

South Coast Air Quality Management District

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

June 8, 2010

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

Dear Mr. Rios:

Subject: Pacific Energy Resources, Ltd. (ID 151178) – Title V Permit Revision

Pacific Energy Resources, Ltd. (ID 151178) has proposed to revise their Title V permit by limiting the operating hours for seven crane engines and modifying six rig engines by adding oxidation catalysts. Pacific Energy Resources, Ltd. is an oil and gas production facility (SIC 1311) located at OCS Lease Parcels, Huntington Beach, CA 92648. This proposed permit revision is considered as a “minor permit revision” to their Title V permit. Attached for your review are the evaluations and permit for the proposed revision. With your expected receipt of the proposed Title V permit revision today, we will note that the EPA 45-day review period begins on June 8, 2010.

If you have any questions or need additional information regarding the proposed permit revision, please call Vicky Lee of my staff at (909) 396-2284.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Brian L. Yeh', is written over a diagonal line that extends from the signature area down towards the typed name below.

Brian L. Yeh
Senior Manager
General Commercial and Energy Team
Engineering and Compliance

BLY:RGC:VL

Attachments



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

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PACIFIC ENERGY RESOURCES, LTD.
111 W. OCEAN BLVD.
LONG BEACH, CA 90802-4622

FACILITY ID: 151178

EQUIPMENT LOCATION: OCS Lease Parcels
Huntington Beach, CA 92648

CONDITION CHANGES TO PERMITS TO OPERATE OR CONSTRUCT

EQUIPMENT DESCRIPTION

Note: The changes to the facility permit are indicated in bold font for additions and in strike-out for deletions.

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 3: INTERNAL COMBUSTION					
System 6: ICE: PEDESTAL CRANE-PLATFORM ELLEN					
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, L-11B, DIESEL FUEL, DETROIT DIESEL, MODEL 1064-7001, ELLEN EAST CRANE, 195 BHP A/N: 466198 485759	D87		NOX: PROCESS UNIT**	CO: 2000 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]; NOX 469 LBS/1000 GAL DIESEL (3) [RULE 2012, 5-6-2005]; PM (9) [RULE 404, 2-7-1986]; VOC: 250 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]	A63.6, C1.3, D28.1, D323.3, E448.2, E448.4, E448.5, H23.7, K40.1
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, L-11A, DIESEL FUEL, DETROIT DIESEL, MODEL 1063-7008, ELLEN CENTER CRANE, 195 BHP A/N: 466194 485765	D91		NOX: PROCESS UNIT**	CO: 2000 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]; NOX 469 LBS/1000 GAL DIESEL (3) [RULE 2012, 5-6-2005]; PM (9) [RULE 404, 2-7-1986]; VOC: 250 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]	A63.6, C1.3, D28.1, D323.3, E448.2, E448.4, E448.5, H23.7, K40.1
System 7: ICE: PEDESTAL CRANE – PLATFORM EUREKA					
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, CR-030-A2, DIESEL FUEL, DETROIT DIESEL, MODEL 1067-8503,	D88		NOX: PROCESS UNIT**	CO: 2000 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]; NOX 469	A63.6, C1.3, D28.1, D323.3,



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Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
EUREKA WEST CRANE, 195 BHP A/N: 466200 485761				LBS/1000 GAL DIESEL (3) [RULE 2012, 5-6- 2005]; PM (9) [RULE 404, 2-7-1986]; VOC: 250 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]	E448.2, E448.4, E448.5, H23.7, K40.1
INTERNAL COMBUSTION ENGINE, NON- EMERGENCY, CR-010-A2, DIESEL FUEL, DETROIT DIESEL, MODEL 1064-7001, EUREKA EAST CRANE, 195 BHP A/N: 466180 485762	D89		NOX: PROCESS UNIT**	CO: 2000 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]; NOX 469 LBS/1000 GAL DIESEL (3) [RULE 2012, 5-6- 2005]; PM (9) [RULE 404, 2-7-1986]; VOC: 250 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]	A63.6, C1.3, D28.1, D323.3, E448.2, E448.4, E448.5, H23.7, K40.1
INTERNAL COMBUSTION ENGINE, NON- EMERGENCY, CR-020-A2, DIESEL FUEL, DETROIT DIESEL, MODEL 1064-7001, EUREKA CENTER CRANE, 195 BHP A/N: 466183 485764	D90		NOX: PROCESS UNIT**	CO: 2000 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]; NOX 469 LBS/1000 GAL DIESEL (3) [RULE 2012, 5-6- 2005]; PM (9) [RULE 404, 2-7-1986]; VOC: 250 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]	A63.6, C1.3, D28.1, D323.3, E448.2, E448.4, E448.5, H23.7, K40.1
System 8: ICE: PEDESTAL CRANE –PLATFORM ELLY					
INTERNAL COMBUSTION ENGINE, NON- EMERGENCY, L-01A, DIESEL FUEL, DETROIT DIESEL, MODEL 1064-7001, ELLY EAST CRANE, 195 BHP A/N: 466178 485766	D92		NOX: PROCESS UNIT**	CO: 2000 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]; NOX 469 LBS/1000 GAL DIESEL (3) [RULE 2012, 5-6- 2005]; PM (9) [RULE 404, 2-7-1986]; VOC: 250 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]	A63.6, C1.3, D28.1, D323.3, E448.2, E448.4, E448.5, H23.7, K40.1
INTERNAL COMBUSTION ENGINE, NON- EMERGENCY, L-01B, DIESEL FUEL, DETROIT DIESEL, MODEL 1064-7001, ELLY WEST CRANE, 195 BHP A/N: <i>Note: See Section H, A/N 503608, for P/C issued 12/10/09.</i>	D93		NOX: PROCESS UNIT**	CO: 2000 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]; NOX 469 LBS/1000 GAL DIESEL (3) [RULE 2012, 5-6- 2005]; PM (9) [RULE 404, 2-7-1986]; VOC: 250 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]	A63.6, C1.3, D28.1, D323.3, E448.2, E448.4, E448.5, H23.7, K40.1



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| (1) Denotes RECLAIM emission factor | (2) Denotes RECLAIM emission rate |
| (3) Denotes RECLAIM concentration limit | (4) Denotes BACT emissions limit |
| (5)(5A)(5B) Denotes command & 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 CONDITIONS

Note: This appears in both Sections D and H.

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

The MSDS shall be made available to AQMD upon request.

[RULE 431.2, 9-15-2000]

DEVICE CONDITIONS

A63.6 The operator shall limit emissions from this equipment as follows:

<u>CONTAMINANT</u>	<u>EMISSIONS LIMIT</u>
CO	Less than or equal to 171.4 LBS PER DAY
PM	Less than or equal to 8.4 LBS PER DAY
ROG	Less than or equal to 33.7 LBS PER DAY
SOX	Less than or equal to 1.8 LBS PER DAY

[~~RULE 1303(b)(2) Offset, 12-6-2002~~ **40 CFR 55 OCS, 9-4-1992**]

[Devices subject to this condition: D87, D88, D89, D90, D91, D92, D93]

C1.3 The operator shall limit the operating time to no more than 500 hour(s) in any one year.

The purpose(s) of this condition is to exempt the engine from the VOC limit of 30 ppmvd and the CO limit of 250 ppmvd, both corrected to 15% O₂, effective 7/1/2011, pursuant to Rule 1110.2(d)(1)(B)(ii).

The engine shall emit no more than 250 ppmvd of VOC and 2000 ppmvd of CO, both corrected to 15% O₂.



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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 equipment.

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

[RULE 1110.2, 2-1-2008]

[Devices subject to this condition: D87, D88, D89, D90, D91, D92]

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

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

~~The test shall be conducted when the equipment is running at maximum operating load.~~

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

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

The test shall be conducted in compliance with the source testing requirements of Rule 1110.2(f)(1)(C).

The test shall be conducted in accordance with an AQMD approved protocol.

The test shall be conducted to demonstrate compliance with Rule 1110.2.

[RULE 1110.2, 6-3-2005 2-1-2008; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition: D81, D82, D83, D84, D85, D86, D87, D88, D89, D90, D91, D92, D93]

D323.3 The operator shall conduct an inspection for visible emissions from all stacks and other emission points of this equipment whenever there is a public complaint of visible emissions, whenever visible emissions are observed, and on a quarterly basis, at least, unless the equipment did not operate during the entire quarterly period. The routine quarterly inspection shall be conducted while the equipment is in operation and during daylight hours.



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If any visible emissions (not including condensed water vapor) are detected that last more than three minutes in any one hour, the operator shall verify and certify within 24 hours that the equipment causing the emission and any associated air pollution control equipment are operating normally according to their design and standard procedures and under the same conditions under which compliance was achieved in the past, and either:

- 1). Take corrective action(s) that eliminates the visible emissions within 24 hours and report the visible emissions as a potential deviation in accordance with the reporting requirements in Section K of this permit; or
- 2). 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 business days and report any deviations to AQMD.

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

- 1). Stack or emission point identification;
- 2). Description of any corrective actions taken to abate visible emissions;
- 3). Date and time visible emission was abated; and
- 4). All visible emission observation records by operator or a certified smoke reader.

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

[Devices subject to this condition: D81, D82, D83, D84 D85, D86, D87, D88, D89, D90, D91, D92, D93]

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

Maintain a quarterly engine operating log that includes:

- A. Total hours of operation;
- B. Type of liquid fuel;
- C. Fuel consumption (gallons of liquid); and
- D. Cumulative hours of operation since the last source test required in Rule 1110.2 (f)(1)(C).

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[RULE 1110.2, 2-1-2008]

[Devices subject to this condition: D87, D88, D89, D90, D91, D92]

E448.4 The operator shall comply with the following requirements:

The operator shall comply with the requirements of the Inspection and Monitoring (I&M) plan.

RULE 1110.2, 2-1-2008]

[Devices subject to this condition: D87, D88, D89, D90, D91, D92]

E448.5 The operator shall comply with the following requirements:

The operator shall comply with the reporting requirements of Rule 1110.2(f)(1)(H) pertaining to any equipment breakdown that results in emissions in excess of rule or permit emission limits for VOC or CO.

RULE 1110.2, 2-1-2008]

[Devices subject to this condition: D87, D88, D89, D90, D91, D92]

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

<u>Contaminant</u>	<u>Rule</u>	<u>Rule /Subpart</u>
CO	District Rule	1110.2
VOC	District Rule	1110.2

[RULE 1110.2, 2-1-2008]

[Devices subject to this condition: D87, D88, D89, D90, D91, D92]

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.



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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).

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

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

[RULE 1110.2, ~~6-3-2005~~ **2-1-2008**; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition: D81, D82, D83, D84, D85, D86, D87, D88, D89, D90, D91, D92, D93]

 <p style="text-align: center;">SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</p> <p style="text-align: center;">ENGINEERING AND COMPLIANCE</p> <p style="text-align: center;">APPLICATION PROCESSING AND CALCULATIONS</p>	PAGES 30	PAGE 8
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SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 3: INTERNAL COMBUSTION					
System 8: ICE PEDESTAL CRANE PLATFORM ELLY					
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, L-01B, DIESEL FUEL, DETROIT DIESEL, MODEL 1064-7001, ELLY WEST CRANE, WITH OXIDATION CATALYST, CLEAN EMISSIONS PROD, MODEL 4-400, 195 BHP A/N: 503608 485767	D93		NOX: PROCESS UNIT**	CO: 2000 PPMV DIESEL (5) [RULE 1110.2, 6-3-2005 2-1-2008]; NOX: 469 LBS/1000 GAL DIESEL (3) [RULE 2012, 5-6-2005]; PM (9) [RULE 404, 2-7-1986]; VOC: 250 PPMV DIESEL (5) [RULE 1110.2, 6-3-2005 2-1-2008]	A63.11 A63.6, C1.3, D12.3, D12.4, D12.7, D28.1, D28.3, D29.1, D323.3, E448.2, E448.4, E448.5, H23.7, K40.1
Permit to Construct Issued: 12/10/09					

- | | |
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| (1) Denotes RECLAIM emission factor | (2) Denotes RECLAIM emission rate |
| (3) Denotes RECLAIM concentration limit | (4) Denotes BACT emissions limit |
| (5)(5A)(5B) Denotes command & 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.

DEVICE CONDITIONS

~~A63.11~~ **A63.6** The operator shall limit emissions from this equipment as follows:

CONTAMINANT	EMISSIONS LIMIT
CO	Less than or equal to 171.4 LBS PER DAY
PM	Less than or equal to 8.4 LBS PER DAY
ROG	Less than or equal to 33.7 LBS PER DAY
SOX	Less than or equal to 1.8 LBS PER DAY

[~~RULE 1303(b)(2)-Offset, 12-6-2002~~ 40 CFR 55 OCS, 9-4-1992]

[Devices subject to this condition: D93]

C1.3 The operator shall limit the operating time to no more than 500 hours in any one calendar year.



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The purpose(s) of this condition is to exempt the engine from the VOC limit of 30 ppmvd and the CO limit of 250 ppmvd, both corrected to 15% O₂, effective 7/1/2011 per section (d)(1)(B)(ii) of Rule 1110.2.

The engine shall emit no more than 250 ppmvd of VOC and 2000 ppmvd of CO, both corrected to 15% O₂.

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 equipment.

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

[RULE 1110.2, 2-1-2008]

[Devices subject to this condition: D93]

D12.3 ~~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 2012, 5-6-2005]~~

~~[Devices subject to this condition: D81, D93 See new condition C1.3 for D93, and new condition C1.4 for D81-D86 (see separate evaluation).]~~

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

~~The catalyst inlet temperature shall not exceed 840 degrees F.~~

~~The catalyst minimum inlet temperature shall be 480 degrees F.~~

The temperature of the engine exhaust at the inlet of the catalyst shall be between 480 and 1380 degrees F.

The temperature range requirement of this condition does **shall** not apply during start-up operations of the engine not to exceed 30 minutes per start-up.

[RULE 1303(a)(1)-BACT, 12-6-2002]



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[Devices subject to this condition: D93]

D12.7 The operator shall install and maintain a(n) differential pressure gauge to accurately indicate the differential pressure across the oxidation catalyst.

The pressure drop across the oxidation catalyst shall not exceed 53 inches water column.

The catalyst shall be cleaned or replaced if the pressure drop exceeds the recommended limits.

[RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition: D93]

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

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

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

The test shall be conducted in compliance with the source testing requirements of Rule 1110.2(f)(1)(C).

The test shall be conducted in accordance with an AQMD approved protocol.

The test shall be conducted to demonstrate compliance with Rule 1110.2.

[RULE 1110.2, 2-1-2008; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition: D81, D93]

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

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

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



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~~The test shall be conducted to demonstrate compliance with Rule 1110.2.~~

~~The test shall be conducted to comply with Rule 1110.2(f)(1)(C) adopted on 2/1/2008.~~

~~The test shall be conducted with Rule 1110.2 compliance test, the pressure drop across the catalyst shall be measured and checked against the manufacturer's recommended limits. The catalyst shall be cleaned or replaced if the pressure drop exceeds the recommend limits. Records shall be maintained for a period of five years:~~

~~[RULE 1110.2, 6-3-2005; RULE 1303(b)(2)-Offset, 12-6-2002]~~

~~[Devices subject to this condition: D81, D93]~~

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	Location
VOC emissions	District method 25.1	District-approved averaging time	Outlet

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 tests shall measure the fuel flow rate (gal/hr) **and** the flue gas flow rate.

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 operator may use a previously approved source test protocol for the test, but include a copy of the protocol in the Ssource test report. The test protocol shall include the proposed operating conditions of the engine during the tests, ~~the identity of the testing,~~

~~continuing from the above paragraph~~ 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 per Rule 1110.2(f)(1)(C) as adopted on 2/1/2008.



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For D93, the test shall be conducted for compliance verification of the Rule 1110.2 VOC 250 ppmvd limit for VOC (Rule adopted 6/3/2005).

For D81, the test shall be conducted for compliance verification of the 30 ppmvd limit for VOC in advance of the effective date. The primary purpose is to demonstrate the oxidation catalyst is successful in reducing VOC emissions to the 30 ppmvd limit.

The source test report shall be submitted to the District within 45 days after the test has been conducted.

[RULE 1110.2, 6-3-2005 2-1-2008]

[Devices subject to this condition: D81, D93]

D323.3 The operator shall conduct an inspection for visible emissions from all stacks and other emission points of this equipment whenever there is a public complaint of visible emissions, whenever visible emissions are observed, and on a quarterly basis, at least, unless the equipment did not operate during the entire quarterly period. The routine quarterly 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 that last more than three minutes in any one hour, the operator shall verify and certify within 24 hours that the equipment causing the emission and any associated air pollution control equipment are operating normally according to their design and standard procedures and under the same conditions under which compliance was achieved in the past, and either:

- 1). Take corrective action(s) that eliminates the visible emissions within 24 hours and report the visible emissions as a potential deviation in accordance with the reporting requirements in Section K of this permit; or
- 2). 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 business days and report any deviations to AQMD.

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

- 1). Stack or emission point identification;



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- 2). Description of any corrective actions taken to abate visible emissions;
- 3). Date and time visible emission was abated; and
- 4). All visible emission observation records by operator or a certified smoke reader.

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

[Devices subject to this condition: D81, D93]

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

Maintain a quarterly engine operating log that includes:

- A. Total hours of operation;
- B. Type of liquid fuel;
- C. Fuel consumption (gallons of liquid); and
- D. Cumulative hours of operation since the last source test required in Rule 1110.2 (f)(1)(C).

[RULE 1110.2, 2-1-2008]

[Devices subject to this condition: D93]

E448.4 The operator shall comply with the following requirements:

The operator shall comply with the requirements of the Inspection and Monitoring (I&M) plan.

[RULE 1110.2, 2-1-2008]

[Devices subject to this condition: D93]

E448.5 The operator shall comply with the following requirements:

The operator shall comply with the reporting requirements of Rule 1110.2(f)(1)(H) pertaining to any equipment breakdown that results in emissions in excess of rule or permit emission limits for VOC or CO.



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[RULE 1110.2, 2-1-2008]

[Devices subject to this condition: D93]

H23.7 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

~~Per 40 CFR Part 55, Appendix A, for the purpose of this condition, D93 and D81 is subject to Rule 1110.2 adopted on 6/3/2005.~~

~~Once Rule 1110.2 adopted on 2/1/2008 is added to Appendix A of 40 CFR Part 55, then D93 is subject to all the applicable requirements of this Rule.~~

~~Once Rule 1110.2 adopted on 2/1/2008 is added to Appendix A of 40 CFR Part 55, then D81 is subject to all the applicable requirements of this Rule. Effective 7/1/2010, the VOC limit is 30 ppmv and CO limits is 250 ppmv per section (d)(1)(B)(ii) of Rule 1110.2.~~

[RULE 1110.2, 6-3-2005 2-1-2008]

[Devices subject to this condition: D81, D93]

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.

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).

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

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

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[RULE 1110.2, 6-3-2005 2-1-2008; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition: D81, D93]

Permit Condition Changes Discussion

Condition no A63.6 (Sections D and H)—Operating since the 1980s, this facility was regulated by the EPA until 1994 because it is located in federal waters. On May 9, 1994, EPA delegated the authority to the District to implement and enforce the requirements of the Outer Continental Shelf (OCS) air regulations (40 CFR Part 55), pursuant to Section 328(a)(3) of the Clean Air Act, because the facility is located within 25 miles of the state’s seaward boundary. At that time, EPA required the District to include this condition (and the other A63 conditions) to list the daily potential to emit emissions. These PTEs were provided by Shell Western E & P Inc. (SWEPI), the operator in 1994, and are not related to the District’s NSR rules. Consequently, the rule tag for this condition (and the other A63 conditions) will be corrected from RULE 1303(b)(2)-Offset, 12-6-2002” to “40 CFR 55 OCS, 9-4-1992.”

Condition changes related to Rule 1110.2—See discussion, below, under RULE EVALUATION for Rule 1110.2.

BACKGROUND

Facility

Pacific Energy Resources, Ltd (ID 151178) operates the Beta OCS Platforms Facility, an oil and gas production facility consisting of three offshore platforms--Eureka, Ellen, and Elly—located on the federal OCS”, approximately 9 miles offshore of Huntington Beach. The oil and gas wells and some minor process equipment are located on Platforms Ellen and Eureka. The oil, gas, and water produced from the wells on Ellen and Eureka are transported via pipelines to Platform Elly for additional processing. The resulting crude oil product is shipped to shore via pipeline to the onshore receiving facility (ID 151177), known as the Beta Pump Station, located in Long Beach. The natural gas product is used on Platform Elly as fuel in turbines that generate electricity and drive pumps, and the produced water is re-injected in the oil reservoir via wells used exclusively for that purpose.

The facility is a Cycle 1 RECLAIM and Title V facility. A RECLAIM facility permit was issued to Pacific Energy on 8/21/07 to implement the change of operator from Aera Energy LLC (ID 104012). The Title V facility permit was issued on 3/12/10.

See discussion below on applicability of SCAQMD rules to OCS facilities, including Rule 1110.2 as amended 2/1/08.



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Applications Submitted

On 7/29/08, the facility submitted the following applications to limit the annual operating hours for the crane engines to 500 hours to exempt them from the emissions standards for VOC (30 ppmvd) and CO (250 ppmvd) that would have been effective July 1, 2011, pursuant to Rule 1110.2(d)(1)(B)(ii), as amended February 1, 2008. With the 500 hour limit, the engines will continue to be subject to the existing emission standards for VOC (250 ppmvd) and CO (2000 ppmvd). The submittal of the applications met the August 1, 2008 deadline by which the operator of any stationary engine that is required to add operating restrictions to a permit to operate to meet the requirements of this rule is required to submit an application for a change of permit conditions, per Rule 1110.2(c)(2)(C).

The applications are summarized below:

A/N	Prior Permit (A/N)	Equipment	Device No.	Proposed Condition Changes	Recommended Disposition
485757		RECLAIM Facility Permit Amendment— Convert to Title V/RECLAIM Facility Permit Amendment ¹			Approve after EPA minor Title V revision review and the 2/1/08 version of Rule 1110.2 is incorporated into Appendix A of 40 CFR Part 55.
485759 Permit condition change	F91749 (A/N 466198)	Ellen East Crane Engine	D87	Add condition to limit annual operating time to 500 hours to exempt engine from VOC and CO emissions standards pursuant to Rule 1110.2 (2/1/08 version), which would have been effective 7/1/11.	Same.
485761 Permit condition change	F91751 (A/N 466200)	Eureka West Crane Engine	D88	Same.	Same.
485762 Permit	F91743	Eureka East Crane Engine	D89	Same.	Same.



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condition change	(A/N 466180)				
485764 Permit condition change	F91744 (A/N 466183)	Eureka Center Crane Engine	D90	Same.	Same.
485765 Permit condition change	F91748 (A/N 466194)	Ellen Center Crane Engine	D91	Same.	Same.
485766 Permit condition change	F91767 (A/N 466178)	Elly East Crane Engine	D92	Same.	Same.
485767 Permit condition change	(A/N 503608)	Elly West Crane Engine	D93	Same.	Same.

These applications to add the 500 hour annual limit to the crane engines will be proposed to EPA at the same time as the applications to modify five rig engines to install oxidation catalysts to meet new Rule 1110.2 emission standards (A/N 500154-500158 for D82-D86—see separate evaluation). Therefore, only one Title V/RECLAIM facility permit amendment application, A/N 485757, is required.

Note: The master file is A/N 485759.

The facility also submitted related applications, A/N 500154-500159, to modify five rig engines (D82-86) to add oxidation catalyst to meet the new VOC limit of 30 ppmvd and CO limit of 250 ppmvd. Those applications are being evaluated in a separate engineering evaluation simultaneously with these applications.

Fees

The fees for the change of condition applications were based on two non-identical engines and five identical engines: D91 (non-identical—Model 1063-7008), D88 (non-identical—Model 1067-8503), and D87, D89, D90, D92, D93 (identical—Model 1064-7001). D93 is no longer identical because it was subsequently equipped with an oxidation catalyst (P/C issued for A/N 503608), but it will be treated as identical because the 500 hour limit could have been added later when the P/C is converted to P/O in a few months.

A/N 485757 was submitted as a RECLAIM facility permit amendment application. However, since the initial Title V facility permit was subsequently issued, the application has been converted to a Title V/RECLAIM facility permit amendment application and the fee will be adjusted accordingly.

Applicability of Rule 1110.2, as amended 2/1/08, on OCS facility

As the facility is located on the OCS, it is subject only to the State and local rules and regulations that are specifically listed in Appendix A of 40 CFR Part 55 ("Appendix A"). Appendix A is periodically

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updated via USEPA's consistency review and update process for OCS sources which, in effect, replaces the SIP process for this facility. The SIP process has no relevance to this facility. Only the State and local rules and regulations specifically listed (with specific version dates) in the most recent version of Appendix A are referenced in the permit as the basis for applicable State and local requirements. These rules and regulations are therefore federally enforceable. On the current facility permit, the rules tagged for the emission limits and permit conditions, and the rules listed in Section K are only those rules with version dates that appear in the most recent version of Appendix A, which is dated 7/1/09. **The most recent version of Appendix A includes the 6/3/05 version of Rule 1110.2. Therefore, the 2/1/08 version of Rule 1110.2, with the more stringent emission standards, will not be applicable to the facility until the amendment to update Appendix A is finalized by EPA.**

On 12/21/09, the EPA published in the Federal Register a proposed rule to update Appendix A to incorporate a list of more recently adopted rules, including the 2/1/08 version of Rule 1110.2, into Part 55. Although the 30-day comment period has closed, the EPA has not finalized the rulemaking by publishing the final rule in the Federal Register. The final approval action is effective 30 days after publication in the Federal Register. Although the 2/1/08 version of Rule 1110.2 is not effective on the OCS until EPA's final action approving it into Part 55 is effective, the facility has been informed that, once approval is effective, the requirements will be immediately effective unless otherwise stated in the rule. Accordingly, the following revisions will be made to the facility permit and proposed to EPA for the 45-day minor Title V revision review, but the permit will not be issued until the 2/1/08 version of Rule 1110.2 has been incorporated into Appendix A.

1. A/N 485757, 485759, 485761-485762, 485764-485767—Add permit condition to limit the annual operating hours for the crane engines to 500 hours to exempt engines from the emissions standards for VOC (30 ppmvd) and CO (250 ppmvd), that would have been effective July 1, 2011, pursuant to Rule 1110.2, as amended February 1, 2008.
2. Add condition A63.1 for devices D98, D99, D100 back into Section D. This condition was inadvertently deleted from Section D when it was correctly deleted from Section H in response to facility's comments regarding the P/C issued for A/N 503608 (D93). This condition will now be condition A63.11 because the facility permit program assigns the next available permit condition number to an added permit condition. The rule tag will be corrected from "RULE 1303(b)(2)-Offset, 12-6-2002" to "40 CFR 55 OCS, 9-4-1992", because the EPA required the inclusion of this condition to list the daily potential to emit emissions when they transferred this OCS facility to the District in 1994. These PTEs were provided by Shell Western E & P Inc. (SWEPI), the operator in 1994, and are not related to the District's NSR rules.

~~A63.4~~ **A63.11** The operator shall limit emissions from this equipment as follows:

CONTAMINANT	EMISSIONS LIMIT
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CO	Less than or equal to 110.6 LBS PER DAY
PM	Less than or equal to 61.7 LBS PER DAY
ROG	Less than or equal to 24.1 LBS PER DAY
SOX	Less than or equal to 49.5 LBS PER DAY

[~~RULE 1303(b)(2) Offset, 12-6-2002~~ **40 CFR 55 OCS, 9-4-1992**]

[Devices subject to this condition D98, D99, D100]

3. The new version of Appendix A to 40 CFR Part 55 will include four rules applicable to this facility that have amendment dates that are more recent than those included in the 7/9/09 version of Appendix A. The rules tagged for the emission limits and permit conditions, and the rules in Section K will be updated to reflect the new amendment dates. The applicable rules, changes in version dates listed in Appendix A, and changes to the facility permit to reflect the new version dates are summarized below.
 - a. Rule 1110.2--Emissions from Gaseous- and Liquid Fueled Engines
 Appendix A: Version will be updated from 6/3/05 to 2/1/08.
 Facility permit updates: For Sections D and H, will update rule tag for the (1) emission limits and permit conditions for D81, D82, D83, D84, D85, D86, D87, D88, D89, D90, D91, D92, D93—Non-Emergency ICEs, and (2) condition nos. C1.1 and D12.1—Emergency ICEs. Also update Section K listing.
 - b. Rule 1113—Architectural Coatings
 Appendix A: Version updated from 6/9/06 to 7/13/07.
 Facility permit updates: Will update rule tag for the emissions limits for E176, and Section K listing.
 - c. Rule 1149—Storage Tank Cleaning and Degassing
 Appendix A: Version updated from 7/14/95 to 5/2/08.
 Facility permit updates: Will update rule tag for condition no. H23.4, and Section K listing.
 - d. Rule 1171—Solvent Cleaning Operations
 Appendix A: Version updated from 7/14/06 to 2/1/08.
 Facility permit updates: Will update rule tag for the emissions limits for E176, E180, E181, E182, and Section K listing.

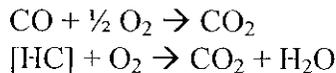
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PROCESS DESCRIPTION

The platforms are equipped with a total of seven stationary platform cranes. The cranes, each powered by a 195 bhp diesel engine, are used to move equipment, supplies, and personnel between the platforms and boats and to move equipment from one location to another on the platform. The crane engines are shut down most of the time. Only when a lift is needed will an operator climb up to the crane, turn on the engine, check the gauges for proper operational conditions and then proceed to lift the load. When the lift is done the engine is promptly shut down again.

The tri-annual source testing required by condition D28.1 demonstrated the crane engines, with the exception of Platform Elly West Crane Engine (D93), are in compliance with the 250 ppm VOC limit and the 2000 ppmvd CO limit. A source test of the Elly West Crane Engine conducted on August 12, 2009 successfully demonstrated compliance with the CO limit (406 ppmv vs. 2000 ppmv), but not the VOC limit (399 ppmv vs. 250 ppmv). The engine failed the VOC retest conducted in October 2009. On 11/1/09, the facility submitted an application, A/N 503608, to modify the engine to add an oxidation catalyst for which a P/C was issued on 12/9/09 (approved in NSR system on 12/10/09).

The oxidation catalyst is a two-way oxidation system because it controls VOC and CO. The oxidation equations are as follows:



To operate properly, the minimum and maximum operating range for the catalyst is from 480°F to 1380°F. The maximum backpressure for the catalyst, considering its use on the Detroit Diesel 1064-7001 engine model, is 53 inches water.

A source test conducted on 2/15/10 on D93 resulted in a VOC level of 83 ppm @ 15% O₂ at normal load. Although the source test report is pending evaluation by the District's Source Test Engineering Team, the engine with oxidation catalyst can reasonably be expected to meet the 250 ppmvd limit. (The engine operated under a short variance, Case No. 4636-15, from 12/9/09 through 3/9/10 during the time required to receive a permit to install the catalyst, test the catalyst and receive the test results.)

EMISSIONS CALCULATIONS

1. A/N 485759, condition change to F91749 (A/N 466198)—D87
 - a. Pre-condition change, F91749
Operating schedule: 52 wk/yr, 7 days/wk, 2 hr/day

Per A/N 293884, the vendor provided daily emissions, based on 24 hr/day, for RHC, NO_x, CO, and PM, which were converted to emission factors in lb/hr. SO_x was based on AER default factor, correct to 0.02% S = 1.56/24 hr = 0.07 lb/hr.



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CO: (0.04 lb/hr) (2 hr/day) = 0.08 lb/day 30DA = 0 lb/day
 NOx: (0.2 lb/hr) (2 hr/day) = 0.4 lb/day 30DA = 0 lb/day
 PM₁₀: (0.01 lb/hr) (2 hr/day) = 0.02 lb/day 30DA = 0 lb/day
 ROG: (0.02 lb/hr) (2 hr/day) = 0.04 lb/day 30DA = 0 lb/day
 SO_x: (0.07 lb/hr) (2 hr/day) = 0.14 lb/day 30DA = 0 lb/day

b. Post-condition change, A/N 485759

Operating schedule: 52 wk/yr, 7 days/wk, 1.4 hr/day, based on 500 hr/yr.

The emission factors have not changed except for SO_x. The sulfur content of diesel fuel has decreased. Pursuant to the Rule 431.2 requirement that the diesel fuel is to contain 15 ppm or less sulfur by weight, the emission factor for SO_x is 0.0049 g/bhp-hr.

CO: (0.04 lb/hr)(1.4 hr/day) = 0.06 lb/day 30DA = 0 lb/day
 NOx: (0.2 lb/hr) (1.4 hr/day) = 0.28 lb/day 30DA = 0 lb/day
 PM₁₀: (0.01 lb/hr) (1.4 hr/day) = 0.01 lb/day 30DA = 0 lb/day
 ROG: (0.02 lb/hr) (1.4 hr/day) = 0.03 lb/day 30DA = 0 lb/day
 SO_x: (0.0049 g/bhp-hr) (195 bhp) (lb/453.5 g) (1.4 hr/day) =
 (0.002 lb/hr)(1.4 hr/day) = 0.003 lb/day 30DA = 0 lb/day

c. Change in Emissions

CO: 0 lb/day – 0 lb/day = 0 lb/day
 NOx: 0 lb/day – 0 lb/day = 0 lb/day
 PM₁₀: 0 lb/day – 0 lb/day = 0 lb/day
 ROG: 0 lb/day – 0 lb/day = 0 lb/day
 SO_x: 0 lb/day – 0 lb/day = 0 lb/day

2. A/N 485761, condition change to F91751 (A/N 466200)—D88

a. Pre-condition change, F91751 (A/N 466200)

Operating schedule: 52 wk/yr, 7 days/wk, 1 hr/day

Per A/N 293885, the original application, vendor provided daily emissions, based on 24 hr/day, for RHC, NO_x, CO, and PM. SO_x based on AER default factor, correct to 0.02% S.

CO: (0.06 lb/hr)(1 hr/day) = 0.06 lb/day 30DA = 0 lb/day
 NOx: (0.29 lb/hr)(1 hr/day) = 0.29 lb/day 30DA = 1 lb/day



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Note: The 30DA of 1 lb/day is a carry-over from the original operating schedule of 3 hr/day per A/N 293885. On 5/21/10, Sr. Engineer Rob Castro performed an emissions update to correct the 30DA for NOx to 0 lb/day.

PM₁₀: (0.02 lb/hr)(1 hr/day) = 0.02 lb/day 30DA = 0 lb/day

ROG: (0.02 lb/hr)(1 hr/day) = 0.02 lb/day 30DA = 0 lb/day

SOx: (0.07 lb/hr)(1 hr/day) = 0.07 lb/day 30DA = 0 lb/day

b. Post-condition change, A/N 485761

Operating schedule: 52 wk/yr, 7 days/wk, 1.4 hr/day, based on 500 hr/yr

CO: (0.06 lb/hr)(1.4 hr/day) = 0.08 lb/day 30DA = 0 lb/day

NOx: (0.29 lb/hr)(1.4 hr/day) = 0.406 lb/day 30DA = 0 lb/day

PM₁₀: (0.02 lb/hr)(1.4 hr/day) = 0.02 lb/day 30DA = 0 lb/day

ROG: (0.02 lb/hr)(1.4 hr/day) = 0.02 lb/day 30DA = 0 lb/day

SOx: (0.0049 g/bhp-hr)(195 bhp)(lb/453.5 g/lb)(1.4 hr/day) =
(0.002 lb/hr) (1.4 hr/day) = 0.003 lb/day 30DA = 0 lb/day

c. Change in Emissions

CO: 0 lb/day – 0 lb/day = 0 lb/day

NOx: 0 lb/day – 0 lb/day = 0 lb/day

PM₁₀: 0 lb/day – 0 lb/day = 0 lb/day

ROG: 0 lb/day – 0 lb/day = 0 lb/day

SO_x: 0 lb/day – 0 lb/day = 0 lb/day

3. A/N 485762, condition change to F91743 (A/N 466180)—D89

a. Pre-condition change, F91743

Operating schedule: 52 wk/yr, 7 days/wk, 2 hr/day

Same as F91749 for A/N 485759, above.

b. Post-condition change, A/N 485762

Operating schedule: 52 wk/yr, 7 days/wk, 1.4 hr/day, based on 500 hr/yr

Same as A/N 485759, above.

c. Change in Emissions

Same as A/N 485759, above.

4. A/N 485764, condition change to F91744 (A/N 466183)—D90



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- a. Pre-condition change, F91744
Operating schedule: 52 wk/yr, 7 days/wk, 2 hr/day

Same as F91749 for A/N 485759, above.

- b. Post-condition change, A/N 485764
Operating schedule: 52 wk/yr, 7 days/wk, 1.4 hr/day, based on 500 hr/yr

Same as A/N 485759, above.

- c. Change in Emissions
Same as A/N 485759, above.

5. A/N 485765, condition change to F91748 (A/N 466194)—D91

- a. Pre-condition change, F91748
Operating schedule: 52 wk/yr, 7 days/wk, 2 hrs/day

Same as F91749 for A/N 485759, above.

- b. Post-condition change, A/N 485765
Operating schedule: 52 wk/yr, 7 days/wk, 1.4 hr/day, based on 500 hr/yr

Same as A/N 485759, above.

- c. Change in Emissions
Same as A/N 485759, above.

6. A/N 485766, condition change to F91767 (A/N 466178)—D92

- a. Pre-condition change, F91767
Operating schedule: 52 wk/yr, 7 days/wk, 2 hrs/day

Same as F91749 for A/N 485759, above.

- b. Post-condition change, A/N 485766
Operating schedule: 52 wk/yr, 7 days/wk, 1.4 hr/day, based on 500 hr/yr

Same as A/N 485759, above.

7. A/N 485767, condition change to P/C for A/N 503608—D93

- a. Pre-condition change, 503608



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Operating schedule: 52 wk/yr, 7 days/wk, 24 hrs/day

CO: 0.04 lb/hr = 0.96 lb/day 30DA = 0 lb/day
 NOx: 0.19 lb/hr = 4.56 lb/day 30DA = 0 lb/day
 PM₁₀: 0.01 lb/hr = 0.34 lb/day 30DA = 0 lb/day
 ROG: 0.016 lb/hr = 0.38 lb/day 30DA = 0 lb/day

Note: Based on A/N 466179, the application prior to A/N 503608, the operating schedule should be 52 wk/yr, 7 days/wk, 2 hrs/day. The P/C for A/N 503608 was based on 24 hr/day because there was no condition limiting the operating hours. On 5/21/10, Sr. Engineer Rob Castro updated the NSR system to correct the operating schedule for A/N 503608 to 2 hr/day.

- b. Post-condition change, A/N 485767
 Operating schedule: 52 wk/yr, 7 days/wk, 1.4 hr/day, based on 500 hr/yr
 Same as A/N 485759, above.
- c. Change in Emissions
 Same as A/N 485759, above.

RULE EVALUATION

The addition of the 500 hour annual operating limit to the crane engines is expected to comply with all applicable SCAQMD rules and regulations as follows:

Rule 212—Standards for Approving Permits

Public notice is not required because there will not be an increase in emissions.

Rule 401--Visible Emissions

Visible emissions are not expected from well-maintained and properly operated equipment.

Rule 402--Nuisance

Nuisance problems are not expected from well-maintained and properly operated equipment.

Rule 431.2--Sulfur Content of Gaseous Fuels

The operation of the engines is expected to continue to comply with the requirement that diesel fuel supplied to equipment is to contain 15 ppm or less sulfur by weight. See facility condition F14.2.

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Rule 1110.2—Emissions from Gaseous- and Liquid-Fueled Engines, as amended 2/1/08

This rule is applicable to all stationary and portable engines over 50 rated brake horsepower (bhp). The purpose is to reduce NOx, VOC, and CO emissions from engines.

As explained above, the facility will not be subject to the requirements of the 2/1/08 version until its adoption into Appendix A of 40 CFR Part 55 becomes effective. As this Title V permit revision will not be issued until the 2/1/08 version is effective on this facility, the following analysis is based on the 2/1/08 version.

Subpart (d)(1)(B)(ii) provides that the operator of any other stationary engine subject to this rule shall not operate the engine in a manner that exceeds the emission concentration limits listed in Table II. Pursuant to Table II, effective July 1, 2011, the VOC limit is 30 ppmvd and the CO limit is 250 ppmvd.

Table II also includes a NOx limit of 11 ppmvd, effective July 1, 2011. Table 1 of Rule 2001, however, specifies that Rule 1110.2 is not applicable to RECLAIM facilities for requirements pertaining to NOx emissions. *Rule 1110.2(d)(1)(F)(iv)* states that notwithstanding Rule 2001, the requirements of this subparagraph shall apply to NOx emissions from new non-emergency engines driving electrical-generators subject to Regulation XX (RECLAIM), but these crane engines are not new engines.

This subpart also provides an exemption for engines that operate less than 500 hours per year or use less than 1×10^9 British Thermal Units (Btus) per year (higher heating value) of fuel. With the addition of the 500 hour annual operating limit, the crane engines will be subject to the existing emission standards for VOC (250 ppmvd) and CO (2000 ppmvd). As discussed above, all crane engines currently meet these limits. New condition C1.3 has been added to sections D and H to limit the annual operating hours to 500 hours, require a non-resettable elapsed time meter, and clarify the applicable emissions standards.

Existing condition H23.7 in Section H specifies this equipment is subject to the applicable requirements of Rule 1110.2 (2-1-08) for CO and VOC. The child conditions regarding 40 CFR Part 55, Appendix A, and the applicability of the 6/3/05 version versus the 2/1/08 version have been removed. Condition H23.7, as revised above, has been added to Section D.

Subpart (e)(2)(C) requires applications for a change of permit condition to add operating restrictions to a permit to operate to meet the requirements of this rule to be submitted by August 1, 2008. These applications were submitted on July 29, 2008.

Subpart (e)(4) sets for the following schedule for the I&M plan submittal.



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(A)—By August 1, 2008, submit an initial I&M plan application to the Executive Officer for approval. On July 29, 2008, the facility submitted A/N 485715 for the I&M compliance plan for the seven crane engines and six rig engines. On 1/27/10, the facility submitted a new I&M plan, A/N 505783, to include the new oxidation catalysts.

(B)—By December 1, 2008, implement an approved I&M plan or the I&M plan as submitted if the plan is not yet approved. The facility is not yet subject to the 2/1/08 version of Rule 1110.2.

Subpart (f)(1)(A)(ii)(III) provides a list of categories of engines that are not required to have a CEMS by this clause. The categories include engines rated at less than 500 bhp and engines that are limited by permit conditions to operate less than 1000 hours per year. As the crane engines are rated at 195 bhp and limited by permit condition to operate less than 500 hours per year, they are not required to be equipped with a CEMS.

Subpart (f)(1)(B) requires an operational non-resettable totalizing time meter to determine the engine elapsed operating time. Condition C1.3 (Sections D and H) requires such a time meter. The crane engines are each equipped with a time meter.

Subpart (f)(1)(C)(i) requires, effective August 1, 2008, source testing for VOC reported as carbon, and CO concentrations (concentrations in ppm by volume, corrected to 15 percent oxygen on dry basis) at least once every two years, or every 8,760 operating hours, whichever occurs first. The source test frequency may be reduced to once every three years if the engine has operated less than 2,000 hours since the last source test.

Existing condition D28.1 (Section D) has been revised to remove the requirement to test every three years (from the 6/3/05 version of Rule 1110.2), and to add the requirement to meet the source testing requirements of Rule 1110.2(f)(1)(C).

Existing condition D28.3 (Section H) has been replaced with condition D28.1 (Section D), as revised above. The child condition in condition D28.3 requiring the measurement of the pressure drop across the catalyst during a source test has been removed. New condition D12.7 (Section H) has been added to require a differential pressure gauge and to specify the maximum allowable pressure drop (53 inches water).

Subpart (f)(1)(C)(ii) requires source testing for at least 30 minutes during normal operation (actual duty cycle). This test shall not be conducted under a steady-state condition unless it is the normal operation. In addition, source testing for CO emissions is required for at least 15 minutes at an engine's actual peak load, or the maximum load that can be practically achieved during the test, and; at actual minimum load, excluding idle, or the minimum load that can be practically achieved during the test.



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Existing condition D28.1 (Section D) has been revised to remove the requirement to test at maximum load (6/3/05 version of Rule 1110.2 did not specify load requirements), and to add the requirement to meet the source testing requirements of Rule 1110.2(f)(1)(C).

Existing condition D28.3 (Section H) has been replaced with condition D28.1, as revised above.

Subpart (f)(1)(C)(iii) requires the use of a contractor to conduct the source testing that is approved by the Executive officer under the Laboratory Approval Program for the necessary test methods. Accordingly, existing condition D28.1 (Section D) has been revised to add the requirement to meet the source testing requirements of Rule 1110.2(f)(1)(C). Existing condition D28.3 (Section H) has been replaced with condition D28.1, as revised above.

Subpart (f)(1)(C)(iv) requires a source test protocol to be submitted to the Executive Officer for written approval at least 60 days before the scheduled date of the test. The source test protocol shall include the name, address and phone number of the engine operator and a District-approved source testing contractor that will conduct the test, the application and permit number(s), emission limits, a description of the engine(s) to be tested, the test methods and procedures to be used, the number of tests to be conducted and under what loads, the required minimum testing time for the VOC test, based on the analytical detection limit and expected VOC levels, and a description of the parameters to be measured in accordance with the I&M plan required by subparagraph (f)(1)(D). The source test protocol shall be approved by the Executive Officer prior to any testing. The operator is not required to submit a protocol for approval if: there is a previously approved protocol that meets these requirements; the engine has not been altered in a manner that requires a permit alteration; and emission limits have not changed since the previous test. If the operator submits the protocol by the required date, and the Executive Officer takes longer than 60 days to approve the protocol, the operator shall be allowed additional time needed to conduct the test.

Existing condition D28.1 (Section D) has been revised to add the requirement that the test shall be conducted in accordance with AQMD approved protocol. A new protocol will be required to meet the new requirements of the 2/1/08 version of Rule 1110.2.

Existing condition D28.3 (Section H) has been replaced with condition D28.1, as revised above.

Subpart (f)(1)(C)(v) requires the operator to provide the Executive Officer at least 30 days prior notice to any source test to afford the Executive Officer the opportunity to have an observer present. Existing condition D28.1 (Section D) has been revised to add the requirement to meet the source testing requirements of Rule 1110.2(f)(1)(C). Existing condition D28.3 (Section H) has been replaced with condition D28.1, as revised above.

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Subpart (f)(1)(C)(vi) requires the operator to submit all source test reports, including a description of the equipment tested, to the Executive Officer within 60 days of completion of the test. Existing condition K40.1 (Sections D and H) incorporates this requirement.

Subpart (f)(1)(C)(vii) requires, by February 1, 2009, sampling ports; safe sampling platforms, scaffolding or mechanical lifts; and utilities for sampling and testing equipment. As source testing has been conducted every three years on these engines, all the aforementioned presumably are available.

Subpart (f)(1)(D) requires an operator to submit an I&M plan to the Executive Officer for written approval and implement the plan. One plan application is required for each facility. This provision enumerates the required elements. New condition E448.4 has been added to Section D and H to require compliance with the I&M plan.

Subpart (f)(1)(E) requires a monthly operating log that includes total hours of operation, type of liquid fuel, fuel consumption, cumulative hours of operation since the last source test required in subparagraph (f)(1)(C). Further, facilities subject to Regulation XX may maintain a quarterly log for engines that are designated as a process unit on the facility permit. New condition E448.2 has been added to Sections H and D to require a quarterly log, as the crane engines are RECLAIM process units.

Subpart (f)(1)(H) sets forth reporting requirements for breakdowns. As this is a RECLAIM facility, new condition E448.5 requires compliance with the breakdown requirements for VOC and CO only.

Subpart (g) specifies the test method for CO is District Method 100.1, and VOC is District Method 25.1 or 25.3. The protocol will be required to incorporate these requirements.

Subpart (h)(10) provides that the provisions of subdivision (d), which includes the emission limits for VOC and CO, during an engine start-up, until sufficient operating temperatures are reached for proper operation of the emission control equipment. The start-up period shall not exceed 30 minutes, unless the Executive Officer approves a longer period for an engine and makes it a condition of the engine permit. Existing condition D12.4 (Section H) states the temperature range requirements of the condition shall not apply during start-up operations not to exceed 30 minutes per start-up.

Regulation XIII—New Source Review

This facility is subject to NSR because Rule 1302(p) defines “facility” to include “an outer continental shelf (OCS) source as determined in 40 CFR Section 55.2.”



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- Rule 1303(a)—BACT
- Rule 1303(b)(1)—Modeling
- Rule 1303(b)(2)—Offsets

The BACT, modeling, and offsets requirements are not triggered because there will not be an increase in emissions.

Rule 1401--New Source Review of Carcinogenic Air Contaminants

Subpart (g)(1)(B) exempts a modification of a permit unit that causes a reduction or no increase in the cancer burden, MICR or acute or chronic HI at any receptor location.

Rule 1470—Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines

Subpart (g)(10) provides that the requirements specified in paragraphs (c)(2) through (c)(9) do not apply to diesel-fueled engines used solely on outer continental shelf (OCS) platforms located within 25 miles of California's seaward boundary.

Regulation XX—RECLAIM

- Rule 2005—New Source Review for RECLAIM

- (b)(1)(A)—BACT
- (b)(1)(B)—Modeling
- (b)(2)—Offsets

The BACT, modeling, and offsets requirements are not triggered because there will not be an increase in emissions.

- (h)—Public Notice

This requires compliance with Rule 212, see discussion above.

- (i)—Rule 1401 Compliance

This requires compliance with Rule 1401, see discussion above.

Regulation XXX—Title V Permits

- Rule 3003—Applications

As noted above, this facility is a RECLAIM facility. The proposed project is considered as a "minor permit revision" for RECLAIM pollutant, non-RECLAIM pollutants, and hazardous air pollutants (HAPs) to the RECLAIM/Title V permit for this facility. Rule 3000(b)(12) specifies that a "minor permit revision" includes, but is not limited to any Title V permit revision that:



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- Rule 3000(b)(12)(A)(v)—does not result in an emission increase of any RECLAIM pollutant over the facility's starting allocation plus the non-tradeable Allocation, or higher Allocation amount which has previously undergone a significant permit revision process.
- Rule 3000(b)(12)(A)(vi)—does not result in an increase in emissions of a pollutant subject to Regulation XIII = New Source Review (non-RECLAIM pollutants) or a hazardous air pollutant (HAP).

The proposed project is not expected to result in an emission increase of any RECLAIM pollutant or an increase in emissions of a pollutant subject to Regulation XIII - New Source Review (non-RECLAIM pollutants) or a hazardous air pollutant (HAP), and therefore is considered as a "minor permit revision" pursuant to Rule 3000(b)(12)(A)(v) and rule 3000(b)(12)(A)(vi).

This proposed project is included in the first permit revision (Rev. 10) to the initial Title V permit (Rev. 9) issued to this facility on 3/12/10. This minor permit revision will include (1) this project to add the 500 hr annual operating limit to the six crane engines—minor permit revision, (2) the project to modify the five rig engines (D82-D87) to each add an oxidation catalyst—minor permit revision (see separate engineering evaluation for A/N 500154-500159), and (3) Rev. 8 to the RECLAIM permit—minor permit revision. Rev. 8 was issued as a RECLAIM permit revision for the modification of Ellen Rig Engine No. 1 (D81) to add an oxidation catalyst (A/N 500153) in the interim period between the submittal of the proposed initial Title V facility permit to the EPA for review and the issuance of the initial Title V facility permit.

RECOMMENDATION

The proposed project is expected to comply with all applicable District Rules and Regulations. Since the proposed project is considered as a "minor permit revision," it is exempt from the public participation requirements under Rule 3006(b). A proposed permit incorporating this permit revision will be submitted to EPA for a 45-day review pursuant to Rule 3003(j). If EPA does not have any objections within the review period, a revised title V permit will be issued to this facility.



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PACIFIC ENERGY RESOURCES, LTD.
111 W. OCEAN BLVD.
LONG BEACH, CA 90802-4622

FACILITY ID: 151178

EQUIPMENT LOCATION: OCS Lease Parcels
Huntington Beach, CA 92648

PERMITS TO CONSTRUCT FOR MODIFICATION

EQUIPMENT DESCRIPTION

Note: The changes to the facility permit are indicated in bold font for additions and in strike-out for deletions.

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 3: INTERNAL COMBUSTION					
System 4: ICE RIG GENERATOR PLATFORM ELLEN					
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, EJ-01A, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP WITH A/N: (was A/N 466206) GENERATOR, RIG, 600 KW <i>Note: See Section H, A/N 500153, P/C issued 01/26/10.</i>	D81		NOX: LARGE SOURCE**	CO: 2000 250 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]; NOX: 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 250 30 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]	A63.9, D28.1, D323.3, K40.1
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, EJ-01B, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP WITH A/N: 466207 (500154, see Section H) GENERATOR, RIG, 600 KW	D82		NOX: LARGE SOURCE**	CO: 2000 250 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]; NOX: 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 250 30 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]	A63.9, D28.1, D323.3, K40.1
INTERNAL COMBUSTION ENGINE, NON-	D83		NOX:	CO: 2000 250 PPMV (5)	A63.9, D28.1,



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Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
EMERGENCY, EJ-01C, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP WITH A/N: 466209 (500155, see Section II) GENERATOR, RIG, 600 KW			LARGE SOURCE**	[RULE 1110.2, 6-3-2005 2-1-2008]; NOX: 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 250 30 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]	D323.3, K40.1
System 5: ICE RIG GENERATOR PLATFOMEUREKA					
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, EN-010-E2, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP WITH A/N: 466240 (500156, see Section II) GENERATOR, RIG, 600 KW	D84		NOX: LARGE SOURCE**	CO: 2000 250 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]; NOX: 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 250 30 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]	A63.9, D28.1, D323.3, K40.1
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, EN-020-E2, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP WITH A/N: 466241 (500157, Section II) GENERATOR, RIG, 600 KW	D85		NOX: LARGE SOURCE**	CO: 2000 250 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]; NOX: 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 250 30 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008].	A63.9, D28.1, D323.3, K40.1
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, EN-030-E2, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP WITH A/N: 466243 (500158, see Section II) GENERATOR, RIG, 600 KW	D86		NOX: LARGE SOURCE**	CO: 2000 250 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]; NOX: 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 250 30 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]	A63.9, D28.1, D323.3, K40.1

(1) Denotes RECLAIM emission factor

(3) Denotes RECLAIM concentration limit

(5)(5A)(5B) Denotes command & control emission limit

(2)

(4)

(6)

Denotes RECLAIM emission rate

Denotes BACT emissions limit

Denotes air toxic control rule limit



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(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 CONDITIONS

Note: This appears in both Sections D and H.

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

The MSDS shall be made available to AQMD upon request.

[RULE 431.2, 9-15-2000]

DEVICE CONDITIONS

A63.9 The operator shall limit emissions from this equipment as follows:

<u>CONTAMINANT</u>	<u>EMISSIONS LIMIT</u>
CO	Less than or equal to 794.6 LBS PER DAY
PM	Less than or equal to 38.8 LBS PER DAY
ROG	Less than or equal to 156.4 LBS PER DAY
SOX	Less than or equal to 8.2 LBS PER DAY

[~~RULE 1303(b)(2)-Offset, 12-6-2002~~ 40 CFR 55 OCS, 9-4-1992]

[Devices subject to this condition: D81, D82, D83, D84, D85, D86]

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

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

~~The test shall be conducted when the equipment is running at maximum operating load.~~

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

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

The test shall be conducted in compliance with the source testing requirements of Rule 1110.2(f)(1)(C).

The test shall be conducted in accordance with an AQMD approved protocol.

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The test shall be conducted to determine compliance with Rule 1110.2.
 [RULE 1110.2, ~~6-3-2005~~ **2-1-2008**; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition: D81, D82, D83, D84, D85, D86, D87, D88, D89, D90, D91, D92, D93]

Note: This condition was revised for the crane engines (D87-D92), which is being evaluated simultaneously in a separate engineering evaluation.

D323.3 The operator shall conduct an inspection for visible emissions from all stacks and other emission points of this equipment whenever there is a public complaint of visible emissions, whenever visible emissions are observed, and on a quarterly basis, at least, unless the equipment did not operate during the entire quarterly period. The routine quarterly 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 that last more than three minutes in any one hour, the operator shall verify and certify within 24 hours that the equipment causing the emission and any associated air pollution control equipment are operating normally according to their design and standard procedures and under the same conditions under which compliance was achieved in the past, and either:

- 1). Take corrective action(s) that eliminates the visible emissions within 24 hours and report the visible emissions as a potential deviation in accordance with the reporting requirements in Section K of this permit; or
- 2). 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 business days and report any deviations to AQMD.

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

- 1). Stack or emission point identification;
- 2). Description of any corrective actions taken to abate visible emissions;
- 3). Date and time visible emission was abated; and
- 4). All visible emission observation records by operator or a certified smoke reader.

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



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[Devices subject to this condition: D81, D82, D83, D84, D85, D86, D87, D88, D89, D90, D91, D92, D93]

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.

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).

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

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

[RULE 1110.2, 6-3-2005 2-1-2008; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition: D81, D82, D83, D84, D85, D86, D87, D88, D89, D90, D91, D92, D93]

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 3: INTERNAL COMBUSTION					
System 4: ICE RIG GENERATOR PLATFORM ELLEN					
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, EJ-01A, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH OXIDATION CATALYST, JOHNSON MATTHEY, MODEL BX-70-D-8, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP A/N: 500153 GENERATOR, RIG, 600 KW	D81		NOX: LARGE SOURCE**	CO: 2000 250 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]; NOX 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM (9) [RULE 404, 2-7-1986]; VOC: 250 30 PPMV (5) [RULE 1110.2, 6-3-2005 2-1-2008]	A63.9, C1.4, D12.3, D12.6, D12.8, D28.1, D28.3, D29.1, D323.3, E448.3, E448.4, E448.5, H23.7, K30.1, K40.1
Permit to Construct Issued: 01/26/10					
INTERNAL COMBUSTION ENGINE,	D82		NOX:	CO: 250 PPMV (5)	A63.9,



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Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
NON-EMERGENCY, EJ-01B, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH OXIDATION CATALYST, JOHNSON MATTHEY, MODEL BX-70-D-8, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP A/N: 500154 GENERATOR, RIG, 600 KW			LARGE SOURCE**	[RULE 1110.2, 2-1-2008]; NOX 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM (9) [RULE 404, 2-7-1986]; VOC: 30 PPMV (5) [RULE 1110.2, 2-1-2008]	C1.4, D12.6, D12.8, D28.1, D29.2, D323.3, E448.3, E448.4, E448.5, H23.7, K40.1
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, EJ-01C, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH OXIDATION CATALYST, JOHNSON MATTHEY, MODEL BX-70-D-8, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP A/N: 500155 GENERATOR, RIG, 600 KW	D83		NOX: LARGE SOURCE**	CO: 250 PPMV (5) [RULE 1110.2, 2-1-2008]; NOX 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM (9) [RULE 404, 2-7-1986]; VOC: 30 PPMV (5) [RULE 1110.2, 2-1-2008]	A63.9, C1.4, D12.6, D12.8, D28.1, D29.2, D323.3, E448.3, E448.4, E448.5, H23.7, K40.1
System 5: ICE RIG GENERATOR PLATFORM EUREKA					
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, EN-010-E2, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH OXIDATION CATALYST, JOHNSON MATTHEY, MODEL BX-70-D-8, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP A/N: 500156 GENERATOR, RIG, 600 KW	D84		NOX: LARGE SOURCE**	CO: 250 PPMV (5) [RULE 1110.2, 2-1-2008]; NOX 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM (9) [RULE 404, 2-7-1986]; VOC: 30 PPMV (5) [RULE 1110.2, 2-1-2008]	A63.9, C1.4, D12.6, D12.8, D28.1, D29.2, D323.3, E448.3, E448.4, E448.5, H23.7, K40.1
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, EN-020-E2, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH OXIDATION CATALYST, JOHNSON MATTHEY, MODEL BX-70-D-8, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP A/N: 500157 GENERATOR, RIG, 600 KW	D85		NOX: LARGE SOURCE**	CO: 250 PPMV (5) [RULE 1110.2, 2-1-2008]; NOX 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM (9) [RULE 404, 2-7-1986]; VOC: 30 PPMV (5) [RULE 1110.2, 2-1-2008]	A63.9, C1.4, D12.6, D12.8, D28.1, D29.2, D323.3, E448.3, E448.4, E448.5, H23.7, K40.1



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Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, EN-030-E2, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH OXIDATION CATALYST, JOHNSON MATTHEY, MODEL BX-70-D-8, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP A/N: 500158 GENERATOR, RIG, 600 KW	D86		NOX: LARGE SOURCE**	CO: 250 PPMV (5) [RULE 1110.2, 2-1-2008]; NOX 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM (9) [RULE 404, 2-7-1986]; VOC: 30 PPMV (5) [RULE 1110.2, 2-1-2008]	A63.9, C1.4, D12.6, D12.8, D28.1, D29.2, D323.3, H23.7, K40.1

- | | |
|--|--|
| (1) Denotes RECLAIM emission factor | (2) Denotes RECLAIM emission rate |
| (3) Denotes RECLAIM concentration limit | (4) Denotes BACT emissions limit |
| (5)(5A)(5B) Denotes command & 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.

DEVICE CONDITIONS

A63.9 The operator shall limit emissions from this equipment as follows:

CONTAMINANT	EMISSIONS LIMIT
CO	Less than or equal to 794.6 LBS PER DAY
PM	Less than or equal to 38.8 LBS PER DAY
ROG	Less than or equal to 156.4 LBS PER DAY
SOX	Less than or equal to 8.2 LBS PER DAY

[RULE 1303(b)(2) Offset, 12-6-2002 40 CFR 55 OCS, 9-4-1992]

[Devices subject to this condition: D81, D82, D83, D84, D85, D86]

C1.4 The operator shall limit the operating time to no more than 360 hour(s) in any one month.

The purpose(s) of this condition is to limit the maximum emissions from the equipment.

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 equipment.



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

[~~RULE 1110.2, 2-1-2008; RULE 1303(b)(2)-Offset, 12-6-2002~~]

[~~Devices subject to this condition: D81, D82, D83, D84, D85, D86~~]

~~D12.3 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 2012, 5-6-2005~~]

[~~Devices subject to this condition: D81, D93~~] *See new condition C1.3 for D93, and new condition C1.4 for D81-D86 (see separate evaluation).*

D12.6 The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature in of the exhaust at the inlet to the oxidation catalyst.

~~The catalyst inlet temperature shall not exceed 1250 degrees F.~~

~~The catalyst minimum inlet temperature shall be 465 degrees F.~~

The temperature of the engine exhaust at the inlet of the catalyst shall be between 465 and 1250 degrees F.

The temperature range requirement of this condition ~~does~~ **shall** not apply during start-up operations of the engine not to exceed 30 minutes per start-up.

[~~RULE 1110.2, 6-3-2005~~ **RULE 1303(a)(1)-BACT, 12-6-2002**]

[~~Devices subject to this condition: D81, D82, D83, D84, D85, D86~~]

D12.8 The operator shall install and maintain a(n) differential pressure gauge to accurately indicate the differential pressure across the oxidation catalyst.

The pressure drop across the oxidation catalyst shall not exceed 27 inches water column.

The catalyst shall be cleaned or replaced if the pressure drop exceeds the recommended limits.

[**RULE 1303(a)(1)-BACT, 12-6-2002**]

[**Devices subject to this condition: D81, D82, D83, D84, D85, D86**]

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

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

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

The test shall be conducted in compliance with the source testing requirements of Rule 1110.2(f)(1)(C).

The test shall be conducted in accordance with an AQMD approved protocol.

The test shall be conducted to determine compliance with Rule 1110.2.

[RULE 1110.2, 2-1-2008; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition: D81, D82, D83, D84, D85, D86, D93]

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

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

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

~~The test shall be conducted to demonstrate compliance with Rule 1110.2.~~

~~The test shall be conducted to comply with Rule 1110.2(f)(1)(C) adopted on 2/1/2008.~~

~~The test shall be conducted with Rule 1110.2 compliance test, the pressure drop across the catalyst shall be measured and checked against the manufacturer's recommended limits. The catalyst shall be cleaned or replaced if the pressure drop exceeds the recommend limits. Records shall be maintained for a period of five years.~~

~~[RULE 1110.2, 6-3-2005; RULE 1303(b)(2)-Offset, 12-6-2002]~~

~~[Devices subject to this condition: D81, D93]~~

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	Location



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VOC emissions | District method 25.1 | District-approved | Outlet
| averaging time |

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 tests shall measure the fuel flow rate (gal/hr) **and** the flue gas flow rate.

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 operator may use a previously approved source test protocol for the test, but include a copy of the protocol in the source test report. The test protocol shall include the proposed operating conditions of the engine during the tests, ~~the identity of the testing,~~

~~continuing from the above paragraph,~~ 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 per Rule 1110.2(f)(1)(C) as adopted on 2/1/2008.

The test shall be conducted for compliance verification of the Rule 1110.2 VOC 250 ppmv limit (Rule adopted 6/3/2005).

~~For D93, the test shall be conducted for compliance verification of the Rule 1110.2 VOC 250 ppmvd limit for VOC (Rule adopted 6/3/2005).~~

For D81, the test shall be conducted for compliance verification of the 30 ppmvd limit for VOC in advance of the effective date. The purpose is to determine whether the oxidation catalyst is successful in reducing VOC emissions to the 30 ppmvd limit.

The source test report shall be submitted to the District within 45 days after the test has been conducted.

[RULE 1110.2, 6-3-2005 2-1-2008]

[Devices subject to this condition: D81, D93]

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



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Pollutant(s) to be tested	Required Test Method(s)	Averaging Time	Location
VOC emissions	District method 25.3	District-approved averaging time	Outlet
CO emissions	District method 100.1	District-approved averaging time	Outlet

The test shall be conducted after AQMD approval of the source test protocol, but no later than 180 days after the permit to construct is issued. The AQMD shall be notified of the date and time of the test at least 30 days prior to the test.

The test shall be conducted in accordance with an AQMD approved test protocol. The protocol shall be submitted to the AQMD engineer no later than 60 days before the proposed test date and shall be approved by the AQMD before the test commences. The test protocol shall include the name, address and phone number of the engine operator and a District-approved source testing contractor that will conduct the test, the application and permit number(s), emission limits, a description of the engine(s) to be

tested, the test methods and procedures to be used, the number of tests to be conducted and under what loads, the required minimum sampling time for the VOC test based on the analytical detection limit and expected VOC levels, and a description of the parameters to be measured in accordance with the I&M plan required by Rule 1110.2(f)(1)(D).

The test shall be conducted in accordance with the source testing requirements of Rule 1110.2(f)(1)(C).

The test shall be conducted for compliance verification of the 30 ppmvd VOC limit.

The test shall be conducted for compliance verification of the 250 ppmvd CO limit.

The source test report shall be submitted to the District within 60 days after the test has been conducted.

[RULE 1110.2, 2-1-2008]

[Devices subject to this condition: D82, D83, D84, D85, D86]

D323.3 The operator shall conduct an inspection for visible emissions from all stacks and other emission points of this equipment whenever there is a public complaint of visible emissions,



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whenever visible emissions are observed, and on a quarterly basis, at least, unless the equipment did not operate during the entire quarterly period. The routine quarterly 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 that last more than three minutes in any one hour, the operator shall verify and certify within 24 hours that the equipment causing the emission and any associated air pollution control equipment are operating normally according to their design and standard procedures and under the same conditions under which compliance was achieved in the past, and either:

- 1). Take corrective action(s) that eliminates the visible emissions within 24 hours and report the visible emissions as a potential deviation in accordance with the reporting requirements in Section K of this permit; or
- 2). 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 business days and report any deviations to AQMD.

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

- 1). Stack or emission point identification;
- 2). Description of any corrective actions taken to abate visible emissions;
- 3). Date and time visible emission was abated; and
- 4). All visible emission observation records by operator or a certified smoke reader.

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

[Devices subject to this condition: D81, D82, D83, D84, D85, D86, D93]

E448.3 The operator shall comply with the following requirements:

Maintain a monthly engine operating log that includes:

- A. Total hours of operation;
- B. Type of liquid fuel;
- C. Fuel consumption (gallons of liquid); and
- D. Cumulative hours of operation since the last source test required in Rule 1110.2 (f)(1)(C).



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[RULE 1110.2, 2-1-2008]

[Devices subject to this condition: D81, D82, D83, D84, D85, D86]

E448.4 The operator shall comply with the following requirements:

The operator shall comply with the requirements of the Inspection and Monitoring (I&M) plan.

[RULE 1110.2, 2-1-2008]

[Devices subject to this condition: D81, D82, D83, D84, D85, D86]

E448.5 The operator shall comply with the following requirements:

The operator shall comply with the reporting requirements of Rule 1110.2(f)(1)(H) pertaining to any equipment breakdown that results in emissions in excess of rule or permit emission limits for VOC or CO.

[RULE 1110.2, 2-1-2008]

[Devices subject to this condition: D81, D82, D83, D84, D85, D86]

H23.7 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

~~Per 40 CFR Part 55, Appendix A, for the purpose of this condition, D93 and D81 is are subject to Rule 1110.2 adopted on 6/3/2005.~~

~~Once Rule 1110.2 adopted on 2/1/2008 is added to Appendix A of 40 CFR Part 55, then D93 is subject to all the applicable requirements of this Rule.~~

~~Once Rule 1110.2 adopted on 2/1/2008 is added to Appendix A of 40 CFR Part 55, then D81 is subject to all the applicable requirements of this Rule. Effective 7/1/2010, the VOC limit is 30 ppmv and CO limits is 250 ppmv per section (d)(1)(B)(ii) of Rule 1110.2.~~

[RULE 1110.2, 6-3-2005 2-1-2008]



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[Devices subject to this condition: D81, **D82, D83, D84, D85, D86, D93**]

~~I30.1—In accordance with Rule 3002(a)(3), the permit for this equipment is being issued as a non-Title V permit.~~

~~The facility permit holder shall file an application for a Title V permit revision for this equipment within 90 days of the issuance of the facility's initial Title V permit.~~

[RULE 3002, 11-14-1997]

~~[Devices subject to this condition: D81]~~

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.

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).

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

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

[RULE 1110.2, ~~6-3-2005~~ **2-1-2008**; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition: D81, **D82, D83, D84, D85, D86, D93**]

Permit Condition Changes Discussion

Condition no A63.9 (Sections D and H)—Operating since the 1980s, this facility was regulated by the EPA until 1994 because it is located in federal waters. On May 9, 1994, EPA delegated the authority to the District to implement and enforce the requirements of the Outer Continental Shelf (OCS) air regulations (40 CFR Part 55), pursuant to Section 328(a)(3) of the Clean Air Act, because the facility is located within 25 miles of the state's seaward boundary. At that time, EPA required the District to include this condition (and the other A63 conditions) to list the daily potential to emit emissions. These PTEs were provided by Shell Western E & P Inc. (SWEPI), the operator in 1994, and are not related to the District's NSR rules. Consequently, the rule tag for this condition (and the other A63 conditions) will be corrected from RULE 1303(b)(2)-Offset, 12-6-2002" to "40 CFR 55 OCS, 9-4-1992."

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Condition changes related to Rule 1110.2—See discussion, below, under RULE EVALUATION for Rule 1110.2.

Condition 130.1—See discussion, below, under RULE EVALUATION for Rule 3006.

BACKGROUND

Pacific Energy Resources, Ltd (ID 151178) operates the Beta OCS Platforms Facility, an oil and gas production facility consisting of three offshore platforms--Eureka, Ellen, and Elly—located on the federal OCS, approximately 9 miles offshore of Huntington Beach. The oil and gas wells and some minor process equipment are located on Platforms Ellen and Eureka. The oil, gas, and water produced from the wells on Ellen and Eureka are transported via pipelines to Platform Elly for additional processing. The resulting crude oil product is shipped to shore via pipeline to the onshore receiving facility (ID 151177), known as the Beta Pump Station, located in Long Beach. The natural gas product is used on Platform Elly as fuel in turbines that generate electricity and drive pumps for water injection, and the produced water is re-injected in the oil reservoir via wells used exclusively for that purpose.

The facility is a Cycle 1 RECLAIM and Title V facility. A RECLAIM facility permit was issued to Pacific Energy on 8/21/07 to implement the change of operator from Aera Energy LLC (ID 104012). The Title V facility permit was issued on 3/12/10.

See discussion below on applicability of SCAQMD rules to OCS facilities, including Rule 1110.2 as amended 2/1/08.

Applications Submitted

On 7/1/09, the facility submitted applications to replace the six rig engines with state-of-the-art engines (Caterpillar Model 3508C Tier 2) and control systems (Johnson-Matthey selective catalytic reduction systems and diesel particulate filters) to achieve compliance with the emission limits of 30 ppmvd VOC and 250 ppmvd CO at 15% O₂, effective 7/1/10, required by Rule 1110.2(d)(1)(B)(ii), as amended February 1, 2008. The applications were A/N 500153-500158 to replace the six rig engines and A/N 500159 to amend the RECLAIM facility permit. Rule 1110(e)(2)(A) required the submittal of applications for permits to construct engine modifications, control equipment, or replacement engines twelve months before the final compliance date. As the facility was continuing to investigate the possibility of retrofitting the existing engines, they were not requested to submit additional applications to install the SCRs. The permit moratorium raised additional permitting issues. Thus, the applications remained pending until the facility decided on a course of action.

On 12/8/10, the facility requested that A/N 500153 be amended to modify Platform Ellen Rig Engine No. 1 (D81) by installing an oxidation catalyst. (A separate control equipment applications is not required.) The diesel oxidation catalyst is Johnson Matthey's two-way diesel oxidation catalyst, Model BX-70-D-8, which the manufacturer guaranteed will reduce VOC emissions to at least 30 ppmv. A



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source test on 8/11/09 on Ellen Rig Engine No. 1 had indicated the mean VOC was 60 ppm and mean CO was 85 ppm, both corrected to 15% O₂. If the catalyst is successful in reducing VOC emissions to no more than 30 ppmv at 15% O₂, the facility would likely leave the diesel oxidation catalyst in place for continued operation of the rig engine and amend the previously submitted applications to install the same catalyst on the other five rig engines (instead of replacing the engines with new engine equipped with SCR-DPF control equipment.) Since A/N 500154-500158 will be processed separately from A/N 500153, the facility was requested to submit (1) additional permit processing fees for A/N 500154 for Ellen Rig Engine No. 2 (D82) as full fee is required because it will no longer be an identical equipment (50% fee) and (2) a separate RECLAIM facility permit amendment, A/N 504368, for A/N 500153.

The P/C for A/N 500153 to modify Ellen Rig Engine No. 1 (D81) to add the oxidation catalyst was issued on 1/15/10 (approved in NSR system on 1/26/10). A source test conducted on 3/16/10 resulted in a VOC level of 5.07 ppm @ 15% O₂ at normal load. The source test report is pending evaluation by the District's Source Test Engineering Team.

On 4/27/10, the facility submitted a written request based on the success of the D81 test to amend the pending applications for the other five engines (A/N 500154-500158) to install the same diesel oxidization catalyst, in lieu of the original proposal to replace the engines with new engines equipped with SCR-DPF control systems.

The applications under evaluation are summarized below.

A/N	Prior Permit (A/N)	Equipment	Device No.	Proposed Modification	Recommended Disposition
500154	F91758 (A/N 466207)	Ellen Rig Engine No. 2	D82	Add oxidation catalyst to enable engine to meet 30 ppmvd VOC emissions standard per Rule 1110.2 (2/1/08 version), effective 7/1/10.	Approve after EPA minor Title V revision review and the 2/1/08 version of Rule 1110.2 is incorporated into Appendix A of 40 CFR Part 55.
500155	F91759 (A/N 466209)	Ellen Rig Engine No. 3	D83	Same.	Same.
500156	F91760 (A/N 466210)	Eureka Rig Engine No. 1	D84	Same.	Same.
500157	F91761 (A/N 466211)	Eureka Rig Engine No. 2	D85	Same.	Same.



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500158	F91762 (A/N 466213)	Eureka Rig Engine No. 3	D86	Same.	Same.
500159		RECLAIM Facility Permit Amendment— Convert to Title V/RECLAIM Facility Permit Amendment			Cancel with partial refund.*

* These applications to modify the rig engines will be proposed to EPA at the same time as the applications to add a 500 hour annual limit to the crane engines to exempt them from new Rule 1110.2 emission standards (A/N 485759, 485761-485762, 485764-485767—see separate evaluation). Therefore, only one Title V/RECLAIM facility permit amendment application, A/N 485757, is required.

Note: The master file is A/N 500154.

The facility also submitted related applications, A/N 485759, 485761-485762, 485764-485767, to add a 500 hour annual limit to the seven crane engines to exempt them from the new VOC limit of 30 ppmvd and CO limit of 250 ppmvd. Those applications are being evaluated in a separate engineering evaluation simultaneously with these applications.

Applicability of Rule 1110.2, as amended 2/1/08, on OCS facility

As the facility is located on the OCS, it is subject only to the State and local rules and regulations that are specifically listed in Appendix A of 40 CFR Part 55 (“Appendix A”). Appendix A is periodically updated via USEPA’s consistency review and update process for OCS sources which, in effect, replaces the SIP process for this facility. The SIP process has no relevance to this facility. Only the State and local rules and regulations specifically listed (with specific version dates) in the most recent version of Appendix A are referenced in the permit as the basis for applicable State and local requirements. These rules and regulations are therefore federally enforceable.

On the current facility permit, the rules tagged for the emission limits and permit conditions, and the rules listed in Section K are only those rules with version dates that appear in the most recent version of Appendix A, which is dated July 1, 2009. **The most recent version of Appendix A includes the 6/3/05 version of Rule 1110.2. Therefore, the 2/1/08 version of Rule 1110.2, with the more stringent emission standards, will not be applicable to the facility until the amendment to update Appendix A is finalized by EPA.**

On 12/21/09, the EPA published in the Federal Register a proposed rule to update Appendix A to incorporate a list of more recently adopted rules, including the 2/1/08 version of Rule 1110.2, into Part 55. Although the 30-day comment period has closed, the EPA has not finalized the rulemaking by publishing the final rule in the Federal Register. The final approval action is effective 30 days after



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publication in the Federal Register. Although the 2/1/08 version of Rule 1110.2 is not effective on the OCS until EPA's final action approving it into Part 55 is effective, the facility has been informed that, once approval is effective, the requirements will be immediately effective unless otherwise stated in the rule. Accordingly, the following revisions will be made to the facility permit and proposed to EPA for the 45-day minor Title V revision review, but the permit will not be issued until the 2/1/08 version of Rule 1110.2 has been incorporated into Appendix A. Rule 1110.2(e)(2)(A) keys the applicable compliance date for applicable requirements to the permit to construct issuance date.

The revisions are as follows:

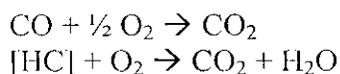
1. A/N 500154-500159—Issue P/Cs to modify remaining five rig engines to add oxidation catalyst to enable engines to meet emission limits for VOC (30 ppmvd) and CO (250 ppmvd), which are effective July 1, 2010, pursuant to Rule 1110.2, as amended February 1, 2008.
2. Remove condition I30.1 for the P/C issued for A/N 500153 (D81), which was issued as a RECLAIM permit in the interim period between the proposal of the initial Title V facility permit to EPA and the issuance of the initial Title V facility permit. Condition I30.1 requires EPA review of the P/C issued for A/N 500153, which will be submitted to EPA for minor Title V review along with the other revisions listed here. See discussion, below, under RULE EVALUATION for Rule 3003.

PROCESS DESCRIPTION

Platforms Ellen and Eureka are each equipped with well workover rigs. Each workover rig is equipped with three ICEs that are used to generate electrical power to run the rigs. All rig engines are identical (1980 vintage) Caterpillar D398PCTA 853 bhp diesel-fired ICEs.

The tri-annual source testing of the rig engines performed in 2009, as required by condition D28.1, measured VOC emissions ranging from 34 ppmv to 60 ppmv and CO emissions ranging from 60 ppmv to 85 ppmv (all corrected to 15% O₂, dry). Therefore, the addition of control is required to lower the VOC emissions to the 30 ppmvd at 15% O₂ required by Rule 1110.2.

As explained above, the proposed Johnson Matthey, Model BX-70-D-8, oxidation catalyst was first installed on Ellen Rig Engine No. 1 (D81), under a P/C for A/N 500153, to determine whether it would be successful in reducing the VOC emissions to the required level. This oxidation catalyst is a two-way oxidation system because it controls VOC and CO. The oxidation equations are as follows:



To operate properly, the minimum and maximum operating range for the catalyst is from 465°F to 1250°F. The maximum backpressure for the catalyst, considering its use on the CAT D398 engine model, is 27 inches water.



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A source test conducted on 3/16/10 on D81 resulted in a VOC level of 5.07 ppm @ 15% O₂ at normal load. Although the source test report is pending evaluation by the District's Source Test Engineering Team, there is sufficient confidence in the Johnson Matthey oxidation catalyst to recommend the issuance of P/Cs to install the same oxidation catalyst on the remaining rig engines.

EMISSIONS CALCULATIONS

1. A/N 500154 to modify F91758 (A/N 466207)—D82

a. Pre-Modification, F91758

Operating schedule: 26 wk/yr, 7 days/wk, 12 hr/day

Note: The NSR system bases the 30 DA on a full year even if the operating schedule is for 26 wk/yr.

Per A/N 293874, vendor provided emissions levels in g/bhp-hr for RHC, NO_x, CO, and PM. SO_x based on AER default factor, correct to 0.02% S = 7.1 lb/1000 gal

Uncontrolled = Controlled

CO: (1.5 g/bhp-hr) (853 bhp) (lb/453.6 g) (12 hr/day) =
(2.82 lb/hr) (12 hr/day) = 33.84 lb/day 30DA = 34 lb/day

NO_x: (8.0 g/bhp-hr) (853 bhp) (lb/453.6 g) (12 hr/day) =
(15.04 lb/hr) (12 hr/day) = 180.48 lb/day 30DA = 180 lb/day

*NO_x at 450 ppm RECLAIM concentration limit =
(450 ppm) [(lb/mgal)/1.88 ppm from Rule 2012 Protocol, Chapter 3]
(0.0482 mgal/hr fuel usage per Form 400-E-13) = 11.54 lb/hr*

(11.54 lb/hr) (12 hr/day) = 138.48 lb/day 30 DA = 139 lb/day

The evaluation for A/N 396421-396426 states that the change of concentration limit does not involve equipment modification or change in emissions, therefore NSR is not triggered. Therefore, the emissions in NSR continue to be based on the 8.0 g/bhp-hr.

Since it is correct that a decrease in the RECLAIM concentration limit, which is used for RECLAIM reporting, does not affect NSR, an emissions update to correct NO_x to the 450 ppm level is not necessary.

PM₁₀: (0.24 g/bhp-hr) (853 bhp) (lb/453.6 g) (12 hr/day) =
(0.45 lb/hr) (12 hr/day) = 5.4 lb/day 30DA = 5 lb/day

ROG: (0.2 g/bhp-hr) (853 bhp) (lb/453.6 g) (12 hr/day) =
(0.38 lb/hr) (12 hr/day) = 4.56 lb/day 30DA = 5 lb/day



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$$\text{SO}_x: (7.1 \text{ lb}/1000 \text{ gal}) (48.2 \text{ gal}/\text{hr per Form 400-E-13}) (12 \text{ hr}/\text{day}) = \\ (0.34 \text{ lb}/\text{hr}) (12 \text{ hr}/\text{day}) = 4.08 \text{ lb}/\text{day} \quad 30\text{DA} = 4 \text{ lb}/\text{day}$$

b. Post-Modification, A/N 500154

Operating schedule: 26 wk/yr, 7 days/wk, 12 hr/day

CO

Same as pre-modification.

$$(2.82 \text{ lb}/\text{hr}) (12 \text{ hr}/\text{day}) = 33.84 \text{ lb}/\text{day} \quad 30\text{DA} = 34 \text{ lb}/\text{day}$$

The Rule 1110.2 CO limit has decreased from 2000 ppmvd to 250 ppmvd, both at 15% O₂. However, the emissions calculations will not be based on 250 ppmvd, or 3.46 lb/hr. Prior source testing indicates the rig engines are below the 250 ppmvd limit, even without the oxidation catalyst which reduces CO as well as VOC. Specifically, the testing conducted on August 11-13, 2009 on D81, D82, D84, D86, prior to the installation of any oxidation catalyst, indicate the measured CO is less than or equal to 96 ppm, or 1.33 lb/hr. Therefore, the pre-modification emission, based on 2.82 lb/hr from the manufacturer's specification, is already conservative.

NO_x

Same as pre-modification.

$$(15.04 \text{ lb}/\text{hr}) (12 \text{ hr}/\text{day}) = 180.48 \text{ lb}/\text{day} \quad 30\text{DA} = 180 \text{ lb}/\text{day}$$

PM₁₀

Same as pre-modification.

$$(0.45 \text{ lb}/\text{hr}) (12 \text{ hr}/\text{day}) = 5.4 \text{ lb}/\text{day} \quad 30\text{DA} = 5 \text{ lb}/\text{day}$$

ROG

The oxidation catalyst is expected to reduce the VOC from 250 ppm to 30 ppm, both at 15% O₂. According to the source test on Ellen Rig Engine No. 2 (D82) on 8/11/09, the VOC was 48 ppmv at 15% O₂, or 0.38 lb/hr. The emission at 30 ppm is calculated as follows:

$$\text{lb}/\text{hr} = (30 \text{ ppm}) (0.38 \text{ lb}/\text{hr}/48 \text{ ppm}) = 0.24 \text{ lb}/\text{hr} \\ \text{lb}/\text{day} = (0.24 \text{ lb}/\text{hr}) (12 \text{ hr}/\text{day}) = 2.88 \text{ lb}/\text{day} \quad 30\text{DA} = 3 \text{ lb}/\text{day}$$

SO_x

The sulfur content of diesel fuel has decreased. Pursuant to the Rule 431.2 requirement that the diesel fuel is to contain 15 ppm or less sulfur by weight, the emission factor for SO_x is 0.0049 g/bhp-hr.



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$$\begin{aligned} \text{lb/hr} &= (0.0049 \text{ g/bhp-hr}) (853 \text{ bhp}) (\text{lb}/453.5 \text{ g}) = 0.01 \text{ lb/hr} \\ \text{lb/day} &= (0.01 \text{ hr/day})(12 \text{ hr/day}) = 0.12 \text{ lb/day} \quad 30\text{DA} = 0 \text{ lb/day} \end{aligned}$$

c. Change in Emissions

CO: $34 \text{ lb/day} - 34 \text{ lb/day} = 0 \text{ lb/day}$

NO_x: $139 \text{ lb/day} - 139 \text{ lb/day} = 0 \text{ lb/day}$

PM₁₀: $5 \text{ lb/day} - 5 \text{ lb/day} = 0 \text{ lb/day}$

ROG: $3 \text{ lb/day} - 5 \text{ lb/day} = -2 \text{ lb/day}$

SO_x: $0 \text{ lb/day} - 4 \text{ lb/day} = -4 \text{ lb/day}$

2. A/N 500155 to modify F91759 (A/N 466209)—D83

a. Pre-Modification, F91759

Same as F91758 for A/N 500154.

b. Post-Modification, A/N 500155

Same as A/N 500154, above.

c. Change in Emissions

Same as A/N 500154, above.

3. A/N 500156 to modify F91760 (A/N 466210)—D84

a. Pre-Modification, F91760

Same as F91758 for A/N 500154.

b. Post-Modification, A/N 500156

Same as A/N 500154, above.

c. Change in Emissions

Same as A/N 500154, above.

4. A/N 500157 to modify F91761 (A/N 466211)—D85

a. Pre-Modification, F91761

Same as F91758 for A/N 500154.

b. Post-Modification, A/N 500157

Same as A/N 500154, above.

c. Change in Emissions

Same as A/N 500154, above.



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5. A/N 500158 to modify F91762 (A/N 466213)—D86
 - a. Pre-Modification, F91762
Same as F91758 for A/N 500154.
 - b. Post-Modification, A/N 500158
Same as A/N 500154, above.
 - c. Change in Emissions
Same as A/N 500154, above.

RULE EVALUATION

The addition of oxidation catalyst to the rig engines are expected to comply with all applicable SCAQMD rules and regulations as follows:

Rule 212—Standards for Approving Permits

Public notice is not required because there will not be an increase in emissions.

Rule 401--Visible Emissions

Visible emissions are not expected from well-maintained and properly operated equipment.

Rule 402--Nuisance

Nuisance problems are not expected from well-maintained and properly operated equipment.

Rule 431.2--Sulfur Content of Gaseous Fuels

The operation of the engines is expected to continue to comply with the requirement that diesel fuel supplied to equipment is to contain 15 ppm or less sulfur by weight. See facility condition F14.2.

Rule 1110.2—Emissions from Gaseous- and Liquid-Fueled Engines, as amended 2/1/08

This rule is applicable to all stationary and portable engines over 50 rated brake horsepower (bhp). The purpose is to reduce NOx, VOC, and CO emissions from engines.

As explained above, the facility will not be subject to the requirements of the 2/1/08 version until its adoption into Appendix A of 40 CFR Part 55 becomes effective. As this Title V permit revision will not be issued until the 2/1/08 version is effective on this facility, the following analysis is based on the 2/1/08 version.

Subpart (d)(1)(B)(ii) provides that the operator of any other stationary engine subject to this rule shall not operate the engine in a manner that exceeds the emission concentration limits listed in Table II. Pursuant to Table II, effective July 1, 2010, for bhp \geq 500, the VOC limit is 30 ppmvd and the CO limit is 250 ppmvd.



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Table II also includes a NO_x limit of 11 ppmvd, effective July 1, 2010. Table 1 of Rule 2001, however, specifies that Rule 1110.2 is not applicable to RECLAIM facilities for requirements pertaining to NO_x emissions. *Rule 1110.2(d)(1)(F)(iv)* states that notwithstanding Rule 2001, the requirements of this subparagraph shall apply to NO_x emissions from new non-emergency engines driving electrical-generators subject to Regulation XX (RECLAIM), but the rig engines are not new engines.

As explained above, the proposed oxidation catalyst was first installed on Ellen Rig Engine No. 1 (D81), per A/N 500153, to determine whether it will reduce VOC to 30 ppmvd. Based on the successful source test of D81, the same oxidation catalyst will be installed on the remaining five rig engines.

Existing condition H23.7 in Section H specifies this equipment is subject to the applicable requirements of Rule 1110.2 (2-1-08) for CO and VOC. The child conditions regarding 40 CFR Part 55, Appendix A, and the applicability of the 6/3/05 version versus the 2/1/08 version have been removed.

Subpart (e)(2)(A) requires applications for permits to construct engine modifications to be submitted twelve months before the final compliance date (7/1/10). As these applications to modify the engines were submitted on 7/1/09, this timing requirement was met.

This subpart also keys the applicable compliance dates to issuance date for the permits to construct.

- Initiate construction of engine modifications, control equipment, or replacement engines—Three months before the final compliance date, or 60 days after the permit to construct is issued, whichever is later.
- Complete construction and comply with applicable requirements—The final compliance date, or 120 days after the permit to construct is issued, whichever is later.
- Complete initial source testing—60 days after the final compliance date in (d)(1)(B) or (d)(1)(C), or 180 days after the permit to construct is issued, whichever is later.

New condition D29.2, setting forth the initial source test requirements for the installation of the oxidation catalysts on the rig engines, requires source testing 180 days after the permit to construct is issued, since that will be later than 60 days after the 7/1/10 compliance date.

The issuance of the permits to construct will be delayed until the 2/1/08 version of Rule 1110.2 is effective on the facility. Consequently, the effective date of the new emissions standards will be delayed as well.

Subpart (e)(4) sets forth the following schedule for the I&M plan submittal.

(A)—By August 1, 2008, submit an initial I&M plan application to the Executive Officer for approval. On July 29, 2008, the facility submitted A/N 485715 for the I&M compliance plan

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for the seven crane engines and six rig engines. On 1/27/10, the facility submitted a new I&M plan, A/N 505783, to include the new oxidation catalysts.

(B)—By December 1, 2008, implement an approved I&M plan or the I&M plan as submitted if the plan is not yet approved. The facility is not yet subject to the 2/1/08 version of Rule 1110.2.

Subpart (f)(1)(A)(vii) provides that a CO CEMS shall not be required for lean-burn engines or an engine that is subject to Regulation XX (RECLAIM), and not required to have a NOx CEMS by that regulation. The rig engines are lean-burn engines because all ICEs fueled on diesel fuel are lean burn. Also, as RECLAIM large sources, the rig engines are not required to have a NOx CEMS. Therefore, the rig engines are not required to be equipped with a CEMS.

Subpart (f)(1)(B) requires an operational non-resettable totalizing time meter to determine the engine elapsed operating time. New condition C1.4 (Section H) requires such a time meter. The rig engines are each equipped with a time meter.

Subpart (f)(1)(C)(i) requires, effective August 1, 2008, source testing for VOC reported as carbon, and CO concentrations (concentrations in ppm by volume, corrected to 15 percent oxygen on dry basis) at least once every two years, or every 8,760 operating hours, whichever occurs first. The source test frequency may be reduced to once every three years if the engine has operated less than 2,000 hours since the last source test.

Existing condition D28.1 (Section D) has been revised to remove the requirement to test every three years (from the 6/3/05 version of Rule 1110.2), and to add the requirement to meet the source testing requirements of Rule 1110.2(f)(1)(C). *Note: This condition was revised for the crane engines (D87-D92), which is being evaluated simultaneously in a separate engineering evaluation.*

Existing condition D28.3 (Section H) has been replaced with condition D28.1 (Section D), as revised above. The child condition in condition D28.3 requiring the measurement of the pressure drop across the catalyst during a source test has been removed. New condition D12.8 (Section H) has been added to require a differential pressure gauge and to specify the maximum allowable pressure drop.

Subpart (f)(1)(C)(ii) requires source testing for at least 30 minutes during normal operation (actual duty cycle). This test shall not be conducted under a steady-state condition unless it is the normal operation. In addition, source testing for CO emissions is required for at least 15 minutes at an engine's actual peak load, or the maximum load that can be practically achieved during the test, and; at actual minimum load, excluding idle, or the minimum load that can be practically achieved during the test.

Existing condition D28.1 (Section D) has been revised to remove the requirement to test at maximum load (6/3/05 version of Rule 1110.2 did not specify load requirements), and to add the

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requirement to meet the source testing requirements of Rule 1110.2(f)(1)(C). *Note: This condition was revised for the crane engines (D87-D92), which is being evaluated simultaneously in a separate engineering evaluation.*

Existing condition D28.3 (Section H) has been replaced with condition D28.1, as revised above.

New condition D29.2 (Section H), setting forth the initial source test requirements for the installation of the oxidation catalysts on the five rig engines, requires compliance with the source testing requirements of Rule 1110.2(f)(1)(C).

Subpart (f)(1)(C)(iii) requires the use of a contractor to conduct the source testing that is approved by the Executive officer under the Laboratory Approval Program for the necessary test methods. Accordingly, existing condition D28.1 (Section D) has been revised to add the requirement to meet the source testing requirements of Rule 1110.2(f)(1)(C). Existing condition D28.3 (Section H) has been replaced with condition D28.1, as revised above.

New condition D29.2 (Section H), setting forth the initial source test requirements for the installation of the oxidation catalysts on the five rig engines, requires compliance with the source testing requirements of Rule 1110.2(f)(1)(C).

Subpart (f)(1)(C)(iv) requires a source test protocol to be submitted to the Executive Officer for written approval at least 60 days before the scheduled date of the test. The source test protocol shall include the name, address and phone number of the engine operator and a District-approved source testing contractor that will conduct the test, the application and permit number(s), emission limits, a description of the engine(s) to be tested, the test methods and procedures to be used, the number of tests to be conducted and under what loads, the required minimum testing time for the VOC test based on the analytical detection limit and expected VOC levels, and a description of the parameters to be measured in accordance with the I&M plan required by subparagraph (f)(1)(D). The source test protocol shall be approved by the Executive Officer prior to any testing. The operator is not required to submit a protocol for approval if: there is a previously approved protocol that meets these requirements; the engine has not been altered in a manner that requires a permit alteration; and emission limits have not changed since the previous test. If the operator submits the protocol by the required date, and the Executive Officer takes longer than 60 days to approve the protocol, the operator shall be allowed additional time needed to conduct the test.

Existing condition D28.1 (Section D) has been revised to add the requirement that the test shall be conducted in accordance with AQMD approved test method. A new protocol will be required to meet the new requirements of the 2/1/08 version of Rule 1110.2.

Existing condition D28.3 (Section H) has been replaced with condition D28.1, as revised above.

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New condition D29.2 (Section H), setting forth the initial source test requirements for the installation of the oxidation catalysts on the rig engines, incorporates the above requirements.

Subpart (f)(1)(C)(v) requires the operator to provide the Executive Officer at least 30 days prior notice to any source test to afford the Executive Officer the opportunity to have an observer present. Existing condition D28.1 (Section D) has been revised to add the requirement to meet the source testing requirements of Rule 1110.2(f)(1)(C). Existing condition D28.3 (Section H) has been replaced with condition D28.1, as revised above. New condition D29.2 (Section H), setting forth the initial source test requirements for the installation of the oxidation catalysts on the rig engines, requires 30-day notice.

Subpart (f)(1)(C)(vi) requires the operator to submit all source test reports, including a description of the equipment tested, to the Executive Officer within 60 days of completion of the test. Existing condition K40.1 (Sections D and H) incorporates this requirement. New condition D29.2 (Section H), setting forth the initial source test requirements for the installation of the oxidation catalysts on the rig engines, incorporates this requirement.

Subpart (f)(1)(C)(vii) requires, by February 1, 2009, sampling ports; safe sampling platforms, scaffolding or mechanical lifts; and utilities for sampling and testing equipment. As source testing has been performed every three years on these engines, all the aforementioned presumably are available.

Subpart (f)(1)(D) requires an operator to submit an I&M plan to the Executive Officer for written approval and implement the plan. One plan application is required for each facility. This provision enumerates the required elements. New condition E448.4 has been added to Section D and H to require compliance with the I&M plan.

Subpart (f)(1)(E) requires a monthly operating log that includes total hours of operation, type of liquid fuel, fuel consumption, cumulative hours of operation since the last source test required in subparagraph (f)(1)(C). Further, facilities subject to Regulation XX may maintain a quarterly log for engines that are designated as a process unit on the facility permit. New condition E448.3 has been added to Sections H and D to require a monthly log, as these rig engines are RECLAIM large sources.

Subpart (f)(1)(H) sets forth reporting requirements for breakdowns. As this is a RECLAIM facility, new condition E448.5 requires compliance of the breakdown requirements for VOC and CO only.

Subpart (g) specifies the test method for CO is District Method 100.1, and VOC is District Method 25.1 or 25.3. New condition D29.2, setting forth the initial source test requirements for the installation of the oxidation catalysts on the rig engines, incorporates these source test method requirements.

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Subpart (h)(10) provides that the provisions of subdivision (d), which includes the emission limits for VOC and CO, during an engine start-up, until sufficient operating temperatures are reached for proper operation of the emission control equipment. The start-up period shall not exceed 30 minutes, unless the Executive Officer approves a longer period for an engine and makes it a condition of the engine permit. Existing condition D12.6 (Section H) states the temperature range requirements of the condition shall not apply during start-up operations not to exceed 30 minutes per start-up.

Regulation XIII—New Source Review

This facility is subject to NSR because Rule 1302(p) defines “facility” to include “an outer continental shelf (OCS) source as determined in 40 CFR Section 55.2.”

- Rule 1303(a)—BACT
- Rule 1303(b)(1)—Modeling
- Rule 1303(b)(2)—Offsets

The BACT, modeling, and offsets requirements are not triggered because there will not be an increase in emissions.

The emissions calculations are based on 26 weeks/year, 7 days/wk, 12 hr/day. NSR calculates the emissions based on a full year, even if the actual operating schedule is 26 weeks/year. Per Rule 1313(g)(2), every permit shall have a condition to limit the monthly maximum emissions. As explained above, existing condition A63.9 is not related to NSR requirements. Therefore, new condition C1.4 (Section H) will be added to limit the operating time to 360 hr/month, and to require a time meter. [(12 hr/day)(30 day/month) = 360 hr/month]

Rule 1401--New Source Review of Carcinogenic Air Contaminants

Subpart (g)(1)(B) exempts a modification of a permit unit that causes a reduction or no increase in the cancer burden, MICR or acute or chronic HI at any receptor location.

Rule 1470—Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines

Subpart (g)(10) provides that the requirements specified in paragraphs (c)(2) through (c)(9) do not apply to diesel-fueled engines used solely on outer continental shelf (OCS) platforms located within 25 miles of California’s seaward boundary.

Regulation XX—RECLAIM

- Rule 2005—New Source Review for RECLAIM
 - (b)(1)(A)—BACT
 - (b)(1)(B)—Modeling
 - (b)(2)—Offsets

The BACT, modeling, and offsets requirements are not triggered because there will not be an increase in emissions.

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- (h)—Public Notice
This requires compliance with Rule 212, see discussion above.
- (i)—Rule 1401 Compliance
This requires compliance with Rule 1401, see discussion above.

Regulation XXX—Title V Permits

- Rule 3003—Applications

As noted above, this facility is a RECLAIM facility. The proposed project is considered as a “minor permit revision” for RECLAIM pollutant, non-RECLAIM pollutants, and hazardous air pollutants (HAPs) to the RECLAIM/Title V permit for this facility. Rule 3000(b)(12) specifies that a “minor permit revision” includes, but is not limited to any Title V permit revision that:

- Rule 3000(b)(12)(A)(v)—does not result in an emission increase of any RECLAIM pollutant over the facility’s starting allocation plus the non-tradeable Allocation, or higher Allocation amount which has previously undergone a significant permit revision process.
- Rule 3000(b)(12)(A)(vi)—does not result in an increase in emissions of a pollutant subject to Regulation XIII = New Source Review (non-RECLAIM pollutants) or a hazardous air pollutant (HAP).

The proposed project is not expected to result in an emission increase of any RECLAIM pollutant or an increase in emissions of a pollutant subject to Regulation XIII - New Source Review (non-RECLAIM pollutants) or a hazardous air pollutant (HAP), and therefore is considered as a “minor permit revision” pursuant to Rule 3000(b)(12)(A)(v) and rule 3000(b)(12)(A)(vi).

This proposed project is included in the first permit revision (Rev. 10) to the initial Title V permit (Rev. 9) issued to this facility on 3/12/10. This minor permit revision will include (1) this project to modify the five rig engines (D82-D87) to each add an oxidation catalyst—minor permit revision, (2) the project to add the 500 hr annual operating limit to the six crane engines—minor permit revision (see separate engineering evaluation for A/N 485759, 485761-485762, 485764-485767), and (3) Rev. 8 to the RECLAIM permit. Rev. 8 was issued as a RECLAIM permit revision for the modification of Ellen Rig Engine No. 1 (D81) to add an oxidation catalyst (A/N 500153—minor permit revision) in the interim period between the submittal of the proposed initial Title V facility permit to the EPA for review and the issuance of the initial Title V facility permit. The inclusion of Rev. 8 in this minor permit revision will fulfill the Title V revision requirement in condition I30.1.



**SOUTH COAST AIR QUALITY MANAGEMENT
DISTRICT**

ENGINEERING AND COMPLIANCE

APPLICATION PROCESSING AND CALCULATIONS

PAGES

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PAGE

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APPL. NO.

500154-500159

DATE

6/2/10

PROCESSED BY

V. Lee

CHECKED BY

RECOMMENDATION

The proposed project is expected to comply with all applicable District Rules and Regulations. Since the proposed project is considered as a "minor permit revision," it is exempt from the public participation requirements under Rule 3006(b). A proposed permit incorporating this permit revision will be submitted to EPA for a 45-day review pursuant to Rule 3003(j). If EPA does not have any objections within the review period, a revised title V permit will be issued to this facility.

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MODIFICATION P/C

APPLICANT	PACIFIC ENERGY RESOURCES
MAILING ADDRESS	111 W. OCEAN BLVD, LONG BEACH, CA
EQUIPMENT LOCATION	OCS LEASE PARCELS HUNTINGTON BEACH, CA

EQUIPMENT DESCRIPTION:

EQUIPMENT DESCRIPTION

Section H of the Facility Permit

Equipment	ID No	Connected To	RECLAIM Source Type/ Monitoring U	Emissions And Requirements	Conditions
Process 3: INTERNAL COMBUSTION					
System 4: ICE RIG GENERATOR-PLATFORM ELLY					
INTERNAL COMBUSTION ENGINE, LEAN BURN, NON-EMERGENCY, E.J-01A, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, TURBOCHARGED AND AFTERCOOLED, WITH OXIDATION CATALYST, JOHNSON MATTHEW MODEL BX-70-D-8, 853 BHP A/N 500153	095 081		NOX: LARGE SOURCE	NOX 450 PPMVI DIESEL [RULE 2012, 5-6-2005]; CO 2000 PPMV (5) [RULE 1110.2, 6-3-2005]; PM (9) [RULE 402-7-1986]; VOC: 250 PPMV DIESEL (5) [RULE 1110.2, 2005]	A63.9, D12.3, D12.6, D28.3, D29.1, D323, H23.7, I30.1, K40.1

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APPLICATION NO. 504368

RECLAIM REVISION APPLICATION

PERMIT CONDITONS

A63.09 The operator shall limit emissions from this equipment as follows:

Contaminant	Emissions limit
CO	Less than or equal to 794.6 lbs per day
PM	Less than or equal to 38.8lbs per day
ROG	Less than or equal to 156.4 lbs per day
SOX	Less than or equal to 8.2 lbs per day

no change

D12.3 The operator shall install and maintain a(n) non-resettable elapsed meter to accurately indicate the elapsed operating time of the engine.

new

D12.6 The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature in the exhaust at the inlet to the oxidization catalyst.

The catalyst inlet temperature shall not exceed 1250 degrees F.

The catalyst minimum inlet temperature shall be 465 degrees F.

The temperature range requirement of this condition does not apply during start-up operations of the turbine not to exceed 30 minutes per start-up.

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

The test shall be conducted to determine the VOC emission at the outlet of the oxidation catalyst ✓

The test shall be conducted to determine the CO emission at the outlet of the oxidation catalyst ✓

The test shall be conducted to demonstrate compliance with Rule 1110.2.

The test shall be conducted to comply with Rule 1110.2 (f)(1)(C) adopted on 2/1/2008. ✓

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

Pollutant to be tested	Required Test Method(s)	Averaging Time	Test Location
VOC emissions	District Method 25	District-approved averaging time	Outlet of the Oxidation catalyst

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The test shall be conducted after AQMD approval of the source test protocol, but no later than 180 days after initial start-up or three hundred hours of operations after 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 tests shall measure the fuel flow rate (gal/hr), the flue gas flow rate.

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 operator may use a previously approved source test protocol for the test, but include a copy of the protocol in the Source test report. The test protocol shall include the proposed operating conditions of the engine 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 per Rule 1110.2 (f) (1) (C) as adopted on 2/1/2008.

The test shall be conducted for compliance verification of the Rule 1110.2 VOC 250 ppmv limit.

The source test report shall be submitted to the District within 45 days after the test has been conducted

H23.7 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

Per 40 CFR Part 55, Appendix A, for the purpose of this condition D93 is subject to Rule 1110.2 adopted on 6/3/2005

Once Rule 1110.2 adopted on 2/1/2008 is added to Appendix A of 40 CFR Part 55, then D93 is subject to all the applicable requirements of this Rule

Once Rule 1110.2 adopted on 2/1/2008 is added to Appendix A of 40 CFR Part 55, then D81 is subject to all the applicable requirements of this Rule. Effective 7/1/2010, the VOC limit is 30 ppmv and CO limit is 250 ppmv per section (d) (1) (B) (ii) of Rule 1110.2.

I30.1 In accordance with Rule 3002(a) (3), the permit for this equipment is being issued as a non-Title V permit.

The facility permit holder shall file an application for a Title V permit revision for this equipment within 90 days of the issuance of the facility's initial Title V permit.

[RULE 3002, 11-14-1997]

K40.7 The operator shall provide to the District a source test report in accordance with the following specifications:

new revised to include D81

new

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

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).

Emissions 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.

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

BACKGROUND:

submitted

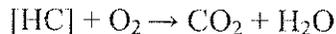
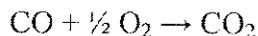
The above application was as a modification (previous a/n 466206, pervious a/n 39642). To comply with the future VOC emissions limits of Rule 1110.2, the applicant proposes to install a Johnson Matthey oxidation catalyst. The tested CO emissions are below the 250 ppmv future concentration limits. The applicant is proposing to use the current Rule 1110.2 testing requirements to verify the VOC will meet the limits that will become effective on 7/1/2010.

For more history on facility, see a/n 396421, copy in file.

In the Facility Permit ID#151178, additions are requested to Section H by adding the modification of D81 with control. Attached is a draft of Section H in the RECLAIM Facility Permit affected by this addition

PROCESS DISCRIPTION

The applicant offshore crude oil production facility and the engine is used to provide electrical power to the platform. The proposed VOC control is an oxidization catalyst (Johnson Matthey, model BX-70-D8) that will control VOC and CO by the following equations:



CALCULATIONS

1. Permit processing Emissions calculation methodology

A. Emissions calculations

Determine emissions from N0x, CO and ROG

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$$R1(LB/HR) = \frac{hp \times g / bhp - hr}{454 gr / lb}$$

Determine emissions from SOx

$$R1(LB/HR) = \frac{EF \times fuel Usage}{1 \times 10^6}$$

Note R1 = R2

B. AEIS and NSR calculations

$$Lb/dy = lb/hr * hr/dy$$

$$30\text{-day ave} = lb/dy * dy/wk * 4.33 \text{ wk/month} * 1 \text{ month}/30 \text{ days}$$

$$lb/yr = lb/dy * dy/wk * wk/yr$$

2. EMISSIONS CALCULATIONS

	lb/hr	lb/dy	30-dy ave	R2-lb/yr
NOx	11	137	139	50225
ROG	0	3	3	1148
CO	3	46	47	16988
SOx	0.0	0.1	0	45
PM10	0	5.4	5	1969

NOx emissions based on 450 ppmv concentration limit (RECLAIM)

VOC emissions based on 30 ppmv Rule 1110.2 concentration limit

CO emissions based on 250 ppmv Rule 1110.2 concentration limit

SOx emission based on 0.216 lb/mgal, ref Rule 431.2

PM10 emissions based on 0.24 g/bhp-hr-vendor data, ref a/n 293874

The emissions are based on 12 hr/dy, 30 day/mon (previous application)

RULES EVALUATION:

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Rule 212 There is no increase in emissions, thus section (c) and (g) does not apply.

Section (c)(3)(A)(i)

Equipment	MICR	Limit	Trgger Public Notice
Engine	n/a	10E-06	NO

Section (g)

Item	Lb/dy daily maximum	Allow limit-lb/dy	Trigger Public notice
NOx	+0	40	No
ROG	+0	30	No
CO	+0	220	No
PM10	+0	30	No
SOx	+0	60	No

Rule 401 :The equipment is not expected to emit visible emissions.

Rule 402 :The equipment is not expected to emit odorous emissions.

Rule 404 :Grain loading from the engine expected to comply.

Rule 431.2 Per section (c)(e)(2) require the fuel oil purchased to have a sulfur content of less than 15 ppmw, expected to comply with this Rule .

Previous version Rule 1110.2 adopted 6/3/05. Compliance is expected with the following sections:

40 CRF Part 55 applies and the previous Rule 1110.2 version applies at the time being

The engine has to comply with the 250 ppmv for VOC and 2000 ppmv for CO. The source test are required once every three years.

Current version Rule 1110.2. Once EPA includes the current version of Rule 1110.2 in 40 CRF Part 55 , Appendix A, the following sections applies:

Current concentration limits

D81

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Item	Ppmv @ 15% oxygen
CO	2000
ROG	250

Concentration limits effective 7/1/2010

D81

Item	Ppmv @ 15% oxygen
CO	250
ROG	30

To comply with the ROG limits, the applicant will install a oxidation catalyst and proposes to test the engine using the current Rule 1110.2 test procedures (adopted 2/1/2008)

- Section (d)(1)(B)-the applicant proposes to operate the engine greater than 500 hours per year (permit condition), thus the above limits does apply
- Section (d)(2)(A)-The engine current meet the emissions standards, table VI does not apply.
- Section (e)(3)(B)-CO CEMs not required for the rich burn or lean burn engines, thus Table VII does not apply
- Section (e)(4)-Requires I&M plan to be submitted to the District by 8/1/2008. The plan has not been filed with the District, not required at this time.
- Section (e)(5)-AFRC does not apply to diesel ICE
- Section (f)(1)(A)(vii)- CO CEMs not required for lean burn engine.
- Section (f)(1)(B)-install time meter. Time meter is already installed on the engine.
- Section (f)(1)(C)(i)-Effective 8/1/08 require source testing once every 2 years or every 8760 operating hours. If the engines operate less than 2000 hours since the previous test, then testing is once every three years.
- Section (f)(1)(C)(ii)-Conduct test for at least 60 minutes. Test must occur at least after 40 hours after a tune up
- Section (f)(1)(C)(ii)-Use contractor that is approved to do the necessary test
- Section (f)(1)(C)(iv)-Submit source test protocol at least 60 days prior to testing and the protocol has to be approved by the District (if required by this Rule).
- Section (f)(1)(C)(vi)-Submit source test reports within 60 days of the test (if required by the Rule)
- Section (f)(1)(D)-Require one I&M per facility to be submitted to the District. Plan has not been submitted.

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Section (f)(1)(D)(i) sub section I, II, III does not apply, sub-section IV applies to monitor inlet temperature to control system.

Section (f)(1)(D)(ii) does not apply no AFRC installed

Section (f)(1)(D)(iii)(III) the facility is in RECLAIM and the CO limit is 2000 ppmv, thus weekly emissions checks are not required.

Section (f)(1)(D)(iv) Procedures for daily monitoring. Included in the plan evaluation, (not submitted to the District). For this engine, sub-section I, III, IV

Section (f)(1)(E) Operating log

The inspection and monitoring plan is required to be submitted in the compliance plan per section (e)(4). The requirements of section (f)(1)(D) will be addressed in the compliance plan, Permit conditions for this section of the Rule will only address the min. periodic monitoring requirements.

Reg. XIII Compliance with the following sections is anticipated.

1303 (a)-BACT- No increase in HP rating or emissions BACT does not apply

1303 (b)(1)- No increase in emissions, complies, see previous evaluation.

1303 (b)(2)- ROG, CO, PM10 and SOx

Item	A/n	Rating	30 day ave-lb/dy			
			ROG	CO	SOx	PM10
Engine	500153	893	+3.19	+47.15	+0.13	+5.470
Engine	466179	195	-5	-34	-4	-5
Change in emissions			-1.810	+13.15	-3.87	+0.47

There was no increase in HP rating or emissions from the addition of the oxidation catalyst, thus Rule 1304 does not apply. ✓

The previous PM10 30 day ave is listed at 5 lb/dy (calculated at 5.41 lb/dy), but the previous NSR system did not take decimal points for the 30 day ave, thus there is no actual change in PM10 emissions ✓

The vendor of the engine list the CO emissions at 1.5 g/bhp-hr, but the Rule 1110.2 concentration limit is 250 ppmv (2.07 g/hp-hr). Revise the CO emissions based on 250 ppmv concentration limit (CO not subject to Rule 1304) ✓

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RULE 1401- There is no increase in HP rating or emissions, thus exempt from this Rule per section (g)(1)(B). Rule 1401 emissions are calculated for NSR data entry.

RULE 1470- The equipment is exempt per section (h)(10).

Reg.2005 Compliance with the following sections is anticipated.

2005 (c)(1)-BACT – No increase in HP rating or emissions , BACT does not apply ✓

2005 (c)(1)(B)-Complies

2005 (c)(2)-Complies

2012 –See the table below

Equipment	Rule section large source or process unit	Section-emissions factor or concentration limit	type	value
Non-em ICE less 1000 HP and greater than 200 HP	(d)(1)(B)(ii)	(d)(2)(C)	Concentration limit	450 ppmv

Per section (d)(2)(A) there will be timers installed on each equipment.

Regulation XXX

This facility has not been issued a Title V permit at this time.

40 CFR part 55

The only relevant current District rule not included in appendix A is Rule 1110.2, adopted 2/1/08 ✓

RECOMMENDATIONS

Based on the analysis in this report, the equipment is expected to comply with the applicable Rules and Regulations of the SCAQMD and the applicable BACT requirements.

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For this reason, the following disposition is recommended; issue a revised RECLAIM Facility Permit reflecting the modification of one engine under section H.

Updates in Section H of the RECLAIM facility Permit resulting from this addition are listed in Equipment and Condition sections of the attached draft permit.

RECOMMENDATIONS

FOR THIS APPLICATION THE FOLLOWING DISPOSITION IS RECOMMENDED:

Issue a P/C

Engine data

Engine hp	853	hp
fuel type	natural gas	
fuel rate nat gas	48.20	gal/hr
engine load	100%	%
convertor installed	yes	
PM10	1.00	
hr/dy	12	hr
dy/wk	7	dy
dy/mon	30	dy
wk/yr	52	wk

Outlet of the APC emissions

	R2	units	PPMV	
NOx	6.12	g/bhp-hr	450	ppmv
ROG	0.14	g/bhp-hr	30	ppmv
CO	2.07	g/bhp-hr	250	ppmv
SOx	0.216	lb/mal		
PM10	0.24	g/bhp-hr		

PM ref vendor data, a/n 293874
 SOx E.F ref Rule 431.1 limit

Emissions Calculations

	lb/hr	lb/dy	30-dy ave	R2-lb/yr
NOx	11.50	137.98	139.41	50225.84
ROG	0.26	3.16	3.19	1148.96
CO	3.89	46.67	47.15	16988.15
SOx	0.010	0.125	0.13	45.48
PM10	0.45	5.411	5.47	1969.64

Detailed calculations

lbNOx/hr
 =[E.F, g/bhp-hr][Rating, hp]
 =[6.12 g/bhp-hr][853 hp][1 lb/454 g]
 =[11.50 lb/hr]

lbNox/day
 =[lbNOx/hr][hr/day]
 =[11.50 lb/hr][12hr/day]
 =[137.98 lb/day]

30 day NOx ave
 =[lbNox/day][days/mon]/[30 days/mon]
 =[137.98 lb/day][30days/mon]/[30 days/mon]
 =[137.98 lb/day]

lbNox/year
 =[lbNox/day][days/wk][wk/yr]
 =[137.98 lb/day][7days/wk][52wk/yr]
 =[50225 lb/year]

lbROG/hr
 [E.F, g/bhp-hr][Rating, hp]

lbROG/day
 [lbROG/hr][hr/day]

Nat gas I

[0.14 g/bhp-hr][853 hp][1 lb/454 g]
[0.26 lb/hr]

[0.26 lb/hr] [12 hr/day]
[3.16 lb/day]

30 day ROG ave
[lbROG/day][days/mon]/[30 days/mon]
[3.16 lb/day][30days/mon]/[30 days/mon]
[3.16 lb/day]

lbROG/year
[lbROG/day][days/wk][wk/yr]
[3.16 lb/day][7days/wk][52wk/yr]
[1149 lb/year]

lbCO/hr
[E.F, g/bhp-hr][Rating, hp]
[2.07 g/bhp-hr][853 hp][1 lb/454 g]
[3.89 lb/hr]

lbCO/day
[lbCO/hr][hr/day]
[3.89 lb/hr][12hr/day]
[46.67 lb/day]

30 day CO ave
[lbCO/day][days/mon]/[30 days/mon]
[46.67 lb/day][30days/mon]/[30 days/mon]
[46.67 lb/day]

lbCO/year
[lbCO/day][days/wk][wk/yr]
[46.67 lb/day][7days/wk][52wk/yr]
[16988 lb/year]

lbSOx/hr
[SOx E.F.][Fuel rate]
[0.22 lb/mmcf][48.20 ft3/hr][1mmcf/1000000 ft3]
[0.0104 lb/hr]

lbSOx/day
[lbSOx/hr] x [hr/day]
[0.0104 lb/hr] x [12 hr/day]
[0.1248 lb/day]

30 day SOx ave
[lbSOx/day][days/mon]/[30 days/mon]
[0.1248 lb/day][30days/mon]/[30 days/mon]
[0.1248 lb/day]

lbSOx/year
[lbSOx/day][days/wk][wk/yr]
[0.1248 lb/day][7days/wk][52wk/yr]
[45 lb/year]

PM-lb/hr
[PM E.F.][lbPM/mmcf]
#REF!
[0.4509 lb/hr]

lbPM/day
[lbPM/hr][hr/day]
[0.4509 lb/hr] [12 hr/day]
[5.4111 lb/day]

30 day PM ave
[lbPM/day][days/mon]/[30 days/mon]
[5.4111 lb/day][30days/mon]/[30 days/mon]
[5.4111 lb/day]

lbPM/year
[lbPM/day][days/wk][wk/yr]
[5.4111 lb/day][7days/wk][52wk/yr]
[1970 lb/year]

PM10-lb/hr
[PM10 E.F.][Fuel rate]
#REF!
#REF!

PM10-lb/dy
[PM10-lb/hr][hr/day]
#REF!
#REF!

Nat gas1

30 day pm10 ave
[lbPM10/day][days/mon]/[30 days/mon]
#REF!
[5.1947 lb/day]

PM10 lb/yr
[PM10-lb/dy][days/wk][wk/yr]
[5.1947 lb/day][7days/wk][52wk/yr]
#REF!

Rule 1303 (b)(1)-Screen Table A-1

BTU/Hr	#REF!
--------	-------

Item	Emissions rate (lb/hr)		Compliance
	Allowed	calculated	
NOx	0.31	11.49859	No
CO	17.1	3.889229	Yes
PM10	1.9	#REF!	#REF!

FACILITY PERMIT TO OPERATE

PACIFIC ENERGY RESOURCES, LTD. OCS LEASE PARCELS P300/P301 HUNTINGTON BEACH, CA 92648

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR A COPY THEREOF MUST BE KEPT AT THE LOCATION FOR WHICH IT IS ISSUED.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT SHALL NOT BE CONSTRUED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF ANY OTHER FEDERAL, STATE OR LOCAL GOVERNMENTAL AGENCIES.

Barry R. Wallerstein, D. Env.
EXECUTIVE OFFICER

By _____
Mohsen Nazemi, P.E.
Deputy Executive Officer
Engineering & Compliance

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

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FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

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
Process 1: CRUDE OIL PRODUCTION					
System 1: OIL/WATER/GAS SEPARATION - PLATFORM ELLEN					S13.1
VESSEL, SEPARATOR, BLOW DOWN, V-101, VENTED TO VAPOR RECOVERY SYSTEM, EMERGENCY PRESSURE RELIEF VALVE VENTED TO DRUM, HEIGHT: 8 FT ; DIAMETER: 2 FT 8 IN A/N: 497444	D1	D54 D56 D108 D184			
System 2: OIL/WATER/GAS SEPARATION - PLATFORM EUREKA					S13.1
VESSEL, MAM-1102A, FREE WATER KNOCKOUT, VENTED TO VAPOR RECOVERY SYSTEM, EMERGENCY PRESSURE RELIEF VALVES VENTED TO SCRUBBER, LENGTH: 15 FT ; DIAMETER: 6 FT A/N: 497444	D2	D46 D48 D105			
VESSEL, MAM-1102B, FREE WATER KNOCKOUT, VENTED TO VAPOR RECOVERY SYSTEM, EMERGENCY PRESSURE RELIEF VALVES VENTED TO SCRUBBER, LENGTH: 15 FT ; DIAMETER: 6 FT A/N: 497444	D3	D46 D48 D105			
VESSEL, SEPARATOR, TEST, MBD-1104A, VENTED TO VAPOR RECOVERY SYSTEM, EMERGENCY PRESSURE RELIEF VALVES VENTED TO SCRUBBER, LENGTH: 15 FT ; DIAMETER: 6 FT A/N: 497444	D4	D46 D48 D105			

- | | |
|---|---|
| <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</p> | <p>(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</p> |
|---|---|

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

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

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
Process 1: CRUDE OIL PRODUCTION					
VESSEL, SEPARATOR, TEST, MBD-1104B, VENTED TO VAPOR RECOVERY SYSTEM, EMERGENCY PRESSURE RELIEF VALVES VENTED TO SCRUBBER, LENGTH: 15 FT ; DIAMETER: 6 FT A/N: 497444	D5	D46 D48 D105			
VESSEL, MAY-1101, HEATED, PRODUCTION SURGE, PRESSURE VESSEL, VENTED TO VAPOR RECOVERY, SYSTEM, EMERGENCY PRESSURE RELIEF VALVE VENTED TO SCRUBBER, HEIGHT: 30 FT ; DIAMETER: 12 FT A/N: 497444	D6	D46 D48 D105			
VESSEL, MAY-1116, WELL CLEAN-UP SURGE, VENTED TO VAPOR RECOVERY SYSTEM, EMERGENCY PRESSURE RELIEF VALVE VENTED TO SCRUBBER, HEIGHT: 9 FT ; DIAMETER: 4 FT A/N: 497444	D7	D46 D48 D105			
TANK, HEATED, ABJ-1105, WELL CLEAN UP, CRUDE OIL, 1000 BBL; WIDTH: 15 FT ; HEIGHT: 14 FT 6 IN; LENGTH: 30 FT A/N: 497444	D8	D158			E127.1, H23.4, H23.6
VESSEL, KAH-1603, CRUDE OIL LAUNCHER, LENGTH: 8 FT 10 IN; DIAMETER: 1 FT 4 IN A/N: 497444	D159				
System 3: OIL/WATER/GAS SEPARATION - PLATFORM ELLY					S13.1

- * (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

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FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

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
Process 1: CRUDE OIL PRODUCTION					
VESSEL, RECEIVER, U-08, EUREKA OIL, DIAMETER: 1 FT 4 IN A/N: 497444	D9				
VESSEL, RECEIVER, M5, EDITH OIL, LENGTH: 3 FT ; DIAMETER: 8 IN A/N: 497444	D10				
VESSEL, TREATER, V-03A, WELL TEST/CLEAN UP, PRESSURE VESSEL, CRUDE OIL, VENTED TO VAPOR RECOVERY SYSTEM, EMERGENCY PRESSURE RELIEF VALVES VENTED TO DRUM, HEIGHT: 17 FT ; DIAMETER: 8 FT A/N: 497444	D11	D54 D56 D108 D184			
VESSEL, TREATER, V-03B, WELL TEST/CLEAN UP, PRESSURE VESSEL, CRUDE OIL, VENTED TO VAPOR RECOVERY SYSTEM, EMERGENCY PRESSURE RELIEF VALVES VENTED TO DRUM, HEIGHT: 17 FT ; DIAMETER: 8 FT A/N: 497444	D12	D54 D56 D108 D184			
VESSEL, V-01A, FREE WATER KNOCKOUT, HEATED, CRUDE OIL, VENTED TO VAPOR RECOVERY SYSTEM, EMERGENCY PRESSURE RELIEF VALVES VENTED TO DRUM, LENGTH: 40 FT ; DIAMETER: 10 FT A/N: 497444	D13	D56 D108 D184			

* (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 PACIFIC ENERGY RESOURCES, LTD.

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
Process 1: CRUDE OIL PRODUCTION					
VESSEL, V-01B, FREE WATER KNOCKOUT, HEATED, CRUDE OIL, VENTED TO VAPOR RECOVERY SYSTEM, EMERGENCY PRESSURE RELIEF VALVES VENTED TO DRUM, LENGTH: 40 FT ; DIAMETER: 10 FT A/N: 497444	D14	D56 D108 D184			
VESSEL, TREATER, V-02A, PRESSURE VESSEL, HEATED, CRUDE OIL, VENTED TO VAPOR RECOVERY SYSTEM, EMERGENCY PRESSURE RELIEF VALVES VENTED TO DRUM, LENGTH: 45 FT ; DIAMETER: 12 FT A/N: 497444	D15	D54 D56 D108 D184			
VESSEL, TREATER, V-02B, PRESSURE VESSEL, HEATED, CRUDE OIL, VENTED TO VAPOR RECOVERY SYSTEM, EMERGENCY PRESSURE RELIEF VALVES VENTED TO DRUM, LENGTH: 45 FT ; DIAMETER: 12 FT A/N: 497444	D16	D54 D56 D108 D184			
TANK, HOLDING, S-02A, WET CRUDE OIL, VENTED TO VAPOR RECOVERY SYSTEM, 500 BBL; WIDTH: 7 FT ; HEIGHT: 14 FT ; LENGTH: 30 FT A/N: 497444	D17	D54 D56 D184			E127.1, H23.4, H23.6

* (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 PACIFIC ENERGY RESOURCES, LTD.

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
Process 1: CRUDE OIL PRODUCTION					
TANK, HOLDING, U-18B, CRUDE OIL, 19 BBL; DIAMETER: 3 FT; HEIGHT: 15 FT A/N: 497442	D24	D175			E127.2, H23.1
TANK, HOLDING, U-17A, DRAIN WATER, 76 BBL; DIAMETER: 6 FT; HEIGHT: 15 FT A/N: 497442	D25	D175			E127.2, H23.1
TANK, HOLDING, U-18A, CRUDE OIL, 19 BBL; DIAMETER: 3 FT; HEIGHT: 15 FT A/N: 497442	D26	D175			E127.2, H23.1
System 5: WASTE WATER TREATMENT - PLATFORM EUREKA					
TANK, HOLDING, ABH-1107, DRAIN WATER, 81 BBL; DIAMETER: 6 FT; LENGTH: 16 FT A/N: 497442	D27	D158			E127.2, H23.1
TANK, HOLDING, ABH-1108, CRUDE OIL, 32 BBL; DIAMETER: 4 FT; HEIGHT: 16 FT A/N: 497442	D28	D158			E127.2, H23.1
TANK, ABH-1109, EMERGENCY SUMP, TANK OVERFLOWS, 268 BBL; DIAMETER: 3 FT; HEIGHT: 213 FT A/N: 497442	D29	D158			E127.2, H23.1
VESSEL, RECEIVER, KAQ-1602, INJECTION WATER, LENGTH: 8 FT 8 IN; DIAMETER: 1 FT A/N: 497442	D30				
System 6: WASTE WATER TREATMENT - PLATFORM ELLY					

- * (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

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FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

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
Process 1: CRUDE OIL PRODUCTION					
VESSEL, SEPARATOR, V-1000, SOURCE WATER, PRESSURE VESSEL, VENTED TO VAPOR RECOVERY SYSTEM, EMERGENCY PRESSURE RELIEF VALVE VENTED TO DRUM, HEIGHT: 10 FT ; DIAMETER: 5 FT A/N: 497442	D31	D54 D56 D108 D184			H23.1
TANK, HOLDING, S-01A, PRODUCED WATER, VENTED TO VAPOR RECOVERY SYSTEM, 800 BBL; WIDTH: 14 FT ; HEIGHT: 12 FT ; LENGTH: 30 FT A/N: 497442	D32	D54 D56 D184			E127.1, H23.4, H23.6
TANK, HOLDING, S-01B, PRODUCED WATER, VENTED TO VAPOR RECOVERY SYSTEM, 800 BBL; WIDTH: 14 FT ; HEIGHT: 12 FT ; LENGTH: 30 FT A/N: 497442	D33	D54 D56 D184			E127.1, H23.4, H23.6
FLOATATION UNIT, U-01A, WEMCO, MODEL 120, 213 BBL A/N: 497442	D34				E448.1, H23.1
FLOATATION UNIT, U-01B, WEMCO, MODEL 120, 213 BBL A/N: 497442	D35				E448.1, H23.1
TANK, U-02A, OILY WATER, OILY WATER SUMP, 32 BBL; DIAMETER: 3 FT 6 IN; HEIGHT: 18 FT 9 IN A/N: 497442	D172				E127.2, E448.1, H23.1
TANK, U-02B, OILY WATER, OILY WATER SUMP, 32 BBL; DIAMETER: 3 FT 6 IN; HEIGHT: 18 FT 9 IN A/N: 497442	D173				E127.2, E448.1, H23.1

- * (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 PACIFIC ENERGY RESOURCES, LTD.

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
Process 1: CRUDE OIL PRODUCTION					
TANK, SURGE, S-04, FILTER BACKWASH SUPPLY WATER, VENTED TO VAPOR RECOVERY SYSTEM, 400 BBL; WIDTH: 15 FT; HEIGHT: 12 FT; LENGTH: 15 FT A/N: 497442	D36	D54 D56 D184			E127.2, H23.1
TANK, SURGE, S-03, FILTERED PRODUCED/SOURCE WATER, VENTED TO VAPOR RECOVERY SYSTEM, 600 BBL; WIDTH: 15 FT; HEIGHT: 12 FT; LENGTH: 23 FT A/N: 497442	D37	D54 D56 D184			E127.1, H23.4, H23.6
TANK, U-06, EMERGENCY SUMP, TANK OVERFLOWS, 243 BBL; DIAMETER: 3 FT; HEIGHT: 193 FT A/N: 497442	D38	D175			E127.2, H23.1
TANK, HOLDING, U-04, DRAIN WATER, 80 BBL; DIAMETER: 6 FT; HEIGHT: 16 FT A/N: 497442	D39	D175			E127.2, H23.1
TANK, HOLDING, U-05, CRUDE OIL, 36 BBL; DIAMETER: 4 FT; HEIGHT: 16 FT A/N: 497442	D40	D175			E127.2, H23.1
TANK, HOLDING, S-05A, FILTER BACKWASH WATER, VENTED TO VAPOR RECOVERY SYSTEM, 190 BBL; WIDTH: 12 FT; HEIGHT: 11 FT 6 IN; LENGTH: 15 FT A/N: 497442	D41	D54 D56 D184			E127.2, H23.1

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

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

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
Process 1: CRUDE OIL PRODUCTION					
TANK, HOLDING, S-05B, FILTER BACKWASH WATER, VENTED TO VAPOR RECOVERY SYSTEM, 190 BBL; WIDTH: 12 FT; HEIGHT: 11 FT 6 IN; LENGTH: 15 FT A/N: 497442	D42	D54 D56 D184			E127.2, H23.1
TANK, HOLDING, S-07, CENTRATE, 85 BBL; WIDTH: 8 FT; HEIGHT: 7 FT 6 IN; LENGTH: 8 FT A/N: 497442	D43				E127.2, E448.1, H23.1
TANK, HOLDING, S-06, SOLIDS LADEN WATER, VENTED TO VAPOR RECOVERY SYSTEM, 690 BBL; WIDTH: 12 FT; HEIGHT: 13 FT 6 IN; LENGTH: 24 FT A/N: 497442	D44	D54 D56 D184			E127.1, H23.4, H23.6
VESSEL, U-14A, SPHERE LAUNCHER, INJECTION WATER, DIAMETER: 1 FT 2 IN A/N: 497442	D160				
System 7: VAPOR RECOVERY SYSTEM - PLATFORMEUREKA					S13.1
SCRUBBER, MBF-1310A, COMPRESSOR SUCTION, EMERGENCY PRESSURE RELIEF VALVE VENTED TO SCRUBBER, HEIGHT: 7 FT 6 IN; DIAMETER: 3 FT A/N: 484334	D46	D2 D3 D4 D5 D6 D7 D105			
COMPRESSOR, CAY-1310 B, FUEL GAS, EMERGENCY PRESSURE RELIEF VALVE VENTED TO SCRUBBER A/N: 484334	D68	D105			

* (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 PACIFIC ENERGY RESOURCES, LTD.

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
Process 1: CRUDE OIL PRODUCTION					
VESSEL, SEPARATOR, MBF-1310B, EMERGENCY PRESSURE RELIEF VALVE VENTED TO SCRUBBER, HEIGHT: 8 FT ; DIAMETER: 2 FT 8 IN A/N: 484334	D47	D105			
VESSEL, SEPARATOR, MBF-1310C, EMERGENCY PRESSURE RELIEF VALVE VENTED TO SCRUBBER, HEIGHT: 7 FT 6 IN; DIAMETER: 2 FT 6 IN A/N: 484334	D48	D2 D3 D4 D5 D6 D7 D105			
VESSEL, KAH-1601, GAS LAUNCHER, LENGTH: 6 FT 4 IN; DIAMETER: 10 IN A/N: 484334	D49				
System 8: VAPOR RECOVERY SYSTEM - PLATFORM ELLY					S13.1
DRUM, LOW PRESSURE RELIEF, V-09, VENTED TO VAPOR RECOVERY SYSTEM, EMERGENCY PRESSURE RELIEF VALVES VENTED TO ATMOSPHERE, 20 BBL; DIAMETER: 4 FT ; LENGTH: 9 FT A/N: 484334	D45	D54 D56 D184			
VESSEL, RECEIVER, U-09, EMERGENCY PRESSURE RELIEF VALVES VENTED TO DRUM, DIAMETER: 10 IN A/N: 484334	D52	D108			

* (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 PACIFIC ENERGY RESOURCES, LTD.

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
Process 1: CRUDE OIL PRODUCTION					
VESSEL, V-18, SLUG CATCHER, EMERGENCY PRESSURE RELIEF VALVE VENTED TO DRUM, HEIGHT: 8 FT ; DIAMETER: 2 FT 6 IN A/N: 484334	D53	D108			
SCRUBBER, V-04, COMPRESSOR SUCTION GAS, EMERGENCY PRESSURE RELIEF VALVE VENTED TO DRUM, HEIGHT: 8 FT ; DIAMETER: 3 FT 6 IN A/N: 484334	D54	D1 D11 D12 D15 D16 D17 D18 D19 D20 D31 D32 D33 D36 D37 D41 D42 D44 D45 D108			
COMPRESSOR, K-01, RECIPROCATING A/N: 484334	D55				
SCRUBBER, V-1004A, 35# GAS, EMERGENCY PRESSURE RELIEF VALVE VENTED TO DRUM, HEIGHT: 12 FT ; DIAMETER: 5 FT A/N: 484334	D56	D1 D11 D12 D13 D14 D15 D16 D17 D18 D19 D20 D31 D32 D33 D36 D37 D41 D42 D44 D45 D108			E17.1
SCRUBBER, V-1004B, 35# GAS, EMERGENCY PRESSURE RELIEF VALVE VENTED TO DRUM, HEIGHT: 8 FT ; DIAMETER: 4 FT A/N: 484334	D184	D1 D11 D12 D13 D14 D15 D16 D17 D18 D19 D20 D31 D32 D33 D36 D37 D41 D42 D44 D45 D108			E17.1

* (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

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

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

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
Process 1: CRUDE OIL PRODUCTION					
SCRUBBER, V-05A, COMPRESSOR SUCTION GAS, EMERGENCY PRESSURE RELIEF VALVE VENTED TO DRUM, HEIGHT: 8 FT ; DIAMETER: 2 FT 6 IN A/N: 484334	D57	D108			
SCRUBBER, V-05B, COMPRESSOR SUCTION GAS, EMERGENCY PRESSURE RELIEF VALVE VENTED TO DRUM, HEIGHT: 8 FT ; DIAMETER: 2 FT 6 IN A/N: 484334	D58	D108			
COMPRESSOR, K-02A, FUEL GAS A/N: 484334	D59				
COMPRESSOR, K-02B, FUEL GAS A/N: 484334	D60				
SCRUBBER, V-06A, COMPRESSOR INTERSTAGE GAS, EMERGENCY PRESSURE RELIEF VALVE VENTED TO DRUM, HEIGHT: 8 FT ; DIAMETER: 2 FT 6 IN A/N: 484334	D61	D108			
SCRUBBER, V-06B, COMPRESSOR INTERSTAGE GAS, EMERGENCY PRESSURE RELIEF VALVE VENTED TO DRUM, HEIGHT: 8 FT ; DIAMETER: 2 FT 6 IN A/N: 484334	D62	D108			
VESSEL, V-11, SCOUR GAS, EMERGENCY PRESSURE RELIEF VALVE VENTED TO DRUM, LENGTH: 40 FT ; DIAMETER: 2 FT 6 IN A/N: 484334	D63	D108			

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| * (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 PACIFIC ENERGY RESOURCES, LTD.

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
Process 1: CRUDE OIL PRODUCTION					
VESSEL, V-07, KNOCKOUT SCRUBBER, EMERGENCY PRESSURE RELIEF VALVE VENTED TO DRUM, HEIGHT: 6 FT ; DIAMETER: 2 FT A/N: 484334	D51	D108			
VESSEL, V-08, INTERSTAGE SCRUBBER, EMERGENCY PRESSURE RELIEF VALVE VENTED TO DRUM, HEIGHT: 5 FT ; DIAMETER: 2 FT A/N: 484334	D50	D108			
Process 2: FUEL GAS TREATMENT - PLATFORMELLY					P13.1
SCRUBBER, V-15A, FUEL GAS, EMERGENCY PRESSURE RELIEF VALVE VENTED TO DRUM, HEIGHT: 9 FT 8 IN; DIAMETER: 3 FT A/N: 467994	D64	C66 C67 D108			
SCRUBBER, V-15B, FUEL GAS, EMERGENCY PRESSURE RELIEF VALVE VENTED TO DRUM, HEIGHT: 9 FT 8 IN; DIAMETER: 3 FT A/N: 467994	D65	C66 C67 D108			
VESSEL, V-100A, SULFA TREAT, LEAD/LAG, EMERGENCY PRESSURE RELIEF VALVE VENTED TO DRUM, HEIGHT: 11 FT 2 IN; DIAMETER: 5 FT A/N: 467994	C66	D64 D65 D108			
VESSEL, V-100B, SULFA TREAT, LAG/LEAD, EMERGENCY PRESSURE RELIEF VALVE VENTED TO DRUM, HEIGHT: 11 FT 2 IN; DIAMETER: 5 FT A/N: 467994	C67	D64 D65 D108			

* (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 PACIFIC ENERGY RESOURCES, LTD.

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
Process 2: FUEL GAS TREATMENT - PLATFORM ELLY					P13.1
VESSEL, RECEIVER, MBL-1003, FUEL GAS, EMERGENCY PRESSURE RELIEF VALVE VENTED TO DRUM, LENGTH: 22 FT ; DIAMETER: 8 FT A/N: 467994	D69	D108			
Process 3: INTERNAL COMBUSTION					
System 1: ICE: EMERGENCY POWER - PLATFORM ELLEN					
INTERNAL COMBUSTION ENGINE, EMERGENCY POWER, Z-11, DIESEL FUEL, CATERPILLAR, MODEL D379PCTA, WITH AFTERCOOLER, TURBOCHARGER, 600 BHP WITH A/N: 466175 GENERATOR, RIG, EMERGENCY POWER, 420 KW	D76		NOX: PROCESS UNIT**	NOX: 469 LBS/1000 GAL DIESEL (1) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]	A63.2, C1.1, D12.1
System 2: ICE: EMERGENCY POWER - PLATFORM EUREKA					
INTERNAL COMBUSTION ENGINE, EMERGENCY POWER, EN-040-E2, DIESEL FUEL, CATERPILLAR, MODEL D379PCTA, WITH AFTERCOOLER, TURBOCHARGER, 600 BHP WITH A/N: 466173 GENERATOR, RIG, EMERGENCY POWER, 420 KW	D77		NOX: PROCESS UNIT**	NOX: 469 LBS/1000 GAL DIESEL (1) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]	A63.2, C1.1, D12.1

* (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.

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

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
Process 3: INTERNAL COMBUSTION					
INTERNAL COMBUSTION ENGINE, EMERGENCY POWER, IAN-2530, DIESEL FUEL, CATERPILLAR, MODEL 3412 DITT, WITH TURBOCHARGER, 620 BHP WITH A/N: 466174 GENERATOR, EMERGENCY POWER, 500 KW	D78		NOX: PROCESS UNIT**	NOX: 469 LBS/1000 GAL DIESEL (1) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]	A63.3, C1.1, D12.1
System 3: ICE: EMERGENCY POWER, - PLATFORM ELLY					
INTERNAL COMBUSTION ENGINE, EMERGENCY POWER, Z-10, DIESEL FUEL, DETROIT DIESEL, MODEL 8163-7000, 727 BHP WITH A/N: 466176 GENERATOR, ELLY STAND-BY, EMERGENCY POWER, 400 KW	D79		NOX: PROCESS UNIT**	NOX: 469 LBS/1000 GAL DIESEL (1) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]	A63.4, C1.1, D12.1
INTERNAL COMBUSTION ENGINE, EMERGENCY POWER, ZAN-9007, DIESEL FUEL, DETROIT DIESEL, MODEL 1043-7000, 155 BHP WITH A/N: 466177 GENERATOR, MARS STAND-BY, EMERGENCY POWER, 30 KW	D80		NOX: PROCESS UNIT**	NOX: 469 LBS/1000 GAL DIESEL (1) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]	A63.5, C1.1, D12.1
System 4: ICE: RIG GENERATOR - PLATFORM ELLEN					

* (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 PACIFIC ENERGY RESOURCES, LTD.

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
Process 3: INTERNAL COMBUSTION					
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, EJ-01A, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP WITH A/N: GENERATOR, RIG, 600 KW	D81		NOX: LARGE SOURCE**	CO: 250 PPMV (5) [RULE 1110.2, 2-1-2008]; NOX: 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 30 PPMV (5) [RULE 1110.2, 2-1-2008]	A63.9, D28.1, D323.3, K40.1
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, EJ-01B, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP WITH A/N: GENERATOR, RIG, 600 KW	D82		NOX: LARGE SOURCE**	CO: 250 PPMV (5) [RULE 1110.2, 2-1-2008]; NOX: 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 30 PPMV (5) [RULE 1110.2, 2-1-2008]	A63.9, D28.1, D323.3, K40.1
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, EJ-01C, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP WITH A/N: GENERATOR, RIG, 600 KW	D83		NOX: LARGE SOURCE**	CO: 250 PPMV (5) [RULE 1110.2, 2-1-2008]; NOX: 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 30 PPMV (5) [RULE 1110.2, 2-1-2008]	A63.9, D28.1, D323.3, K40.1
System 5: ICE: RIG GENERATOR - PLATFORM EUREKA					

* (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 PACIFIC ENERGY RESOURCES, LTD.

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
Process 3: INTERNAL COMBUSTION					
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, EN-010-E2, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP WITH A/N: GENERATOR, RIG, 600 KW	D84		NOX: LARGE SOURCE**	CO: 250 PPMV (5) [RULE 1110.2, 2-1-2008]; NOX: 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 30 PPMV (5) [RULE 1110.2, 2-1-2008]	A63.9, D28.1, D323.3, K40.1
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, EN-020-E2, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP WITH A/N: GENERATOR, RIG, 600 KW	D85		NOX: LARGE SOURCE**	CO: 250 PPMV (5) [RULE 1110.2, 2-1-2008]; NOX: 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 30 PPMV (5) [RULE 1110.2, 2-1-2008]	A63.9, D28.1, D323.3, K40.1
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, EN-030-E2, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP WITH A/N: GENERATOR, RIG, 600 KW	D86		NOX: LARGE SOURCE**	CO: 250 PPMV (5) [RULE 1110.2, 2-1-2008]; NOX: 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 30 PPMV (5) [RULE 1110.2, 2-1-2008]	A63.9, D28.1, D323.3, K40.1
System 6: ICE: PEDESTAL CRANE- PLATFORM ELLEN					

* (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 PACIFIC ENERGY RESOURCES, LTD.

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
Process 3: INTERNAL COMBUSTION					
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, L-11B, DIESEL FUEL, DETROIT DIESEL, MODEL 1064-7001, ELLEN EAST CRANE, 195 BHP A/N:	D87		NOX: PROCESS UNIT**	CO: 2000 PPMV (5) [RULE 1110.2, 2-1-2008]; NOX: 469 LBS/1000 GAL DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 250 PPMV (5) [RULE 1110.2, 2-1-2008]	A63.6, C1.3, D28.1, D323.3, E448.2, E448.4, E448.5, H23.7, K40.1
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, L-11A, DIESEL FUEL, DETROIT DIESEL, MODEL 1063-7008, ELLEN CENTER CRANE, 195 BHP A/N:	D91		NOX: PROCESS UNIT**	CO: 2000 PPMV (5) [RULE 1110.2, 2-1-2008]; NOX: 469 LBS/1000 GAL DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 250 PPMV (5) [RULE 1110.2, 2-1-2008]	A63.6, C1.3, D28.1, D323.3, E448.2, E448.4, E448.5, H23.7, K40.1
System 7: ICE: PEDESTAL CRANE PLATFORM EUREKA					
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, CR-030-A2, DIESEL FUEL, DETROIT DIESEL, MODEL 1067-8503, EUREKA WEST CRANE, 195 BHP A/N:	D88		NOX: PROCESS UNIT**	CO: 2000 PPMV (5) [RULE 1110.2, 2-1-2008]; NOX: 469 LBS/1000 GAL DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 250 PPMV (5) [RULE 1110.2, 2-1-2008]	A63.6, C1.3, D28.1, D323.3, E448.2, E448.4, E448.5, H23.7, K40.1
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, CR-010-A2, DIESEL FUEL, DETROIT DIESEL, MODEL 1064-7001, EUREKA EAST CRANE, 195 BHP A/N:	D89		NOX: PROCESS UNIT**	CO: 2000 PPMV (5) [RULE 1110.2, 2-1-2008]; NOX: 469 LBS/1000 GAL DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 250 PPMV (5) [RULE 1110.2, 2-1-2008]	A63.6, C1.3, D28.1, D323.3, E448.2, E448.4, E448.5, H23.7, 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 (c.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 PACIFIC ENERGY RESOURCES, LTD.

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
Process 3: INTERNAL COMBUSTION					
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, CR-020-A2, DIESEL FUEL, DETROIT DIESEL, MODEL 1064-7001, EUREKA CENTER CRANE, 195 BHP A/N:	D90		NOX: PROCESS UNIT**	CO: 2000 PPMV (5) [RULE 1110.2, 2-1-2008]; NOX: 469 LBS/1000 GAL DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 250 PPMV (5) [RULE 1110.2, 2-1-2008]	A63.6, C1.3, D28.1, D323.3, E448.2, E448.4, E448.5, H23.7, K40.1
System 8: ICE: PEDESTAL CRANE - PLATFORM ELLY					
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, L-01A, DIESEL FUEL, DETROIT DIESEL, MODEL 1064-7001, ELLY EAST CRANE, 195 BHP A/N:	D92		NOX: PROCESS UNIT**	CO: 2000 PPMV (5) [RULE 1110.2, 2-1-2008]; NOX: 469 LBS/1000 GAL DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 250 PPMV (5) [RULE 1110.2, 2-1-2008]	A63.6, C1.3, D28.1, D323.3, E448.2, E448.4, E448.5, H23.7, K40.1
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, L-01B, DIESEL FUEL, DETROIT DIESEL, MODEL 1064-7001, ELLY WEST CRANE, 195 BHP A/N:	D93		NOX: PROCESS UNIT**	CO: 2000 PPMV (5) [RULE 1110.2, 2-1-2008]; NOX: 469 LBS/1000 GAL DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 250 PPMV (5) [RULE 1110.2, 2-1-2008]	A63.6, D28.1, D323.3, K40.1
System 10: TURBINES: PUMP MECHANICAL POWER - PLATFORM ELLY					

* (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 PACIFIC ENERGY RESOURCES, LTD.

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
Process 3: INTERNAL COMBUSTION					
GAS TURBINE, NP-07-A, DIESEL FUEL, PROCESS GAS, SOLAR, MODEL SATURN MG1-SB, 2.9 MMBTU/HR WITH A/N: 466204 PUMP, WATER INJECTION	D95		NOX: LARGE SOURCE**	CO: 2000 PPMV (5) [RULE 407, 4-2-1982]; NOX: 65 PPMV PROCESS GAS (3) [RULE 2012, 5-6-2005]; NOX: 95 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: 0.1 GRAINS/SCF (5) [RULE 409, 8-7-1981]; SOX: 500 PPMV DIESEL (5) [RULE 407, 4-2-1982]	A63.8, B61.1, B61.2, D323.2
GAS TURBINE, NP-10-A, DIESEL FUEL, PROCESS GAS, SOLAR, MODEL SATURN MG1-SB, 2.9 MMBTU/HR WITH A/N: 466203 PUMP, WATER INJECTION	D96		NOX: LARGE SOURCE**	CO: 2000 PPMV (5) [RULE 407, 4-2-1982]; NOX: 65 PPMV PROCESS GAS (3) [RULE 2012, 5-6-2005]; NOX: 95 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: 0.1 GRAINS/SCF (5) [RULE 409, 8-7-1981]; SOX: 500 PPMV DIESEL (5) [RULE 407, 4-2-1982]	A63.8, B61.1, B61.2, D323.2
GAS TURBINE, NP-10-B, DIESEL FUEL, PROCESS GAS, SOLAR, MODEL SATURN MG1-SB, 2.9 MMBTU/HR WITH A/N: 466205 PUMP, WATER INJECTION	D97		NOX: LARGE SOURCE**	CO: 2000 PPMV (5) [RULE 407, 4-2-1982]; NOX: 65 PPMV PROCESS GAS (3) [RULE 2012, 5-6-2005]; NOX: 95 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: 0.1 GRAINS/SCF (5) [RULE 409, 8-7-1981]; SOX: 500 PPMV DIESEL (5) [RULE 407, 4-2-1982]	A63.8, B61.1, B61.2, D323.2
System 11: ELECTRICITY GENERATION - PLATFORM ELLY					

* (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 PACIFIC ENERGY RESOURCES, LTD.

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
Process 3: INTERNAL COMBUSTION					
GAS TURBINE, NJ-01-A, DIESEL FUEL, PROCESS GAS, SOLAR, MODEL CENTAUR GC1-CB-ID, 42 MMBTU/HR WITH A/N: 466215 GENERATOR, 2.5 MW HEAT EXCHANGER, WASTE HEAT RECOVERY, 18 MM BTU/HR	D98		NOX: LARGE SOURCE**	CO: 2000 PPMV (5) [RULE 407, 4-2-1982]; NOX: 140 PPMV PROCESS GAS (3) [RULE 2012, 5-6-2005]; NOX: 180 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: 0.1 GRAINS/SCF (5) [RULE 409, 8-7-1981]; SOX: 500 PPMV DIESEL (5) [RULE 407, 4-2-1982]	A63.11, B61.1, B61.2, D371.1
GAS TURBINE, NJ-01-B, DIESEL FUEL, PROCESS GAS, SOLAR, MODEL CENTAUR GC1-CB-ID, 42 MMBTU/HR WITH A/N: 498831 GENERATOR, 2.5 MW HEAT EXCHANGER, WASTE HEAT RECOVERY, 18 MM BTU/HR	D99		NOX: LARGE SOURCE**	CO: 2000 PPMV (5) [RULE 407, 4-2-1982]; NOX: 110 PPMV PROCESS GAS (3) [RULE 2012, 5-6-2005]; NOX: 180 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: 0.1 GRAINS/SCF (5) [RULE 409, 8-7-1981]; SOX: 500 PPMV DIESEL (5) [RULE 407, 4-2-1982]	A63.11, B61.1, B61.2, D371.1

* (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

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

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

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
Process 3: INTERNAL COMBUSTION					
GAS TURBINE, NJ-01-C, DIESEL FUEL, PROCESS GAS, SOLAR, MODEL CENTAUR GC1-CB-ID, 42 MMBTU/HR WITH A/N: 498832 GENERATOR, 2.5 MW HEAT EXCHANGER, WASTE HEAT RECOVERY, 18 MM BTU/HR	D100		NOX: LARGE SOURCE**	CO: 2000 PPMV (5) [RULE 407, 4-2-1982]; NOX: 140 PPMV PROCESS GAS (3) [RULE 2012, 5-6-2005]; NOX: 180 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: 0.1 GRAINS/SCF (5) [RULE 409, 8-7-1981]; SOX: 500 PPMV DIESEL (5) [RULE 407, 4-2-1982]	A63.11, B61.1, B61.2, D371.1
GAS TURBINE, NJ-01-D, DIESEL FUEL, PROCESS GAS, SOLAR, MODEL MARS GS2-MA-ID, 87 MMBTU/HR WITH A/N: 466201 GENERATOR, 6.5 MW HEAT EXCHANGER, WASTE HEAT RECOVERY, 29 MM BTU/HR	D101	S102	NOX: MAJOR SOURCE**	CO: 2000 PPMV (5) [RULE 407, 4-2-1982]; PM: 0.01 GRAINS/SCF (5A) [RULE 475, 8-7-1978]; PM: 0.1 GRAINS/SCF (5) [RULE 409, 8-7-1981]; PM: 11 LBS/HR (5B) [RULE 475, 8-7-1978]; SOX: 500 PPMV DIESEL (5) [RULE 407, 4-2-1982]	A63.10, A327.1, B61.1, B61.2, D328.1, D371.1, E313.1, E315.1, H421.2
STACK, MARS NJ-01-D A/N: 466201	S102	D101			

* (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 PACIFIC ENERGY RESOURCES, LTD.

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
Process 3: INTERNAL COMBUSTION					
GAS TURBINE, NJ-01-E, DIESEL FUEL, PROCESS GAS, SOLAR, MODEL MARS GS2-MA-ID, 87 MMBTU/HR WITH A/N: 466202 GENERATOR, 6.5 MW HEAT EXCHANGER, WASTE HEAT RECOVERY, 29 MM BTU/HR	D103	S104	NOX: MAJOR SOURCE**	CO: 2000 PPMV (5) [RULE 407, 4-2-1982]; PM: 0.01 GRAINS/SCF (5A) [RULE 475, 8-7-1978]; PM: 11 LBS/HR (5B) [RULE 475, 8-7-1978]; SOX: 500 PPMV DIESEL (5) [RULE 407, 4-2-1982]	A63.10, A327.1, B61.1, B61.2, D328.1, D371.1, E313.1, E315.1, H421.2
STACK, MARS NJ-01-E A/N: 466202	S104	D103			
Process 4: EXTERNAL COMBUSTION					
System 1: FLARE - PLATFORM EUREKA					
SCRUBBER, MBF-1106, RELIEF SCRUBBER, HEIGHT: 10 FT ; DIAMETER: 5 FT A/N: 467993	D105	D2 D3 D4 D5 D6 D7 D46 D47 D48 D68 C107			
SCRUBBER, MBF-3001, FLARE PILOT GAS SCRUBBER, HEIGHT: 5 FT ; DIAMETER: 1 FT A/N: 467993	D106	C107			
SCRUBBER, MBF-1200, LOW PRESSURE VENT SCRUBBER, HEIGHT: 4 FT 11 IN; DIAMETER: 10 IN A/N: 467993	D158	D8 D27 D28 D29 C107			

* (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 PACIFIC ENERGY RESOURCES, LTD.

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
Process 4: EXTERNAL COMBUSTION					P13.1
FLARE, ZOO-1620, EUREKA HIGH PRESSURE FLARE, PROCESS GAS, 33 MMSCFD, WITH A WASTE GAS PILOT BURNER A/N: 467993	C107	D105 D106 D158		CO: 2000 PPMV (5) [RULE 407, 4-2-1982]; PM: (9) [RULE 404, 2-7-1986]; PM: 0.1 GRAINS/SCF (5) [RULE 409, 8-7-1981]	D12.2, E71.1
System 2: FLARE - PLATFORM ELLY					
DRUM, V-10, HIGH PRESSURE FLARE DRUM, LENGTH: 10 FT ; DIAMETER: 6 FT A/N: 497445	D108	D1 D11 D12 D13 D14 D15 D16 D31 D50 D51 D52 D53 D54 D56 D57 D58 D61 D62 D63 D64 D65 C66 C67 D69 C109 D184			
SCRUBBER, V-22, LOW PRESSURE VENT, HEIGHT: 5 FT ; DIAMETER: 10 IN A/N: 497445	D175	D22 D23 D24 D25 D26 D38 D39 D40 C109			
FLARE, U-19, PROCESS GAS, ELLY HIGH PRESSURE FLARE, 19 MMSCFD, WITH A WASTE GAS PILOT BURNER A/N: 497445	C109	D108 D175		CO: 2000 PPMV (5) [RULE 407, 4-2-1982]; PM: (9) [RULE 404, 2-7-1986]; PM: 0.1 GRAINS/SCF (5) [RULE 409, 8-7-1981]	D12.2, E71.1
Process 5: PETROLEUM STORAGE					P13.1
System 1: DIESEL STORAGE TANK - PLATFORM EUREKA					
STORAGE TANK, FIXED ROOF, A-1, DIESEL FUEL, STORAGE LEG (DIA. RANGE 2FT. 10 IN TO 5FT 10 IN), 1000 BBL; HEIGHT: 48 FT A/N: 466169	D118				E127.1, H23.4, H23.6
System 2: DIESEL STORAGE TANK - PLATFORM ELLY					

- * (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 PACIFIC ENERGY RESOURCES, LTD.

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
Process 5: PETROLEUM STORAGE					P13.1
STORAGE TANK, FIXED ROOF, S-10, DIESEL FUEL, 1200 BBL; WIDTH: 24 FT ; HEIGHT: 12 FT ; LENGTH: 24 FT A/N: 466168	D121				E127.1, H23.4, H23.6
Process 6: FUGITIVE EMISSIONS					
FUGITIVE EMISSIONS, COMPRESSORS A/N: 484334	D125				H23.2
FUGITIVE EMISSIONS, PUMPS A/N: 497444	D126				H23.2
FUGITIVE EMISSIONS, VALVES A/N: 497444	D127				H23.2
FUGITIVE EMISSIONS, PRV A/N: 497444	D128				H23.2
FUGITIVE EMISSIONS, FLANGES A/N: 497444	D129				H23.2
FUGITIVE EMISSIONS, DRAINS A/N: 497444	D130				H23.1
Process 7: RULE 219 EXEMPT EQUIPMENT SUBJECT TO SOURCE SPECIFIC RULES:					
RULE 219 EXEMPT EQUIPMENT, COATING EQUIPMENT, PORTABLE, ARCHITECTURAL COATINGS	E176			VOC: (9) [RULE 1113, 7-13-2007; RULE 1171, 2-1-2008]	K67.1
RULE 219 EXEMPT EQUIPMENT, ABRASIVE BLASTING EQUIPMENT, WET, AND ANY CONTROL EQUIPMENT	E177			PM: (9) [RULE 1140, 8-2-1985; RULE 405, 2-7-1986]	D323.1
RULE 219 EXEMPT EQUIPMENT, AIR CONDITIONING UNITS	E178				H23.5
RULE 219 EXEMPT EQUIPMENT, WELL HEADS AND PUMPS, OIL AND GAS	E179				H23.2

- | | |
|---|---|
| <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</p> | <p>(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</p> |
|---|---|

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

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

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
Process 7: RULE 219 EXEMPT EQUIPMENT SUBJECT TO SOURCE SPECIFIC RULES					
RULE 219 EXEMPT EQUIPMENT, EXEMPT HAND WIPING OPERATIONS	E180			VOC: (9) [RULE 1171, 2-1-2008]	
RULE 219 EXEMPT EQUIPMENT, PARTS DEGREASER, CLEANING EQUIPMENT, SMALL, UNHEATED, NON-CONVEYORIZED	E181			VOC: (9) [RULE 1171, 2-1-2008]	H23.3
RULE 219 EXEMPT EQUIPMENT, PORTABLE MARINE COATING EQUIPMENT, COATING EQUIPMENT, LOW USE OR EMISSIONS	E182			VOC: (9) [RULE 1106, 1-13-1995; RULE 1171, 2-1-2008]	
RULE 219 EXEMPT EQUIPMENT, FIRE EXTINGUISHING EQUIPMENT USING HALONS	E183				

* (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
PACIFIC ENERGY RESOURCES, LTD.**

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
 PACIFIC ENERGY RESOURCES, LTD.**

SECTION D: DEVICE ID INDEX

Device Index For Section D			
Device ID	Section D Page No.	Process	System
D1	1	1	1
D2	1	1	2
D3	1	1	2
D4	1	1	2
D5	2	1	2
D6	2	1	2
D7	2	1	2
D8	2	1	2
D9	3	1	3
D10	3	1	3
D11	3	1	3
D12	3	1	3
D13	3	1	3
D14	4	1	3
D15	4	1	3
D16	4	1	3
D17	4	1	3
D18	5	1	3
D19	5	1	3
D20	5	1	3
D21	5	1	3
D22	5	1	4
D23	5	1	4
D24	6	1	4
D25	6	1	4
D26	6	1	4
D27	6	1	5
D28	6	1	5
D29	6	1	5
D30	6	1	5
D31	7	1	6
D32	7	1	6
D33	7	1	6
D34	7	1	6
D35	7	1	6

**FACILITY PERMIT TO OPERATE
 PACIFIC ENERGY RESOURCES, LTD.**

SECTION D: DEVICE ID INDEX

Device Index For Section D			
Device ID	Section D Page No.	Process	System
D36	8	1	6
D37	8	1	6
D38	8	1	6
D39	8	1	6
D40	8	1	6
D41	8	1	6
D42	9	1	6
D43	9	1	6
D44	9	1	6
D45	10	1	8
D46	9	1	7
D47	10	1	7
D48	10	1	7
D49	10	1	7
D50	13	1	8
D51	13	1	8
D52	10	1	8
D53	11	1	8
D54	11	1	8
D55	11	1	8
D56	11	1	8
D57	12	1	8
D58	12	1	8
D59	12	1	8
D60	12	1	8
D61	12	1	8
D62	12	1	8
D63	12	1	8
D64	13	2	0
D65	13	2	0
C66	13	2	0
C67	13	2	0
D68	9	1	7
D69	14	2	0
D76	14	3	1

**FACILITY PERMIT TO OPERATE
 PACIFIC ENERGY RESOURCES, LTD.**

SECTION D: DEVICE ID INDEX

Device Index For Section D			
Device ID	Section D Page No.	Process	System
D77	14	3	2
D78	15	3	2
D79	15	3	3
D80	15	3	3
D81	16	3	4
D82	16	3	4
D83	16	3	4
D84	17	3	5
D85	17	3	5
D86	17	3	5
D87	18	3	6
D88	18	3	7
D89	18	3	7
D90	19	3	7
D91	18	3	6
D92	19	3	8
D93	19	3	8
D95	20	3	10
D96	20	3	10
D97	20	3	10
D98	21	3	11
D99	21	3	11
D100	22	3	11
D101	22	3	11
S102	22	3	11
D103	23	3	11
S104	23	3	11
D105	23	4	1
D106	23	4	1
C107	24	4	1
D108	24	4	2
C109	24	4	2
D118	24	5	1
D121	25	5	2
D125	25	6	0

**FACILITY PERMIT TO OPERATE
 PACIFIC ENERGY RESOURCES, LTD.**

SECTION D: DEVICE ID INDEX

Device Index For Section D			
Device-ID	Section D Page-No.	Process	System
D126	25	6	0
D127	25	6	0
D128	25	6	0
D129	25	6	0
D130	25	6	0
D158	23	4	1
D159	2	1	2
D160	9	1	6
D172	7	1	6
D173	7	1	6
D175	24	4	2
E176	25	7	0
E177	25	7	0
E178	25	7	0
E179	25	7	0
E180	26	7	0
E181	26	7	0
E182	26	7	0
E183	26	7	0
D184	11	1	8

**FACILITY PERMIT TO OPERATE
 PACIFIC ENERGY RESOURCES, LTD.**

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

FACILITY CONDITIONS

F2.1 The operator shall limit emissions from this facility as follows:

CONTAMINANT	EMISSIONS LIMIT
CO	Less than or equal to 14337 LBS IN ANY ONE DAY
PM	Less than or equal to 1292 LBS IN ANY ONE DAY
ROG	Less than or equal to 3251 LBS IN ANY ONE DAY
SOX	Less than or equal to 532 LBS IN ANY ONE DAY
NOX	Less than or equal to 2017 LBS IN ANY ONE DAY

For the purpose of this condition, the CO emission limit shall be the maximum daily potential to emit which also includes emissions from the platform support vessels.

For the purpose of this condition, the PM emission limit shall be the maximum daily potential to emit which also includes emissions from platform support vessels.

For the purpose of this condition, the ROG emission limit shall be the maximum daily potential to emit which also includes emissions from the platform support vessels and the fugitive sources.

For the purpose of this condition, the SOx emission limit shall be the maximum daily potential to emit which also includes emissions from the platform support vessels.

For the purpose of this condition, the NOx emission limit shall be the maximum daily potential to emit from the flares, work and crew boats only.

[RULE 1183, 3-12-1993]

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

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, 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, 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.

The MSDS shall be made available to AQMD upon request.

[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):

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

- platform support vessels operating hours
- support vessels fuel type and usage
- date and time of operation of support vessels
- activity associated with vessels operation

[RULE 1183, 3-12-1993]

PROCESS CONDITIONS

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	1173

[RULE 1173, 6-1-2007]

[Processes subject to this condition : 2, 4, 5]

SYSTEM CONDITIONS

S13.1 All devices under this system are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1173

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

[RULE 1173, 6-1-2007]

[Systems subject to this condition : Process 1, System 1 , 2 , 3 , 7 , 8]

DEVICE CONDITIONS

A. Emission Limits

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

CONTAMINANT	EMISSIONS LIMIT
CO	Less than or equal to 84.95 LBS PER DAY
PM	Less than or equal to 27.9 LBS PER DAY
ROG	Less than or equal to 31.2 LBS PER DAY
SOX	Less than or equal to 5.91 LBS PER DAY

[40CFR 55 OCS, 9-4-1992]

[Devices subject to this condition : D76, D77]

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

CONTAMINANT	EMISSIONS LIMIT
CO	Less than or equal to 83.23 LBS PER DAY
PM	Less than or equal to 27.34 LBS PER DAY
ROG	Less than or equal to 30.6 LBS PER DAY
SOX	Less than or equal to 5.79 LBS PER DAY

**FACILITY PERMIT TO OPERATE
 PACIFIC ENERGY RESOURCES, LTD.**

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

[40CFR 55 OCS, 9-4-1992]

[Devices subject to this condition : D78]

A63.4 The operator shall limit emissions from this equipment as follows:

CONTAMINANT	EMISSIONS LIMIT
CO	Less than or equal to 102.1 LBS PER DAY
PM	Less than or equal to 33.53 LBS PER DAY
ROG	Less than or equal to 37.53 LBS PER DAY
SOX	Less than or equal to 7.11 LBS PER DAY

[40CFR 55 OCS, 9-4-1992]

[Devices subject to this condition : D79]

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

CONTAMINANT	EMISSIONS LIMIT
CO	Less than or equal to 20.81 LBS PER DAY
PM	Less than or equal to 6.83 LBS PER DAY
ROG	Less than or equal to 7.65 LBS PER DAY
SOX	Less than or equal to 1.45 LBS PER DAY

[40CFR 55 OCS, 9-4-1992]

**FACILITY PERMIT TO OPERATE
 PACIFIC ENERGY RESOURCES, LTD.**

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

[Devices subject to this condition : D80]

A63.6 The operator shall limit emissions from this equipment as follows:

CONTAMINANT	EMISSIONS LIMIT
CO	Less than or equal to 171.4 LBS PER DAY
PM	Less than or equal to 8.4 LBS PER DAY
ROG	Less than or equal to 33.7 LBS PER DAY
SOX	Less than or equal to 1.8 LBS PER DAY

[40CFR 55 OCS, 9-4-1992]

[Devices subject to this condition : D87, D88, D89, D90, D91, D92, D93]

A63.8 The operator shall limit emissions from this equipment as follows:

CONTAMINANT	EMISSIONS LIMIT
CO	Less than or equal to 409 LBS PER DAY
PM	Less than or equal to 22.3 LBS PER DAY
ROG	Less than or equal to 16.3 LBS PER DAY
SOX	Less than or equal to 17.9 LBS PER DAY

[40CFR 55 OCS, 9-4-1992]

[Devices subject to this condition : D95, D96, D97]

A63.9 The operator shall limit emissions from this equipment as follows:

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

CONTAMINANT	EMISSIONS LIMIT
CO	Less than or equal to 794.6 LBS PER DAY
PM	Less than or equal to 38.8 LBS PER DAY
ROG	Less than or equal to 156.4 LBS PER DAY
SOX	Less than or equal to 8.2 LBS PER DAY

[40CFR 55 OCS, 9-4-1992]

[Devices subject to this condition : D81, D82, D83, D84, D85, D86]

A63.10 The operator shall limit emissions from this equipment as follows:

CONTAMINANT	EMISSIONS LIMIT
CO	Less than or equal to 230.4 LBS PER DAY
PM	Less than or equal to 127.7 LBS PER DAY
ROG	Less than or equal to 96.6 LBS PER DAY
SOX	Less than or equal to 102.5 LBS PER DAY

[40CFR 55 OCS, 9-4-1992]

[Devices subject to this condition : D101, D103]

A63.11 The operator shall limit emissions from this equipment as follows:

CONTAMINANT	EMISSIONS LIMIT
CO	Less than or equal to 110.6 LBS PER DAY

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

PM	Less than or equal to 61.7 LBS PER DAY
ROG	Less than or equal to 24.1 LBS PER DAY
SOX	Less than or equal to 49.5 LBS PER DAY

[40CFR 55 OCS, 9-4-1992]

[Devices subject to this condition : D98, D99, D100]

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, 8-7-1978]

[Devices subject to this condition : D101, D103]

B. Material/Fuel Type Limits

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

Compound	ppm by volume
H2S content greater than	3

[RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition : D95, D96, D97, D98, D99, D100, D101, D103]

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

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

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

The 40 ppm limit shall be averaged over a 4-hour period.

[RULE 431.1, 6-12-1998]

[Devices subject to this condition : D95, D96, D97, D98, D99, D100, D101, D103]

C. Throughput or Operating Parameter Limits

C1.1 The operator shall limit the operating time to no more than 200 hour(s) in any one year.

The purpose(s) of this condition is to ensure that this equipment qualifies as an emergency standby generator.

The purpose(s) of this condition is to ensure that D76, D77, D78, and D79 qualify as a NOx process unit.

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

[Devices subject to this condition : D76, D77, D78, D79, D80]

C1.3 The operator shall limit the operating time to no more than 500 hour(s) in any one year.

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

The purpose(s) of this condition is to exempt the engine from the VOC limit of 30 ppmvd and the CO limit of 250 ppmvd, both corrected to 15% O₂, effective 7/1/2011, pursuant to Rule 1110.2(d)(1)(B)(ii).

The engine shall emit no more than 250 ppmvd of VOC and 2000 ppmvd of CO, both corrected to 15% O₂.

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 equipment.

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

[RULE 1110.2, 2-1-2008]

[Devices subject to this condition : D87, D88, D89, D90, D91, D92]

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

[Devices subject to this condition : D76, D77, D78, D79, D80]

D12.2 The operator shall install and maintain a(n) infrared flame detector to accurately indicate the presence of a flame at the flare pilot.

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

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

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

[Devices subject to this condition : C107, C109]

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

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

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

The test shall be conducted in compliance with the source testing requirements of Rule 1110.2(f)(1)(C).

The test shall be conducted in accordance with an AQMD approved protocol.

The test shall be conducted to demonstrate compliance with Rule 1110.2.

[RULE 1110.2, 2-1-2008; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition : D81, D82, D83, D84, D85, D86, D87, D88, D89,
D90, D91, D92, D93]

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

D323.1 The operator shall conduct an inspection for visible emissions from all stacks and other emission points of this equipment whenever there is a public complaint of visible emissions, whenever visible emissions are observed, and on a semi-annual basis, at least, unless the equipment did not operate during the entire semi-annual period. The routine semi-annual 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 that last more than three minutes in any one hour, the operator shall verify and certify within 24 hours that the equipment causing the emission and any associated air pollution control equipment are operating normally according to their design and standard procedures and under the same conditions under which compliance was achieved in the past, and either:

- 1). Take corrective action(s) that eliminates the visible emissions within 24 hours and report the visible emissions as a potential deviation in accordance with the reporting requirements in Section K of this permit; or
- 2). 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 business days and report any deviations to AQMD.

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

- 1). Stack or emission point identification;
- 2). Description of any corrective actions taken to abate visible emissions;
- 3). Date and time visible emission was abated; and
- 4). All visible emission observation records by operator or a certified smoke reader.

**FACILITY PERMIT TO OPERATE
PACIFIC ENERGY RESOURCES, LTD.**

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

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

[Devices subject to this condition : E177]

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

D323.2 The operator shall conduct an inspection for visible emissions from all stacks and other emission points of this equipment whenever there is a public complaint of visible emissions, whenever visible emissions are observed, and on a semi-annual basis, at least, unless the equipment did not operate during the entire semi-annual period, or the equipment did not burn fuel oil during the entire period. The routine semi-annual 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 that last more than three minutes in any one hour, the operator shall verify and certify within 24 hours that the equipment causing the emission and any associated air pollution control equipment are operating normally according to their design and standard procedures and under the same conditions under which compliance was achieved in the past, and either:

- 1). Take corrective action(s) that eliminates the visible emissions within 24 hours and report the visible emissions as a potential deviation in accordance with the reporting requirements in Section K of this permit; or
- 2). 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 business days and report any deviations to AQMD.

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

- 1). Stack or emission point identification;
- 2). Description of any corrective actions taken to abate visible emissions;
- 3). Date and time visible emission was abated; and
- 4). All visible emission observation records by operator or a certified smoke reader.

**FACILITY PERMIT TO OPERATE
PACIFIC ENERGY RESOURCES, LTD.**

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

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

[Devices subject to this condition : D95, D96, D97]

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

D323.3 The operator shall conduct an inspection for visible emissions from all stacks and other emission points of this equipment whenever there is a public complaint of visible emissions, whenever visible emissions are observed, and on a quarterly basis, at least, unless the equipment did not operate during the entire quarterly period. The routine quarterly 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 that last more than three minutes in any one hour, the operator shall verify and certify within 24 hours that the equipment causing the emission and any associated air pollution control equipment are operating normally according to their design and standard procedures and under the same conditions under which compliance was achieved in the past, and either:

- 1). Take corrective action(s) that eliminates the visible emissions within 24 hours and report the visible emissions as a potential deviation in accordance with the reporting requirements in Section K of this permit; or
- 2). 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 business days and report any deviations to AQMD.

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

- 1). Stack or emission point identification;
- 2). Description of any corrective actions taken to abate visible emissions;
- 3). Date and time visible emission was abated; and
- 4). All visible emission observation records by operator or a certified smoke reader.

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

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

[Devices subject to this condition : D81, D82, D83, D84, D85, D86, D87, D88, D89, D90, D91, D92, D93]

D328.1 The operator shall determine compliance with the CO emission limit(s) either: (a) conducting a source test at least once every five years using AQMD Method 100.1 or 10.1; or (b) conducting a test at least annually using a portable analyzer and AQMD-approved test method. The test shall be conducted when the equipment is operating under normal conditions to demonstrate compliance with Rule 407 emission limit. The operator shall comply with all general testing, reporting, and recordkeeping requirements in Sections E and K of this permit.

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

[Devices subject to this condition : D101, D103]

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

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

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

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

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

[Devices subject to this condition : D98, D99, D100, D101, D103]

E. Equipment Operation/Construction Requirements

E17.1 The operator shall not use more than 1 of the following items simultaneously:

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

Device ID: D56 [Scrubber]

Device ID: D184 [Scrubber]

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

[RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition : D56, D184]

E71.1 The operator shall only use this equipment during process upset, emergency situation and/or safety concern of operating personnel and equipment.

[RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition : C107, C109]

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

[RULE 463, 5-6-2005]

[Devices subject to this condition : D8, D17, D18, D19, D20, D32, D33, D37, D44, D118, D121]

E127.2 The operator shall keep gauge/sample hatches closed except during actual gauging/sampling operations.

[RULE 1176, 9-13-1996; RULE 1303(a)(1)-BACT, 12-6-2002]

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

[Devices subject to this condition : D22, D23, D24, D25, D26, D27, D28, D29, D36, D38, D39, D40, D41, D42, D43, D172, D173]

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

(a) Remove a section of the fuel feed line(s) to the device and place a blind flange on both ends of the fuel feed line(s); and

(b) Remove a section of the process feed line(s) and place a blind flange on both ends of the process feed line(s).

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

[RULE 2012, 5-6-2005]

[Devices subject to this condition : D101, D103]

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

[RULE 2012, 5-6-2005]

[Devices subject to this condition : D101, D103]

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

E448.1 The operator shall comply with the following requirements:

To comply with Rule 1176, the VOC content of each liquid stream entering each device shall not exceed at all times 5 mg per liter.

[RULE 1176, 9-13-1996]

[Devices subject to this condition : D34, D35, D43, D172, D173]

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

Maintain a quarterly engine operating log that includes:

A. Total hours of operation;

B. Type of liquid fuel;

C. Fuel consumption (gallons of liquid); and

D. Cumulative hours of operation since the last source test required in Rule 1110.2(f)(1)(C).

[RULE 1110.2, 2-1-2008]

[Devices subject to this condition : D87, D88, D89, D90, D91, D92]

E448.4 The operator shall comply with the following requirements:

The operator shall comply with the requirements of the Inspection and Monitoring (I&M) plan.

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

[RULE 1110.2, 2-1-2008]

[Devices subject to this condition : D87, D88, D89, D90, D91, D92]

E448.5 The operator shall comply with the following requirements:

The operator shall comply with the reporting requirements of Rule 1110.2(F)(1)(H) pertaining to any equipment breakdown that results in emissions in excess of rule or permit emission limits for VOC or CO.

[RULE 1110.2, 2-1-2008]

[Devices subject to this condition : D87, D88, D89, D90, D91, D92]

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	1176

[RULE 1176, 9-13-1996]

[Devices subject to this condition : D22, D23, D24, D25, D26, D27, D28, D29, D31, D34, D35, D36, D38, D39, D40, D41, D42, D43, D130, D172, D173]

H23.2 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

VOC | District Rule | 1173

[RULE 1173, 6-1-2007]

[Devices subject to this condition : D125, D126, D127, D128, D129, E179]

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

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1122

[RULE 1122, 10-1-2004]

[Devices subject to this condition : E181]

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

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1149

[RULE 1149, 5-2-2008]

[Devices subject to this condition : D8, D17, D18, D19, D20, D32, D33, D37, D44, D118, D121]

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

Contaminant	Rule	Rule/Subpart
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FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

Refrigerants | 40CFR82, SUBPART | F

[40CFR 82 Subpart F, 5-14-1993]

[Devices subject to this condition : E178]

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

Contaminant	Rule	Rule/Subpart
VOC	District Rule	463

[RULE 463, 5-6-2005]

[Devices subject to this condition : D8, D17, D18, D19, D20, D32, D33, D37, D44, D118, D121]

H23.7 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

[RULE 1110.2, 2-1-2008]

[Devices subject to this condition : D87, D88, D89, D90, D91, D92]

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

H421.2 The operator shall determine compliance with Rule 475 by complying with the tune-up requirements of Rule 2012, whenever the annual fuel oil usage exceeds 1 MM gallons in any one year or the hours of operations on fuel oil exceeds 336 hours in any one year. If annual fuel oil usage exceeds 2 MM gallons in any one year, the operator shall also conduct a source test to determine PM emissions using District method 5.1 measured over a 15 minute averaging time period at least once every five years and with this equipment fired on fuel oil and operating at normal load.

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

[Devices subject to this condition : D101, D103]

K. Record Keeping/Reporting

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.

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).

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

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

[RULE 1110.2, 2-1-2008; RULE 1303(b)(2)-Offset, 12-6-2002]

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

[Devices subject to this condition : D81, D82, D83, D84, D85, D86, D87, D88, D89, D90, D91, D92, D93]

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 : E176]

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

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
Process 3: INTERNAL COMBUSTION					
System 4: ICE: RIG GENERATOR - PLATFORM ELLEN					
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, EJ-01A, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH OXIDATION CATALYST, JOHNSON MATTHEY, MODEL BX-70-D-8, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP WITH A/N: 500153 Permit to Construct Issued: 01/26/10 GENERATOR, RIG, 600 KW	D81		NOX: LARGE SOURCE**	CO: 250 PPMV (5) [RULE 1110.2, 2-1-2008]; NOX: 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 30 PPMV (5) [RULE 1110.2, 2-1-2008]	A63.9, C1.4, D12.6, D12.8, D28.1, D29.1, D323.3, E448.3, E448.4, E448.5, H23.7, K40.1
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, EJ-01B, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH OXIDATION CATALYST, JOHNSON MATTHEY, MODEL BX-70-D-8, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP WITH A/N: GENERATOR, RIG, 600 KW	D82		NOX: LARGE SOURCE**	CO: 250 PPMV (5) [RULE 1110.2, 2-1-2008]; NOX: 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 30 PPMV (5) [RULE 1110.2, 2-1-2008]	A63.9, C1.4, D12.6, D12.8, D28.1, D29.2, D323.3, E448.3, E448.4, E448.5, H23.7, 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

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

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

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
Process 3: INTERNAL COMBUSTION					
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, EJ-01C, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH OXIDATION CATALYST, JOHNSON MATTHEY, MODEL BX-70-D-8, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP WITH A/N: GENERATOR, RIG, 600 KW	D83		NOX: LARGE SOURCE**	CO: 250 PPMV (5) [RULE 1110.2, 2-1-2008]; NOX: 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 30 PPMV (5) [RULE 1110.2, 2-1-2008]	A63.9, C1.4, D12.6, D12.8, D28.1, D29.2, D323.3, E448.3, E448.4, E448.5, H23.7, K40.1
System 5: ICE: RIG GENERATOR - PLATFORM EUREKA					
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, EN-010-E2, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH OXIDATION CATALYST, JOHNSON MATTHEY, MODEL BX-70-D-8, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP WITH A/N: GENERATOR, RIG, 600 KW	D84		NOX: LARGE SOURCE**	CO: 250 PPMV (5) [RULE 1110.2, 2-1-2008]; NOX: 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 30 PPMV (5) [RULE 1110.2, 2-1-2008]	A63.9, C1.4, D12.6, D12.8, D28.1, D29.2, D323.3, E448.3, E448.4, E448.5, H23.7, K40.1
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, EN-020-E2, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH OXIDATION CATALYST, JOHNSON MATTHEY, MODEL BX-70-D-8, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP WITH A/N: GENERATOR, RIG, 600 KW	D85		NOX: LARGE SOURCE**	CO: 250 PPMV (5) [RULE 1110.2, 2-1-2008]; NOX: 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 30 PPMV (5) [RULE 1110.2, 2-1-2008]	A63.9, C1.4, D12.6, D12.8, D28.1, D29.2, D323.3, E448.3, E448.4, E448.5, H23.7, 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

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

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

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
Process 3: INTERNAL COMBUSTION					
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, EN-030-E2, DIESEL FUEL, CATERPILLAR, MODEL D398PCTA, WITH OXIDATION CATALYST, JOHNSON MATTHEY, MODEL BX-70-D-8, WITH AFTERCOOLER, TURBOCHARGER, 853 BHP A/N:	D86		NOX: LARGE SOURCE**	CO: 250 PPMV (5) [RULE 1110.2, 2-1-2008]; NOX: 450 PPMV DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 30 PPMV (5) [RULE 1110.2, 2-1-2008]	A63.9, C1.4, D12.6, D12.8, D28.1, D29.2, D323.3, E448.3, E448.4, E448.5, H23.7, K40.1
System 8: ICE: PEDESTAL CRANE - PLATFORM ELLY					
INTERNAL COMBUSTION ENGINE, NON-EMERGENCY, L-01B, DIESEL FUEL, DETROIT DIESEL, MODEL 1064-7001, ELLY WEST CRANE, WITH OXIDATION CATALYST, CLEAN EMISSIONS PROD, MODEL 4-400, 195 BHP A/N:	D93		NOX: PROCESS UNIT**	CO: 2000 PPMV DIESEL (5) [RULE 1110.2, 2-1-2008]; NOX: 469 LBS/1000 GAL. DIESEL (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; VOC: 250 PPMV DIESEL (5) [RULE 1110.2, 2-1-2008]	A63.6, C1.3, D12.4, D12.7, D28.1, D29.1, D323.3, E448.2, E448.4, E448.5, H23.7, 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

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

**FACILITY PERMIT TO OPERATE
PACIFIC ENERGY RESOURCES, LTD.**

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
PACIFIC ENERGY RESOURCES, LTD.**

SECTION H: DEVICE ID INDEX

Device Index For Section H			
Device ID	Section H Page No.	Process	System
D81	1	3	4
D82	1	3	4
D83	2	3	4
D84	2	3	5
D85	2	3	5
D86	3	3	5
D93	3	3	8

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

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

FACILITY CONDITIONS

F2.1 The operator shall limit emissions from this facility as follows:

CONTAMINANT	EMISSIONS LIMIT
CO	Less than or equal to 14337 LBS IN ANY ONE DAY
PM	Less than or equal to 1292 LBS IN ANY ONE DAY
ROG	Less than or equal to 3251 LBS IN ANY ONE DAY
SOX	Less than or equal to 532 LBS IN ANY ONE DAY
NOX	Less than or equal to 2017 LBS IN ANY ONE DAY

For the purpose of this condition, the CO emission limit shall be the maximum daily potential to emit which also includes emissions from the platform support vessels.

For the purpose of this condition, the PM emission limit shall be the maximum daily potential to emit which also includes emissions from platform support vessels.

For the purpose of this condition, the ROG emission limit shall be the maximum daily potential to emit which also includes emissions from the platform support vessels and the fugitive sources.

For the purpose of this condition, the SOx emission limit shall be the maximum daily potential to emit which also includes emissions from the platform support vessels.

For the purpose of this condition, the NOx emission limit shall be the maximum daily potential to emit from the flares, work and crew boats only.

[RULE 1183, 3-12-1993]

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

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

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, 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, 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.

The MSDS shall be made available to AQMD upon request.

[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):

platform support vessels operating hours

support vessels fuel type and usage

date and time of operation of support vessels

activity associated with vessels operation

[RULE 1183, 3-12-1993]

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

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

PROCESS CONDITIONS

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	1173

[RULE 1173, 6-1-2007]

[Processes subject to this condition : 2, 4, 5]

SYSTEM CONDITIONS

S13.1 All devices under this system are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1173

[RULE 1173, 6-1-2007]

[Systems subject to this condition : Process 1, System 1, 2, 3, 7, 8]

DEVICE CONDITIONS

A. Emission Limits

A63.6 The operator shall limit emissions from this equipment as follows:

CONTAMINANT	EMISSIONS LIMIT

**FACILITY PERMIT TO OPERATE
 PACIFIC ENERGY RESOURCES, LTD.**

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

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

CO	Less than or equal to 171.4 LBS PER DAY
PM	Less than or equal to 8.4 LBS PER DAY
ROG	Less than or equal to 33.7 LBS PER DAY
SOX	Less than or equal to 1.8 LBS PER DAY

[40CFR 55 OCS, 9-4-1992]

[Devices subject to this condition : D93]

A63.9 The operator shall limit emissions from this equipment as follows:

CONTAMINANT	EMISSIONS LIMIT
CO	Less than or equal to 794.6 LBS PER DAY
PM	Less than or equal to 38.8 LBS PER DAY
ROG	Less than or equal to 156.4 LBS PER DAY
SOX	Less than or equal to 8.2 LBS PER DAY

[40CFR 55 OCS, 9-4-1992]

[Devices subject to this condition : D81, D82, D83, D84, D85, D86]

C. Throughput or Operating Parameter Limits

C1.3 The operator shall limit the operating time to no more than 500 hour(s) in any one year.

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

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

The purpose(s) of this condition is to exempt the engine from the VOC limit of 30 ppmvd and the CO limit of 250 ppmvd, both corrected to 15% O₂, effective 7/1/2011, pursuant to Rule 1110.2(d)(1)(B)(ii).

The engine shall emit no more than 250 ppmvd of VOC and 2000 ppmvd of CO, both corrected to 15% O₂.

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 equipment.

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

[RULE 1110.2, 2-1-2008]

[Devices subject to this condition : D93]

- C1.4 The operator shall limit the operating time to no more than 360 hour(s) in any one month.

The purpose(s) of this condition is to limit the maximum emissions from the equipment.

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

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

[RULE 1110.2, 2-1-2008; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition : D81, D82, D83, D84, D85, D86]

D. Monitoring/Testing Requirements

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

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

- D12.4 The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature in the exhaust at the inlet to the oxidation catalyst.

The temperature of the engine exhaust at the inlet of the catalyst shall be between 480 and 1380 degrees F.

The temperature range requirement of this condition shall not apply during start-up operations of the engine not to exceed 30 minutes per start-up.

[RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition : D93]

- D12.6 The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature in the exhaust at the inlet to the oxidization catalyst.

The temperature of the engine exhaust at the inlet of the catalyst shall be between 465 and 1250 degrees F.

The temperature range requirement of this condition shall not apply during start-up operations of the engine not to exceed 30 minutes per start-up.

[RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition : D81, D82, D83, D84, D85, D86]

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

The pressure drop across the oxidation catalyst shall not exceed 53 inches water column.

The catalyst shall be cleaned or replaced if the pressure drop exceeds the recommended limit.

[RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition : D93]

**FACILITY PERMIT TO OPERATE
 PACIFIC ENERGY RESOURCES, LTD.**

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

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

D12.8 The operator shall install and maintain a(n) differential pressure gauge to accurately indicate the differential pressure across the oxidation catalyst.

The pressure drop across the oxidation catalyst shall not exceed 27 inches water column.

The catalyst shall be cleaned or replaced if the pressure drop exceeds the recommended limit.

[RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition : D81, D82, D83, D84, D85, D86]

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

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

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

The test shall be conducted in compliance with the source testing requirements of Rule 1110.2(f)(1)(C).

The test shall be conducted in accordance with an AQMD approved protocol.

The test shall be conducted to demonstrate compliance with Rule 1110.2.

[RULE 1110.2, 2-1-2008; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition : D81, D82, D83, D84, D85, D86, D93]

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	Location

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

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

VOC emissions	District method 25.1	District-approved averaging time	Outlet
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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 tests shall measure the fuel flow rate (gal/hr) and the flue gas flow rate.

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 operator may use a previously approved source test protocol for the test, but include a copy of the protocol in the source test report. The test protocol shall include the proposed operating conditions of the engine 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 per Rule 1110.2 (f)(1)(C) as adopted on 2/1/2008.

For D93, the test shall be conducted for compliance verification of the 250 ppmvd limit for VOC.

For D81, the test shall be conducted for compliance verification of the 30 ppmvd limit for VOC in advance of the effective date. The primary purpose is to demonstrate the oxidation catalyst is successful in reducing VOC emissions to the 30 ppmvd limit.

The source test report shall be submitted to the District within 45 days after the test has been conducted.

[RULE 1110.2, 2-1-2008]

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

[Devices subject to this condition : D81, D93]

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	Location
VOC emissions	District Method 25.3	District-approved averaging time	Outlet
CO emissions	District method 100.1	District-approved averaging time	Outlet

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

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

The test shall be conducted after AQMD approval of the source test protocol, but no later than 180 days after the permit to construct is issued. The AQMD shall be notified of the date and time of the test at least 30 days prior to the test.

The test shall be conducted in accordance with an AQMD approved test protocol. The protocol shall be submitted to the AQMD engineer no later than 60 days before the proposed test date and shall be approved by the AQMD before the test commences. The test protocol shall include the name, address and phone number of the engine operator and a District-approved source testing contractor that will conduct the test, the application and permit number(s), emission limits, a description of the engine(s)

to be tested, the test methods and procedures to be used, the number of tests to be conducted and under what loads, the required minimum sampling time for the VOC test based on the analytical detection limit and expected VOC levels, and a description of the parameters to be measured in accordance with the I&M plan required by the Rule 1110.2(f)(1)(D).

The test shall be conducted in accordance with the source testing requirements of Rule 1110.2(f)(1)(C).

The test shall be conducted for compliance verification of the 30 ppmvd VOC limit.

The test shall be conducted for compliance verification of the 250 ppmvd CO limit.

The source test report shall be submitted to the District within 60 days after the test has been conducted.

[RULE 1110.2, 2-1-2008]

[Devices subject to this condition : D82, D83, D84, D85, D86]

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

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

D323.3 The operator shall conduct an inspection for visible emissions from all stacks and other emission points of this equipment whenever there is a public complaint of visible emissions, whenever visible emissions are observed, and on a quarterly basis, at least, unless the equipment did not operate during the entire quarterly period. The routine quarterly 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 that last more than three minutes in any one hour, the operator shall verify and certify within 24 hours that the equipment causing the emission and any associated air pollution control equipment are operating normally according to their design and standard procedures and under the same conditions under which compliance was achieved in the past, and either:

- 1). Take corrective action(s) that eliminates the visible emissions within 24 hours and report the visible emissions as a potential deviation in accordance with the reporting requirements in Section K of this permit; or
- 2). 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 business days and report any deviations to AQMD.

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

- 1). Stack or emission point identification;
- 2). Description of any corrective actions taken to abate visible emissions;
- 3). Date and time visible emission was abated; and
- 4). All visible emission observation records by operator or a certified smoke reader.

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

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

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

[Devices subject to this condition : D81, D82, D83, D84, D85, D86, D93]

E. Equipment Operation/Construction Requirements

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

Maintain a quarterly engine operating log that includes:

- A. Total hours of operation;
- B. Type of liquid fuel;
- C. Fuel consumption (gallons of liquid); and
- D. Cumulative hours of operation since the last source test required in Rule 1110.2(f)(1)(C).

[RULE 1110.2, 2-1-2008]

[Devices subject to this condition : D93]

E448.3 The operator shall comply with the following requirements:

Maintain a monthly engine operating log that includes:

- A. Total hours of operation;
- B. Type of liquid fuel;
- C. Fuel consumption (gallons of liquid); and
- D. Cumulative hours of operation since the last source test required in Rule 1110.2(f)(1)(C).

[RULE 1110.2, 2-1-2008]

**FACILITY PERMIT TO OPERATE
 PACIFIC ENERGY RESOURCES, LTD.**

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

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

[Devices subject to this condition : D81, D82, D83, D84, D85, D86]

E448.4 The operator shall comply with the following requirements:

The operator shall comply with the requirements of the Inspection and Monitoring (I&M) plan.

[RULE 1110.2, 2-1-2008]

[Devices subject to this condition : D81, D82, D83, D84, D85, D86, D93]

E448.5 The operator shall comply with the following requirements:

The operator shall comply with the reporting requirements of Rule 1110.2(f)(1) (H) pertaining to any equipment breakdown that results in emissions in excess of rule or permit emission limits for VOC or CO.

[RULE 1110.2, 2-1-2008]

[Devices subject to this condition : D81, D82, D83, D84, D85, D86, D93]

H. Applicable Rules

H23.7 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

[RULE 1110.2, 2-1-2008]

[Devices subject to this condition : D81, D82, D83, D84, D85, D86, D93]

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

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

K. Record Keeping/Reporting

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.

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).

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

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

[RULE 1110.2, 2-1-2008; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition : D81, D82, D83, D84, D85, D86, D93]

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION K: TITLE V Administration GENERAL PROVISIONS

1. This permit may be revised, revoked, reopened and reissued, or terminated for cause, or for failure to comply with regulatory requirements, permit terms, or conditions. [3004(a)(7)(C)]
2. This permit does not convey any property rights of any sort or any exclusive privilege. [3004(a)(7)(E)]

Permit Renewal and Expiration

3. (A) Except for solid waste incineration facilities subject to standards under section 129(e) of the Clean Air Act, this permit shall expire five years from the date that this Title V permit is issued. The operator's right to operate under this permit terminates at midnight on this date, unless the facility is protected by an application shield in accordance with Rule 3002(b), due to the filing of a timely and complete application for a Title V permit renewal, consistent with Rule 3003. [3004(a)(2), 3004(f)]

(B) A Title V permit for a solid waste incineration facility combusting municipal waste subject to standards under Section 129(e) of the Clean Air Act shall expire 12 years from the date of issuance unless such permit has been renewed pursuant to this regulation. These permits shall be reviewed by the Executive Officer at least every five years from the date of issuance. [3004(l)(2)]
4. To renew this permit, the operator shall submit to the Executive Officer an application for renewal at least 180 days, but not more than 545 days, prior to the expiration date of this permit. [3003(a)(6)]

Duty to Provide Information

5. The applicant for, or holder of, a Title V permit shall furnish, pursuant to Rule 3002(d) and (e), timely information and records to the Executive Officer or designee within a reasonable time as specified in writing by the Executive Officer or designee. [3004(a)(7)(F)]

Payment of Fees

6. The operator shall pay all required fees specified in Regulation III - Fees. [3004(a)(7)(G)]

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION K: TITLE V Administration

Reopening for Cause

7. The Executive Officer will reopen and revise this permit if any of the following circumstances occur:
- (A) Additional regulatory requirements become applicable with a remaining permit term of three or more years. Reopening is not required if the effective date of the requirement is later than the expiration date of this permit, unless the permit or any of its terms and conditions has been extended pursuant to paragraph (f)(4) of Rule 3004.
 - (B) The Executive Officer or EPA Administrator determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit.
 - (C) The Executive Officer or EPA Administrator determines that the permit must be revised or revoked to assure compliance with the applicable requirements. [3005(g)(1)]

COMPLIANCE PROVISIONS

8. The operator shall comply with all regulatory requirements, and all permit terms and conditions, except:
- (A) As provided for by the emergency provisions of condition no. 17 or condition no. 18, or
 - (B) As provided by an alternative operating condition granted pursuant to a federally approved (SIP-approved) Rule 518.2.

Any non-compliance with any federally enforceable permit condition constitutes a violation of the Federal Clean Air Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or denial of a permit renewal application. Non-compliance may also be grounds for civil or criminal penalties under the California State Health and Safety Code. [3004(a)(7)(A)]

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION K: TITLE V Administration

9. The operator shall allow the Executive Officer or authorized representative, upon presentation of appropriate credentials to:
 - (A) Enter the operator's premises where emission-related activities are conducted, or records are kept under the conditions of this permit;
 - (B) Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
 - (C) Inspect at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
 - (D) Sample or monitor at reasonable times, substances or parameters for the purpose of assuring compliance with the facility permit or regulatory requirements. [3004(a)(10)(B)]

10. All terms and conditions in this permit, including any provisions designed to limit a facility's potential to emit, are enforceable by the EPA Administrator and citizens under the federal Clean Air Act, unless the term or condition is designated as not federally enforceable. Each day during any portion of which a violation occurs is a separate offense. [3004(g)]

11. A challenge to any permit condition or requirement raised by EPA, the operator, or any other person, shall not invalidate or otherwise affect the remaining portions of this permit. [3007(b)]

12. The filing of any application for a permit revision, revocation, or termination, or a notification of planned changes or anticipated non-compliance does not stay any permit condition. [3004(a)(7)(D)]

13. It shall not be a defense for a person in an enforcement action, including those listed in Rule 3002(c)(2), that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit, except as provided for in "Emergency Provisions" of this section. [3004(a)(7)(H)]

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION K: TITLE V Administration

14. The operator shall not build, erect, install, or use any equipment, the use of which, without resulting in a reduction in the total release of air contaminants to atmosphere, reduces or conceals an emission which would otherwise constitute a violation of Chapter 3 (commencing with Section 41700) of Part 4, of Division 26 of the California Health and Safety Code or of AQMD rules. This rule shall not apply to cases in which the only violation involved is of Section 41700 of the California Health and Safety Code, or Rule 402 of AQMD Rules. [408]

15. Nothing in this permit or in any permit shield can alter or affect:
 - (A) Under Section 303 of the federal Clean Air Act, the provisions for emergency orders;
 - (B) The liability of the operator for any violation of applicable requirements prior to or at the time of permit issuance;
 - (C) The applicable requirements of the Acid Rain Program, Regulation XXXI;
 - (D) The ability of EPA to obtain information from the operator pursuant to Section 114 of the federal Clean Air Act;
 - (E) The applicability of state or local requirements that are not "applicable requirements", as defined in Rule 3000, at the time of permit issuance but which do apply to the facility, such as toxics requirements unique to the State; and
 - (F) The applicability of regulatory requirements with compliance dates after the permit issuance date. [3004(c)(3)]

16. For any portable equipment that requires an AQMD or state permit or registration, excluding a) portable engines, b) military tactical support equipment and c) AQMD-permitted portable equipment that are not a major source, are not located at the facility for more than 12 consecutive months after commencing operation, and whose operation does not conflict with the terms or conditions of this Title V permit: 1) the facility operator shall keep a copy of the AQMD or state permit or registration; 2) the equipment operator shall comply with the conditions on the permit or registration and all other regulatory requirements; and 3) the facility operator shall treat the permit or registration as a part of its Title V permit, subject to recordkeeping, reporting and certification requirements. [3004(a)(1)]

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION K: TITLE V Administration EMERGENCY PROVISIONS

17. An emergency¹ constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limit only if:

(A) Properly signed, contemporaneous operating records or other credible evidence demonstrate that:

(1) An emergency occurred and the operator can identify the cause(s) of the emergency;

(2) The facility was operated properly (i.e. operated and maintained in accordance with the manufacturer's specifications, and in compliance with all regulatory requirements or a compliance plan), before the emergency occurred;

(3) The operator took all reasonable steps to minimize levels of emissions that exceeded emissions standard, or other requirements in the permit; and,

(4) The operator submitted a written notice of the emergency to the AQMD within two working days of the time when the emissions limitations were exceeded due to the emergency. The notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken; and

(B) The operator complies with the breakdown provisions of Rule 430 – Breakdown Provisions, or subdivision (i) of Rule 2004 – Requirements, whichever is applicable. [3002(g), 430, 2004(i)]

18. The operator is excused from complying with any regulatory requirement that is suspended by the Executive Officer during a state of emergency or state of war emergency, in accordance with Rule 118 - Emergencies. [118]

¹ "Emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the operator, including acts of God, which: (A) requires immediate corrective action to restore normal operation; and (B) causes the facility to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency; and (C) is not caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION K: TITLE V Administration RECORDKEEPING PROVISIONS

19. In addition to any other recordkeeping requirements specified elsewhere in this permit, the operator shall keep records of required monitoring information, where applicable, that include:
- (A) The date, place as defined in the Title V permit, and time of sampling or measurements;
 - (B) The date(s) analyses were performed;
 - (C) The company or entity that performed the analyses;
 - (D) The analytical techniques or methods used;
 - (E) The results of such analyses; and
 - (F) The operating conditions as existing at the time of sampling or measurement. [3004(a)(4)(B)]
20. The operator shall maintain records pursuant to Rule 109 and any applicable material safety data sheet (MSDS) for any equipment claimed to be exempt from a written permit by Rule 219 based on the information in those records. [219(t)]
21. The operator shall keep all records of monitoring data required by this permit or by regulatory requirements for a period of at least five years from the date of the monitoring sample, measurement, report, or application. [3004(a)(4)(E)]

REPORTING PROVISIONS

22. The operator shall comply with the following requirements for prompt reporting of deviations:
- (A) Breakdowns shall be reported as required by Rule 430 – Breakdown Provisions or subdivision (i) of Rule 2004 - Requirements, whichever is applicable.

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION K: TITLE V Administration

- (B) Other deviations from permit or applicable rule emission limitations, equipment operating conditions, or work practice standards, determined by observation or by any monitoring or testing required by the permit or applicable rules that result in emissions greater than those allowed by the permit or applicable rules shall be reported within 72 hours (unless a shorter reporting period is specified in an applicable State or Federal Regulation) of discovery of the deviation by contacting AQMD enforcement personnel assigned to this facility or otherwise calling (800) CUT-SMOG.
 - (C) A written report of such deviations reported pursuant to (B), and any corrective actions or preventative measures taken, shall be submitted to AQMD, in an AQMD approved format, within 14 days of discovery of the deviation.
 - (D) All other deviations shall be reported with the monitoring report required by condition no. 23. [3004(a)(5)]
23. Unless more frequent reporting of monitoring results are specified in other permit conditions or in regulatory requirements, the operator shall submit reports of any required monitoring to the AQMD at least twice per year. The report shall include a) a statement whether all monitoring required by the permit was conducted; and b) identification of all instances of deviations from permit or regulatory requirements. A report for the first six calendar months of the year is due by August 31 and a report for the last six calendar months of the year is due by February 28. [3004(a)(4)(F)]
24. The operator shall submit to the Executive Officer and to the Environmental Protection Agency (EPA), an annual compliance certification. For RECLAIM facilities, the certification is due when the Annual Permit Emissions Program (APEP) report is due and shall cover the same reporting period. For other facilities, the certification is due on March 1 for the previous calendar year. The certification need not include the period preceding the date the initial Title V permit was issued. Each compliance certification shall include:
- (A) Identification of each permit term or condition that is the basis of the certification;

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION K: TITLE V Administration

- (B) The compliance status during the reporting period;
- (C) Whether compliance was continuous or intermittent;
- (D) The method(s) used to determine compliance over the reporting period and currently, and
- (E) Any other facts specifically required by the Executive Officer to determine compliance.

The EPA copy of the certification shall be sent to: Director of the Air Division Attn:
Air-3 USEPA, Region IX 75 Hawthorne St. San Francisco, CA 94105 [3004(a)(10)(E)]

25. All records, reports, and documents required to be submitted by a Title V operator to AQMD or EPA shall contain a certification of accuracy consistent with Rule 3003(c)(7) by a responsible official (as defined in Rule 3000). [3004(a)(12)]

PERIODIC MONITORING

26. All periodic monitoring required by this permit pursuant to Rule 3004(a)(4)(c) is based on the requirements and justifications in the AQMD document "Periodic Monitoring Guidelines for Title V Facilities" or in case-by-case determinations documented in the TitleV application file. [3004(a)(4)]

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

SECTION K: TITLE V Administration

FACILITY RULES

This facility is subject to the following rules and regulations

With the exception of Rule 402, 473, 477, 1118 and Rules 1401 through 1420, the following rules that are designated as non-federally enforceable are pending EPA approval as part of the state implementation plan. Upon the effective date of that approval, the approved rule(s) will become federally enforceable, and any earlier versions of those rules will no longer be federally enforceable.

RULE SOURCE	Adopted/Amended Date	FEDERAL Enforceability
RULE 1106	1-13-1995	Federally enforceable
RULE 1110.2	2-1-2008	Non federally enforceable
RULE 1113	7-13-2007	Non federally enforceable
RULE 1122	10-1-2004	Federally enforceable
RULE 1140	8-2-1985	Non federally enforceable
RULE 1149	5-2-2008	Non federally enforceable
RULE 1171	2-1-2008	Non federally enforceable
RULE 1173	5-13-1994	Federally enforceable
RULE 1173	6-1-2007	Non federally enforceable
RULE 1176	9-13-1996	Federally enforceable
RULE 118	12-7-1995	Non federally enforceable
RULE 1183	3-12-1993	Non federally enforceable
RULE 1303(a)(1)-BACT	12-6-2002	Non federally enforceable
RULE 1303(b)(2)-Offset	12-6-2002	Non federally enforceable
RULE 1304(a)-Modeling and Offset Exemption	6-14-1996	Federally enforceable
RULE 1703 - PSD Analysis	10-7-1988	Federally enforceable
RULE 2012	5-6-2005	Federally enforceable
RULE 217	1-5-1990	Federally enforceable
RULE 219	6-1-2007	Non federally enforceable
RULE 3002	11-14-1997	Federally enforceable
RULE 3003	3-16-2001	Non federally enforceable

**FACILITY PERMIT TO OPERATE
 PACIFIC ENERGY RESOURCES, LTD.**

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RULE SOURCE	Adopted/Amended Date	FEDERAL Enforceability
RULE 3004	12-12-1997	Federally enforceable
RULE 3004(a)(4)-Periodic Monitoring	12-12-1997	Federally enforceable
RULE 3005	3-16-2001	Non federally enforceable
RULE 3007	10-8-1993	Federally enforceable
RULE 401	11-9-2001	Non federally enforceable
RULE 404	2-7-1986	Federally enforceable
RULE 405	2-7-1986	Federally enforceable
RULE 407	4-2-1982	Federally enforceable
RULE 408	5-7-1976	Federally enforceable
RULE 409	8-7-1981	Federally enforceable
RULE 430	7-12-1996	Non federally enforceable
RULE 431.1	6-12-1998	Federally enforceable
RULE 431.2	9-15-2000	Non federally enforceable
RULE 463	5-6-2005	Federally enforceable
RULE 475	8-7-1978	Non federally enforceable
RULE 701	6-13-1997	Federally enforceable
40CFR 55 OCS	9-4-1992	Federally enforceable
40CFR 82 Subpart F	5-14-1993	Federally enforceable

**FACILITY PERMIT TO OPERATE
 PACIFIC ENERGY RESOURCES, LTD.**

**APPENDIX B: RULE EMISSION LIMITS
 [RULE 1106 01-13-1995]**

Except as otherwise provided in Rule 1106, the operator shall not apply a marine coating with a VOC content in excess of the following limits, expressed as grams of VOC per liter of coating as applied, less water and less exempt solvents:

<u>COATING</u>	<u>VOC LIMIT</u>	
	<u>Baked</u>	<u>Air Dried</u>
General Coating	275 g/L	340 g/L
Specialty Coating		
Heat Resistant	360	420
Metallic Heat Resistant		530
High Temperature		500
Pre-Treatment Wash Primer	780	780
Underwater Weapons Systems	275	340
Elastomeric Adhesives with 15% by Weight, Natural or Synthetic Rubber		730
Solvent-Based Inorganic Zinc		650
Navigational Aids		340
Sealant for Wire-Sprayed Aluminum		610
Special Marking		490
Tack Coat		610
Low Activation Interior Coating		420
Repair and Maintenance Thermoplastic		550
Extreme High-Gloss Coating	420	490
Antenna Coating		530
Antifoulant		400
High Gloss	275	340

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

APPENDIX B: RULE EMISSION LIMITS [RULE 1113 07-13-2007]

- (1) Except as provided in paragraphs (c)(2), (c)(3), (c)(4), and specified coatings averaged under (c)(6), no person shall supply, sell, offer for sale, manufacture, blend, or repackage any architectural coating for use in the District which, at the time of sale or manufacture, contains more than 250 grams of VOC per liter of coating (2.08 pounds per gallon), less water, less exempt compounds, and less any colorant added to tint bases, and no person shall apply or solicit the application of any architectural coating within the District that exceeds 250 grams of VOC per liter of coating as calculated in this paragraph.
- (2) Except as provided in paragraphs (c)(3), (c)(4), and designated coatings averaged under (c)(6), no person shall supply, sell, offer for sale, manufacture, blend, or repackage, for use within the District, any architectural coating listed in the Table of Standards which contains VOC (excluding any colorant added to tint bases) in excess of the corresponding VOC limit specified in the table, after the effective date specified, and no person shall apply or solicit the application of any architectural coating within the District that exceeds the VOC limit as specified in this paragraph. No person shall apply or solicit the application within the District of any industrial maintenance coatings, except anti-graffiti coatings, for residential use or for use in areas such as office space and meeting rooms of industrial, commercial or institutional facilities not exposed to such extreme environmental conditions described in the definition of industrial maintenance coatings; or of any rust-preventative coating for industrial use, unless such a rust preventative coating complies with the Industrial Maintenance Coating VOC limit specified in the Table of Standards.

**FACILITY PERMIT TO OPERATE
 PACIFIC ENERGY RESOURCES, LTD.**

**APPENDIX B: RULE EMISSION LIMITS
 [RULE 1113 07-13-2007]
 TABLE OF STANDARDS
 VOC LIMITS**

**Grams of VOC Per Liter of Coating,
 Less Water and Less Exempt Compounds**

COATING CATEGORY	Ceiling Limit*	Current Limit	Effective Date					
			1/1/03	1/1/04	1/1/05	7/1/06	7/1/07	7/1/08
Bond Breakers	350							
Clear Wood Finishes	350					275		
Varnish	350					275		
Sanding Sealers	350					275		
Lacquer	680	550			275			
Clear Brushing Lacquer	680				275			
Concrete-Curing Compounds	350						100	
Concrete-Curing Compounds For Roadways and Bridges**	350							
Dry-Fog Coatings	400						150	
Fire-Proofing Exterior Coatings	450	350						
Fire-Retardant Coatings***								
Clear	650							
Pigmented	350							
Flats	250	100						50
Floor Coatings	420		100			50		
Graphic Arts (Sign) Coatings	500							
Industrial Maintenance (IM) Coatings	420			250		100		
High Temperature IM Coatings			420					
Zinc-Rich IM Primers	420		340			100		
Japans/Faux Finishing Coatings	700	350						
Magnesite Cement Coatings	600	450						
Mastic Coatings	300							
Metallic Pigmented Coatings	500							
Multi-Color Coatings	420	250						
Nonflat Coatings	250		150			50		

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

APPENDIX B: RULE EMISSION LIMITS [RULE 1113 07-13-2007]

COATING CATEGORY	Ceiling Limit*	Current Limit	Effective Date					
			1/1/03	1/1/04	1/1/05	7/1/06	7/1/07	7/1/08
Nonflat High Gloss	250		150				50	
Pigmented Lacquer	680	550			275			
Pre-Treatment Wash Primers	780		420					
Primers, Sealers, and Undercoaters	350		200			100		
Quick-Dry Enamels	400		250			150	50	
Quick-Dry Primers, Sealers, and Undercoaters	350		200			100		
Recycled Coatings			250					
Roof Coatings	300		250		50			
Roof Coatings, Aluminum	500				100			
Roof Primers, Bituminous	350		350					
Rust Preventative Coatings	420		400			100		
Shellac								
Clear	730							
Pigmented	550							
Specialty Primers	350					250	100	
Stains	350		250				100	
Stains, Interior	250							
Swimming Pool Coatings								
Repair	650		340					
Other	340							
Traffic Coatings	250	150					100	
Waterproofing Sealers	400		250			100		
Waterproofing Concrete/Masonry Sealers	400					100		
Wood Preservatives								
Below-Ground	350							
Other	350							

* The specified limits remain in effect unless revised limits are listed in subsequent columns in the Table of Standards.

** Does not include compounds used for curbs and gutters, sidewalks, islands, driveways and other miscellaneous concrete areas.

*** The Fire-Retardant Coating category will be eliminated on January 1, 2007 and subsumed by the coating category for which they are formulated.

**FACILITY PERMIT TO OPERATE
PACIFIC ENERGY RESOURCES, LTD.**

**APPENDIX B: RULE EMISSION LIMITS
[RULE 1113 07-13-2007]**

**TABLE OF STANDARDS (cont.)
VOC LIMITS**

Grams of VOC Per Liter of Material

COATING	Limit
Low-Solids Coating	120

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

APPENDIX B: RULE EMISSION LIMITS [RULE 1140 08-02-1985]

- (1) The operator shall not, if he complies with an applicable performance standard in section (b)(4) of Rule 1140, discharge into the atmosphere from any abrasive blasting 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 as No. 2 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 (1)(A).

- (2) The operator shall not, if he is not complying with an applicable performance standard in section (b)(4) of Rule 1140, discharge into the atmosphere from any abrasive blasting 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 as 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 (2)(A).

FACILITY PERMIT TO OPERATE PACIFIC ENERGY RESOURCES, LTD.

APPENDIX B: RULE EMISSION LIMITS [RULE 1171 02-01-2008]

(1) Solvent Requirements

A person shall not use a solvent to perform solvent cleaning operations unless the solvent complies with the applicable requirements set forth below:

	CURRENT LIMITS*	EFFECTIVE 1/1/2008*	EFFECTIVE 1/1/2009
SOLVENT CLEANING ACTIVITY	VOC g/l (lb/gal)	VOC g/l (lb/gal)	VOC g/l (lb/gal)
(A) Product Cleaning During Manufacturing Process Or Surface Preparation For Coating, Adhesive, Or Ink Application			
(i) General	25 (0.21)		
(ii) Electrical Apparatus Components & Electronic Components	100 (0.83)		
(iii) Medical Devices & Pharmaceuticals	800 (6.7)		
(B) Repair and Maintenance Cleaning			
(i) General	25 (0.21)		
(ii) Electrical Apparatus Components & Electronic Components	100 (0.83)		

**FACILITY PERMIT TO OPERATE
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**APPENDIX B: RULE EMISSION LIMITS
 [RULE 1171 02-01-2008]**

	CURRENT LIMITS*	EFFECTIVE 1/1/2008*	EFFECTIVE 1/1/2009
SOLVENT CLEANING ACTIVITY (cont.)	VOC g/l (lb/gal)	VOC g/l (lb/gal)	VOC g/l (lb/gal)
(iii) Medical Devices & Pharmaceuticals			
(A) Tools, Equipment, & Machinery	800 (6.7)		
(B) General Work Surfaces	600 (5.0)		
(C) Cleaning of Coatings or Adhesives Application Equipment	25 (0.21)		
(D) Cleaning of Ink Application Equipment			
(i) General	25 (0.21)		
(ii) Flexographic Printing	25 (0.21)		
(iii) Gravure Printing			
(A) Publication	100 (0.83)		
(B) Packaging	25 (0.21)		
(iv) Lithographic (Offset) or Letter Press Printing			
(A) Roller Wash, Blanket Wash, & On-Press Components			
(I) Newsprint	100 (0.83)		

**FACILITY PERMIT TO OPERATE
 PACIFIC ENERGY RESOURCES, LTD.**

**APPENDIX B: RULE EMISSION LIMITS
 [RULE 1171 02-01-2008]**

	CURRENT LIMITS*	EFFECTIVE 1/1/2008*	EFFECTIVE 1/1/2009
SOLVENT CLEANING ACTIVITY (cont.)	VOC g/l (lb/gal)	VOC g/l (lb/gal)	VOC g/l (lb/gal)
(II) Other Substrates	500 (4.2)	100 (0.83)	
(B) Removable Press Components	25 (0.21)		
(v) Screen Printing	500 (4.2)	100 (0.83)	
(vi) Ultraviolet Ink/ Electron Beam Ink Application Equipment (except screen printing)	650 (5.4)	650 (5.4)	100 (0.83)
(vii) Specialty Flexographic Printing	100 (0.83)		
(E) Cleaning of Polyester Resin Application Equipment	25 (0.21)		

* The specified limits remain in effect unless revised limits are listed in subsequent columns.

**FACILITY PERMIT TO OPERATE
 PACIFIC ENERGY RESOURCES, LTD.**

**APPENDIX B: RULE EMISSION LIMITS
 [RULE 404 02-07-1986]**

The operator shall not discharge into the atmosphere from this equipment, particulate matter in excess of the concentration at standard conditions, shown in Table 404(a). Where the volume discharged is between figures listed in the Table, the exact concentration permitted to be discharged shall be determined by linear interpolation.

For the purposes of this rule, emissions shall be averaged over one complete cycle of operation or one hour, whichever is the lesser time period.

TABLE 404(a)

Volume Discharged Calculated as Dry Gas At Standard Conditions		Maximum Concentration of Particulate Matter Allowed in Discharged Gas Calculated as Dry Gas at Standard Conditions		Volume Discharged Calculated as Dry Gas At Standard Conditions		Maximum Concentration of Particulate Matter Allowed in Discharged Gas Calculated as Dry Gas at Standard Conditions	
Cubic meters Per Minute	Cubic feet Per Minute	Milligrams per Cubic Meter	Grains per Cubic Foot	Cubic meters Per Minute	Cubic feet Per Minute	Milligrams per Cubic Meter	Grains per Cubic Foot
25 or less	883 or less	450	0.196	900	31780	118	0.0515
30	1059	420	.183	1000	35310	113	.0493
35	1236	397	.173	1100	38850	109	.0476
40	1413	377	.165	1200	42380	106	.0463
45	1589	361	.158	1300	45910	102	.0445

**FACILITY PERMIT TO OPERATE
 PACIFIC ENERGY RESOURCES, LTD.**

**APPENDIX B: RULE EMISSION LIMITS
 [RULE 404 02-07-1986]**

Volume Discharged Calculated as Dry Gas At Standard Conditions		Maximum Concentration of Particulate Matter Allowed in Discharged Gas Calculated as Dry Gas at Standard Conditions		Volume Discharged Calculated as Dry Gas At Standard Conditions		Maximum Concentration of Particulate Matter Allowed in Discharged Gas Calculated as Dry Gas at Standard Conditions	
Cubic meters Per Minute	Cubic feet Per Minute	Milligrams per Cubic Meter	Grains per Cubic Foot	Cubic meters Per Minute	Cubic feet Per Minute	Milligrams per Cubic Meter	Grains per Cubic Foot
50	1766	347	.152	1400	49440	100	.0437
60	2119	324	.141	1500	52970	97	.0424
70	2472	306	.134	1750	61800	92	.0402
80	2825	291	.127	2000	70630	87	.0380
90	3178	279	.122	2250	79460	83	.0362
100	3531	267	.117	2500	88290	80	.0349
125	4414	246	.107	3000	105900	75	.0327
150	5297	230	.100	4000	141300	67	.0293
175	6180	217	.0947	5000	176600	62	.0271
200	7063	206	.0900	6000	211900	58	.0253
250	8829	190	.0830	8000	282500	52	.0227
300	10590	177	.0773	10000	353100	48	.0210
350	12360	167	.0730	15000	529700	41	.0179
400	14130	159	.0694	20000	706300	37	.0162
450	15890	152	.0664	25000	882900	34	.0148

**FACILITY PERMIT TO OPERATE
 PACIFIC ENERGY RESOURCES, LTD.**

**APPENDIX B: RULE EMISSION LIMITS
 [RULE 404 02-07-1986]**

Volume Discharged Calculated as Dry Gas At Standard Conditions		Maximum Concentration of Particulate Matter Allowed in Discharged Gas Calculated as Dry Gas at Standard Conditions		Volume Discharged Calculated as Dry Gas At Standard Conditions		Maximum Concentration of Particulate Matter Allowed in Discharged Gas Calculated as Dry Gas at Standard Conditions	
Cubic meters Per Minute	Cubic feet Per Minute	Milligrams per Cubic Meter	Grains per Cubic Foot	Cubic meters Per Minute	Cubic feet Per Minute	Milligrams per Cubic Meter	Grains per Cubic Foot
500	17660	146	.0637	30000	1059000	32	.0140
600	21190	137	.0598	40000	1413000	28	.0122
700	24720	129	.0563	50000	1766000	26	.0114
800	28250	123	.0537	70000 or more	2472000 or more	23	.0100

**FACILITY PERMIT TO OPERATE
 PACIFIC ENERGY RESOURCES, LTD.**

**APPENDIX B: RULE EMISSION LIMITS
 [RULE 405 02-07-1986]**

The operator shall not discharge into the atmosphere from this equipment, solid particulate matter including lead and lead compounds in excess of the rate shown in Table 405(a).

Where the process weight per hour is between figures listed in the table, the exact weight of permitted discharge shall be determined by linear interpolation.

For the purposes of this rule, emissions shall be averaged over one complete cycle of operation or one hour, whichever is the lesser time period.

TABLE 405(a)

Process Weight Per Hour		Maximum Discharge Rate Allowed for Solid Particulate Matter (Aggregate Discharged From All Points of Process)		Process Weight Per Hour		Maximum Discharge Rate Allowed for Solid Particulate Matter (Aggregate Discharged From All points of Process)	
Kilograms Per Hour	Pounds Per Hour	Kilograms Per Hour	Pounds Per Hour	Kilograms Per Hour	Pounds Per Hour	Kilograms Per Hour	Pounds Per Hour
100 or less	220 or less	0.450	0.99	9000	19840	5.308	11.7
150	331	0.585	1.29	10000	22050	5.440	12.0
200	441	0.703	1.55	12500	27560	5.732	12.6
250	551	0.804	1.77	15000	33070	5.982	13.2
300	661	0.897	1.98	17500	38580	6.202	13.7
350	772	0.983	2.17	20000	44090	6.399	14.1
400	882	1.063	2.34	25000	55120	6.743	14.9
450	992	1.138	2.51	30000	66140	7.037	15.5
500	1102	1.209	2.67	35000	77160	7.296	16.1
600	1323	1.340	2.95	40000	88180	7.527	16.6

**FACILITY PERMIT TO OPERATE
 PACIFIC ENERGY RESOURCES, LTD.**

**APPENDIX B: RULE EMISSION LIMITS
 [RULE 405 02-07-1986]**

Process Weight Per Hour		Maximum Discharge Rate Allowed for Solid Particulate Matter (Aggregate Discharged From All Points of Process)		Process Weight Per Hour		Maximum Discharge Rate Allowed for Solid Particulate Matter (Aggregate Discharged From All points of Process)	
Kilograms Per Hour	Pounds Per Hour	Kilograms Per Hour	Pounds Per Hour	Kilograms Per Hour	Pounds Per Hour	Kilograms Per Hour	Pounds Per Hour
700	1543	1.461	3.22	45000	99210	7.738	17.1
800	1764	1.573	3.47	50000	110200	7.931	17.5
900	1984	1.678	3.70	60000	132300	8.277	18.2
1000	2205	1.777	3.92	70000	154300	8.582	18.9
1250	2756	2.003	4.42	80000	176400	8.854	19.5
1500	3307	2.206	4.86	90000	198400	9.102	20.1
1750	3858	2.392	5.27	100000	220500	9.329	20.6
2000	4409	2.563	5.65	125000	275600	9.830	21.7
2250	4960	2.723	6.00	150000	330700	10.26	22.6
2500	5512	2.874	6.34	175000	385800	10.64	23.5
2750	6063	3.016	6.65	200000	440900	10.97	24.2
3000	6614	3.151	6.95	225000	496000	11.28	24.9
3250	7165	3.280	7.23	250000	551200	11.56	25.5
3600	7716	3.404	7.50	275000	606300	11.82	26.1
4000	8818	3.637	8.02	300000	661400	12.07	26.6
4500	9921	3.855	8.50	325000	716500	12.30	27.1
5000	11020	4.059	8.95	350000	771600	12.51	27.6
6000	13230	4.434	9.78	400000	881800	12.91	28.5
7000	15430	4.775	10.5	450000	992100	13.27	29.3
8000	17640	5.089	11.2	500000 or more	1102000 or more	13.60	30.0