5-14-1999]

[Devices subject to this condition : D67, D68]

## **FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC**

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

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 and operating no later than 90 days 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 start-up date, the operator shall provide written notification to the AQMD of the exact date of start-up.

The CEMS shall be installed and operating (for BACT purposes only) no later than 90 days after initial start-up of the turbine.

**[RULE 1703(a)(2) - PSD-BACT, 10-7-1988; RULE 2005, 5-6-2005; RULE 2012, 5-6-2005]**

[Devices subject to this condition : D67, D68]

D90.1 The operator shall sample and analyze the sulfur content of the blended refinery-natural gas according to the following specifications:

The operator shall sample once per month or once per batch when burning blended refinery-natural gas. The draw time for the sample shall be at least 15 minutes. The analysis shall be conducted using District Method 307.91.

**[40CFR 72 - Acid Rain Provisions, 11-24-1997]**

[Devices subject to this condition : D11]

## **FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC**

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

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

D371.1 The operator shall conduct an inspection for visible emissions from all stacks and other emission points of this equipment whenever this equipment has combusted one million gallons of diesel fuel, 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 : D11]

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

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

the inlet exhaust temperature to the SCR reactor is below 500 degrees F

**[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1401, 3-17-2000; RULE 402, 5-7-1976]**

[Devices subject to this condition : C39, C41]

## **FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC**

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

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

- 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:

the inlet exhaust temperature to the SCR reactor is 500 Deg F or less

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

[Devices subject to this condition : C31]

- E144.2 The operator shall vent this equipment, during filling, only to the vessel from which it is being filled.

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

[Devices subject to this condition : D30]

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

Condition Number 12-3

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

[Devices subject to this condition : C31]

- E179.2 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 upon the average of the continuous monitoring for that hour.

Condition Number 12-3

Condition Number 12-4

Condition Number 12-6

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

[Devices subject to this condition : C39, C41]

## FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC

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

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

- E179.3 For the purpose of the following condition number(s), continuously record shall be defined as recording at least once every month and shall be calculated based upon the average of the continuous monitoring for that month.

Condition Number 12-5

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

[Devices subject to this condition : C39, C41]

- E179.5 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 12-11

Condition Number D 12-12

**[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1703(a)(2) - PSD-BACT, 10-7-1988]**

[Devices subject to this condition : C76, C80]

- E179.6 For the purpose of the following condition number(s), continuously record shall be defined as measuring at least once every month and shall be calculated based upon the average of the continuous monitoring for that month.

Condition Number D 12-13

**[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1703(a)(2) - PSD-BACT, 10-7-1988]**

[Devices subject to this condition : C76, C80]

## FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC

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

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

E193.1 The operator shall construct, 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" final subsequent Environmental Impact Report dated January, 1994 (SCH No. 88032315) for the El Segundo Generating Station ammonia storage and selective catalytic reduction project.

The schedule for installation of air pollution control (APC) equipment shall be done in consultation with the California Energy Commission (CEC) and the California Independent System Operator (CISO) to ensure that compliance with air pollution laws and requirements can be achieved with no significant power interruption.

For facilities operating under an Order of Abatement or a Settlement Agreement, in the event the specified schedule of installation of APC equipment under these agreements cannot be met, the operator must seek amendment of the Order of Abatement or Settlement Agreement at SCAQMD discretion.

[CA PRC CEQA, 11-23-1970]

[Devices subject to this condition : D11, C39, C41]

E193.2 The operator shall upon completion of construction, operate and maintain this equipment according to the following specifications:

In accordance with all mitigation measures stipulated in the final California Energy Commission decision for the 00-AFC-14C project

[CA PRC CEQA, 11-23-1970]

[Devices subject to this condition : D67, D68]

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

Devices D67 and D68 shall be fully and legally operational within three (3) years of issuance of the Permit to Construct

[RULE 1309.1, 5-3-2002; RULE 1309.1, 8-3-2007]

[Devices subject to this condition : D67, D68]

### I. Administrative

## **FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC**

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

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

- I296.2 This equipment shall not be operated unless the operator demonstrates to the Executive Officer that the facility holds sufficient RTCs to offset the 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 1st compliance year hold a minimum NOx RTCs of 104,864 lb/yr. This condition shall apply to the 1st month of operation, commencing with the initial operation of the gas turbine.

To comply with this condition, the operator shall, prior to the beginning of all years subsequent to the 1st compliance year, hold a minimum of 90,953 lb/yr NOx RTCs for operation of the gas turbine. In accordance with Rule 2005(f), unused RTCs may be sold only during the reconciliation period for the fourth quarter of the applicable compliance year inclusive of the 1st compliance year. This condition shall apply to each turbine individually

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

[Devices subject to this condition : D67, D68]

- I331.1 The conditions and requirements for this device in Section H shall take effect, and shall supersede those in Section D, when the modifications authorized in Section H are completed. The operator shall notify the AQMD when the modifications are completed.

**[RULE 202, 5-7-1976]**

[Devices subject to this condition : D11]

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

## **FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC**

### **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 3 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 3 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 fuel flow rate (CFH) and generator output (MW) 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(b)(2)-Offset, 5-10-1996; RULE 1401, 3-17-2000; RULE 2012, 5-11-2001; RULE 2012, 12-5-2003]**

[Devices subject to this condition : D11]

## FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC

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

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

K40.4 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), mass rate (lbs/hr), and lbs/MM Cubic Feet. In addition, solid PM emissions, if required to be tested, shall also be reported in terms of grains per DSCF.

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.

Source test results shall also include the oxygen levels in the exhaust, fuel flow rate (CFH), the flue gas temperature, and the generator power output (MW) 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 1703 - PSD Analysis, 10-7-1988; RULE 2005, 5-6-2005]**

[Devices subject to this condition : D67, D68]

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

Condition no. 12-2

Condition no. 12-3

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

[Devices subject to this condition : C31]

K67.3 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

the total hourly amount of injected ammonia

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

[Devices subject to this condition : C31]

## **FACILITY PERMIT TO OPERATE EL SEGUNDO POWER, LLC**

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

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

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

Natural gas fuel use after CEMS certification

Natural gas fuel use during the commissioning period

Natural gas fuel use after the commissioning period and prior to CEMS certification

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

[Devices subject to this condition : D67, D68]