



# South Coast Air Quality Management District

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

June 11, 2009

Mr. Gerardo Rios- Chief, Permits Office  
U.S. EPA, Region IX- Air-3  
75 Hawthorne St.  
San Francisco, CA 94105

Dear Mr. Rios:

Southern Cal Gas (ID 008582) has proposed to revise their Title V permit by listing of alternative air to fuel ratio controller on devices D14, D16, & D17 as required by recently amended district rule 1110.2, approval of Rule 1110.2 compliance plan, deletion of Devices D74 & D75, and modification of Device C131. This proposed revision is considered as a "de minimus permit revision" to their facility permit. Attached for your review is the permit evaluation and the draft Title V permit for the proposed permit revision.

If you have any questions or wish to provide comments regarding this project, please call Hemang Desai at (909) 396-2596.

Very truly yours,

*Michael D. Mills*

Michael D. Mills  
Senior Manager  
General Commercial & Energy Team

Electronic Transmittal

## FACILITY PERMIT TO OPERATE SO CAL GAS CO/PLAYA DEL REY STORAGE FACI

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

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

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
<b>Process 1 : INTERNAL COMBUSTION</b>					
INTERNAL COMBUSTION ENGINE, EMERGENCY POWER, NATURAL GAS, WAUKESHA, MODEL H-2476-GU, 348 HP WITH A/N: 459756  GENERATOR	D1		NOX: PROCESS UNIT**	NOX: 3400 LBS/MMSCF NATURAL GAS (1) [RULE 2012,12-7-1995;RULE 2012,4-9-1999] ; PM: (9) [RULE 404,2-7-1986]	C1.3, D12.1
INTERNAL COMBUSTION ENGINE, EMERGENCY POWER, NATURAL GAS, WAUKESHA, MODEL NO. 145-GZB, 110 HP WITH A/N: 198434  GENERATOR	D2		NOX: PROCESS UNIT**	NOX: 3400 LBS/MMSCF NATURAL GAS (1) [RULE 2012,12-7-1995;RULE 2012,4-9-1999] ; PM: (9) [RULE 404,2-7-1986]	C1.3, D12.1
INTERNAL COMBUSTION ENGINE, EMERGENCY FIRE, NATURAL GAS, CATÉRPILLAR, MODEL NO. 3306NG, 93 HP WITH A/N: 198424  PUMP	D7		NOX: PROCESS UNIT**	NOX: 3400 LBS/MMSCF NATURAL GAS (1) [RULE 2012,12-7-1995;RULE 2012,4-9-1999] ; PM: (9) [RULE 404,2-7-1986]	C1.3, D12.1
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, 6CB, NATURAL GAS, COOPER-BESSEMER, MODEL GMVH-10, 2000 HP WITH A/N:	D14	C132	NOX: LARGE SOURCE**	CO: 2000 PPMV (5) [RULE 1110.2,11-44-1997] ; CO: 89 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT,5-10-1996] ; CO: 70 PPMV NATURAL GAS (5) [RULE 1110.2,2-1-2008]	C1.1

\* (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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Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
<b>Process 1 : INTERNAL COMBUSTION</b>					
CO OXIDATION CATALYST, ENGELHARD, 24" X 24" X 3 11/16" D., WITH AN AIR TO FUEL RATIO CONTROLLER., (WASTE GATE VALVE), EMBEDDED IN THE ENGINE CONTROL SYSTEM.  COMPRESSOR	C132	D14		NOX: 225 PPMV NATURAL GAS (3) [RULE 2012,12-7- 1995;RULE 2012,4-9-1999] ; PM: (9) [RULE 404,2-7-1986] ; ROG: 30 PPMV NATURAL GAS (5) [RULE 1110.2,2-4-2008]  ROG: 250 PPMV (5) [RULE 1110.2,11-4-1997]	H23.8
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, 8CB, NATURAL GAS, COOPER-BESSEMER, MODEL GMVH-10, 2000 HP WITH A/N:	D16	C133	NOX: LARGE SOURCE**	CO: 2000 PPMV (5) [RULE 1110.2,11-4-1997] ; CO: 89 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT,5-10- 1996] ; CO: 70 PPMV NATURAL GAS (5) [RULE 1110.2,2-4-2008]	C1.1

\* (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  
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 (9) See App B for Emission Limits (10) See Section J for NESHAP/MACT requirements

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<b>Process 1 : INTERNAL COMBUSTION</b>					
CO OXIDATION CATALYST, ENGELHARD, 24" X 24" X 3 11/16" D., WITH AN AIR TO FUEL RATIO CONTROLLER, (WASTE GATE VALVE), EMBEDDED IN THE ENGINE CONTROL SYSTEM.  COMPRESSOR	C133	D16		NOX: 225 PPMV NATURAL GAS (3) [RULE 2012,12-7- 1995;RULE 2012,4-9-1999] ; PM: (9) [RULE 404,2-7-1986] ; ROG: 30 PPMV NATURAL GAS (5) [RULE 1110.2,2-1-2008]  ROG: 250 PPMV (5) [RULE 1110.2,11-14-1997]	H23.8
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, 9CB, NATURAL GAS, COOPER-BESSEMER, MODEL GMVH-10, 2000 HP WITH A/N:	D17	C134	NOX: LARGE SOURCE**	CO: 70 PPMV NATURAL GAS (5) [RULE 1110.2,2-1-2008] ; CO: 89 PPMV NATURAL GAS (4) [RULE 1303(a)(1)- BACT,5-10-1996] ; NOX: 225 PPMV NATURAL GAS (3) [RULE 2012,12-7-1995 RULE 2012,4-9-1999] ; PM: (9) [RULE 404,2-7-1986] ; ROG: 30 PPMV NATURAL GAS (5) [RULE 1110.2,2-1-2008]	C1.1

- |  |   |
|--|---|
| * (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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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>					
CO OXIDATION CATALYST, ENGELHARD, 24" X 24" X 3 11/16" D, WITH AN AIR TO FUEL RATIO CONTROLLER, (WASTE GATE VALVE), EMBEDDED IN THE ENGINE CONTROL SYSTEM.  COMPRESSOR	C134	D17		ROG: 250 PPMV (5) [RULE 1110.2,11-44-1997]	H23.8
INTERNAL COMBUSTION ENGINE, EMERGENCY POWER, DIESEL FUEL, JOHN DEERE, MODEL 4045TF150, 99 HP WITH A/N: 404783	D135		NOX: PROCESS UNIT**	CO: 8.5 GRAM/BHP-HR DIESEL (4) [RULE 1303(a)(1)- BACT,5-10-1996;RULE 1303(a)(1)-BACT,12-6-2002] ; NOX: 469 LBS/1000 GAL DIESEL (1) [RULE 2012,12-7- 1995  RULE 2012,5-11-2001] ; NOX: 6.9 GRAM/BHP-HR DIESEL (4) [RULE 2005,4-9-1999;RULE 2005,4-20-2001] ; PM10: 0.38 GRAM/BHP-HR DIESEL (4) [RULE 1303(a)(1)-BACT,5-10- 1996  RULE 1303(a)(1)-BACT,12-6- 2002] ; VOC: 1 GRAM/BHP- HR DIESEL (4) [RULE 1303(a)(1)-BACT,5-10-1996;RULE 1303(a)(1)-BACT,12-6-2002]	B61.1, C1.4, D12.2, E162.1, K67.3

\* (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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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, 60 KW					
<b>Process 2 : OIL AND GAS PRODUCTION</b>					
<b>System 1 : NATURAL GAS ODORIZING</b>					
STORAGE TANK, ODORANT, 39 GALS; DIAMETER: 1 FT 4 IN; HEIGHT: 2 FT 3 IN A/N: A55256	D24	C26			E57.1
STORAGE TANK, ODORANT, 13 GALS; DIAMETER: 8 IN; HEIGHT: 4 FT A/N: A55256	D25	C26			E57.1
CARBON FILTER A/N: A55256	C26	D24 D25 D88			E149.1
STORAGE TANK, ODORANT, 700 GALS; DIAMETER: 3 FT; LENGTH: 14 FT 7 IN A/N: A55256	D88	C26			E57.1
ODORANT DISPENSING EQUIPMENT, 60 GALS A/N: 289177	D115	C117			E175.1
CARBON FILTER, HEIGHT: 1 FT 0.125 IN; DIAMETER: 4.875 IN A/N: 289177	C117	D115		H2S: 4 PPMV (5) [RULE 3004(a)(4)-Periodic Monitoring, 8-11-1995; RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997]	D90.1

\* (1)(IA)(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  
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## FACILITY PERMIT TO OPERATE SO CAL GAS CO/PLAYA DEL REY STORAGE FACI

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

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

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
<b>Process 2 : OIL AND GAS PRODUCTION</b>					
<b>System 4 : OIL/WATER/GAS SEPARATION</b>					
TANK, WASH, TK-1A, 1000 BBL; DIAMETER: 18 FT; HEIGHT: 24 FT A/N: 137495	D67	C96 C97			E127.1, H23.1, H23.5
TANK, WASH, TK-1B, 1000 BBL; DIAMETER: 18 FT; HEIGHT: 24 FT A/N: 137495	D68	C96 C97			E127.1, H23.1, H23.5
<b>System 7 : WASTEWATER TREATMENT</b>					
TANK, SURGE, TK-12, WASTEWATER, 2000 BBL; DIAMETER: 29 FT 8 IN; HEIGHT: 16 FT 1 IN A/N: 355183	D77	C96 C97			E127.1, H23.1, H23.4, H23.5
TANK, SURGE, TK-2, WASTE WATER, 1000 BBL; DIAMETER: 21 FT 6 IN; HEIGHT: 16 FT A/N: 355183	D78	C96			E57.5, E127.1, H23.1, H23.4, H23.5
<b>Process 3 : PETROLEUM STORAGE</b>					
STORAGE TANK, FIXED ROOF, TK-3, OFF-SPEC OIL, 2000 BBL; DIAMETER: 29 FT 9 IN; HEIGHT: 16 FT A/N: 110251	D79	C96 C97			E127.1, H23.1, H23.5
STORAGE TANK, FIXED ROOF, TK-4A, CRUDE OIL, 2000 BBL; DIAMETER: 29 FT 9 IN; HEIGHT: 16 FT A/N: 110252	D80	C96 C97			E127.1, H23.1, H23.5

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## FACILITY PERMIT TO OPERATE SO CAL GAS CO/PLAYA DEL REY STORAGE FACI

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

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

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
<b>Process 3 : PETROLEUM STORAGE</b>					P13.1
STORAGE TANK, FIXED ROOF, TK-4B, CRUDE OIL, 2000 BBL; DIAMETER: 29 FT 9 IN; HEIGHT: 16 FT A/N: 110253	D81	C96 C97			E127.1, H23.1, H23.5
STORAGE TANK, FIXED ROOF, TK-4C, CRUDE OIL, VENTED TO VAPOR RECOVERY SYSTEM, 2000 BBL; DIAMETER: 29 FT 9 IN; HEIGHT: 16 FT A/N: 110254	D82	C96 C97			E127.1, H23.1, H23.5
STORAGE TANK, FIXED ROOF, TK-5, CONDENSATE, 500 BBL; DIAMETER: 15 FT 6 IN; HEIGHT: 16 FT A/N: 111946	D83	C96 C97			E127.1, H23.1, H23.5
STORAGE TANK, FIXED ROOF, TK-6, SLOP, 200 BBL; DIAMETER: 9 FT 2 IN; HEIGHT: 16 FT A/N: 110255	D84	C96 C97			E127.1, H23.5
STORAGE TANK, FIXED ROOF, CRANKCASE AND DIRTY LUBE OIL, 1000 GALS; DIAMETER: 5 FT 6 IN; HEIGHT: 6 FT A/N: 165545	D85				
<b>Process 6 : FUGITIVE EMISSIONS</b>					
FUGITIVE EMISSIONS, PUMPS A/N: 137495	D89				
FUGITIVE EMISSIONS, PRV A/N: 137495	D90				

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 (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  
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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 6 : FUGITIVE EMISSIONS</b>					
FUGITIVE EMISSIONS, FLANGES A/N: 137495	D91				
FUGITIVE EMISSIONS, COMPRESSORS A/N: 227890	D92				
FUGITIVE EMISSIONS, VALVES A/N: 137495	D93				
FUGITIVE EMISSIONS, DRAINS A/N: 137495	D130				H23.4
<b>Process 8 : VAPOR RECOVERY SYSTEM</b>					
OIL/GAS/WATER SEPARATOR, LIQUID, INLET COMPRESSOR A/N: 227890	C96	D67 D68 D77 D78 D79 D80 D81 D82 D83 D84			
OIL/GAS/WATER SEPARATOR, LIQUID, INLET COMPRESSOR (SPARE) A/N: 227890	C97	D67 D68 D77 D79 D80 D81 D82 D83 D84			
<b>Process 9 : BULK OIL LOADING FACILITY</b>					
LOADING ARM, TANK TRUCK, CRUDE OIL, WITH SUBMERGED FILLING, 1 TOTAL; DIAMETER: 6 IN A/N:	D125	C131			C1.2, E178.1, E191.1, H23.6, K48.1
<b>Process 10 : R-219 EXEMPT EQUIPMENT SUBJECT TO SOURCE SPECIFIC RULES</b>					
RULE 219 EXEMPT EQUIPMENT, COATING EQUIPMENT, PORTABLE, ARCHITECTURAL COATINGS	E126			ROG: (9) [RULE 1113,5-14- 1999;RULE 1171,6-13-1997;RULE 1171,10-8-1999]	K67.1

- \* (1)(1A)(1B) Denotes RECLAIM emission factor
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- (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
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## FACILITY PERMIT TO OPERATE SO CAL GAS CO/PLAYA DEL REY STORAGE FACI

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Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
<b>Process 10 : R-219 EXEMPT EQUIPMENT SUBJECT TO SOURCE SPECIFIC RULES</b>					
RULE 219 EXEMPT EQUIPMENT, AIR CONDITIONING UNITS	E127				H23.3
RULE 219 EXEMPT EQUIPMENT, WELL HEADS AND PUMPS, OIL AND GAS	E128				
RULE 219 EXEMPT EQUIPMENT, PUMPS, CRUDE OIL/NATURAL GAS PIPELINE TRANSFER	E129				

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 (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  
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**FACILITY PERMIT TO OPERATE  
SO CAL GAS CO/PLAYA DEL REY STORAGE FACI**

**SECTION D: DEVICE ID INDEX**

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

**FACILITY PERMIT TO OPERATE  
 SO CAL GAS CO/PLAYA DEL REY STORAGE FACI**

**SECTION D: DEVICE ID INDEX**

Device Index For Section D			
Device ID	Section D Page No.	Process	System
D1	1	1	0
D2	1	1	0
D7	1	1	0
D14	1	1	0
D16	2	1	0
D17	3	1	0
D24	5	2	1
D25	5	2	1
C26	5	2	1
D67	6	2	4
D68	6	2	4
D77	6	2	7
D78	6	2	7
D79	6	3	0
D80	6	3	0
D81	7	3	0
D82	7	3	0
D83	7	3	0
D84	7	3	0
D85	7	3	0
D88	5	2	1
D89	7	6	0
D90	7	6	0
D91	8	6	0
D92	8	6	0
D93	8	6	0
C96	8	8	0
C97	8	8	0
D115	5	2	1
C117	5	2	1
D125	8	9	0
E126	8	10	0
E127	9	10	0
E128	9	10	0
E129	9	10	0
D130	8	6	0

**FACILITY PERMIT TO OPERATE  
SO CAL GAS CO/PLAYA DEL REY STORAGE FACI**

**SECTION D: DEVICE ID INDEX**

<b>Device Index For Section D</b>			
<b>Device ID</b>	<b>Section D Page No.</b>	<b>Process</b>	<b>System</b>
C132	2	1	0
C133	3	1	0
C134	4	1	0
D135	4	1	0

## FACILITY PERMIT TO OPERATE SO CAL GAS CO/PLAYA DEL REY STORAGE FACI

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

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

#### FACILITY CONDITIONS

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

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

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

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

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

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

F14.2 The operator shall not purchase diesel fuel 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]

#### PROCESS CONDITIONS

## FACILITY PERMIT TO OPERATE SO CAL GAS CO/PLAYA DEL REY STORAGE FACI

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

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

P13.1 All devices under this process are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1149

**[RULE 1149, 7-14-1995]**

[Processes subject to this condition : 3]

### SYSTEM CONDITIONS

S4.1 The following condition(s) shall apply to all affected devices listed under Section H of this system for fugitive emissions of volatile organic compounds (VOC):

All valves, fittings, and flanges associated with the still column (V-641), glycol reboiler (V-642), glycol flash tank (V-643) and still overhead condenser (V664) shall be identified, tagged and inspected quarterly using EPA Method 21.

Any leak greater than 500 ppm shall be repaired within 14 days of detection.

The operator shall keep records of the quarterly inspection, subsequent repair, and re-inspection, in a manner approved by the District.

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

[Systems subject to this condition : Process 2, System 2]

### DEVICE CONDITIONS

#### B. Material/Fuel Type Limits

## FACILITY PERMIT TO OPERATE SO CAL GAS CO/PLAYA DEL REY STORAGE FACI

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

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

B61.1 The operator shall only use Diesel Fuel containing the following specified compounds:

Compound	Limit	ppm by weight
Sulfur	less than or equal to	15

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

[Devices subject to this condition : D135]

### C. Throughput or Operating Parameter Limits

C1.1 The operator shall limit the operating time to no more than 2190 hours in any one year.

To comply with this condition, the operator shall install and maintain a(n) non-resettable elapsed time meter to accurately indicate the elapsed operating time of the engine.

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

[RULE 2012, 12-5-2003; RULE 2012, 1-7-2005]

[Devices subject to this condition : D14, D16, D17]

C1.2 The operator shall limit the loading rate to no more than 800000 gallon(s) per month.

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

[Devices subject to this condition : D125]

C1.3 The operator shall limit the operating time to no more than 200 hour(s) in any one year.

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

[Devices subject to this condition : D1, D2, D7]

## FACILITY PERMIT TO OPERATE SO CAL GAS CO/PLAYA DEL REY STORAGE FACI

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

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

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

[RULE 1110.2, 6-3-2005; **RULE 1304(a)-Modeling and Offset Exemption, 6-14-1996**; RULE 1401, 3-4-2005;  
**RULE 2012, 12-5-2003; RULE 2012, 1-7-2005**]

[Devices subject to this condition : D135]

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

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

[**RULE 2012, 12-5-2003; RULE 2012, 1-7-2005**]

[Devices subject to this condition : D1, D2, D7]

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 1304(a)-Modeling and Offset Exemption, 6-14-1996**; RULE 1401, 3-4-2005;  
**RULE 2012, 12-5-2003; RULE 2012, 1-7-2005**]

[Devices subject to this condition : D135]

D90.1 The operator shall periodically monitor the H<sub>2</sub>S concentration at the outlet according to the following specification according to the following specifications:

The operator shall monitor once during each odorant transfer and tank depressurization.

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

[Devices subject to this condition : C117]

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

## FACILITY PERMIT TO OPERATE SO CAL GAS CO/PLAYA DEL REY STORAGE FACI

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

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

E57.1 The operator shall vent this equipment to an activated carbon filter whenever gases are displaced during odorant transfer or equipment depressurization.

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

[Devices subject to this condition : D24, D25, D88]

E57.5 The operator shall vent this equipment to an air pollution control system in full use with a valid permit issued by the Executive Officer whenever the equipment is in operation.

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

[Devices subject to this condition : D78]

E127.1 The operator shall keep gauge/sample hatches closed except during actual gauging/sampling operations.

[**RULE 463, 3-11-1994]**

[Devices subject to this condition : D67, D68, D77, D78, D79, D80, D81, D82, D83, D84]

E149.1 The operator shall replace the carbon filters at least once every time the equipment is operated.

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

[Devices subject to this condition : C26]

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; RULE 1401, 3-4-2005]**

[Devices subject to this condition : D135]

**FACILITY PERMIT TO OPERATE  
 SO CAL GAS CO/PLAYA DEL REY STORAGE FACI**

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

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

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

activated carbon filter which is in proper operating condition

[RULE 402, 5-7-1976]

[Devices subject to this condition : D115]

E178.1 The operator shall load crude oil into using bottom loading.

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

[Devices subject to this condition : D125]

E191.1 The operator shall vent emissions from transfer of organic liquids to equipment number C131.

[RULE 462, 5-14-1999]

[Devices subject to this condition : D125]

**H. Applicable Rules**

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

Contaminant	Rule	Rule/Subpart
VOC	District Rule	463

[RULE 463, 3-11-1994]

[Devices subject to this condition : D67, D68, D77, D78, D79, D80, D81, D82, D83]

## FACILITY PERMIT TO OPERATE SO CAL GAS CO/PLAYA DEL REY STORAGE FACI

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

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

H23.3 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
Refrigerants	District Rule	1415

[RULE 1415, 10-14-1994]

[Devices subject to this condition : E127]

H23.4 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1176

[RULE 1176, 9-13-1996]

[Devices subject to this condition : D77, D78, D130]

H23.5 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	40CFR60, SUBPART	Ka

[40CFR 60 Subpart Ka, 5-5-1989]

[Devices subject to this condition : D67, D68, D77, D78, D79, D80, D81, D82, D83, D84]

## FACILITY PERMIT TO OPERATE SO CAL GAS CO/PLAYA DEL REY STORAGE FACI

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

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

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

Contaminant	Rule	Rule/Subpart
VOC	District Rule	462

[RULE 462, 5-14-1999]

[Devices subject to this condition : D125]

H23.8 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
CO	District Rule	1110.2
VOC	District Rule	1110.2

The Integrated Air to Fuel Ratio Controller connected with Devices D14, D16, & D17 shall comply with all applicable Inspection and Monitoring requirements as outlined in approved compliance plan under section I of this permit.

[RULE 1110.2, 6-3-2005]

[Devices subject to this condition : D14, D16, D17]

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

## FACILITY PERMIT TO OPERATE SO CAL GAS CO/PLAYA DEL REY STORAGE FACI

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

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

- K48.1 The operator shall maintain records in a manner approved by the District, to demonstrate compliance with the following condition number(s):

Condition Number C 1-2

[RULE 462, 5-14-1999]

[Devices subject to this condition : D125]

- K67.1 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

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

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

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

[Devices subject to this condition : E126]

- K67.3 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 of operation.

Records shall be kept and maintained on file for a minimum of two years and made available to AQMD personnel upon request.

[RULE 1110.2, 6-3-2005; RULE 1304(a)-Modeling and Offset Exemption, 6-14-1996; RULE 1401, 3-4-2005]

[Devices subject to this condition : D135]

## FACILITY PERMIT TO OPERATE SO CAL GAS CO/PLAYA DEL REY STORAGE FACI

### 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 : OIL AND GAS PRODUCTION</b>					
<b>System 2 : GLYCOL DEHYDRATION</b>					S4.1
VESSEL, SEPARATOR, FILTER/SEPARATOR, V-600, LENGTH: 12 FT 8 IN; DIAMETER: 5 FT A/N: 391138 Permit to Construct Issued: 10/19/05	D137				
VESSEL, TEG CONTACTOR #1, V-601, HEIGHT: 35 FT; DIAMETER: 6 FT A/N: 391138 Permit to Construct Issued: 10/19/05	D138				
VESSEL, TEG CONTACTOR #2, V-602, HEIGHT: 35 FT; DIAMETER: 6 FT A/N: 391138 Permit to Construct Issued: 10/19/05	D139				
VESSEL, TEG CONTACTOR #3, V-603, HEIGHT: 35 FT; DIAMETER: 6 FT A/N: 391138 Permit to Construct Issued: 10/19/05	D140				
VESSEL, STILL COLUMN, V-640, HEIGHT: 13 FT; DIAMETER: 2 FT 6 IN A/N: 391138 Permit to Construct Issued: 10/19/05	D141				
VESSEL, GLYCOL REBOILER, V-642, LENGTH: 36 FT; DIAMETER: 6 FT A/N: 391138 Permit to Construct Issued: 10/19/05	D142				
VESSEL, GLYCOL FLASH TANK, V-643, LENGTH: 8 FT; DIAMETER: 4 FT A/N: 391138 Permit to Construct Issued: 10/19/05	D143				

\* (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.

## FACILITY PERMIT TO OPERATE SO CAL GAS CO/PLAYA DEL REY STORAGE FACI

### 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 : OIL AND GAS PRODUCTION</b>					
VESEL, STILL OVERHEAD CONDENSER, V-644, VENTED TO VAPOR RECOVERY,, HEIGHT: 6 FT 6 IN; DIAMETER: 1 FT 4 IN. A/N: 391138 Permit to Construct Issued: 10/19/05	D144			HAP: (10) [40CFR 63 Subpart HHH,2-22-2002]	
<b>System 7 : WASTEWATER TREATMENT</b>					
INCINERATOR, KING, BUCK & ASSOCIATES, MODEL NO. MMC-5, 150 SCFM CAPACITY, NATURAL GAS, WITH SUPPLEMENTAL GAS-FIRING AND FULLY MODULATING AUTOMATIC CONTROL SYSTEM, 1 MMBTU/HR WITH A/N: 407305 Permit to Construct Issued: 10/19/05	C131	D125	NOX: PROCESS UNIT**	CO: 2000 PPMV (5) [RULE 407,4-2-1982] ; NOX: 130 LBS/MMSCF NATURAL GAS (1) [RULE 2012,12-7-1995;RULE 2012,4-9-1999]  PM: (9) [RULE 404,2-7-1986] ; PM: 0.1 GRAINS/SCF (5) [RULE 409,8-7-1981]	C8.1, C409.1, D28.1, H23.7, K40.4
COMPRESSOR, VAPOR RECOVERY, 3 HP, 160 SCFM CAPACITY					

\* (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.



## FACILITY PERMIT TO OPERATE SO CAL GAS CO/PLAYA DEL REY STORAGE FACI

### 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 7 : EXTERNAL COMBUSTION</b>					
BURNER, ALZETA, MODEL CSB50, WITH LOW NOX BURNER, 5.2 MMBTU/HR				RULE 2005,5-6-2005] ; PM: 0.1 GRAINS/SCF (5) [RULE 409,8-7-1981]	
<b>Process 8 : VAPOR RECOVERY SYSTEM</b>					
SCRUBBER, V-661 SUCTION, HEIGHT: 4 FT; DIAMETER: 8.75 IN A/N: 391138 Permit to Construct Issued: 10/19/05	D147				
DRUM, KNOCKOUT, V-662, 1ST STAGE, HEIGHT: 4 FT; DIAMETER: 8.75 IN A/N: 391138 Permit to Construct Issued: 10/19/05	D148				
DRUM, KNOCKOUT, V-662, 1ST STAGE, HEIGHT: 4 FT; DIAMETER: 8.75 IN A/N: 391138 Permit to Construct Issued: 10/19/05	D149				

\* (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.

**FACILITY PERMIT TO OPERATE  
SO CAL GAS CO/PLAYA DEL REY STORAGE FACI**

**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  
SO CAL GAS CO/PLAYA DEL REY STORAGE FACI**

**SECTION H: DEVICE ID INDEX**

Device Index For Section H			
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D140	1	2	2
D141	1	2	2
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D143	1	2	2
D144	2	2	2
D145	3	7	0
D146	3	7	0
D147	4	8	0
D148	4	8	0
D149	4	8	0

## **FACILITY PERMIT TO OPERATE SO CAL GAS CO/PLAYA DEL REY STORAGE FACI**

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

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

#### **FACILITY CONDITIONS**

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

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

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

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

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

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

F14.2 The operator shall not purchase diesel fuel 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]

#### **PROCESS CONDITIONS**

## FACILITY PERMIT TO OPERATE SO CAL GAS CO/PLAYA DEL REY STORAGE FACI

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

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

P13.1 All devices under this process are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1149

**[RULE 1149, 7-14-1995]**

[Processes subject to this condition : 3]

### SYSTEM CONDITIONS

S4.1 The following condition(s) shall apply to all affected devices listed under Section H of this system for fugitive emissions of volatile organic compounds (VOC):

All valves, fittings, and flanges associated with the still column (V-641), glycol reboiler (V-642), glycol flash tank (V-643) and still overhead condenser (V664) shall be identified, tagged and inspected quarterly using EPA Method 21.

Any leak greater than 500 ppm shall be repaired within 14 days of detection.

The operator shall keep records of the quarterly inspection, subsequent repair, and re-inspection, in a manner approved by the District.

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

[Systems subject to this condition : Process 2, System 2]

### DEVICE CONDITIONS

#### C. Throughput or Operating Parameter Limits

## FACILITY PERMIT TO OPERATE SO CAL GAS CO/PLAYA DEL REY STORAGE FACI

### 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 23000 MM Btu in any one year.

Devices D145 and D146 shall not be operating simultaneously..

For the purpose of this condition, fuel usage shall be defined as the combined usage of both heaters D145 and D146.

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

[Devices subject to this condition : D145, D146]

C8.1 The operator shall use this equipment in such a manner that the temperature being monitored, as indicated below, is not less than 1400 Deg F.

To comply with this condition, the operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature in the combustion chamber at all times..

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

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

[Devices subject to this condition : C131]

C409.1 The operator shall ensure that backpressure used in this equipment shall meet the following specified requirements:

The backpressure shall not exceed 18 inches of water column pressure..

To comply with this condition, the operator shall install and maintain a device capable of showing at all times the backpressure in the equipment..

[RULE 462, 5-14-1999]

[Devices subject to this condition : C131]

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

## FACILITY PERMIT TO OPERATE SO CAL GAS CO/PLAYA DEL REY STORAGE FACI

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

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

- D12.3 The operator shall install and maintain a(n) non-resettable totalizing fuel flow meter to accurately indicate the fuel usage of the heaters.

**[RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002; RULE 2012, 12-5-2003; RULE 2012, 1-7-2005]**

[Devices subject to this condition : D145, D146]

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

The test 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 VOC emissions at the outlet.

The test shall be conducted while the equipment ; thermal oxidizer, as well as the organic liquid loading equipment D125, operating at maximum conditions, are operating simultaneously.

The test shall be conducted to demonstrate compliance with emissions of VOC to 0.08 pounds or less per 1,000 gallons of organic liquid transferred..

The District shall be notified of the date and time of the test at least 14 days days prior to the test.

**[RULE 462, 5-14-1999]**

[Devices subject to this condition : C131]

**FACILITY PERMIT TO OPERATE  
 SO CAL GAS CO/PLAYA DEL REY STORAGE FACI**

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

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
NOX emissions	District method 100.1	15 minutes	Outlet
CO emissions	District method 100.1	15 minutes	Outlet

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 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 heaters 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 after District approval of the source test protocol. The District shall be notified of the date and time of the test at least 10 days prior to the test. 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 demonstrate compliance with the NOx and CO BACT limits..

- The test shall be conducted at 100% load with maximum fuel input.

**[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 : D145, D146]

## FACILITY PERMIT TO OPERATE SO CAL GAS CO/PLAYA DEL REY STORAGE FACI

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

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	15 minutes	Outlet
CO emissions	District method 100.1	15 minutes	Outlet

The test shall be conducted at least once every year.

The test shall be conducted to demonstrate compliance with the NOx and CO BACT limits.

The test shall be conducted when the heater is operating at normal load.

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

[Devices subject to this condition : D145, D146]

### H. Applicable Rules

H23.7 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	462

**[RULE 462, 5-14-1999]**

[Devices subject to this condition : C131]

### I. Administrative

## FACILITY PERMIT TO OPERATE SO CAL GAS CO/PLAYA DEL REY STORAGE FACI

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

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

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 each compliance year hold a minimum NOx RTCs of 335 lbs. This condition shall commence with the initial operation of the heaters. For this condition only the RTC requirements are for D145 and D146 combined.

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

[Devices subject to this condition : D145, D146]

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

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 3 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 3 percent oxygen.

Source test results shall also include the oxygen levels in the exhaust, fuel flow rate (CFH), and the flue gas temperature 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 : D145, D146]

**FACILITY PERMIT TO OPERATE  
SO CAL GAS CO/PLAYA DEL REY STORAGE FACI**

**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 30 days after the source test was conducted.

Source test results shall include air contaminant emissions with respect to the district rule 462..

**[RULE 462, 5-14-1999]**

[Devices subject to this condition : C131]

## FACILITY PERMIT TO OPERATE SO CAL GAS CO/PLAYA DEL REY STORAGE FACI

### SECTION I: PLANS AND SCHEDULES

This section lists all plans approved by AQMD for the purposes of meeting the requirements of applicable AQMD rules specified below. The operator shall comply with all conditions specified in the approval of these plans, with the following exceptions:

- a. The operator does not have to comply with NO<sub>x</sub> or SO<sub>x</sub> emission limits from rules identified in Table 1 or Table 2 of Rule 2001(j) which become effective after December 31, 1993.
- b. The operator does not have to comply with NO<sub>x</sub> or SO<sub>x</sub> emission limits from rules identified in Table 1 or Table 2 of Rule 2001(j) after the facility has received final certification of all monitoring and reporting requirements specified in Section F and Section G.

Documents pertaining to the plan applications listed below are available for public review at AQMD Headquarters. Any changes to plan applications will require permit modification in accordance with Title V permit revision procedures.

#### List of approved plans:

Application	Rule
486471	1110.2

NOTE: This section does not list compliance schedules pursuant to the requirements of Regulation XXX - Title V Permits; Rule 3004(a)(10)(C). For equipment subject to a variance, order for abatement, or alternative operating condition granted pursuant to Rule 518.2, equipment specific conditions are added to the equipment in Section D or H of the permit.

<b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b>	<b>BACKGROUND &amp; FACILITY INFORMATION</b>	
<b>ENGINEERING &amp; COMPLIANCE</b>	A/N:	<b>486471</b>
	DATE:	<b>06/03/09</b>
<b>RULE 1110.2 INSPECTION &amp; MONITORING (I &amp; M) PLAN EVALUATION</b>	PROCESSED BY:	<b>HD</b>
	CHECKED BY:	

**BACKGROUND:**

SCAQMD Rule 1110.2 was amended on February 1, 2008 with additional rule language that significantly changed the way facilities will be required to demonstrate compliance with the rule. Each facility is now required to prepare an **Inspection and Monitoring Plan (I & M Plan)** which details the procedures which the facility will implement to ensure compliance with the requirements of Rule 1110.2. Although only one plan is required for each facility, the facility is required to specify in detail how they will inspect and monitor each and every engine in the facility that is subject to Rule 1110.2. The basic I & M requirements are enumerated in Rule 1110.2 (f)(1)(D). An engine that is monitored by a NOx and CO Continuous Emissions Monitoring System (CEMS) is not required to be included in this I & M Plan. If CO CEMS is not required, an I&M plan for CO is still required.

The facility shown below has recently submitted the required I & M Plan. On the pages following this cover page is a detailed evaluation of whether or not the submitted I & M Plan will satisfy the basic requirements of Rule 1110.2 (f)(1)(D) for each engine that is subject to the plan. The evaluation will show whether or not each basic requirement is "Satisfied", "Deficient" or "Not Applicable". For every "Deficient" or "Not Applicable" determination, additional information/explanation will be provided by the evaluating engineer.

**FACILITY INFORMATION:**Facility Name: **SO CAL GAS**ID No.: **8582**Equipment Location Address: **8141 GULANA AVE., PLAYA DEL REY, CA 90293**Number of Engines at this Facility Subject to I & M Plan: **3**

**ENGINE INFORMATION: (Linden Booster Station)**

Permit Nos.: (see below) Application Nos.: (see below) Device ID: (see below)

Engine Make: COOPER-BESSEMER Model No.: GMVH-10

BHP Rating: 2000 RPM: \_\_\_\_\_ Serial No.: \_\_\_\_\_

I.C.E. Function:

Elect. Gen.  Pump Driver  Compressor  Co-Gen  Other \_\_\_\_\_

Fuel: Primary: Natural Gas Stand-By (if any): None

Combustion Type:

Rich Burn  Lean Burn

Permit Emission Limits (dry corrected to 15% O2): - NONE

NOx = 225 ppmv

VOC = 30 ppmv

CO = 70 ppmv

NH<sub>3</sub> = \_\_\_\_\_ ppmv

Permits Included in this Evaluation:

- Application Number
- 482122 (Device D14)
- 482123 (Device D16)
- 482124 (Device D17)

**CONTROL EQUIPMENT & COMPONENTS:**

Emission Control (Check all that apply):

NSCR (3-way Cat.)  SCR (Selective Cat.)  Oxidation Catalyst

NSCR / SCR / OXID.CAT. Make & Model: \_\_\_\_\_

If NSCR/Oxid Cat: Min. Inlet Temp.: 600 F; Max. Outlet Temp.: 1350 F

(Refer to permit conditions or NSCR manufacturer specs)

If SCR: Min. Inlet Temp.: \_\_\_\_\_ F; NH<sub>3</sub>/NOx Molar Ratio: \_\_\_\_\_

Max. Ammonia Slip: \_\_\_\_\_ ppmv

(Refer to permit conditions or SCR manufacturer specs)

Air-To-Fuel Ratio Controller (AFRC) and Oxygen Sensor:

AFRC Make: \_\_\_\_\_ AFRC Model No.: \_\_\_\_\_

AFRC Setting:

Variable Set Points at Variable Loads  Single Set Point

Oxygen Sensor Type:

Unheated Narrow Band (EGO)  Heated Narrow Band (HEGO)

Universal Wideband (UEGO)  Other (specify): \_\_\_\_\_

Optimum O<sub>2</sub> Sensor Range Setting: \_\_\_\_\_ to \_\_\_\_\_ Volts / Lambda

Oxygen Sensor Location (relative to catalyst):

Upstream Only  Upstream and Downstream

Continuous Emissions Monitoring System (CEMS):

NOx  CO  None

Other Parameters (if any): (for example, differential pressure - ΔP): \_\_\_\_\_

Parameter(s): \_\_\_\_\_

Compliance Limit (s): \_\_\_\_\_

**ALTERNATIVE AIR TO FUEL RATIO CONTROLLER**

**INSPECTION & MONITORING (I & M) PLAN EVALUATION:**

Satisfied	Deficient	N/A	Requirements	Additional Info/Explanation
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p><b>PORTABLE ANALYZER (PA) TESTING PROCEDURES:</b></p> <p>(1) The plan should have a set procedure for conducting a portable analyzer (PA) test (measuring CO and O<sub>2</sub>) on this engine which includes the following:</p> <ul style="list-style-type: none"> <li>a) Identification of the person or company who will perform the PA test, including a declaration that this person/company has undergone AQMD PA training and is certified in the use of the particular PA equipment.</li> <li>b) An declaration, supported with O &amp; M (operation and maintenance) information, indicating the proper calibration schedule and procedure used for the PA equipment.</li> <li>c) An declaration which indicates that the PA test will be conducted in accordance with the requirements in AQMD's "Protocol for the Periodic Monitoring of NOx, CO, and O<sub>2</sub> from Stationary Engines Subject to SCAQMD Rule 1110.2" (dated November 2007), OR, the most recently approved USEPA protocol. The facility also should indicate whether Protocol Forms 1, 2 or 3 will be used.</li> <li>d) An indication from the facility whether the PA equipment will measure both NO and NO<sub>2</sub> or, just NO (Note: For NO only, the facility must provide test data that shows that NO<sub>2</sub> emissions are less than 10% of total NOx emissions), and</li> <li>e) An explanation of how the facility intends to store PA test printouts. This statement should indicate the manner, frequency and format of data storage.</li> </ul>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>(2) The plan should have a set schedule of performing PA tests on this engine at least <b>once a week</b>, or, <b>every 150 engine operating hours</b>, whichever occurs later. If the engine is in compliance for 3 consecutive emission checks, without any adjustments to the O<sub>2</sub> sensor set points, then the engine may be tested <b>once a month</b>, or, <b>every 750 engine operating hours</b>, whichever occurs later.</p> <p>If the facility opts for the 150 (or 750) engine operating hours criteria, the facility should indicate on the plan how they intend to get alerted on when a PA test is due.</p>	

Satisfied	Deficient	N/A	Requirements	Additional Info/Explanation
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>(3) For diesel engines and lean burn engines subject to Reg. XX or have a NOx CEMS, and:</p> <p>a) If the permit contains a CO limit <b>more stringent than 2000 ppmvd</b>, then, the plan should have a set procedure and schedule for performing a PA test for <b>CO only</b> at least <b>quarterly</b> or <b>every 2,000 engine operating hours</b>, whichever occurs later.</p> <p>If the facility opts for the 2,000 engine operating hours criteria, the facility should indicate on the plan how they intend to get alerted on when a PA test is due.</p> <p>b) If the permit contains a CO limit that is <b>NOT more stringent than 2000 ppmvd</b>, then, <b>no emission tests</b> are required.</p>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>(4) The plan shall NOT contain a procedure for performing an engine or control system maintenance or tuning within <b>72 hours</b> prior to performing a PA test, unless the maintenance or tuning is a result of an unscheduled, required repair.</p>	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>(5) If this engine is operated by a <b>public agency</b> or a <b>contractor hired by a public agency</b> solely to operate this engine, AND, if the public agency or contractor hired by the public agency opted to perform NOx and CO PA tests in lieu of the CEMS requirement of Rule 1110.2 (f)(1)(A)(ii)(I), THEN, the plan should have a set schedule of performing PA tests on this engine at least <b>once a week</b>, or, <b>every 150 engine operating hours</b>, whichever occurs later. If the facility opts for the 150 engine operating hours criteria, the facility should indicate on the plan how they intend to get alerted on when a PA test is due.</p>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>(6) If the facility is subject to RECLAIM, then only the CO emissions are to be tested.</p>	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p><b><u>NSCR SCR OXIDATION CATALYST I&amp;M PROCEDURES:</u></b></p> <p>(7) If this engine is a <b>rich burn engine</b> with an <b>NSCR (3-Way Catalyst)</b>, the plan should have a set procedure for monitoring the temperature of the exhaust gas entering and exiting the NSCR. Engine cold start-ups excluded, the plan should specify the minimum and maximum catalyst temperatures (based on permit conditions, or, if absent on the permit conditions, based on catalyst manufacturer specifications). The plan should have a set procedure for alerting the operator of deviations to the acceptable operating temperature range.</p>	

Satisfied	Deficient	N/A	Requirements	Additional Info/Explanation
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	(8) If this engine is a rich burn engine with an NSCR (3-Way Catalyst), and a permit condition (or, the catalyst manufacturer specs) requires monitoring of the temperature increase ( $\Delta T$ ) across the catalyst bed, then, the plan should have a set procedure for calculating and monitoring the $\Delta T$ and for alerting the operator of any deviations to the acceptable $\Delta T$ .	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	(9) If this engine is a rich burn engine with an NSCR (3-Way Catalyst), and a permit condition (or, the catalyst manufacturer specs) requires monitoring of the pressure differential ( $\Delta P$ ) across the catalyst bed, then, the plan should have a set procedure for calculating and monitoring the $\Delta P$ and for alerting the operator of any deviations to the acceptable $\Delta P$ .	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(10) If a permit condition or the catalyst manufacturer specifications requires cleaning or replacement of the catalyst element upon reaching a parameter milestone (e.g., after a specified number of operating hours, or, when a $\Delta P$ or $\Delta T$ limit is reached), the plan should have a set procedure for alerting the operator when such parameter milestone is reached.	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	(11) If this engine is a <b>lean burn engine</b> with an <b>SCR</b> , the plan has a set procedure for monitoring the following: (a) The temperature of the exhaust gas entering the SCR. The plan should specify the minimum catalyst inlet temperature for proper reaction to occur in the SCR and the maximum temperature to prevent catalyst decomposition. The plan should have a set procedure to alert the operator whenever the minimum temperature is not reached beyond the normal cold start-up timeframe; and (b) The NOx control algorithm which establishes the acceptable range of reactant (ammonia or urea) flow rate, as a function of engine load. The plan should have a set procedure for establishing the acceptable range of reactant flow rate using a portable NOx and O <sub>2</sub> analyzer.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>AIR-TO-FUEL RATIO CONTROLLER (AFRC) &amp; M PROCEDURES</b> (12) For an engine operated on <b>variable loads</b> , the plan should have a set procedure for establishing the optimum (i.e., compliant with NOx & CO emission limits) AFRC set-points at 25%, 60% and 95% load ( $\pm 5\%$ ). The loads may also be based on the minimum, midpoint and maximum loads that actually occur during <b>normal operation</b> ( $\pm 5\%$ ). (continued on next page)	
Satisfied	Deficient	N/A	Requirements	Additional Info/Explanation

			<p>Set points shall be established with the use of a portable NOx, CO and O<sub>2</sub> analyzer. Engine load shall be determined using acceptable means, including but not limited to: (a) generator kilowatt output; (b) fuel flow meter measurement; or (c) evaluation of pump or compressor curves with measurement of RPM and pressure.</p>	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>(13) For an engine operated on a <b>single load</b> and is limited to this load by means of a permit condition, the plan should have a set procedure for establishing the optimum (i.e., compliant with NOx &amp; CO emission limits) AFRC set-point based on the defined single load (<math>\pm 10\%</math>). Set point shall be established with the use of a portable NOx, CO and O<sub>2</sub> analyzer. Engine load shall be determined using acceptable means, including but not limited to: (a) generator kilowatt output; (b) fuel flow meter measurement; or (c) evaluation of pump or compressor curves with measurement of RPM and pressure.</p>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>(14) For either variable-load or single-load operation, the plan should have a set procedure for verifying that the AFRC is controlling the engine to the optimum set-point(s) during the required daily monitoring (see section on General I &amp; M Procedures for details on daily monitoring requirement).</p>	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>(15) For either variable-load or single-load operation, the plan should have a set procedure for re-establishing the AFRC set-point(s) whenever a set-point must be <b>readjusted or within 24 hours after the replacement of an oxygen sensor</b>. If the engine is a <b>rich burn engine with a 3-way catalyst</b>, the plan should have a set procedure for re-establishing the AFRC set-point(s) <b>again between 100 and 150 engine operating hours</b> after an oxygen sensor replacement. The plan shall indicate how the operator will be alerted when 100 operating hours has been reached. Set point shall be re-established with the use of a portable NOx, CO and O<sub>2</sub> analyzer.</p>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>(16) The AFRC shall have a malfunction indicator light and audible alarm and the plan shall have procedures for alerting the operator of emission control malfunctions (see item #17 under "General I&amp;M Procedures").</p>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p><b>GENERAL I &amp; M PROCEDURES:</b>                  (17) The plan should have a set procedure for alerting the operator of any malfunctions in the emission control system and the AFRC. If the facility has on-site personnel, operator-alert systems may include malfunction indicator lights on the defective system or an audible alarm. (<i>continued next page</i>)</p>	
<p>Satisfied</p>	<p>Deficient</p>	<p>N/A</p>	<p>Requirements</p>	<p>Additional Info/Explanation</p>

				<p>If the facility is unmanned, an operator shall be alerted remotely by either a Supervisor Control and Data Acquisition (SCADA) system or other similar systems. The plan should include a list of malfunctions that will be monitored by the alarm system (including malfunction codes).</p>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(18) The plan shall describe how the operator will respond to, diagnose and correct breakdowns, faults, malfunctions, alarms, and emissions checks, finding emissions in excess of rule or permit limits.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(19) For breakdown resulting in a violation of Rule 1110.2 or a permit condition, the plan shall contain procedures on how the operator shall correct the problem and demonstrate compliance with another emissions check or shut down the engine at the end of the operating cycle. The breakdown shall be reported per section (H) of Rule 1110.2.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(20) Within 15 days of the end of each calendar quarter, the operator will submit to the AQMD (Attention: Compliance) a completed Form - Rule 1110.2 - Quarterly Report for Stationary Engines that reports each occurrence of a breakdown, fault, malfunction, alarm, engine or control system operating parameter out of the acceptable range established by an I&M plan or permit condition, or an emission check that finds excess emissions. Operator will also report if no incidents occurred.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(21) For other problems, such as parameters out-of-range, the operator shall correct the problem and demonstrate compliance with another emissions check within 48 hours of first knowing the problem.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(22) Procedures and schedules for preventive and corrective maintenance. The maintenance schedule shall include the items on the engine and control system that are to be serviced (examples: O2 sensor replacement, catalyst replacements or washes, engines tunes ups, spark plug replacements). The plan shall indicate who will be responsible for maintenance – in-house or contractor. The format for record keeping of maintenance and repairs should include engine operating hours, explanation and description of what was done and why.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(23) Procedures for recordkeeping of monitoring and other actions required by the plan.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(24) For any plan revision the operator shall file a new compliance plan.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p><b>GENERAL DAILY MONITORING PROCEDURES:</b></p> <p>(25) The plan need NOT require daily parameter monitoring for diesel engines or lean burn engines which do not have either exhaust gas recirculation or catalytic control devices.</p>	
<b>Satisfied</b>		<b>Deficient</b>	<b>Requirements</b>	<b>Additional Info/Explanation</b>	

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(26) Engines will be monitored daily, including weekends and holidays by either remote monitoring or in person or a combination of the two.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(27) The Plan specifies which in-house personnel or which outside contractor will conduct the daily monitoring.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(28) The format for the daily monitoring report shall include but not be limited to: name of person doing the monitoring (if not remote monitoring), date/time of monitoring, and all parameters to be monitored.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>PARAMETERS TO BE MONITORED DAILY</b>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(29) Engine load or fuel flow rate.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(30) The actual values of the AFRC set points.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(31) The elapsed time meter operating hours.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(32) The operating hours since the last emissions check.	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	(33) For rich burn engines with 3-way catalysts, the difference between the inlet and outlet temperature ( $\Delta T$ ) of the catalytic converter.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(34) Engine control systems and AFRC system faults or alarms that affect emissions	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	(35) For lean burn engines with SCR, the exhaust temperature at the inlet to the SCR and the reactant flow rate.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(36) Other parameters to be monitored, for example, if the permit conditions have a pressure drop requirement ( $\Delta P$ ), the pressure drop should be monitored.	

Rule 1110.2 Inspection & Maintenance (I&M) Plan

Southern California Gas Company  
Playa del Rey Storage Facility  
Permit # 008582

I&M Plan Version 1  
Version Date: August 2008

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## 1.0 Introduction

Southern California Gas Company's Playa del Rey Storage Field is a Natural Gas Storage Field which operates three, 2-stroke lean burn engines.

These engines are large sources that are subject to RECLAIM, therefore they are not subject to the NOX requirements of SCAQMD Rule 1110.2. However, these engines are subject to the VOC and CO requirements of Rule 1110.2.

**This I&M Plan addresses the following equipment at the Facility:**

**Internal Combustion Engine, Non-Emergency, 6CB, Natural Gas, Cooper-Bessemer, Model GMVH-10, 2000 HP, SCAQMD Device ID: D14. With CO oxidation catalyst, Engelhard, 24"x24"x3 11/16"D. SCAQMD Device ID C132**

**Internal Combustion Engine, Non-Emergency, 8CB, Natural Gas, Cooper-Bessemer, Model GMVH-10, 2000 HP, SCAQMD Device ID: D16. With CO oxidation catalyst, Engelhard, 24"x24"x3 11/16"D. SCAQMD Device ID C133**

**Internal Combustion Engine, Non-Emergency, 9CB, Natural Gas, Cooper-Bessemer, Model GMVH-10, 2000 HP, SCAQMD Device ID: D17. With CO oxidation catalyst, Engelhard, 24"x24"x3 11/16"D. SCAQMD Device ID C134**

*Southern California Gas Company, Playa del Rey Gas Storage Field propose to utilize the "other equivalent Air Fuel Ratio technology option" as allowed by Rule 1110.2 (d)(1)(E)*

### **Description of Turbocharger Waste Gate Air Fuel Ratio Control (AFRC)**

The AFRC algorithm is programmed into the engine/compressor unit control panel. The control algorithm uses the following inputs:

Air manifold pressure (AMP), "Hg (This value is also called "boost pressure")

Fuel flow, scfh

Air manifold temperature (AMT), F

The algorithm output is:

Turbocharger waste gate valve position signal

To set up the AFRC, emission and performance tests are conducted over the engine's operating range. The results are used to develop equations for AMP vs. fuel flow as a means of characterizing in-cylinder AFR. The control measures AMP and compares it to the expected value calculated from fuel flow to maintain the desired AFR. If the AMP isn't high enough, the control closes the turbocharger waste gate valve. More exhaust drives the turbocharger, so air flow and pressure increase leaning the AFR. If the AMP is too high, the control opens the turbocharger waste gate valve. Less exhaust drives the turbocharger, so air flow and pressure decreases, richening the AFR. When the desired AMP is satisfied, the waste gate valve is not moved.

Because a change in AMT affects air density and therefore the in-cylinder AFR, the algorithm also includes an offset to account for temperature affects. Although variation in AMT is considered normal, the goal is to keep it relatively stable through the use of an intercooler between the turbocharger and air manifold.

## **2.0 Engine and Control Equipment Operating Parameters**

### **2.1 AFRC Tuning Procedures**

AFRC tuning is not done on a specific timeframe, but rather when the operator suspects a tuning is needed to maintain compliance and to pass emission checks as required by Rule 1110.2 (f)(1)(D)(iii.) A portable emission analyzer, traditional Reference Method analyzers, or any other analyzer is used to determine the appropriate AMP for each load range based on compliance with the permitted NO<sub>x</sub> limit. Although Rule 1110.2 NO<sub>x</sub> requirements do not apply to these RECLAIM engines, NO<sub>x</sub> is used for tuning because it is more sensitive to AFRC than CO. If necessary, adjustments are made to the fuel flow vs. AMP curve in the engine's controller. The tuning process may be conducted at a single load or multiple loads as the operator deems necessary or that are available on the day of testing. A record of the tuning activity will be kept on file.

### **2.2 Procedure for Verifying Proper Operation of AFRC**

AFRC operation is verified at least once per operating day by checking and recording the following operating parameters:

- AFRC Alarm

### **2.3 Procedures for Reestablishing AFRC Set Point(s)**

Oxygen sensor based AFRC require periodic adjustment of the AFRC set points due to sensor degradation. This is not the case for lean burn engine turbocharger waste gate controls. However, the AFRC algorithm may be refined by using the tuning procedure described above.

### **2.4 Maximum Exhaust Temperature at the Catalyst Inlet**

The maximum exhaust temperature at the catalyst inlet is 1350°F. Compliance with this requirement is assured through the use of a high temperature shut down set at 1300°F on exhaust at the catalyst outlet. Catalyst outlet is used rather than inlet because the shut-down will also detect an overheating catalyst.

## **3.0 Alarm Annunciation**

The AFRC alarm is connected to the station control system such that the operator receives a visual and audible alarm on the system display.

## 4.0 Emission Checks

### Emission Compliance Check Procedures (Portable Analyzer)

#### 4.1 Protocol

The most recent approved version of the SCAQMD Protocol for the Periodic Monitoring of NO<sub>x</sub>, CO, and O<sub>2</sub> from Stationary Engines Subject to SCAQMD Rule 1110.2 will be used to conduct emission compliance checks.

*Note: NO<sub>x</sub> measurements are not required for RECLAIM engines.*

#### 4.2 Procedure

The sample will be collected from a single point as described in the SCAQMD Protocol, and drawn through a stainless steel tube dropped from the sampling location down to a convenient and safe elevation. The tubing does not need to be heated since CO and O<sub>2</sub> loss does not occur with moisture drop out.

For accurate compliance determination, span gas will be selected so that it is approximately between 25 and 100 percent of the permitted limit at stack oxygen concentration.

#### 4.3 Prohibitions

Engine or control system maintenance or tuning for the purpose of lowering tested emissions may not be conducted within 72 hours prior to an emission check in accordance with Rule 1110.2, unless it is an unscheduled, required repair.

## 5.0 Daily Monitoring

At least daily monitoring, inspection, and recordkeeping of the following parameters:

- (I) Brake Horsepower (BHP)
- (II) The oxidation catalyst works over a wide range of AFR. Therefore, it is not necessary to monitor specific AFRC operating parameters, but rather, the AFRC alarm is sufficient to verify proper operation of the AFRC. See (VI) below.

Catalyst Minimum Temperature (measured at Catalyst Outlet), 600°F  
Catalyst Maximum Temperature (measured at Catalyst Outlet), 1350°F

13 00 °F

- (III) Engine elapse operating time meter.
- (IV) Operating hours since the last emission check.

- (V) Reserved for rich burn engines – this section is not applicable to these engines.
- (VI) AFRC Alarm

The AFRC is equipped with an alarm that indicates the following fault conditions:

AMP is not within 0.5”Hg of its set point.

If the difference between a fuel based horsepower (HP) calculation and measured Brake HP (BHP) exceed 10%, it is an indication that combustion quality has been compromised, possibly by the AFRC providing too much or too little air to the engine. The fuel base HP is a simple curve of HP vs. volumetric fuel rate from the dedicated engine fuel meter. Fuel meter accuracy is assured under the RECLAIM program. The BHP is determined by the engine control system based on measurements made on the compressor and is completely independent of the AFRC.

## **6.0 Procedures for Responding to Diagnosing and Correcting Faults, Malfunctions, Alarms and Emission Checks**

When an alarm occurs, operating parameters are found out of range, or an emission check shows concentrations above permit limits, corrective action is taken. Correction actions are described in Table 1.

### **6.1 Emission Checks**

An emission check that finds excess emissions shall not be considered a violation unless the emission check is conducted by District staff. If excess emissions are discovered by the facility, the operator shall correct the problem and demonstrate compliance with another emission check within 24 hours. The facility will document the occurrence and it shall be reported in the quarterly report.

If the problem can not be corrected within a reasonable time frame, the facility shall call in a breakdown.

### **6.2 Parameters Out of Range**

For problems associated with parameters that are out of range, the operator shall correct the problem and demonstrate compliance with another emission check within 48 hours of the operator first knowing of the problem. The facility will document the occurrence and it shall be reported in the quarterly report.

If the problem can not be corrected within a reasonable time frame, the facility shall call in a breakdown.

### **6.3 System Failure**

In the event of a system failure, which exceeds 24 hours, the operator shall notify the Executive Office within 24 hours of the next SCAQMD business day. In the case of a system failure, compliance with the provisions set forth in SCAQMD Rule 1110.2 shall be waived for a period not to exceed 96 consecutive hours. Compliance with SCAQMD Rule 1110.2 shall be extended beyond 96 consecutive hours if a petition for an interim variance is filed in accordance with Regulation V and shall terminate at the time the Hearing Board acts upon such variance petition. System failures that do not exceed 96 hours shall not be considered a violation and the facility will document the occurrence and report it in the quarterly report.

## **7.0 Preventative and Corrective Maintenance**

Preventative maintenance procedures include but are not limited to the following:

- Engines are tuned in accordance within the schedules established under RECLAIM.
- Catalysts are replaced as indicated through emission check(s) and after thorough analysis in accordance with the fundamental troubleshooting guide depicted in Table 1, if applicable.

Corrective maintenance procedures can be found in Table 1

## **8.0 Procedures for Reporting and Recordkeeping**

### **8.1 Breakdowns**

A breakdown resulting in a violation of the Rule or a permit condition shall be reported in accordance with the reporting requirements outlined in Rule 1110.2(f)(1)(H).

### **8.2 Emission Checks**

An emission check that finds excess emissions shall not be considered a violation unless the emission check is conducted by District staff. If excess emissions are discovered by the facility, the operator shall correct the problem and demonstrate compliance with another emission check. The facility will document the occurrence and it shall be reported in the quarterly report.

If the problem can not be corrected within a reasonable time frame, the facility shall call in a breakdown.

### **8.3 Quarterly Reporting**

Within 15 days of the end of each calendar quarter, the facility shall submit to the Executive Officer a report as outlined in Rule 1110.2(f)(1)(H)(iii).

### **8.4 Recordkeeping**

All data, logs, test reports and other information required by this rule will be maintained for at least five years and made available for inspection by the Executive Officer.

### **8.5 Plan Revisions**

Updates to the Plan will be submitted in accordance with AQMD rules and regulations.

**Table 1  
System Malfunction Events**

<b>Condition</b>	<b>Cause</b>	<b>Corrective Action</b>
<b>AFRC Alarm</b>	AFRC failure	Verify calibration of AFRC and AFRC alarm inputs.
	Ignition problem	Troubleshoot ignition system. Adjust or replace components as required. (check for detonation)
	Fuel supply problem	Inspect fuel supply, fuel regulator(s), and fuel valves. Adjust or replace components as required.
	Combustion air delivery system problem	Check for problems that may cause high air manifold temperature, air cooling system failure, or clogged air filter or intake air system.
	Instrumentation Failure	Adjust or replace components as necessary.
<b>Catalyst temperature too low</b>	Engine not loaded or under loaded	Obtain appropriate load on equipment.
	AFRC failure	Verify calibration of AFRC and AFRC alarm inputs.
	Instrumentation Failure	Adjust or replace components as necessary
<b>Catalyst temperature too high</b>	Engine overloaded	Obtain appropriate load on equipment.
	AFRC failure	Verify calibration of AFRC and AFRC alarm inputs.
	Ignition Problem	Troubleshoot ignition system. Adjust or replace components as required. (check for detonation)
	Fuel supply problem	Inspect fuel supply, fuel regulator(s), and fuel valves. Adjust or replace components as required.
	Detonation	Check ignition system, AFR controller, fuel supply and air supply systems. Adjust
	Combustion air delivery system problem	Check for problems that may cause high air manifold temperature, air cooling system failure, or clogged air filter or intake air system.
	Instrumentation Failure	Adjust or replace components as necessary
<b>Emissions found over limit</b>	Emissions Analyzer	Inspect analyzer, check for leaks, obstructions, etc. Re-calibrate analyzer.
	AFRC system problem	Review causes above for AFRC alarm.
	Catalyst failure	Check for physical damage or fouling. Check engine condition. Check for foreign debris. Clean or replace catalyst, if necessary.
	Exhaust by-passing	Inspect catalyst structure for gaps, and for proper placement of sealing gasket material. Block openings or replace catalyst.