



DRAFT

PERMIT to OPERATE No. 9109-R3

And

PART 70 OPERATING PERMIT No. 9109-R3

**PACIFIC OPERATORS — CARPINTERIA.
OCS PLATFORM HOUCHIN**

**PARCEL OCS-P-0166
CARPINTERIA FIELD
OUTER CONTINENTAL SHELF**

OPERATOR

Pacific Operators Offshore, LLC. ("Pacific Operators Offshore")

OWNERSHIP

Signal Hill Service, Incorporated

**Santa Barbara County
Air Pollution Control District**

February 16, 2010

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ABBREVIATIONS/ACRONYMS

APCO	Air Pollution Control Officer
AP-42	USEPA <i>Compilation of Emission Factors</i> document
API	American Petroleum Institute
AQAP	Air Quality Attainment Plan
ASTM	American Society for Testing and Materials
ATC	Authority to Construct
bbl	barrel (42 gallons per barrel)
BS&W	Basic water and sediment
bhp	brake horsepower
bpd	barrels per day
BSFC	brake-specific fuel consumption
Btu	British thermal unit
CAAA	Clean Air Act Amendments of 1990
CAP	Clean Air Plan
CARB	California Air Resources Board
CEMS	continuous emissions monitoring system
CFR	Code of Federal Regulations
clp	component leak-path
CO	carbon monoxide
CO ₂	carbon dioxide
COA	corresponding offshore area
ERC	emission reduction credit
FHC	fugitive hydrocarbon
FR	Federal Register
gr	grain
g	gram
gal	gallon
HHV	higher heating value
H ₂ S	hydrogen sulfide
H&SC	California Health and Safety Code
IC	internal combustion
I&M	inspection and maintenance
k	thousand
kV	kilovolt
lb.	pound
LHV	lower heating value
MCC	motor control center
MM, mm	million
MSDS	Material Safety Data Sheet
MW	molecular weight
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NGL	natural gas liquids
NO _x	oxides of nitrogen (calculated as NO ₂)
NSPS	New Source Performance Standards
PFD	process flow diagram
P&ID	piping and instrumentation diagram
ppmv	parts per million volume (concentration)
psia	pounds per square inch absolute

psig	pounds per square inch gauge
PM	particulate matter
PM ₁₀	particulate matter less than 10 mm in size
PSV	pressure safety valve
PTO	Permit to Operate
PRD	pressure relief device
PVRV	pressure vacuum relief valve
ROC	reactive organic compounds
SBCAPCD	Santa Barbara County Air Pollution Control District or APCD
scf	standard cubic feet
scfd	standard cubic feet per day
scfm	standard cubic feet per minute
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SO _x	sulfur oxides
TEG	triethylene glycol
TOC	total organic compounds
tpq	tons per quarter
tpy	tons per year
TVP	true vapor pressure
USEPA	United States Environmental Protection Agency or EPA
UPS	uninterrupted power supply
VRS	vapor recovery system
wt %	weight percent

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1.0 Introduction

1.1 Purpose

General. The Santa Barbara County Air Pollution Control District (APCD) is responsible for implementing all applicable federal, state and local air pollution requirements, which affect any stationary source of air pollution in Santa Barbara County. The federal requirements include regulations listed in the Code of Federal Regulations: 40 CFR Parts 50, 51, 52, 55, 61, 63, 68, 70 and 82. The State regulations may be found in the California Health & Safety Code, Division 26, Section 39000 et.seq. The applicable local regulations can be found in the APCD's Rules and Regulations. This is a combined permitting action that covers both the Federal Part 70 permit (Part 70 Operating Permit No. 9109-R3) and the APCD Operating Permit (Permit to Operate No. 9109-R3).

The County is designated as an ozone non-attainment area for both the state and federal ambient air quality standards. The County is also designated a non-attainment area for the state PM₁₀ ambient air quality standard.

Part 70 Permitting. This is the third renewal of the Outer Continental Shelf (OCS) Platform Houchin's (referred to as "Houchin") Part 70 operating permit. The APCD triennial permit reevaluation has been combined with this Part 70 Permit renewal. Houchin is a part of the Pacific Operators Offshore stationary source; and is a major source for NO_x. Conditions listed in this permit are based on federal, state or APCD rules and requirements. All three sections 9.A, 9.B and 9.C of this permit are enforceable by the APCD, the USEPA and the public since these sections are federally enforceable under Part 70. Where any references contained in these Sections refer to any other part of this permit, that part of the permit referred to is federally enforceable.

Pursuant to the stated aims of Title V of the CAAA of 1990 (i.e., the Part 70 operating permit program), this permit has been designed to meet two objectives. First, compliance with all conditions in this permit would ensure compliance with all APCD and federally enforceable requirements for the facility. Next, the permit would be a comprehensive document to be used as a reference by the permittee, the regulatory agencies, and the public to assess compliance.

1.2 Facility Overview

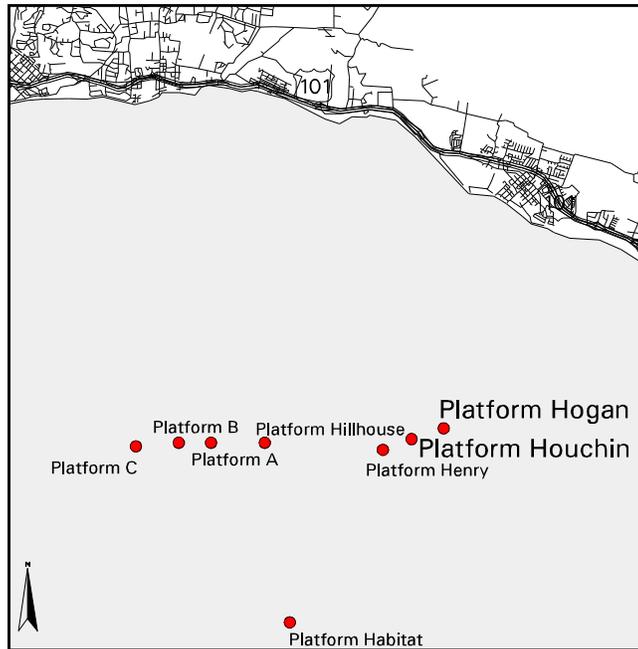
1.2.1 Facility Overview: POO-LLC operates Platform Houchin, located on offshore lease tract OCS-P-0166, approximately 7 miles southeast from the City of Santa Barbara, California (Latitude 34°20'4" North, Longitude 119°52'10" West. The platform is owned by Signal Hill Service, Incorporated. For APCD regulatory purposes, Platform Houchin is situated in the Southern Zone¹ of Santa Barbara County. Figure 1.1 shows the location of the facility off Santa Barbara County coast.

Platform Houchin is a nine leg, 60 wellhead slot, platform placed in a water depth of 163 feet. The platform was installed in 1968, drilling operations began in 1969, and the first phase (43

¹ APCD Rule 102, Definition: "Southern Zone"

FIGURE 1.1 LOCATION MAP FOR COASTAL PLATFORM HOUCHIN

Pacific Operators - Carpinteria



wells) was concluded in 1980. Platform Houchin produces sweet natural gas and crude oil emulsion.

Both products are transported via sub-sea pipelines to POO-LLC's La Conchita oil and gas plant in Ventura County. The platform was designed to produce 15,000 barrels per day of oil/water emulsion and 15 million standard cubic feet per day of natural gas. The current (year 2009) production rate is approximately 0.45 million standard cubic feet of gas per day, 600 barrels per day of crude oil and 2,703 barrels per day of water. The average API gravity of the produced crude oil is 24.5° API as measured in year 2009 and the TVP is 3 psia (at 81° F) in 2003.

The "Pacific Operators - Carpinteria" stationary source consists of two OCS platforms, namely:

- Platform Hogan (FID = 8001)
- Platform Houchin (FID = 8002)

Platform Houchin consists of the following primary systems:

- Subsurface and wellhead production system
- Well cleanup system
- Gas lift production system
- Test separation system
- Oil and water shipping and metering system
- Gas shipping and metering system
- Low pressure compression system
- Wastewater injection system
- Electrical system
- Safety system

All equipment on Platform Houchin is powered electrically, except the cranes, the mud pump, the emergency equipment and the well service rig which are powered by diesel-fired IC engines

1.2.2 Facility New Source Overview: Since the issuance of the initial operating permit 9109 on September 4, 1994, there have been five (5) NSR permit actions, three (3) minor modifications, and one administrative permit amendment for this facility. These are:

PTO Mod 9109-1: The permit was revised to lower POOI's allowable crew and service boat emissions. The allowable emissions are included in the source's potential to emit (as defined by the APCD) for the purpose of AQAP fees. The revised permit was issued on May 2, 1996.

ATC/PTO 9556: This permit authorized the operating hour's reduction to below 200 hours annually for the north crane engine. This allowed the engine to avoid the 'emissions testing' requirements of APCD Rule 333 (*Control of Emissions from Reciprocating IC Engines*). However, this also caused an hourly net emissions increase for the facility. The permit was issued on June 21, 1996.

ATC/PTO 10358-02: This permit increased the operating hours of the North crane IC engine to 2000 hours per year, and subjects it to Rule 333 emission standards. The hourly NEI for the facility reduces to zero but the annual NEI increases. The permit was issued in September 2001.

ATC 10713: This permit authorized the replacement of the 318 hp IC engine driving the well kill pump with a 230 hp IC engine. The working hours of the engine are 3 hours/day and 199 hours/year. The ATC was issued in October 2001; and was included in the PTO 9109-R1.

PTO Mod 9109-3: The permit was issued to eliminate the use of inaccurate flow meters for the North Crane IC engine and to use accurate-reading hour meters as substitutes. There were no changes in any emissions. The revised permit was issued on 28 July 2004.

PTO 11952: This permit was issued for a 110 bhp firewater pump, a 510 bhp E/S generator, a 99 bhp crane engine and a 99 bhp south crane engine due to loss of Rule 202 exemption. This resulted in a permitted emissions increase, but no increase in NEI. The permit was issued on July 25, 2006.

ATC 12388: This permit authorizes the removal of the hydrocarbon vent stack and the installation of a production flare and the related metering equipment. This resulted in a net emissions increase for the facility. The permit was issued on August 7, 2008.

PTO 13307: This permit adds the 230 hp well kill pump engine and 400 hp well service rig engine due to a loss of Rule 202 exemption. This resulted in a permitted emissions increase, but no increase in NEI. This permit is being issued as a part of this permitting action.

ATC-PTO 13370: This permit increases the permitted planned, unplanned and purge/pilot flaring volumes for the production flare installed under ATC 12388. This permit resulted in a permitted emissions increase and an increase in NEI. The permit was issued on February 16, 2010.

1.3 Emission Sources

Air pollution emissions from Platform Houchin are the result of combustion sources, storage tanks, and piping components, such as valves and flanges. Section 4 of the permit provides the APCD's engineering analysis of these emission sources. Section 5 of the permit describes the allowable emissions from each permitted emissions unit, the platform as a whole; it also lists the potential emissions from non-permitted emission units.

The principal equipment components or activities that may cause the release of air contaminants from Platform Houchin or from equipment used in support of Platform Houchin operations are:

1. Crew boats used to transport personnel and cargo to and from the platform.
2. Supply boats used to transport equipment, fuel, and supplies to and from the platform.
3. Two pedestal cranes, each operated by a diesel fired internal combustion engine.
4. One mud pump (well kill pump) powered by a diesel fired internal combustion engine.
5. Various piping components, produced water tanks, and other evaporative sources that emit fugitive hydrocarbons to the atmosphere.
6. Well service rig, powered by a diesel fired IC engine that is used for well work over.
7. One (standby) diesel-fired firewater pump, which is operated in emergency situation;
8. One (standby) diesel-fired power generators, which are operated in emergency situations;
9. One pedestal crane with an IC engine rated at less than 100 bhp.
10. One production flare used to flare gas from unplanned casing blow downs and planned pipeline pigging operations.

A list of all permitted equipment is provided in Section 10, Attachment 10.4.

1.4 Emission Control Overview

Air quality emission controls are used on Platform Houchin for a number of emission units to reduce air pollution emissions. Additionally, the use of onshore utility grid power allows Platform Houchin to operate without the use or need for large gas turbine-powered generators or compressors. The emission controls employed on the platform include:

- A Fugitive Hydrocarbon Inspection & Maintenance (I&M) program for detecting and repairing leaks of hydrocarbons from piping components, consistent with the requirements of Rule 331, to reduce ROC emissions by approximately 80 percent.
- Use of “N 60-type” nozzle and timing retard in the crane IC engines to lower NO_x emissions.
- Use of turbo-charging, enhanced seawater inter-cooling and 4° injection timing retard on supply boat main engines to achieve a NO_x emissions rate of 8.4 g/bhp-hr.
- Use of turbo-charging, inter-cooling, and 4° injection timing retard on the crew boat main engines to achieve a NO_x emissions rate of 8.4 g/bhp-hr.
- Use of a production flare to combust gas from unplanned casing blow downs and gas produced during planned pipeline pigging operations.

1.5 Offsets/Emission Reduction Credit Overview

This facility does not provide any emission reduction credits (ERC’s) to any other sources; neither, does the facility require any ERC’s to operate its equipment.

1.6 Part 70 Operating Permit Overview

- 1.6.1. Federally-enforceable Requirements: All federally enforceable requirements are listed in 40 CFR Part 70.2 (Definitions) under “applicable requirements.” These include all SIP-approved APCD Rules, all conditions in the APCD-issued Authority to Construct permits and all conditions applicable to major sources under federally promulgated rules and regulations. All permits (and conditions therein) issued pursuant to the OCS Air Regulation are federally enforceable. All these requirements are also enforceable by the public under CAAA. (see Tables 3.1 and 3.2 for a list of federally enforceable requirements).
- 1.6.2. Insignificant Emissions Units: Insignificant emission units are defined under APCD Rule 1301 as any regulated air pollutant emitted from the unit, excluding Hazardous Air Pollutants (HAPs), that are less than 2 tons per year based on the unit’s potential to emit and any HAP regulated under section 112(g) of the Clean Air Act that does not exceed 0.5 ton per year based on the unit’s potential to emit. Insignificant activities must be listed in the Part 70 application with supporting calculations. Applicable requirements may apply to insignificant units. (See Attachment 10.6 for the Insignificant Emissions Unit list)
- 1.6.3. Federal Potential to Emit: The federal potential to emit (PTE) of a stationary source does not include fugitive emissions of any pollutant, unless the source is: (1) subject to a federal NSPS/NESHAP requirement, or (2) included in the 29-category source list specified in 40 CFR51.66 or 52.21. The federal PTE does include all emissions from any insignificant

emissions units. Platform Houchin is not subject to any NSPS or NESHAP; thus, its fugitive emissions are not listed in its federal PTE. (See Section 5.4 for the federal PTE for this source)

- 1.6.4. Permit Shield: The operator of a major source may be granted a shield: (a) specifically stipulating any federally enforceable conditions that are no longer applicable to the source and (b) stating the reasons for such non-applicability. The permit shield must be based on a request from the source and its detailed review by the APCD. Permit shields cannot be granted indiscriminately with respect to all federal requirements. POO-LLC has not made a request for a permit shield.
- 1.6.5. Alternate Operating Scenarios: A major source may be permitted to operate under different operating scenarios, if appropriate descriptions of such scenarios are included in its Part 70 permit application and if such operations are allowed under federally-enforceable rules. POO-LLC has made no request for permitted alternative operating scenarios.
- 1.6.6. Compliance Certification: Part 70 permit holders must certify compliance with all applicable federally enforceable requirements including permit conditions. Such certification must accompany each Part 70 permit application; and, be re-submitted annually on or before March 1st or on a more frequent schedule, as specified in the permit. Each certification is signed by a “responsible official” of the owner/operator company whose name and address is listed prominently in the Part 70 permit. (see Section 1.6.10 below)
- 1.6.7. Permit Reopening: Part 70 permits are re-opened and revised if the source becomes subject to a new rule or new permit conditions are necessary to ensure compliance with existing rules. The permits are also re-opened if they contain a material mistake or the emission limitations or other conditions are based on inaccurate permit application data. (see Section 4.10.3, CAM Rule)
- 1.6.8. MACT/Hazardous Air Pollutants (HAPs): Part 70 permits also regulate emission of HAPs from major sources through the imposition of maximum achievable control technology (MACT), where applicable. No MACTs are currently applicable to equipment at this facility. Also, no HAP emission computations are included in this permit.
- 1.6.9. Compliance Assurance Monitoring (CAM): The CAM rule became effective on April 22, 1998. This rule affects emission units at the source subject to a federally enforceable emission limit or standard that uses a control device to comply with the emission standard, and either pre-control or post-control emissions exceed the Part 70 source emission thresholds. Sources subject to CAM Rule must submit a CAM Rule Compliance Plan along with their Part 70 operating permit renewal applications. (see Section 4.9.3). The APCD has determined that no emissions unit at this facility is subject to CAM Rule.
- 1.6.10. Responsible Official: POO-LLC's designated responsible official and their mailing addresses are:

Mr. Robert P. Carone, Chief Executive Officer
Pacific Operators Offshore LLC
1145 Eugenia Place, Suite 200
Carpinteria, CA 93013

2.0 Process Description

2.1 Process Summary

Platform Houchin has minimal production facilities. The only processing performed on the platform is the separation of the produced fluids and gas into separate streams. There is no oil/water separation or gas dehydration equipment on the platform. The production facilities consist of wells, gas/liquid separators, a low pressure vapor recovery compressor, a gas lift system and kick-off compressor, liquid shipping pumps, and surge tanks needed to ship the produced fluids and gas to POO-LLC's La Conchita treatment facility in Ventura County. The crude oil and natural gas produced are sweet and have low concentrations of H₂S and mercaptans.

Platform Houchin has a design production rate of 15,000 bpd of oil emulsion and 15 million scf/day of gas. Produced fluids and gas are shipped in two separate sub-sea pipelines to POO-LLC's La Conchita oil and gas plant.

- 2.1.1 Production: Platform Houchin has 60 allowed well slots. Forty-three wells have been drilled, 13 wells are currently producing, 19 have been shut-in, and 11 have been plugged and abandoned or sidetracked. The wells are not free flowing; down hole pumps or gas lift is used to facilitate production. There are no gas lift wells on Platform Houchin.

The oil production flow line from each wellhead ties into four separate piping manifolds or headers: two production headers, a test header, and a well clean-up header. Normally, the flow from each well is initially directed into one of the production headers, and then to a production separator (6642 or 6643). Each of the two production header and separator systems can handle the entire flow from all the wells. Two separate production systems are provided on the platform to allow for equipment maintenance and repair without having to shut in the production wells.

The test header and test separator (6642) are used to flow test individual production wells. For the flow test, the well is switched from the production header to the test header. Only one well is tested at a time.

The well clean-up header and separator are used to start-up a well after a work over is completed. The well clean-up separator (6646) is a horizontal vessel and has a high gas capacity. For the first few hours after a well is brought back on line, gas surge and contamination by drilling fluid or reservoir sand can occur. After the flow rate stabilizes and any drilling fluids are removed, the well is switched over to the production header and separator.

Produced oil and water from the production separators, the clean up separator, and the test separator flows to one of two surge tanks (6445 and 6647). The surge tanks are used to provide surge capacity and ensure adequate suction pressure to the four oil shipping pumps (PAX 1,2,3, and 4). This extra capacity allows the pumps to run continuously without frequent starting and stopping that could upset the operation of downstream liquid handling equipment. The pipeline shipping pumps send the produced fluids directly to the sub-sea pipeline to POO-LLC's La Conchita facility. A turbine meter is provided on the pipeline to measure the fluid flow rate and totalize the volume of oil and water emulsion produced.

Platform Houchin has a small deck drain water collection system. There are no clarifiers or gas flotation units on the platform for water treating. Fluids collected by the deck drains flow to a

deck drain tank and are pumped to the settling tank. Fluids from the settling tank are pumped to the surge tank and are mixed with the produced fluids from the separators.

- 2.1.2 Gas, Oil, and Water Separation: A mixture of oil, gas, and water is produced from the wells. The separation of the gas and the liquid phases is done in two production separators (6643 and 6644). The horizontal two-phase separators measure six feet in diameter by fifteen feet long, seam-to-seam. The wells are produced directly into the production separators, and the normal production from all the wells on Platform Houchin is handled by these separators. Normally both separators are in operation, thereby maximizing the liquid retention time and providing the best possible gas/liquid separation.

The separators operate at approximately 70 psig and 100°F. The gas section (upper half) of the separator is designed to reduce the fluid velocity sufficiently to cause liquids to drop out. Both separators also have a mist extractor to promote removal of liquid droplets from the gas stream. Operating pressure of the separators is automatically controlled by a pressure control valve in the gas-to-shore pipeline.

The liquid section (lower half) of the separator is designed with sufficient retention time to allow entrained gas to bubble out of the liquid. The liquid section does not split the oil and water into two separate streams. Liquid level in the production separator is automatically controlled by a level control valve. Oil and water from the production separators flows to the surge tanks and is pumped to POO-LLC's La Conchita facility.

- 2.1.3 Waste Water Treatment: There are no wastewater treatment facilities on Platform Houchin. All produced fluids are shipped to POO-LLC's La Conchita facility for further processing.

- 2.1.4 Well Testing and Maintenance: In order to measure the oil, gas, and water flow rates from individual wells, the fluids from a well can be directed to the test separator (6642) by closing the well flow line valve to the production header and opening the well flow line valve to the test header. The test separator is a horizontal separator, three feet in diameter by eight feet long, seam-to-seam. Its capacity is smaller than the production separators because only one well is tested at a time. It also has a mist extractor to promote removal of liquid droplets from the gas stream. The test separator has its own backpressure control valve to operate at a higher pressure than the production separators. Gas from the separator is measured by an orifice meter in the outlet line, and is commingled with the gas from the production separator and to the gas-to-shore pipeline.

The combined flow of oil and water from the test separator is measured by a turbine meter. The water cut (fraction of water in the produced fluids) is determined by a capacitance probe in the liquid outlet line. Oil and water from the test separator flows to the oil surge tank.

After completion of a well work-over, the oil production from a well is sent to the clean-up separator (6646), which segregates the well from the rest of the platform's wells and prevents contamination of the production separators and piping. The initial production from a well can also have frequent flow surges or high gas flow rates, and producing the well into the well clean-up separator prevents upsetting the normal production from the platform. After the flow from the well has stabilized, it is switched back to the production header and separator.

The well clean-up separator is a horizontal two-phase separator, four feet in diameter by 15 feet long, seam-to-seam. Gas from the separator is measured by an orifice meter in the outlet line,

and is commingled with the gas from the production separators and sent to the gas pipeline to shore.

The total fluid flow from the well clean-up separator is measured by a turbine meter and is sent to the oil surge tank.

- 2.1.5 Emulsion-Breaking Fluid and Crude Oil Storage: There are no emulsion-breaking fluid or crude oil storage facilities on Platform Houchin. The produced oil/water emulsion is shipped to POO-LLC's La Conchita facility for further processing
- 2.1.6 Emulsion Shipping: The surge tanks (6645 and 6647) receive produced fluids from the production separators, the test separator, and the clean-up separator. The surge tanks are horizontal pressure vessels six feet in diameter by fifteen feet long, seam-to-seam. They operate at approximately 35 psig, with the operating pressure controlled by the vapor recovery compressor. Gas from the surge tanks is used by the vapor recovery compressor to regulate tank pressure, with excess going to the gas pipeline. There are no internal baffles or mist extractors inside the surge tanks. They provide surge capacity to stabilize the flow of fluids and prevent upsets in the downstream processing equipment. They also hold a sufficient volume of produced fluids to allow the shipping pumps to operate continuously. High and low level switches in the surge tanks automatically open and close make-up line valves to maintain proper fluid level and gas pressure.
- Normally, one pumps operates and three pumps are used as standby; the stand-by pumps are started manually when a high level alarm comes on for the oil surge tanks. Approximately 1,500 bpd of oil and 4,000 bpd of water can be pumped through a single pipeline to POO-LLC's La Conchita facility.
- 2.1.7 Drain Sumps: Platform Houchin is equipped with a deck drain system, which collects oil and water from the production and upper decks. The decks are equipped with curbs around the perimeter and curbs or seals around the deck penetrations to prevent any liquids from spilling overboard. Fluids from the production deck flow to the deck drain tank, with fluids from the upper deck flowing directly to the settling tank. The deck drain tank is a horizontal vessel with a surface area of 18 square feet that operates at atmospheric pressure. A sump pump (PBH-DK-1) sends the collected fluids to the settling tank. The settling tank is a horizontal vessel, 6 feet in diameter by 18 feet long, seam-to-seam that operates at atmospheric pressure. The liquids from the settling tank are pumped to the surge tanks, with overflow going to the disposal tube. The disposal tube is a vertical drainpipe that discharges fluids near the ocean floor.
- 2.1.8 Gas Compression, Dehydration, and Disposition: No gas processing, dehydration, or sweetening is done on Platform Houchin. Natural gas is removed from the crude oil by the production separators, test separator, well clean-up separator, and oil surge tanks. No additional compression is required to ship the gas, via sub-sea pipeline, to POO-LLC's La Conchita facility. A vapor recovery compressor is used to maintain the pressure in the surge tanks.
- 2.1.9 Gas Sweetening and Sulfur Recovery: The gas produced from Platform Houchin is sweet gas. There are no gas sweetening or sulfur recovery facilities on Platform Houchin.
- 2.1.10 Vapor Recovery Systems: Platform Houchin has a vapor recovery system rated at 1.2 MMscfd. Gas from the surge tank is compressed to approximately 90 psig and is directed to the onshore pipeline. All other produced gas from the platform flows to the onshore gas pipeline at casing

head pressure of about 50 psig. The deck sump and settling tank are not connected to vapor recovery or the gas gathering system.

- 2.1.11 Fuel Gas System: Platform Houchin does not have a fuel gas system as there is no equipment on the platform that burns natural gas. Diesel #2 fuel, which contains less than 0.5 percent sulfur by weight, is used by the two pedestal cranes and other diesel fired equipment. Platform Houchin has one 10,400-gallon diesel storage tank located at the north pedestal crane.
- 2.1.12 Production Flare System: Platform Houchin has a produced gas flare system that is designed to combust gases from platform process equipment. During an emergency condition, this system flares these gases for safety reasons. For safety reasons and to comply with federal regulations, gas flaring is required during unplanned casing blow downs prior to well work over as well as during planned smart-pigging required for the pipeline. Planned events include (but are not limited to):
- Pipe line pigging operations
 - Compressor shutdowns/startups for routine maintenance
 - New well unloading and cleanup
 - Clearing of gas lines during equipment or process turnarounds
 - Episodic events such as equipment depressurization for maintenance, purging of vessels and gas pipeline blow downs
 - MMS ordered safety tests

Unplanned or emergency events include (but are not limited to) the following:

- Emergency shutdowns caused by safety devices
- Well surges during drilling or production
- Unintentional pressure safety valve releases
- Well casing blow downs during work-over and rig operations (unplanned)
- Processing equipment or compressor failures
- Onshore facility failures that affect platform operations
- Faulty-sensor caused shutdowns
- High/low temperature and pressure indicated shutdowns
- Electrical equipment failures and power failure
- Pipeline failures
- Earthquakes or other unforeseeable emergency events

2.2 Support Systems

- 2.2.1 Piping Assemblies and Pipelines: The piping on Platform Houchin is designed, tested, and installed in general accordance with API 14C and 14E. In general, piping 2” or larger is of welded carbon steel construction; similarly, piping 1.5 inches and smaller is generally of threaded carbon steel construction.

Four sub-sea pipelines are associated with Platform Houchin. A 12-inch produced gas pipeline and a 10-inch oil and water pipeline run from the platform to POO-LLC's La Conchita facility. A 10-inch gas pipeline and a 4-inch wastewater pipeline run from the shore to the platform. The gas line to the platform supplies gas for gas lift operations, while the wastewater is stored in a 400 bbl kill water tank, is injected into a water disposal well or is disposed of per a NPDES permit. There are no gas lift wells on Platform Houchin.

2.2.2 Power Generation: Electrical power for Platform Houchin is provided from shore by SCE through a 34.5 kilovolt sub-sea cable. The platform has a 500 kW diesel stand-by generator, which is used in the event of a power outage from SCE. During such a power failure, the Motor Control Center (MCC) on Platform Houchin supplies standby power from the diesel generator to critical equipment. A 24-volt battery backup system is provided for the essential platform controls.

2.2.3 Crew Boat: POO-LLC uses one crew/utility boat (hereinafter referred as “crew boat”) for a variety of purposes in support of Platform Houchin. The crew boat makes two to four round trips per day, seven days a week, to the platform from Casitas Pier in Carpinteria. The crew boat also services POO-LLC's Platform Hogan. The crew boat is used for the following activities:

1. Load, transport (receipt, movement and delivery) and unload personnel, supplies, and equipment to and from the platforms and dock or pier locations for routine operations and special logistic situations, [Examples: transport of drilling/work-over fluid, casing, specialty chemicals, cement or other supplies].
2. Support supply/work boat while it is working at the platforms, [Examples: hold supply boat in position and transfer equipment or supplies].
3. Operate boat engines to maintain boat positioning while working at the platforms, docks, or piers or in open waters.
4. Support operations in conjunction with maintenance and/or repairs on platform components, [Examples: mooring buoy, boat dock, structural supports, diving operations and cathodic protection equipment].
5. Support operations in conjunction with surveys of platform and sub-sea components including pipelines and power cables, [Examples: side scan sonar, ROV inspection, diving inspections and marine biological inspections].
6. Support operations in conjunction with drilling and work-over operations, [Examples: perforation watch and marine safety zone surveillance].
7. Support/participate in oil spill drills and actual incidents, [Examples: deploying boom and recovery equipment, taking samples and personnel exposure measurements and other spill response activities].
8. Support/participate in safety, health, and emergency drills and actual incidents. [Examples: third party requests for assistance, Medi-vac and platform evacuation as well as other safety and health activities,-fire and explosion, well control blowout, storm, vessel collision, bomb threat, support operations during periods of elevated Homeland Security Alert threat levels (orange or red) as requested by Federal Agencies, and man overboard].
9. Provide standby boat services when required due to limitations of platform survival craft capabilities and/or platform personnel count.
10. Supply marine support services to accommodate activities by local, state and federal agencies and special industry / public interest groups when requested.
11. Conduct engine source compliance tests as required by the permits or other rules and regulations.
12. Perform vessel and boat maintenance as required.
13. Travel to safe harbor from platforms, dock or pier during extreme weather or other emergency situations.

2.2.4 Supply Boat: POO-LLC's permitted emissions are based on the operations of a supply boat, (hereinafter referred to as “supply” boat) used for a variety of purposes in support of Platform Houchin (Note: POO-LLC is currently is using its crew boat at this time as its supply boat). When the

platform is in a production mode (i.e., no drilling or well repair), the supply boat use is approximately 6-8 trips per month. During well drilling or well repair activity, the supply boat activity increases, but is expected not to exceed 100 trips per year. The supply boat, based in Port Hueneme, also services POO-LLC's Platform Hogan. The supply boat is used for the following activities:

1. Load, transport (receipt, movement and delivery) and unload personnel, equipment and supplies to and from the platforms and Port Hueneme or other ports during routine operations to accommodate special logistic situations, [Examples: transport of drilling/work-over fluid, casing, specialty chemicals, cement or other supplies to a dock or pier to accommodate special needs of a vendor].
2. Support supply/work boat while it is working at the platforms, [Examples: hold supply boat in position and transfer equipment or supplies].
3. Operate boat engines to maintain boat positioning while working at the platforms, docks, or piers or in open waters.
4. Support operations in conjunction with maintenance and/or repairs on platform components, [Examples: mooring buoy, boat dock, structural supports, diving operations and cathodic protection equipment].
5. Support operations in conjunction with surveys of platform and sub-sea components including pipelines and power cables, [Examples: side scan sonar, ROV inspection, diving inspections and marine biological inspections].
6. Support operations in conjunction with drilling and work-over operations, [Examples: perforation watch and marine safety zone surveillance].
7. Support/participate in oil spill drills and actual incidents. [Examples: deploying boom and recovery equipment, taking samples and personnel exposure measurements and other spill response activities].
8. Support/participate in safety, health, and emergency drills and actual incidents, [Examples: third party requests for assistance, Medi-vac and platform evacuation as well as other safety and health activities, -fire and explosion, well control blowout, storm, vessel collision, bomb threat, support operations during periods of elevated Homeland Security Alert threat levels (orange or red) as requested by Federal Agencies, and man overboard].
9. Provide standby boat services when required due to limitations of platform survival craft capabilities and/or platform personnel count.
10. Supply marine support services to accommodate activities by local, state and federal agencies and special industry/public interest groups when requested.
11. Conduct engine source compliance tests as required by the permits or other rules and regulations.
12. Perform vessel and boat maintenance as required.

2.2.5 Helicopter: There is a helipad on Platform Houchin; however, helicopters are not used for routine offshore transportation.

2.2.6 Emergency Drills: POO-LLC conducts periodic and unannounced emergency response drills. Several plans have been developed for different types of emergency situations that could occur on or around the platform. The plans include the Emergency Evacuation Plan and Oil Spill Contingency Plan. All of the plans have been prepared to comply with applicable rules and regulations and guidelines set forth by the appropriate regulatory agencies. In addition, the following drills are practiced by the entire crew on a regular basis: (1) man overboard, (2) combustible gas, (3) abandon platform, and (4) emergency shut down.

2.3 Oil & Gas Production Activities: Drilling

2.3.1 Drilling Activities: Drilling activities including well work over periodically occur on the platform. Engines with rated horsepower greater than or equal to 50 horsepower used in drilling activities must obtain APCD permits or qualify for the Rule 202.F.2 exemption.

2.4 Maintenance/Degreasing Activities

2.4.1 Paints and Coatings: Intermittent surface coating operations are conducted throughout the platform for occasional equipment maintenance needs. Normally only touch-up and equipment labeling or tagging is performed using spray cans

2.4.2 Solvent Usage: Solvents not used for surface coating thinning may be used on the platform for daily operations. Usage includes cold solvent degreasing and wipe cleaning with rags.

2.5 Planned Process Turnarounds

POO-LLC performs no planned process turnarounds on Platform Houchin. All production paths have bypass and redundant equipment to ensure no downtime in production. Major pieces of equipment undergo maintenance as specified by the manufacturer. Maintenance of critical components is carried out according to the requirements of Rule 331 {Fugitive Emissions Inspection and Maintenance}.

2.6 Other Processes

Pigging: Pigging operations occur between the facility and the La Conchita Plant in Ventura County. The oil lines are pigged approximately 3 times per week. The pigging system is connected to the La Conchita Plant's pig receiver.

Unplanned Activities/Emissions: POO-LLC does not anticipate or foresee any circumstances that would require special equipment use and result in excess emissions. POO-LLC has stated that no other processes exist that would be subject to permit.

2.7 Detailed Process Equipment Listing

Refer to Section 10, Attachment 10.4 for a complete listing of all permitted equipment, and to Attachment 10.7 for a list of APCD permit-exempt emission units.

3.0 Regulatory Review

3.1 Rule Exemptions Claimed

 APCD Rule 202 (Exemptions to Rule 201): Section D.6 of the Rule requires POO-LLC to report any *de minimis* modifications at the facility.

 APCD Rule 202 (Exemptions to Rule 201): Pursuant to POO-LLC's request, the following equipment units are exempt from the requirements to obtain an APCD permit. An exemption from an APCD permit, however, does not grant relief from any federally applicable prohibitory rule (or permit) unless specifically exempted by that prohibitory rule. (See also Section 10.5 for a complete list of permit-exempt equipment):

- Diesel fuel tank: 10,400-gallon capacity (Section V.2)

Note: The historical APCD Rule 202 (Section .F.1.6) drilling engine exemption for OCS sources expired on February 19, 2009, so drilling engines with a rated horsepower of 50

or greater are no longer permit exempt. However, drilling or other engines that qualify as portable and are registered in the State Portable Equipment Registration Program (PERP registration) may qualify for a permit exemption in accordance with Rule 202.F.2. APCD authorization is required prior to use of PERP registered equipment on the OCS.

-  APCD Rule 325 (Crude Oil production and Separation): POO-LLC obtained an exemption from Rule 325, Sections D.1 and D.2, in May 1999 for its deck drain tank and settling tank under the provisions of Rule 325.B.3 (ROC content of tank liquids less than 5mg/l)
-  APCD Rule 331 (Fugitive Emissions Inspections and Maintenance): The following exemptions to Rule 331 were requested for and approved by the APCD:
 - Section B.2.b for components buried below the ground.
 - Section B.2.c for one-half inch stainless steel tube fittings.
-  APCD Rule 333 (Control of Emissions from Reciprocating IC Engines): Under Section B.1.b, engines exempt per Rule 202 are also exempt from the requirements of this rule. Under Section B.2, engines with total aggregated operational periods less than 200 hours per calendar year are exempt from the requirements of this rule, except section D.1, Section D.2, Section J.3, and Section K. The South Crane engine, the emergency two (2) standby generator engines and the fire water pump engine are all limited to 200 hours per calendar year.

3.2 Compliance with Applicable Federal Rules and Regulations

- 3.2.1 40 CFR Parts 51/52 {Non-attainment Area Review and Prevention of Significant Deterioration}: Platform Houchin was constructed and permitted prior to the applicability of these regulations. However, all permit modifications at Platform Houchin after 4 September 1992, are subject to APCD New Source Review requirements. Compliance with APCD Regulations VIII (*New Source Review*) ensures that any future modifications to the facility will comply with these regulations.
- 3.2.2 40 CFR Part 55 {OCS Air Regulations}: As an existing OCS source, Platform Houchin is operating in compliance with the requirements of this regulation.
- 3.2.3 40 CFR Part 60 {New Source Performance Standards}: None of Platform Houchin's existing equipment is subject to the provisions of this Part.
- 3.2.4 40 CFR Part 61 {National Emissions Standards for Hazardous Air Pollutants}: This facility is not currently subject to any of the provisions of Part 61.
- 3.2.5 40 CFR Part 63 {Maximum Achievable Control Technology (MACT)}: In September 2001, POO-LLC submitted data to the USEPA and to the APCD concerning their 'initial' gas-to-oil ratio (GOR) and the initial API gravity of their oil. The facility was determined to be exempt from the Oil and Gas Production MACT, Subpart HH under 40 CFR 63.760(e)(1) ['Black Oil Exemption']; however, it is subject to recordkeeping under the General Standards of Part 63, i.e., under 63.10(b)(3).

- 3.2.6 40 CFR Part 64 {Compliance Assurance Monitoring}: This rule became effective on April 22, 1998. None of the emission units at this facility are subject to the requirements of the CAM Rule, per 40 CFR 64.2 (Applicability). Pre-control emissions of any pollutant from the North crane unit are less than 100 tpy; while the South crane and the boat engines do not use any control device to comply with any federally enforceable emissions limit.
- 3.2.7 40 CFR Part 70 {Operating Permits}: This Subpart is applicable to Platform Houchin. Table 3.1 lists the federally enforceable APCD promulgated rules that are “generic” and apply to POO-LLC. Table 3.2 lists the federally enforceable APCD promulgated rules that are “unit-specific” that apply to POO-LLC. These tables are based on data available from the APCD’s administrative files and POO-LLC’s Part 70 Operating Permit Renewal Application No. 9109 submitted on 14 October 2004. Table 3.4 includes the APCD’s adoption dates of these rules.

In its Part 70 renewal application, POO-LLC certified compliance with all existing APCD rules and permit conditions. This certification is also required of POO-LLC semi-annually. Issuance of this permit and compliance with all its terms and conditions will ensure that POO-LLC complies with the provisions of all applicable Subparts.

3.3 Compliance with Applicable State Rules and Regulations

- 3.3.1 Division 26. Air Resources {California Health & Safety Code}: The administrative provisions of the Health & Safety Code apply to this facility and will be enforced by the APCD. These provisions are APCD-enforceable only.
- 3.3.2 California Administrative Code Title 17: These sections specify the standards by which abrasive blasting activities are governed throughout the State. All abrasive blasting activities at the Platform Houchin are required to conform to these standards. Compliance will be assessed through onsite inspections. These standards are APCD-enforceable only. However, CAC Title 17 does not preempt enforcement of any SIP-approved rule that may be applicable to abrasive blasting activities.
- 3.3.3 California Administrative Code Title 17 Section 93118.5: The Airborne Toxic Control Measure (ATCM) for Diesel Engines on Commercial Harbor Craft Operated within California Waters and 24 Nautical Miles of the California Baseline specifies emission standards and operational requirements for new and in-use engines. The crew boat and supply boat engines are subject to this ATCM. As part of the compliance with this ATCM, effective January 1, 2009, the crew boat and supply boat engines are required to burn CARB ultra-low sulfur diesel in all the engines onboard the vessel and install hour meters on all diesel engines. The crew boat and supply boat are not considered ferries, excursion vessels, tugboats, towboats, push boats, or multipurpose harbor craft, so they are not subject to the in use engine replacement requirements of section (e)(6).

3.4 Compliance with Applicable Local Rules and Regulations

- 3.4.1 Applicability Tables: In addition to Tables 3.1 and 3.2, Table 3.3 lists the non-federally enforceable APCD promulgated rules that apply to the Platform Houchin. Table 3.4 lists the adoption date of all rules applicable to this permit at the date of this permit’s issuance.
- 3.4.2 Rules Requiring Further Discussion: The last facility inspection occurred on 10 December 2008. The inspector noted that the facility complied with all applicable requirements. This section provides a more detailed discussion regarding the applicability and compliance of certain rules.

- 📖 APCD Rule 301 (Circumvention): This rule prohibits the concealment of any activity that would otherwise constitute a violation of Division 26 (Air Resources) of the California H&SC and the SBCAPCD rules and regulations. To the best of the APCD's knowledge, POO-LLC is operating in compliance with this rule.
- 📖 APCD Rule 302 (Visible Emissions): This rule prohibits the discharge from any single source any air contaminants for which a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade than a reading of 1 on the Ringelmann Chart or of such opacity to obscure an observer's view to a degree equal to or greater than a reading of 1 on the Ringelmann Chart. Equipment at Platform Houchin subject to this rule includes all diesel-fired, reciprocating internal combustion engines. Improperly maintained diesel engines have the potential to violate this rule. Compliance will be assured by requiring all engines to be maintained according to manufacturer maintenance schedules. Also, POO-LLC will perform quarterly visible emissions checks for all diesel-fired IC engines.
- 📖 APCD Rule 305 (Particulate Matter, Southern Zone): Platform Houchin is considered a Southern Zone source. This rule prohibits the discharge into the atmosphere from any source particulate matter in excess of specified concentrations measured in gr/scf. The maximum allowable concentrations are determined as a function of volumetric discharge, measured in scfm, and are listed in Table 305(a) of the rule. Emission units subject to this rule include: all diesel-fired IC engines on the platform. Improperly maintained diesel engines have the potential to violate this rule. PM₁₀ emissions from the diesel-fired IC engines will meet emission limitations through proper engine maintenance per Section 9.C permit conditions on maintenance.
- 📖 APCD Rule 309 (Specific Contaminants): Under Section "A," no source may discharge sulfur compounds and combustion contaminants in excess of 0.2 percent as SO₂ (by volume) and 0.3 gr/scf (at 12% CO₂) respectively. All diesel powered piston IC engines have the potential to exceed the combustion contaminant (gr/scf) limit if not properly maintained (see discussion on Rule 305 above for compliance). Note that all diesel-fired equipment have to comply with the fuel sulfur limits in APCD Rule 311 (see below), which keeps the SO₂ emission concentration well below 200 ppmv.
- 📖 APCD Rule 311 (Sulfur Content of Fuels): This rule limits the sulfur content of fuels combusted at the Platform Houchin to 0.5% (by wt) for liquids fuels {and 15 gr/100 scf (calculated as H₂S) or 239 ppmvd for gaseous fuels}. All reciprocating IC engines on the platform and on the crew and supply boats are in compliance with the liquid fuel limits as determined by fuel analysis documentation.
- 📖 APCD Rule 317 (Organic Solvent): This rule sets specific prohibitions against the usage of both photochemically and non-photochemically reactive organic solvents (40 lb./day and 3,000 lb./day respectively). Solvents may be used on the Platform Houchin during normal operations for degreasing by wipe cleaning and for use in paints and coatings in maintenance operations. There is the potential to exceed the limits under Section B.2 during significant surface coating activities. To demonstrate compliance with this rule, POO-LLC is required to maintain detailed daily solvent usage records (along with the solvent's MSDS) and submit them semi-annually to the APCD.

- 📖 APCD Rule 322 (Metal Surface Coating Thinner and Reducer): This rule prohibits the use of photochemically reactive solvents for use as thinners or reducers in metal surface coatings. POO-LLC will be required to maintain records to ensure compliance with this rule.
- 📖 APCD Rule 323 (Architectural Coatings): This rule sets standards for many types of architectural coatings. The primary coating standard that will apply to the Platform Houchin is for Industrial Maintenance Coatings, which has a limit of 340 gram ROC per liter of coating, as applied. POO-LLC will be required to comply with the administrative requirements under Section F for each container on the platform. POO-LLC will be required also to maintain records to ensure compliance with this rule.
- 📖 APCD Rule 324 (Disposal and Evaporation of Solvents): This rule prohibits any source from disposing more than one and a half gallons of any photochemically reactive solvent per day by means that will allow the evaporation of the solvent into the atmosphere. POO-LLC will be required to maintain records to ensure compliance with this rule.
- 📖 APCD Rule 325 (Crude Oil Production and Separation): This Rule adopted January 25, 1994, applies to equipment used in the production, gathering, storage, processing and separation of crude oil and gas prior to custody transfer. The primary requirements of this rule are under Sections D and E. Section D requires the use of vapor recovery systems on all tanks and vessels, including wastewater tanks, oil/water separators and sumps. Section E requires that all produced gas be controlled at all times, except for wells undergoing routine maintenance. Production and test separators and the deck sump and settling tank on this platform are all connected to gas gathering systems. According to POO-LLC's application, produced gas is not vented to the atmosphere due to considerations such as: process equipment redundancy in the design, process control systems and operational procedures. Compliance with this exemption is verified by APCD inspections. The last inspection on 6/2/09 noted POO-LLC to be in compliance with both sections of the rule (See Section 9.C for the relevant permit condition).

Previously, gas produced during planned pigging operations was “stacked” in an out of service pipeline and then sent to shore after completion of the pigging. The stacking option is no longer available to the operator. In order to comply with APCD Rule 325 installation of a flare was necessary to avoid venting of produced gas directly to atmosphere.

- 📖 APCD Rule 328 (Continuous Emissions Monitoring) This rule details the applicability and standards for the use of continuous emission monitoring systems ("CEMS"). Process monitoring systems (e.g., fuel meters) are used to track emissions. There are no CEMS in use on the platform.
- 📖 APCD Rule 331 (Fugitive Emissions Inspection and Maintenance): This rule applies to components in liquid and gaseous hydrocarbon service at oil and gas production fields. POO-LLC has submitted its I&M Plan and received APCD approval of this Plan on 1/15/95. Ongoing compliance with the many provisions of this rule will be assessed via platform inspection by APCD personnel using an organic vapor analyzer and through analysis of operator records.

POO-LLC has stated in their application that Platform Houchin is designed in such a manner as to preclude the stack venting of any hydrocarbon gases from all planned events and the majority of unplanned events. For safety reasons and to comply with federal regulations, gas

venting is required during unplanned casing blow downs prior to well work over. Thus, the only permitted vent stack activities are for unplanned well work over rig operations when casing gas blow downs occur prior to the well head being opened. Any other vent stack event will be called in as a breakdown event per APCD Rule 505. If routine venting of hydrocarbons was to occur then, pursuant to Sections D and E, POO-LLC would be required to install BACT at the next process shutdown or within 12-months, whichever is sooner.

 APCD Rule 333 (Control of Emissions from Reciprocating IC Engine): This rule applies to all engines with a rated brake horsepower of 50 or greater that are fueled by liquid or gaseous fuels, unless such engines are permit-exempt. The 230-hp diesel-fired "North" pedestal crane engine and the 400-hp diesel-fired well service rig on Platform Houchin are subject to the NO_x standards under Section D.4 of 8.4 g/bhp-hr or 797 ppmvd (at 15% O₂). Ongoing compliance will be achieved through implementation of the APCD-approved 'Rule 333, Section F – Inspection and Maintenance Plan' (submitted to the APCD on May 21, 2009 and subsequent updates) required under Section E and through biennial source testing. The 99-hp South crane engine, the 510-hp emergency standby generator engine, the 2,874-hp emergency standby generator, 230-hp well kill pump engine and the 110-hp fire water pump engine are exempt from the requirements of this rule with the exception of Section D.1, Section D.2, Section J.3, and Section K of this rule because they operate under 200 hours per year.

On June 19, 2008 Rule 333 was revised. The NO_x emission limit for diesel-fired engines was reduced, and ROC and CO limits were added. In addition, the inspection and maintenance requirements of the Rule were changed. The preexisting emission limits of Rule 333 apply until two years after the revised Rule 333 was added to 40 CFR OCS Part 55. The revised Rule became effective on the OCS on November 21, 2008. Thus, the revised limits will apply November 21, 2010. In addition, operators of IC engines were required to submit new or revised Compliance Plans and Inspection and Maintenance plans within six months after the Rule revision became effective on the OCS. These plans were submitted on May 21, 2009 and approved in June, 2009.

 APCD Rule 353 (Adhesives and Sealants): This rule applies to the use of adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primers. Compliance shall be based on site inspections.

 APCD Rule 359 (Flares and Thermal Oxidizers): The emission standards in 359.D.5.c do not apply to this project because the flare is not a thermal oxidizer or a ground-level enclosed flare as defined in the rule. A flare minimization plan is not currently required because the volume of gas to be flared is below 5% of the annual volume of gas processed by the platform. A flare minimization plan could be required in the future based on flare volumes recorded by the flare meters.

 Rule 505 - Breakdown Conditions: This rule describes the procedures that POO-LLC must follow when a breakdown condition occurs to any emissions unit associated with Platform Houchin. A breakdown condition is defined as an unforeseeable failure or malfunction of (1) any air pollution control equipment or related operating equipment which causes a violation of an emission limitation or restriction prescribed in the APCD Rules and Regulations, or by State law, or (2) any in-stack continuous monitoring equipment, provided such failure or malfunction:

- a. Is not the result of neglect or disregard of any air pollution control law or rule or regulation;
- b. Is not the result of an intentional or negligent act or omission on the part of the owner or operator;
- c. Is not the result of improper maintenance;
- d. Does not constitute a nuisance as defined in Section 41700 of the Health and Safety Code;
- e. Is not a recurrent breakdown of the same equipment items.

 APCD Rule 603 (Emergency Episode Plans): Section “A” of this rule requires the submittal of ‘Stationary Source Curtailment Plan’ for all stationary sources that can be expected to emit more than 100 tons per year of hydrocarbons, nitrogen oxides, carbon monoxide or particulate matter. POO-LLC submitted such a plan in June 2002.

3.5 Compliance History

This section contains a summary of the compliance history for this facility and was obtained from documentation contained in the APCD’s Administrative file.

Violations: One Notice of Violation (NOV) and two (2) Notices to Comply (NTC) have been issued to POO-LLC since May 19, 2005.

VIOLATION TYPE	NUMBER	ISSUE DATE	DESCRIPTION OF VIOLATION
NOV	8308	10/25/2005	I&M leak summary report for 3Q05 period revealed that two valves were not in compliance with Rule 331.D as required in condition 9.C.2(b) when monitored, recorded and reported.
NTC	8309	10/25/2005	POOI failed to submit Deviation Report for fugitive I&M violations noted in NOV #8308
NTC	9244	12/23/2008	Failure to update one plan and submit another plan within 30 days of start of SCDP per the ATC.

Table 3.1 - Generic Federally-Enforceable APCD Rules

Generic Requirements	Affected Emission Units	Basis for Applicability
<u>RULE 101</u> : Existing Installations	All emission units	Emission of pollutants
<u>RULE 102</u> : Definitions	<u>All emission units</u>	<u>Emission of pollutants</u>
<u>RULE 103</u> : Severability	All emission units	Emission of pollutants
<u>RULE 201</u> : Permits Required	All emission units	Emission of pollutants
<u>RULE 202</u> : Exemptions to Rule 201	Emission units, as listed in Form 1302-H, Part 70 application	Insignificant activities/emissions, per size/rating/function
<u>RULE 203</u> : Transfer	All emission units	Change of ownership
<u>RULE 204</u> : Applications	All emission units	Addition of new equipment or modification to existing equipment.
<u>RULE 205</u> : Standards for Granting Permits	All emission units	Emission of pollutants
<u>RULE 206</u> : Conditional Approval of Authority to Construct or Permit to Operate	All emission units	Applicability of relevant Rules
<u>RULE 207</u> : Denial of Applications -	<u>All emission units</u>	<u>Applicability of relevant Rules</u>
<u>RULE 208</u> : Action on Applications - Time Limits	All emission units. Not applicable to Part 70 permit applications.	Addition of new equipment or modification to existing equipment.
<u>RULE 212</u> : Emission Statements	All Emission Units	Emission of Pollutants
<u>RULE 301</u> : Circumvention	All emission units	Any pollutant emission
<u>RULE 302</u> : Visible Emissions	All emission units	Particulate matter emissions
<u>RULE 305</u> : PM Concentration - South Zone	Each PM source	Emission of PM in effluent gas
<u>RULE 309</u> : Specific Contaminants	All emission units	Combustn.contaminant emission
<u>RULE 311</u> : Sulfur Content of Fuel	All combustion units	Use of fuel containing sulfur
<u>RULE 317</u> : Organic Solvents	Emission units using solvents	Solvent use in process operations
<u>RULE 321</u> : Solvent Cleaning Operations	Emission units using solvents	Solvent use in process operations

Generic Requirements	Affected Emission Units	Basis for Applicability
<u>RULE 322</u> : Metal Surface Coating Thinner and Reducer	Emission units using solvents	Solvent used in process operations.
<u>RULE 323</u> : Architectural Coatings	Paints used in maintenance and surface coating activities	Application of architectural coatings.
<u>RULE 324</u> : Disposal and Evaporation of Solvents	Emission units using solvents	Solvent used in process operations.
<u>RULE 353</u> : Adhesives and Sealants	Emission units using adhesives and sealants	Adhesives and sealants use
<u>RULE 505</u> : Breakdown Conditions: Sections A, B.1 and D	All emission units	Breakdowns where permit limits are exceeded or rule requirements are not complied with.
<u>RULE 603</u> : Emergency Episode Plans	Stationary sources with PTE greater than 100 tpy	POO-LLC OCS is a major source.
<u>REGULATION VIII</u> : New Source Review	All emission units	Addition of new equipment or modification to existing equipment. Applications to generate ERC Certificates.
<u>REGULATION XIII (RULES 1301-1305)</u> : Part 70 Operating Permits	All emission units	POO-LLC OCS is a major source.

Table 3.2 - Unit-Specific Federally-Enforceable APCD Rules

Unit-Specific Requirements	Affected Emission Units	Basis for Applicability
<u>RULE 325</u> : Crude Oil Production and Separation	Storage tanks: Emission units capable of venting gases	Venting prohibited under Rule 325.E
<u>RULE 330</u> : Surface Coating of Metal Parts & Products	All surface coating used for any metal coating operations	Components emit fugitive ROCs.
<u>RULE 331</u> : Fugitive Emissions Inspection & Maintenance	Components (valves, flanges etc.) used to handle oil and gas:	Components emit fugitive ROCs.
<u>RULE 333</u> : Control of Emissions from Reciprocating IC Engines	IC Engines not exempt from permitting under Rule 202	Engines rated at/above 100 hp; also operating more than 200 hours/year.

Table 3.3 - Non-Federally-Enforceable APCD Rules

Requirement	Affected Emission Units	Basis for Applicability
<u>RULE 210</u> : Fees	All emission units	Administrative
<u>RULE 212</u> : Emission Statements	All emission units	Administrative
<u>RULE 310</u> : Odorous organic sulfides	All emission units	County HAP Rule
<u>RULES 501-504</u> : Variance Rules	All emission units	Administrative
<u>RULES 506-519</u> : Variance Rules	All emission units	Administrative

Table 3.4 – Adoption Dates of APCD Rules Applicable at Issuance of Permit

Rule No.	Rule Name	Adoption Date
Rule 101	Compliance by Existing Installations: Conflicts	June 1981
Rule 102	Definitions	April 17, 1997
Rule 103	Severability	October 23, 1978
Rule 201	Permits Required	April 17, 1997
Rule 202	Exemptions to Rule 201	April 17, 1997
Rule 203	Transfer	April 17, 1997
Rule 204	Applications	April 17, 1997
Rule 205	Standards for Granting Permits	April 17, 1997
Rule 206	Conditional Approval of Authority to Construct or Permit to Operate	October 15, 1991
Rule 208	Action on Applications - Time Limits	April 17, 1997
Rule 212	Emission Statements	October 20, 1992
Rule 301	Circumvention	October 23, 1978
Rule 302	Visible Emissions	June 1981
Rule 305	Particulate Matter Concentration - Southern Zone	October 23, 1978
Rule 309	Specific Contaminants	October 23, 1978
Rule 310	Odorous Organic Sulfides	October 23, 1978
Rule 311	Sulfur Content of Fuels	October 23, 1978
Rule 317	Organic Solvents	October 23, 1978

Rule No.	Rule Name	Adoption Date
Rule 321	Solvent Cleaning Operations	September 18, 1997
Rule 322	Metal Surface Coating Thinner and Reducer	October 23, 1978
Rule 323	Architectural Coatings	July 18, 1996
Rule 324	Disposal and Evaporation of Solvents	October 23, 1978
Rule 325	Crude Oil Production and Separation	January 25, 1994
Rule 326	Storage of Reactive Organic Compound Liquids	December 14, 1993
Rule 331	Fugitive Emissions Inspection and Maintenance	December 10, 1991
Rule 333	Control of Emissions from Reciprocating Internal Combustion Engines	April 17, 1997
Rule 342	Control of Oxides of Nitrogen (NOx) from Boilers, Steam Generators and Process Heaters	April 17, 1997
Rule 343	Petroleum Storage Tank Degassing	December 14, 1993
Rule 344	Petroleum Sumps, Pits and Well Cellars	November 10, 1994
Rule 353	Adhesives and Sealants	August 19, 1999
Rule 359	Flares and Thermal Oxidizers	June 28, 1994
Rule 360	Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers	October 17, 2002
Rule 361	Small Boilers, Steam Generators and Process Heaters	January 17, 2008
Rule 505	Breakdown Conditions (Section A, B1 and D)	October 23, 1978
Rule 603	Emergency Episode Plans	June 15, 1981
Rule 801	New Source Review	April 17, 1997
Rule 802	Nonattainment Review	April 17, 1997
Rule 803	Prevention of Significant Deterioration	April 17, 1997
Rule 804	Emission Offsets	April 17, 1997
Rule 805	Air Quality Impact and Modeling	April 17, 1997
Rule 806	Emission Reduction Credits	April 17, 1997
Rule 901	New Source Performance Standards (NSPS)	May 16, 1996
Rule 903	Outer Continental Shelf (OCS) Regulations	November 10, 1992
Rule 1001	National Emission Standards for Hazardous Air Pollutants (NESHAPS)	October 23, 1993
Rule 1301	General Information	September 18, 1997

Rule No.	Rule Name	Adoption Date
Rule 1302	Permit Application	November 9, 1993
Rule 1303	Permits	November 9, 1993
Rule 1304	Issuance, Renewal, Modification and Reopening	November 9, 1993
Rule 1305	Enforcement	November 9, 1993

4.0 Engineering Analysis

4.1 General

The engineering analyses performed for this permit were limited to the review of:

- ☞ facility process flow diagrams
- ☞ emission factors and calculation methods for each emissions unit
- ☞ emission control equipment/technology (including RACT, BACT, NSPS, NESHAP, MACT)
- ☞ emission source testing, sampling, CEMS, CAM
- ☞ existing process monitors needed to ensure compliance

A review and analysis of material balances, potential breakdown scenarios, and design considerations for safety and system reliability were not performed due to the lack of any regulatory mandate. Unless noted otherwise, default ROC/THC reactivity profiles from the APCD's document titled "*VOC/ROC Emission Factors and Reactivities for Common Source Types*" dated 3/12/01 (version 1.2) was used to determine non-methane, non-ethane fraction of THC.

4.2 Stationary Combustion Sources

All stationary combustion sources at Platform Houchin consist of diesel-fired internal combustion engines. Primary power on the platform is supplied by a submarine electric cable from SCE.

- 4.2.1 Reciprocating Stationary IC Engines: Stationary IC engines on the platform rated over 50-bhp include: the 230 hp North crane engine, the 230 hp mud pump engine, the 400 hp well service rig engine, the 510 hp emergency electrical generator, the 2,847 hp emergency electrical generator, the 110 hp emergency firewater pump engine and the 99-hp South crane engine (utilizing N-60 injectors). The 230 hp North crane engine and the 400 hp well service rig are subject to all Rule 333 requirements. The South crane engine, the two (2) emergency generator engines, the mud pump engine and the emergency fire pump engine are all currently exempt from Rule 333 requirements except for Section D.1, Section D.2, Section J.3, and Section K

The calculation methodology is similar for all stationary IC engines:

$$ER = [(EF \times BHP \times BSFC \times LCF \times HPP) \div 10^6]$$

where: ER = emission rate (lb./period)
EF = pollutant specific emission factor (lb./MMBtu)
BHP = engine rated max. brake-horsepower (bhp)

BSFC = engine brake specific fuel consumption (Btu/bhp-hr)
LCF = liquid fuel correction factor, LHV to HHV
HPP = operating hours per time period (hrs/period)

The emission factor is an energy-based value using the higher heating value (HHV) of the fuel. As such, an energy based BSFC value must also be based on the HHV. Manufacturer BSFC data are typically based on lower heating value (LHV) data and thus require a conversion (LCF) to the HHV basis. For diesel fuel oil, the HHV values are typically 6 percent greater than the corresponding LHV data. Volume or mass based BSFC data do not need any conversions.

The North pedestal crane is driven by a Detroit Diesel Model 6-71 engine rated at 230 bhp, while the South crane engine is driven by a Detroit Diesel Model 3-71 engine rated at 99 bhp (utilizing N-60 injectors) and the mud pump engine is driven by a Detroit Diesel Model 8-71 engine rated at 318 bhp. These engines are equipped with "N-60"-type fuel injectors. The timing on the North crane engine was adjusted in order to meet the NO_x standard of this rule. Low operating loads allow this engine to comply with the Rule 333 NO_x emission standard of either 8.4 g/bhp-hr or 797 ppmv at 15 percent oxygen. All NO_x emission factors (lb./MMBtu) used in emissions calculation are based on (a) manufacturer's brake-specific fuel consumption (BSFC), (b) default diesel fuel specifications and (c) either the Rule 333 emission standard of 8.4 g/bhp-hr or the AP-42 specified factor of 14 g/bhp-hr. The emission factors for PM, CO and ROC are from USEPA AP-42, Table 3.3-1 (7/93). The SO_x emission factor is based on mass balance calculations.

The diesel fired IC engines on the platform are not equipped with diesel fuel flow metering devices. These IC engines are equipped with non-resettable hour meters. The actual engine usage time is logged monthly. The engine emissions are then calculated using total elapsed run time, the maximum rated engine bhp rating and BSFC data (from Table 5.1-1) to determine the number of gallons consumed per unit time. Ongoing compliance with Rule 333 by the North Crane IC engine will be accomplished by quarterly inspections per Section E of this rule and biennial source testing.

On June 19, 2008 Rule 333 was revised. The NO_x emission limit for diesel-fired engines was reduced, and ROC and CO limits were added, In addition, the inspection and maintenance requirements of the Rule were changed. The preexisting emission limits of Rule 333 apply until two years after the revised Rule 333 was added to 40 CFR OCS Part 55. The revised Rule became effective on the OCS on November 21, 2008. Thus, the revised limits will apply starting November 21, 2010. In addition, operators of IC engines were required to submit new or revised Compliance Plans and Inspection and Maintenance plans within six months after the Rule revision became effective on the OCS. These plans were received on May 21, 2009

4.3 Fugitive Hydrocarbon Sources

Fugitive Hydrocarbon Emissions: Emissions of reactive organic compounds from piping components such as valves, flanges and connections have been quantified using empirical models (Tecolote Report, 1986). The equation from Model B is used. Uncontrolled emission factors are: 0.0049 lb. ROC/clp-day and 0.0825 lb. ROC/clp-day for oil and gas/light liquid components respectively. The number of emission leak-paths was determined by the operator, this data were verified by APCD staff by checking a representative number of P&IDs and by site checks. A total of 4670 oil/emulsion component leak-paths (4402 controlled and 268 unsafe/uncontrolled) and 1278 gas/light-liquid component leak-paths (all controlled) exist on the platform, after an

automatic well tester (AWT) installation. The calculation methodology for the fugitive emissions is:

$$ER = [(EF \times CLP \div 24) \times (1 - CE) \times (HPP)]$$

where: ER = emission rate (lb./period)
 EF = ROC emission factor (lb./clp-day)
 CLP = component leak-path (clp)
 CE = control efficiency
 HPP = operating hours per time period (hrs/period)

An emission control efficiency of 80 percent is credited to all components that are safe to monitor (as defined per Rule 331) due to the implementation of a APCD-approved Inspection and Maintenance program for leak detection and repair consistent with Rule 331 requirements. Unsafe to monitor components are not eligible for I&M control credit. Ongoing compliance is determined in the field by inspection with an organic vapor analyzer and verification of operator records.

4.4 Flare System

Platform Houchin has a produced flare system that is designed to collect gases from platform process equipment. During an emergency condition, this system flares these gases for safety reasons. For safety reasons and to comply with APCD and federal regulations, gas flaring is required during unplanned casing blow downs prior to well work over, and during planned smart-pigging required for the pipeline. The calculation methodology for the vent flow is:

$$ER = [(SCFPP \times EF \times HHV)]$$

where: ER = emission rate (lb. /period)
 EF = emission factor (lb. /MMBtu)
 SCFPP = gas flow rate per operating period (MMscf/period)
 HHV = higher heating value of produced Natural Gas

Note: The previously installed Vent Relief System has been replaced by the Flare System, and has been removed from the platform. No venting is permitted on the platform.

4.5 Crew and Supply Vessels

POO-LLC uses both crew boat and supply boats in support of Platform Houchin. For crew and supply boats, POO-LLC has identified two types of boats. One type is for primary usage that is controlled for NO_x and the other is used as a spot-charter and is normally uncontrolled for NO_x. The spot-charter usage is limited to 10 percent of actual boat usage.

The ‘primary’ supply boat is equipped with two-1,125 bhp main diesel-fired IC engines (CAT 399TA-91B type). These engines employ the following NO_x control measures: four-degree injection timing retard, turbo-charging and enhanced inter-cooling. Additional diesel-fired engines on this vessel include two-125 kW generators each powered by identical 230 bhp engines and one bow thruster powered by a 230 bhp engine (all three auxiliary engines are Detroit Diesel model 8V-71 type). These auxiliary engines are not controlled.

The ‘primary’ crew boat is equipped with three-510 bhp main diesel-fired IC engines (Detroit Diesel model 12V-71TI type). These engines employ the following NO_x control measures: four-degree injection timing retard, turbo-charging, and seawater scrubbing and inter-cooling. Additional diesel-fired engines on this boat include two auxiliary generators each powered by two 45-bhp engines (Detroit Diesel model 2-71 type). These auxiliary engines are not controlled.

The permit assesses emission liability based solely on two emission factors (the cruise modes). For crew boat main engine with the controls listed above, a full load NO_x emission factor of 8.4 g/bhp-hr (337 lb/1000 gallons) is used. For supply boat main engine, this factor is 8.4 g/bhp-hr (337 lbs/1000 gal). Sulfur oxide emissions are based on mass balance calculations assuming 0.0015 weight percent sulfur CARB certified diesel fuel. Other boat main engine emission factors are taken from USEPA, AP-42 (Volume II). For the auxiliary and bow thruster engines, emission factors are taken from USEPA, AP-42 (Volume I). Uncontrolled NO_x main engine emission factors for spot-charter supply boat usage are assumed to be 14 g/bhp-hr (561 lb/1000 gallons). The calculation methodology for the crew and supply boat main engine emissions is:

$$ER = [(EF \times EHP \times BSFC \times EL \times TM) \div (10^3)]$$

where: ER = emission rate (lbs. per period)
 EF = full load pollutant specific emission factor (lb/1000 gallons)
 EHP = engine max rated horsepower (bhp)
 BSFC = engine brake specific fuel consumption (gal/bhp-hr)
 EL = engine load factors (percent of max fuel consumption)
 TM = time in mode (hours/period)

The calculations for the auxiliary engines are similar, except that a 50 percent engine load factor for the generators is utilized. Compliance with the main engine controlled emission rates shall be assessed through emission source testing. Ongoing compliance will be assessed through implementation of an APCD-approved Boat Monitoring and Reporting Plan (1998 revision and subsequent approved updates). Total mileage from Platform Houchin to Port Hueneme is approximately 25 miles.

In addition, a permanently assigned emergency response vessel (i.e., the *Clean Seas II*) is associated with Platform Houchin. The total engine horsepower, including auxiliary engines, is 1,770 bhp. Emissions liability is assigned in a prorated fashion among the eleven OCS platforms that utilize the vessel off the Santa Barbara coast. Emission factors, calculations and compliance procedures are the same as for the spot-charter supply vessels discussed above. If used, other emergency response boat fuel usage (and resulting emissions) shall be assessed against this emissions category.

4.6 Tanks/Vessels/Sumps

- 4.6.1 Tanks: Platform Houchin has a diesel fuel storage tank is subject to permit. The diesel storage tank services the crane IC engines on the platform and is not controlled. The tank emissions are small and are assumed to be less than 0.10 tpy (200 lb./yr.). The detailed tank calculations for compliance will be performed using the methods presented in USEPA AP-42, Chapter 12.
- 4.6.2 Vessels: Platform Houchin has pressure vessels (e.g., production separators, a test separator, clean-up separator, test treater, oil surge vessel, and suction scrubbers). Emissions from pressure vessels are due to fugitive hydrocarbon leaks from valves and connections.

4.6.3 Sumps/Settling Tanks: There is one deck sump tank, which recovers any liquids that spills on the deck (ABH-138), and a settling tank. The sump tank and settling tank are covered but are not controlled. The emissions from these tanks are based on the CARB/KVB Report (*Emissions Characteristics of Crude Oil Production in California*, January 1983). These tanks are classified as being in secondary production and heavy oil service. The calculation is:

$$ER = [(EF \times SAREA \div 24) \times (1 - CE) \times (HPP)]$$

where: ER = emission rate (lb./period)
 EF = ROC emission factor (lb/ft²-day)
 SAREA = unit surface area (ft²)
 CE = control efficiency
 HPP = operating hours per time period (hrs/period)

4.7 Vapor Recovery Systems

Platform Houchin has a vapor recovery system rated at 1.2 MMscfd. Gas from the surge tank is compressed to approximately 90 psig and is directed to the onshore pipeline. All other produced gas from the platform flows to the onshore gas pipeline at casing head pressure of about 50 psig. The deck sump and settling tank are not connected to vapor recovery or the gas gathering system.

4.8 Helicopters

Platform Houchin is equipped with a helicopter pad, but helicopters are not used for routine offshore transportation.

4.9 Other Emission Sources

4.9.1 Pigging: Oil emulsion pipeline pigging operations occur on the platform. These consist of an emulsion pipeline pig launcher to the La Conchita onshore facility. The oil pig launcher is depressurized to the platform's gas gathering system prior to and after each use. The small amounts of emissions that remain are vented to the atmosphere. The APCD has assumed that this remaining pressure does not exceed 5 psig. The calculation per period is:

$$ER = [V_1 \times \rho \times wt \% \times EPP]$$

where: ER = emission rate (lb./period)
 V₁ = volume of vessel (ft³)
 ρ = density of vapor at actual conditions (lb/ft³)
 wt % = weight percent ROC-TOC
 EPP = pigging events per time period (events/period)

Detailed calculation methodology for pigging emissions are shown in Attachment 10.1

4.9.2 General Solvent Cleaning/Degreasing: Solvent usage (not used as thinners for surface coating) occurring on Platform Houchin as part of normal daily operations includes small cold solvent degreasing and wipe cleaning. Mass balance emission calculations are used assuming all the solvent used evaporates to the atmosphere.

- 4.9.3 Surface Coating: Surface coating operations typically include normal touch up activities. Entire platform painting programs are performed once every few years. Emissions are determined based on mass balance calculations assuming all solvents evaporate into the atmosphere. Emissions of PM/PM₁₀ from paint over spray are not calculated due to the lack of established calculation techniques.
- 4.9.4 Abrasive Blasting: Abrasive blasting with CARB certified sands may be performed as a preparation step prior to surface coating. The engines used to power the compressor may be electric or diesel fired. If diesel fired, permits will be required unless the engine is registered with CARB. Particulate matter is emitted during this process. A general emission factor of 0.01 pound PM per pound of abrasive is used (SCAQMD - Permit Processing Manual, 1989) to estimate emissions of PM and PM₁₀. A PM/PM₁₀ ratio of 1.0 is assumed.

4.10 BACT/NSPS/NESHAP/MACT

None of the emission units at the Platform Houchin are subject to best available control technology (BACT) provisions of the APCD or a federal New Source Performance Standards (NSPS) or any federal maximum achievable control technology (MACT).

4.11 CEMS/Process Monitoring

- 4.11.1 CEMS: There are no in-stack continuous emission monitors (CEMS) at Platform Houchin. Process monitors listed below are used to track emissions
- 4.11.2 Process Monitoring: In many instances, ongoing compliance beyond a single (snap shot) source test is assessed by the used of process monitoring system. Examples of these monitors include: engine hour meters, fuel usage meters, water injection mass flow meters, flare gas flow meters and hydrogen sulfide analyzers. Once these process monitors are in place, it is important that they be well maintained and calibrated to ensure that the required accuracy and precision of the devices are within specifications. At a minimum, the following process monitors will be required to be calibrated and maintained in good working order:

- ✓ Crew Boat Diesel Fuel meters (main engines)
- ✓ Supply Boat Diesel Fuel Meters (main engines)
- ✓ Hour Meters (cranes, well kill pump, emergency generators, fire water pump, well service rig engine)
- ✓ Vent Stack Monitoring System
- ✓ Flare flow meters

To implement the above calibration and maintenance requirements, POO-LLC shall execute its APCD-approved 'Process Monitoring Calibration and Maintenance Plan' (dated July 2002) and any subsequently APCD approved plans for flare metering.

4.12 Source Testing/Sampling

- 4.12.1 Source Testing/Calibration: Source testing and sampling are required in order to ensure compliance with permitted emission limits, prohibitory rules, control measures and the assumptions that form the basis of this operating permit. Table 4.1 details the pollutants, test methods and frequency of required testing. POO-LLC will be required to follow the APCD *Source Test Procedures Manual* (May 24, 1990 and all updates). The following emission units are required to be source tested:

- North Crane Engine
- Supply Boat Main Engines
- Crew Boat Main Engines
- Well Service Rig Engine

Details of the source testing requirements, e.g., the pollutants, the test methods and frequency of required testing for these emission units are listed in Section 9.C

4.12.2 Sampling: POO-LLC shall sample and analyze the process streams by third party, as listed in the table below:

Process Stream	Sampling* Point	Specific Location*	Parameter to Sample/Test	Test/Sampling Method	Sampling Frequency
Produced gas	Production Separator Outlet	To be submitted by POO-LLC to the APCD per a P&ID mark-up, within 60 days of receiving this permit	Composition TRS H ₂ S	D-1945/ D-3588 EPA Method 16 EPA Method 15	Annual Annual Annual
Produced Oil	La Conchita Onshore Plant or Sales Invoice	N/A	API Gravity	D-287-82	Biennial

**-- The above sampling locations, sampling and analytical methods may be revised upon written request from the permittee and its subsequent approval by the APCD.*

All samples shall be collected in accordance with APCD-approved Methods as listed above, and shall be analyzed within 72 hours from the time of collection. All sampling and analysis shall be traceable by chain of custody procedures. All sampling and analysis data/results shall be submitted to the APCD in accordance with Permit Condition 9.C.17(e)(2).

TABLE 4.1 - SOURCE TEST REQUIREMENTS

<u>Emission Points</u>	<u>Pollutants/ Parameters</u>	<u>Test Methods</u>	<u>Allowable Emission Std</u> (ppmvd @ 15% O ₂ , lb/Kgal)
- Crane Engine (North)	NO _x (ppmv, lb/hr)	CARB 1-100 or	797 ppmvd
- Crew Boat Main Engines		USEPA 7E	337 lbs/Kgal
- Supply Boat Main Engines	CO (ppmv, lb/hr)	CARB 1-100 or	337 lbs/Kgal
- Well Service Rig Engine		USEPA 10	
		ROC (ppmv, lb/hr)	USEPA 18
	Fuel Flow Rate	meter	
	Fuel High Heating Value	ASTM	
	Total Sulfur Content	ASTM	

Site Specific Requirements

- a. All emissions tests to consist of three 40-minute runs. Crane engine tests to consist of three 20-minute runs. Crane engine to be tested at a ‘representative’ load condition, based on past 6 – 12 months historical lift data. Sufficient documentation supporting the proposed representative load shall be provided to the APCD in the source test plan for approval prior to source testing. Crew and supply boat main engines to be tested at cruise load. Crew boat test runs may be shortened if the boat is used on normal trips to/from the platform. Additional testing may be required if loads are not achieved.
- b. The specific project ‘crew’ and/or ‘supply’ boat to be tested shall be determined by the APCD.
- c. USEPA Methods 1-4 to be used to determine O₂, dry MW, moisture content, CO₂, and stack flow rate. Alternatively, USEPA Method 19 may be used to determine stack flow rate based on the heat input rate.
- d. Source testing shall be performed for all engines in “as found” conditions operating at APCD-approved, representative engine loads.
- e. The main engines from one ‘crew’ and/or one ‘supply’ boat shall be tested annually. The crane engine shall be tested biennially.
- f. Fuel meters shall meet the calibration and metered volume corrections specified in Rule 333.G.3.a. All fuel meters used for (Method 19) stack gas flow rate determination shall have sufficient resolution to measure fuel volumes consumed during each test run.
- g. The North crane is currently subject to the Rule 333, 797 ppmv @15% NO_x limit. In November 2010, the NO_x limit changes to 700 ppmv @15%, and CO and ROC limits apply. The well service rig engine will also become subject to the revised Rule 333 emission limits at that time. Testing for ROC, CO, and NO_x, will be applicable to the North crane and well service rig at that time

5.0 Emissions

5.1 General

Past APCD PTO 9109-R2, PTO 11952 and ATC 12388, PTO 13107 and ATC-PTO 13370 are consolidated into this APCD re-evaluation permit 9109-R3 (also serving as a Part 70 permit). All provisions in these permits were analyzed to determine the permit conditions of PTO 9109-R3, including the permitted emission limits of criteria pollutants from all applicable emission units.

Emissions calculations are divided into "permitted" and "exempt" categories. Specific equipment to be exempt from APCD permit is determined by APCD Rule 202. The permitted emissions for each emissions unit are based on the equipment's potential-to-emit (as defined by Rule 102). Section 5.2 details the permitted emissions for each emissions unit. Section 5.3 details the overall permitted emissions for the facility based on reasonable worst-case scenarios using the potential-to-emit for each emissions unit. Section 5.4 provides the federal potential to emit calculation using the definition of potential to emit used in Rule 1301. HAP emissions from POO-LLC platforms do not reach 'major source' thresholds; these emissions are not addressed in this permit. Section 5.5 provides the emissions from permit exempt equipment at Platform Houchin. Section 5.6 serves as the Part 70 list of insignificant emission units. Section 5.7 provides the net emissions increase calculation for the facility and the stationary source. In order to accurately track emissions from a facility, the APCD uses a computer database. Attachment 10.3 contains the APCD's documentation for the information entered into that database.

5.2 Permitted Emission Limits - Emission Units

Each emissions unit associated with the facility was analyzed to determine the potential-to-emit for the following pollutants:

- ⇒ Nitrogen Oxides (NO_x)²
- ⇒ Reactive Organic Compounds (ROC)
- ⇒ Carbon Monoxide (CO)
- ⇒ Sulfur Oxides (SO_x)³
- ⇒ Particulate Matter (PM)⁴
- ⇒ Particulate Matter smaller than 10 microns (PM₁₀)

Permitted emissions are calculated for both short term (daily) and long term (annual) time periods. Section 4.0 (Engineering Analysis) provides a general discussion of the basic calculation methodologies and emission factors used. The reference documentation for the specific emission calculations, as well as detailed calculation spreadsheets, may be found in Section 4 and Attachments 10.1 and 10.2 respectively. Table 5.1-1 provides the basic operating characteristics. Table 5.1-2 provides the specific emission factors. Table 5.1-3 shows the permitted short-term and permitted long-term emissions for each unit or operation.

² Calculated and reported as nitrogen dioxide (NO₂)

³ Calculated and reported as sulfur dioxide (SO₂)

⁴ Calculated and reported as all particulate matter smaller than 100 µm

5.3 **Permitted Emission Limits - Facility Totals**

The total potential-to-emit for all emission units associated with the facility analyzed. This analysis looked at the reasonable worst-case operating scenarios for each operating period. The equipment operating in each of the scenarios are presented below. Unless otherwise specified, the operating characteristics defined in Table 5.1-1 for each emission unit are assumed. Table 5.2 shows the total permitted emissions for the facility.

Daily Scenario:

- North pedestal crane engine
- Well service rig engine
- Well kill pump engine
- Spot charter, crew and/or supply boats
- Generator engines on supply boat provide half of maximum engine rating
- Bow thruster on supply boat does not operate during peak hour
- Fugitive components
- Oil pig launcher
- Deck sump
- Settling tank
- Diesel tank
- Solvent usage
- Production Flare

Annual Scenario:

- North pedestal crane engine
- Well service rig engine
- Well kill pump engine
- South pedestal crane engine
- Two emergency standby generator engine
- Fugitive components
- Controlled and uncontrolled crew and/or supply boats
- Generator engines on supply boat provide half of maximum engine rating
- Bow thruster on supply boat
- Emergency response boat
- Oil pig launcher
- Deck sumps
- Settling tank
- Diesel tank
- Solvent usage
- Production Flare

5.4 **Part 70: Federal Potential to Emit for the Facility**

Being subject to the OCS Air Regulation, all project emissions, except fugitive emissions, are counted in the federal definition of potential to emit. Table 5.3 lists the federal Part 70 potential to emit. However, the fugitive emissions are not counted in the potential to emit, since they are not subject to any NSPS. As noted earlier, Platform Houchin is not subject to any NSPS/NESHAP requirements.

5.5 **APCD Permit-Exempt Emission Units**

The Platform also operates the following APCD permit-exempt unit with insignificant emissions:

- One (1) 10,400 gallon diesel fuel tank near the North crane unit. (Ref: APCD Rule 202.V.8)

5.6 **Part 70 Insignificant Emission Units**

Part 70 insignificant emission units are defined under APCD Rule 1301. Insignificant activities such as maintenance operations using wipe-cleaning solvents, paints and coatings contribute to the facility emissions. Table 5.4 lists all insignificant emissions units and the expected emissions.

5.7 **Net Emissions Increase Calculation**

This facility's net emissions increases and decreases, since September 4, 1994, are triggered by ATC 9556 (June, 1996), ATC 10357-02 (August, 2001), ATC 10937 (February 2003) and ATC 12388 (August 2008) and ATC-PTO 13370 (Feb, 2010). These are listed below. Note that the aggregate NEI for POO-LLC OCS source is listed in Table 5.5.

Pollutants	NOx	ROC	CO	SOx	PM10
<u>ATC 9555</u>					
Pounds/day	55.44	0.00	0.00	0.00	0.00
Tons/year	0.00	0.00	0.00	0.00	0.00
<u>ATC 10358-02</u>					
Pounds/day	(55.44)	0.00	0.00	0.00	0.00
Tons/year	1.33	0.21	0.66	0.36	0.21
<u>ATC 10713</u>					
Pounds/day	23.16	1.58	4.99	2.68	1.63
Tons/year	0.77	0.05	0.17	0.09	0.05
<u>ATC 12388</u>					
Pounds/day	0.17	5.60	0.93	0.09	0.05
Tons/year	0.06	1.05	0.34	0.03	0.02
<u>ATC-PTO 13371</u>					
Pounds/day	0.07	0.06	0.38	0.04	0.02
Tons/year	0.31	0.26	1.70	0.17	0.09
<hr/>					
TOTAL NEI					
Pounds/day	23.40	7.24	6.30	2.81	1.70
Tons/year	2.47	1.57	2.87	0.65	0.37

This emissions history is relevant for any future modifications to the Platform Houchin.

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TABLE 5.1-1 –

Table 5.1-1
Pacific Operators Offshore LLC (POO-LLC) Platform Houchin: Permit to Operate 9109-R3
Operating Equipment Description
Page 1 of 4

NT3...IPOOH-0cs\PART 70-APCD PTO 9109-2004calc.xls

Facility ID # 08002

Equipment Category	Emissions Unit	Device Specifications				Usage Data			Maximum Load Schedule				References
		ID #	Fuel	% S	Size	Units	Capacity	Units	Load	hr	day	qtr	
Combustion -- IC Engines	North Crane Engine	004861	D-2	0.0015	230 bhp		1.750 MMBtu/hr	1.000	1	16	500	1,000	A
	South Crane Engine	004860	D-2	0.0015	99 bhp		0.790 MMBtu/hr	1.000	1	2	199	199	
	Emergency Power Generator	004862	D-2	0.0015	510 bhp		4.640 MMBtu/hr	1.000	1	2	199	199	
	Emergency Fire Pump	004863	D-2	0.0015	110 bhp		0.980 MMBtu/hr	1.000	1	2	199	199	
	Emergency Power Generator	009181	D-2	0.0015	2,847 bhp		18.990 MMBtu/hr	1.000	1	2	199	199	
	Well Kill Pump	102688	D-2	0.0015	230 bhp		1.773 MMBtu/hr	1.000	1	2	199	199	
	Well Service Rig	007108	D-2	0.0015	400 bhp		3.461 MMBtu/hr	1.000	1	24	2,190	8,760	
Combustion -- Flare	Planned - Other		PG	0.0239	0.8500 MMSCF/day		4.250 MMSCF/year	1.000	1	1	1	1	
	Unplanned	--	PG	0.0239	0.8500 MMSCF/day		5.000 MMSCF/year	1.000	1	1	1	1	
	Pilot	--	PG	0.0239	0.0034 MMSCF/day		1.226 MMSCF/year	1.000	1	24	2,190	8,760	
Fugitive Components	Oil -- Controlled	102718	--	--	4,984 comp-leak paths	--	--	1.000	1	24	2,190	8,760	B
	Oil -- Unsafe	102719	--	--	195 comp-leak paths	--	--	1.000	1	24	2,190	8,760	
	Gas -- Controlled	102717	--	--	1,177 comp-leak paths	--	--	1.000	1	24	2,190	8,760	
	Gas -- Unsafe	105826	--	--	116 comp-leak paths	--	--	1.000	1	24	2,190	8,760	
Supply Boat	Main Engines -- Controlled	005484	D-2	0.0015	2,250 bhp		123.75 gal/hr	0.650	1	11	188	750	C
	Main Engines -- Uncontrolled	105140	D-2	0.0015	2,250 bhp		123.75 gal/hr	0.650	1	11	22	75	
	Auxilliary Engines	005485	D-2	0.0015	460 bhp		25.30 gal/hr	0.500	1	11	188	750	
	Bow Thruster	102699	D-2	0.0015	230 bhp		12.65 gal/hr	1.000	1	2	35	138	
Emergency Response Boat	Main Engines	005487	D-2	0.0015	1,770 bhp		97.35 gal/hr	0.650	**	**	18	72	
	Auxilliary Engine	105827	D-2	0.0015	1,005 bhp		55.28 gal/hr	0.500	1	11	22	75	
Crew Boat	Main Engines -- Controlled	005488	D-2	0.0015	1,530 bhp		84.15 gal/hr	0.850	1	10	380	1,520	D
	Main Engines -- Uncontrolled	105141	D-2	0.0015	1,530 bhp		84.15 gal/hr	0.850	1	10	38	152	
	Auxilliary Engines	005489	D-2	0.0015	90 bhp		4.95 gal/hr	0.500	1	10	380	1,520	
Pigging Equipment	Oil Launcher	102707		--	5.00 cu.ft		5.00 psig	1.000	1	1	39	156	E
Sumps/Tanks/Separators	Deck Drain Tank	102721	--	--	30.00 sq.ft		18.00 sq.ft	1.000	1	24	2,190	8,760	F
	Settling Tank	005491	--	--	108.00 sq.ft		108.00 sq.ft	1.000	1	24	2,190	8,760	
Solvent Usage	Paints/Cleaning/Degreasing	102725	--	--	500 gal/yr of paints		4.00 gal/day	1.00	1	1	91	365	H

** -- indicates data not available for these parameters

TABLE 5.1-2 –

Table 5.1-2
 Pacific Operators Offshore LLC (POO-LLC) Platform Houchin: Permit to Operate 9109-R3
 Equipment Emission Factors
 Page 2 of 4

Facility ID # 08002

Equipment Category	Emissions Unit	ID #	Emission Factors						Units	References
			NOx	ROC	CO	SOx	PM	PM10		
Combustion -- IC Engines	North Crane Engine	004861	2.43	0.30	0.95	0.000015	0.31	0.30	lb/MMBtu	A
	South Crane Engine	004860	14.06	1.12	3.03	0.0055	0.98	0.98	g/bhp-hr	
	Emergency Power Generator	004862	14.06	1.12	3.03	0.0055	0.98	0.98	g/bhp-hr	
	Emergency Fire Pump	004863	14.06	1.12	3.03	0.0055	0.98	0.98	g/bhp-hr	
	Emergency Power Generator	009181	14.06	1.12	3.03	0.0055	0.98	0.98	g/bhp-hr	
	Well Kill Pump	102688	14.06	1.12	3.03	0.0055	0.98	0.98	g/bhp-hr	
	Well Service Rig	007108	2.14	0.30	0.95	0.000015	0.31	0.30	lb/MMBtu	
Combustion -- Flare	Planned - Other	111371	0.068	0.057	0.37	0.037	0.02	0.02	lb/MMBtu	
	Unplanned	--	0.068	0.057	0.37	0.037	0.02	0.02	lb/MMBtu	
	Pilot	--	0.068	0.057	0.37	0.037	0.02	0.02	lb/MMBtu	
Fugitive Components	Oil -- Controlled	102718	--	0.0009	--	--	--	--	lb/day-clp	B
	Oil -- Unsafe	102719	--	0.0044	--	--	--	--	lb/day-clp	
	Gas -- Controlled	102717	--	0.0154	--	--	--	--	lb/day-clp	
	Gas -- Unsafe	105826	--	0.0769	--	--	--	--	lb/day-clp	
Supply Boat	Main Engines -- Controlled	005484	337.00	16.80	78.30	0.21	33.00	32.00	lb/1000 gal	C
	Main Engines -- Uncontrolled	105140	561.00	16.80	78.30	0.21	33.00	32.00	lb/1000 gal	
	Auxilliary Engines	005485	600.00	49.00	129.30	0.21	42.20	40.50	lb/1000 gal	
	Bow Thruster	102699	600.00	49.00	129.30	0.21	42.20	40.50	lb/1000 gal	
Emergency Response Boat	Main Engines	005487	561.00	16.80	78.30	0.21	33.00	32.00	lb/1000 gal	
	Auxilliary Engine	105827	600.00	49.00	129.30	0.21	42.20	40.50	lb/1000 gal	
Crew Boat	Main Engines -- Controlled	005488	337.00	42.30	99.70	0.21	33.00	32.00	lb/1000 gal	D
	Main Engines -- Uncontrolled	105141	561.00	42.30	99.70	0.21	33.00	32.00	lb/1000 gal	
	Auxilliary Engines	005489	600.00	49.00	99.70	0.21	42.20	40.50	lb/1000 gal	
Pigging Equipment	Oil Launcher	102707	--	0.152	--	--	--	--	lb/cf-event	E
Sumps/Tanks/Separators	Deck Drain Tank	102721	--	0.002	--	--	--	--	lb/sq.ft.-day	F
	Settling Tank	005491	--	0.002	--	--	--	--	lb/sq.ft.-day	
Solvent Usage	Paints/Cleaning/Degreasing	102725	--	420.00	--	--	--	--	gm/liter*	H

* -- 420 gm/liter = 3.505 lbs/gallon

TABLE 5.1-3 –

Table 5.1-3
Pacific Operators Offshore LLC (POO-LLC) Platform Houchin: Permit to Operate 9109-R3
Emission Limits by Emission Unit
Page 3 of 4

Facility ID # 08002

Equipment Category	Emissions Unit	ID #	NOx		ROC		CO		SOx		PM		PM10	
			lbs/hr	lbs/day										
Combustion -- IC Engines	North Crane Engine	004861	4.26	68.15	0.53	8.40	1.66	26.61	0.00	0.00	0.54	8.68	0.53	8.40
	South Crane Engine	004860	3.07	6.14	0.24	0.49	0.66	1.32	0.01	0.01	0.21	0.43	0.21	0.43
	Emergency Power Generator	004862	15.81	31.62	1.26	2.52	3.41	6.81	0.00	0.00	1.10	2.20	1.10	2.20
	Emergency Fire Pump	004863	3.41	6.82	0.27	0.54	0.73	1.47	0.03	0.07	0.24	0.48	0.24	0.48
	Emergency Power Generator	009181	88.25	176.49	7.03	14.06	19.02	38.04	0.00	0.01	6.15	12.30	6.15	12.30
	Well Kill Pump	102688	7.13	14.26	0.57	1.14	1.54	3.07	0.00	0.00	0.50	0.99	0.50	0.99
	Well Service Rig	007108	7.41	177.78	1.04	24.92	3.29	78.90	0.00	0.00	1.07	25.75	1.04	24.92
Combustion -- Flare	Planned - Other		--	--	--	--	--	--	--	--	--	--	--	--
	Unplanned	--	--	--	--	--	--	--	--	--	--	--	--	--
	Pilot	--	0.01	0.24	0.01	0.20	0.05	1.31	0.01	0.13	0.00	0.07	0.00	0.07
Fugitive Components	Oil -- Controlled	102718	--	--	0.18	4.37	--	--	--	--	--	--	--	--
	Oil -- Unsafe	102719	--	--	0.04	0.86	--	--	--	--	--	--	--	--
	Gas -- Controlled	102717	--	--	0.75	18.10	--	--	--	--	--	--	--	--
	Gas -- Unsafe	105826	--	--	0.37	8.92	--	--	--	--	--	--	--	--
Supply Boat	Main Engines -- Controlled	005484	27.11	298.18	1.35	14.86	6.30	69.28	0.02	0.19	2.65	29.20	2.57	28.31
	Main Engines -- Uncontrolled	105140	45.13	496.38	1.35	14.86	6.30	69.28	0.02	0.19	2.65	29.20	2.57	28.31
	Auxilliary Engines	005485	7.59	83.49	0.62	6.82	1.64	17.99	0.00	0.03	0.53	5.87	0.51	5.64
	Bow Thruster	102699	7.59	15.18	0.62	1.24	1.64	3.27	0.00	0.01	0.53	1.07	0.51	1.02
Emergency Response Boat	Main Engines	005487	--	--	--	--	--	--	--	--	--	--	--	--
	Auxilliary Engine	105827	--	--	--	--	--	--	--	--	--	--	--	--
Crew Boat	Main Engines -- Controlled	005488	24.10	241.05	3.03	30.26	7.13	71.31	0.02	0.15	2.36	23.60	2.29	22.89
	Main Engines -- Uncontrolled	105141	40.13	401.27	3.03	30.26	7.13	71.31	0.02	0.15	2.36	23.60	2.29	22.89
	Auxilliary Engines	005489	1.49	14.85	0.12	1.21	0.25	2.47	0.00	0.01	0.10	1.04	0.10	1.00
Pigging Equipment	Oil Launcher	102707	--	--	0.76	0.76	--	--	--	--	--	--	--	--
Sumps/Tanks/Separators	Deck Drain Tank	102721	--	--	0.00	0.03	--	--	--	--	--	--	--	--
	Settling Tank	005491	--	--	0.01	0.20	--	--	--	--	--	--	--	--
Solvent Usage	Paints/Cleaning/Degreasing	102725	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 5.1-4 –

Table 5.1-4
 Pacific Operators Offshore LLC (POO-LLC) Platform Houchin: Permit to Operate 9109-R3
 Emission Limits by Emission Unit
 Page 4 of 4

Facility ID # 08002

Equipment Category	Emissions Unit	ID #	NOx		ROC		CO		SOx		PM		PM10	
			tons/qr	TPY	tons/qr	TPY	tons/qr	TPY	tons/qr	TPY	tons/qr	TPY	tons/qr	TPY
Combustion -- IC Engines	North Crane Engine	004861	0.53	2.13	0.07	0.26	0.21	0.83	0.00	0.00	0.07	0.27	0.07	0.26
	South Crane Engine	004860	0.31	0.31	0.02	0.02	0.07	0.07	0.00	0.00	0.02	0.02	0.11	0.11
	Emergency Power Generator	004862	1.57	1.57	0.13	0.13	0.34	0.34	0.00	0.00	0.11	0.11	0.02	0.02
	Emergency Fire Pump	004863	0.34	0.34	0.03	0.03	0.07	0.07	0.00	0.00	0.02	0.02	0.61	0.61
	Emergency Power Generator	009181	8.78	8.78	0.70	0.70	1.89	1.89	0.00	0.00	0.61	0.61	0.05	0.05
	Well Kill Pump	102688	0.71	0.71	0.06	0.06	0.15	0.15	0.00	0.00	0.05	0.05	0.29	0.29
	Well Service Rig	007108	8.11	32.44	1.14	4.55	3.60	14.40	0.00	0.00	1.17	4.70	1.14	4.55
Combustion -- Flare	Planned - Other		0.04	0.15	0.03	0.13	0.21	0.83	0.02	0.08	0.01	0.04	0.01	0.04
	Unplanned	--	0.04	0.18	0.04	0.15	0.24	0.97	0.02	0.10	0.01	0.05	0.01	0.05
	Pilot	--	0.01	0.04	0.01	0.04	0.06	0.24	0.01	0.02	0.00	0.01	0.00	0.01
Fugitive Components	Oil -- Controlled	102718	--	--	0.20	0.80	--	--	--	--	--	--	--	--
	Oil -- Unsafe	102719	--	--	0.04	0.16	--	--	--	--	--	--	--	--
	Gas -- Controlled	102717	--	--	0.83	3.30	--	--	--	--	--	--	--	--
	Gas -- Unsafe	105826	--	--	0.41	1.63	--	--	--	--	--	--	--	--
Supply Boat	Main Engines -- Controlled	005484	2.54	10.17	0.13	0.51	0.59	2.36	0.00	0.01	0.25	1.00	0.24	0.97
	Main Engines -- Uncontrolled	105140	0.42	1.69	0.01	0.05	0.06	0.24	0.00	0.00	0.02	0.10	0.02	0.10
	Auxilliary Engines	005485	0.71	2.85	0.06	0.23	0.15	0.61	0.00	0.00	0.05	0.20	0.05	0.19
	Bow Thruster	102699	0.13	0.52	0.01	0.04	0.03	0.11	0.00	0.00	0.01	0.04	0.01	0.04
Emergency Response Boat	Main Engines	005487	0.32	1.28	0.01	0.04	0.04	0.18	0.00	0.00	0.02	0.08	0.02	0.07
	Auxilliary Engine	105827	0.16	0.62	0.01	0.05	0.03	0.13	0.00	0.00	0.01	0.04	0.01	0.04
Crew Boat	Main Engines -- Controlled	005488	4.58	18.32	0.57	2.30	1.35	5.42	0.00	0.01	0.45	1.79	0.43	1.74
	Main Engines -- Uncontrolled	105141	0.76	3.05	0.06	0.23	0.14	0.54	0.00	0.00	0.04	0.18	0.04	0.17
	Auxilliary Engines	005489	0.28	1.13	0.02	0.09	0.05	0.19	0.00	0.00	0.02	0.08	0.02	0.08
Pigging Equipment	Oil Launcher	102707	--	--	0.01	0.06	--	--	--	--	--	--	--	--
Sumps/Tanks/Separators	Deck Drain Tank	102721	--	--	0.00	0.01	--	--	--	--	--	--	--	--
	Settling Tank	005491	--	--	0.01	0.04	--	--	--	--	--	--	--	--
Solvent Usage	Paints/Cleaning/Degreasing	102725	--	--	0.65	2.60	--	--	--	--	--	--	--	--

TABLE 5.2 –

Table 5.2
Pacific Operators Offshore LLC (POO-LLC) Platform Houchin: Permit to Operate 9109-R3
Total Permitted Facility Emissions

Facility ID # 08002

A. Peak Daily (lb/day)

Equipment Category	NOx	ROC	CO	SOx	PM	PM10
Combustion -- IC Engines	481.25	52.06	156.22	0.09	50.83	49.72
Combustion -- Flare	0.24	0.20	1.31	0.13	0.07	0.07
Fugitive Emissions	--	32.25	--	--	--	--
Supply Boat	595.05	22.92	90.54	0.22	36.14	34.97
Emergency Response Boat	--	--	--	--	--	--
Crew Boat	416.12	31.47	73.78	0.16	24.65	23.89
Pigging Equipment	--	0.76	--	--	--	--
Sumps/Tanks/Separators	--	0.24	--	--	--	--
Paints/Cleaning/Degreasing	--	--	--	--	--	--
TOTALS (lb/day)	1,492.66	139.91	321.85	0.60	111.69	108.66

B. Peak Annual (Ton/yr)

Equipment Category	NOx	ROC	CO	SOx	PM	PM10
Combustion -- IC Engines	46.28	5.74	17.75	0.00	5.79	5.89
Combustion -- Flare	0.37	0.31	2.04	0.20	0.11	0.11
Fugitive Emissions	--	5.89	--	--	--	--
Supply Boat	15.23	0.83	3.32	0.01	1.33	1.29
Emergency Response Boat	1.90	0.09	0.31	0.00	0.12	0.11
Crew Boat	22.50	2.62	6.15	0.01	2.05	1.99
Pigging Equipment	--	0.06	--	--	--	--
Sumps/Tanks/Separators	--	0.04	--	--	--	--
Paints/Cleaning/Degreasing	--	2.60	--	--	--	--
TOTALS (ton/yr)	86.28	18.18	29.58	0.23	9.40	9.40

TABLE 5.3 – FEDERAL POTENTIAL TO EMIT

Table 5.3
Pacific Operators Offshore LLC (POO-LLC) Platform Houchin: Permit to Operate 9109-R3
Federal Potential to Emit

Facility ID # 08002

A. Peak Daily (lb/day)

Equipment Category	NOx	ROC	CO	SOx	PM	PM10
Combustion -- IC Engines	481.25	52.06	156.22	0.09	50.83	49.72
Combustion -- Flare	0.24	0.20	1.31	0.13	0.07	0.07
Fugitive Emissions	--	5.46	--	--	--	--
Supply Boat	595.05	22.92	90.54	59.07	36.14	34.97
Emergency Response Boat	--	--	--	--	--	--
Crew Boat	416.12	31.47	73.78	41.66	24.65	23.89
Pigging Equipment	--	--	--	--	--	--
Sumps/Tanks/Separators	--	--	--	--	--	--
Paints/Cleaning/Degreasing	--	--	--	--	--	--
TOTALS (lb/day)	1,492.66	112.12	321.85	100.96	111.69	108.66

B. Peak Annual (Ton/yr)

Equipment Category	NOx	ROC	CO	SOx	PM	PM10
Combustion -- IC Engines	46.28	5.74	17.75	0.00	5.79	5.89
Combustion -- Flare	0.37	0.31	2.04	0.20	0.11	0.11
Fugitive Emissions	--	1.00	--	--	--	--
Supply Boat	15.23	0.83	3.32	2.18	1.33	1.29
Emergency Response Boat	1.90	0.09	0.31	0.19	0.12	0.11
Crew Boat	22.50	2.62	6.15	3.47	2.05	1.99
Pigging Equipment	--	--	--	--	--	--
Sumps/Tanks/Separators	--	--	--	--	--	--
Paints/Cleaning/Degreasing	--	--	--	--	--	--
TOTALS (ton/yr)	86.28	10.60	29.58	6.05	9.40	9.40

Table 5.4

Table 5.4
 Pacific Operators Offshore LLC (POO-LLC) Platform Houchin: Permit to Operate 9109-R3
 Estimated Insignificant Emission Units' Emissions

Facility ID # 08002

Annual (Tons/yr)

Equipment Category	NOx	ROC	CO	SOx	PM	PM10
Diesel Fuel Tank	--	0.10	--	--	--	--
Surface Coating - Maintenance	--	0.00	--	--	--	--
TOTALS (ton/yr)	0.00	0.10	0.00	0.00	0.00	0.00

Table 5.5

Aggregate NEI for POO-LLC - Carpinteria stationary source is listed in the Table below.

Table 5.5
Pacific Operators Offshore LLC (POO-LLC) Platform Houchin: Permit to Operate 9109-R3
Entire Source Net Emissions Increase

Source	NOx	ROC	CO	SOx	PM	PM10
Platform Hogan						
Part 70/PTO 9108-R2						
lb/day	0.00	0.00	0.00	0.00	0.00	0.00
tons/year	1.33	0.11	0.66	0.36	0.21	0.21
ATC 12389 and ATC/PTO 13371 - New Flare						
lb/day	0.24	5.66	1.31	0.13	0.07	0.07
tons/year	0.36	1.29	1.94	0.19	0.10	0.10
Platform Houchin						
Part 70/PTO 9109-R2						
lb/day	23.16	1.58	4.99	2.68	1.63	1.63
tons/year	2.10	0.26	0.83	0.45	0.27	0.26
ATC 12388 and ATC/PTO 13370 - New Flare						
lb/day	0.24	5.66	1.31	0.13	0.07	0.07
tons/year	0.37	1.31	2.04	0.20	0.11	0.11
Total NEI						
lb/day	23.64	12.90	7.60	2.94	1.77	1.77
tons/year	4.16	2.97	5.46	1.20	0.69	0.68

6.0 Air Quality Impact Analyses

6.1 Modeling

Air quality impact analyses were not performed since this renewal is not subject to APCD New Source Review or Prevention of Significant Deterioration review.

6.2 Increments

An air quality increment analysis has not been required for this stationary source.

6.3 Monitoring

Air quality monitoring has not been required for this stationary source.

6.4 Health Risk Assessment

An air toxics Health Risk Assessment was not performed for this permitting action.

7.0 CAP Consistency, Offset Requirements and ERCs

7.1 General

Santa Barbara County is in attainment for the federal ozone standard but is nonattainment for the state ozone ambient air quality standards. In addition, the County is nonattainment with the state PM₁₀ ambient air quality standard. Therefore, emissions from all emission units at the stationary source and its constituent facilities must be consistent with the provisions of the USEPA and State approved Clean Air Plans (CAP) and must not interfere with progress towards maintenance of the federal and attainment of the state ambient air quality standards. Under APCD regulations, any modifications at Platform Houchin (or the POO-LLC Carpinteria Offshore source) that result in an emissions increase of any nonattainment pollutant exceeding 25 lbs/day must apply BACT (NAR). Additional increases may trigger offsets at the source or elsewhere so that there is a net air quality benefit for Santa Barbara County. These offset threshold levels are 55 lbs/day for all non-attainment pollutants except PM₁₀ for which the level is 80 lbs/day.

7.2 Clean Air Plan

Santa Barbara County's air quality has historically violated both the state and federal ozone standards. Since 1999, however, local air quality data show that every monitoring location in the County complied with the federal one-hour ambient air quality standard for ozone. The Santa Barbara County Air Pollution Control District adopted the 2001 Clean Air Plan (2001 CAP) that demonstrated attainment of the federal one-hour ozone standard and continued maintenance of that standard through 2015. Consequently, on August 8, 2003, the United States Environmental Protection Agency (USEPA) designated Santa Barbara County as an attainment area for the federal one-hour ozone standard.

On June 15, 2004, USEPA replaced the federal one-hour ozone standard with an eight-hour ozone standard for Santa Barbara County and most parts of the country. This eight-hour ozone standard, originally promulgated by USEPA on July 18, 1997, is set at 0.08 parts per million measured over eight hours and is more protective of public health and more stringent than the federal one-hour standard. For the purposes of the federal eight-hour ozone standard, Santa Barbara County has been designated attainment.

On August 16, 2007 the APCD Board adopted the 2007 Clean Air Plan to chart a course of action that will provide for ongoing maintenance of the federal eight-hour ozone standard through the year 2014 as well as the expeditious attainment of the state one-hour ozone standard. These plans have been developed for Santa Barbara County as required by both the 1998 California Clean Air Act and the 1990 Federal Clean Air Act Amendments.

7.3 Offset Requirements

The stationary source has not triggered emission offsets.

7.4 Emission Reduction Credits

Emission reduction credits are not generated by Platform Houchin.

8.0 Lead Agency Permit Consistency

The United States Department of Interior's Minerals Management Service approved the *Plan of Development* for POO-LLC's Platform Houchin on October 27, 1967. The installation of Platform Houchin predates the California Environmental Quality Act (CEQA) as the platform installation started in 1967 while the act was adopted in 1970.

9.0 Permit Conditions

This section lists the applicable permit conditions for OCS Platform Houchin. Section A lists the standard administrative conditions. Section B lists 'generic' permit conditions, including emission standards, for all equipment in this permit. Section C lists conditions affecting specific equipment. Conditions listed in these Sections are enforceable by the USEPA, the APCD, the State of California and the public. Where any reference contained in Sections 9.A, 9.B or 9.C refers to any other part of this permit, that part of the permit referred to is federally enforceable. In case of a discrepancy between the wording of a condition and the applicable federal or APCD rule(s), the wording of the rule shall control.

For the purposes of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in this permit, nothing in the permit shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test had been performed.

9.A Standard Administrative Conditions

The following federally enforceable administrative permit conditions apply to the Platform Houchin:

- A.1 **Condition Acceptance.** Acceptance of this operating permit by POO-LLC shall be considered as acceptance of all terms, conditions, and limits of this permit. [Re: PTO 9109]
- A.2 **Grounds for Revocation.** Failure to abide by and faithfully comply with this permit shall constitute grounds for the APCO to petition for permit revocation pursuant to California Health & Safety Code Section 42307 et seq. [Re: PTO 9109]
- A.3 **Defense of Permit.** POO-LLC agrees, as a condition of the issuance and use of this PTO, to defend at its sole expense any action brought against the APCD because of issuance of this

permit. POO-LLC shall reimburse the APCD for any and all costs including, but not limited to, court costs and attorney's fees which the APCD may be required by a court to pay as a result of such action. The APCD may, at its sole discretion, participate in the defense of any such action, but such participation shall not relieve POO-LLC of its obligation under this condition. The APCD shall bear its own expenses for its participation in the action. [Re: PTO 9109]

- A.4 **Reimbursement of Costs.** All reasonable expenses, as defined in APCD Rule 210, incurred by the APCD, APCD contractors, and legal counsel for all activities related to the implementation of Regulation XIII (*Part 70 Operating Permits*) that follow the issuance of this PTO permit, including but not limited to permit condition implementation, compliance verification and emergency response, directly and necessarily related to enforcement of the permit shall be reimbursed by POO-LLC as required by Rule 210. [Re: PTO 9109, APCD Rule 210]
- A.5 **Access to Records and Facilities.** As to any condition that requires for its effective enforcement the inspection of records or facilities by the APCD or its agents, POO-LLC shall make such records available or provide access to such facilities upon notice from the APCD. Access shall mean access consistent with California Health and Safety Code Section 41510 and Clean Air Act Section 114A. [Re: PTO 9109]
- A.6 **Compliance.** Nothing contained within this permit shall be construed to allow the violation of any local, State or Federal rule, regulation, ambient air quality standard or air quality increment. [Re: PTO 9109]
- A.7 **Consistency with Analysis.** Operation under this permit shall be conducted consistent with all written data, specifications and assumptions included with the application and supplements thereof (as documented in the APCD's project file), and with the APCD's analyses under which this permit is issued. [Re: PTO 9109]
- A.8 **Consistency with State and Local Permits.** Nothing in this permit shall relax any air pollution control requirement imposed on the Platform Houchin by the State of California or the California Coastal Commission in any consistency determination for the Project with the California Coastal Act. [Re: PTO 9109]
- A.9 **Compliance with Department of Interior Permits.** POO-LLC shall comply with all air quality control requirements imposed by the Department of the Interior in the *Plan of Development* approved for Platform Houchin on October 27, 1967, and any subsequent modifications. Such requirements shall be enforceable by the APCD. [Re: PTO 9109]
- A.10 **Compliance with Permit Conditions.**
- (a) POO-LLC shall comply with all permit conditions.
 - (b) This permit does not convey property rights or exclusive privilege of any sort to POO-LLC.
 - (c) Noncompliance with any permit conditions is grounds for permit termination, revocation and re-issuance, modification, enforcement action, or for denial of permit renewal. Any permit non-compliance constitutes a violation of the Clean Air Act and its implementing regulations or of APCD Rules or both, as applicable.
 - (d) The permittee shall not use the "need to halt or reduce a permitted activity in order to maintain compliance" as a defense for noncompliance with any permit condition.
 - (e) A pending permit action or notification of anticipated noncompliance by Nuevo does not stay any permit condition.

- (f) Within a reasonable time period, POO-LLC shall furnish any information requested by the Control Officer, in writing, for the purpose of determining:
 - (i) compliance with the permit, or
 - (ii) whether or not cause exists to modify, revoke and reissue, or terminate a permit or for an enforcement action.
- (g) In the event that any condition herein is determined to be in conflict with any other condition contained herein, then, if principles of law do not provide to the contrary, the condition most protective of air quality and public health and safety shall prevail to the extent feasible.
[Re: 40 CFR Part 70.6.(a)(6), APCD Rule 1303.D.1]

A.11 **Emergency Provisions.** The permittee shall comply with the requirements of the APCD, Rule 505 (Upset/Breakdown rule) and/or APCD Rule 1303.F, whichever is applicable to the emergency situation. In order to maintain an affirmative defense under Rule 1303.F, the permittee shall provide the APCD, in writing, a “notice of emergency” within 2 working days of the emergency. The “notice of emergency” shall contain the information/documentation listed in Sections (1) through (5) of Rule 1303.F. [Re: 40 CFR 70.6(g), APCD Rule 1303.F]

A.12 **Compliance Plan.**

- (a) The permittee shall comply with all federally enforceable requirements that become applicable during the permit term in a timely manner.
- (b) For all applicable equipment, the permittee shall implement and comply with any specific compliance plan required under any federally-enforceable rules or standards.
[Re: 40 CFR 70.6(c)(3), APCD Rule 1302.D.2]

A.13 **Right of Entry.** The Regional Administrator of USEPA, the Control Officer, or their authorized representatives, upon the presentation of credentials, shall be permitted to enter upon the premises where a Part 70 Source is located or where records must be kept:

- (a) To inspect the stationary source, including monitoring and control equipment, work practices, operations, and emission-related activity;
- (b) To inspect and duplicate, at reasonable times, records required by this Permit to Operate;
- (c) To sample substances or monitor emissions from the source or assess other parameters to assure compliance with the permit or applicable requirements, at reasonable times.
Monitoring of emissions can include source testing.
[Re: 40 CFR 70.6(c), APCD Rule 1303.D.2]

A.14 **Severability.** The provisions of this Permit to Operate are severable and if any provision of this Permit to Operate is held invalid, the remainder of this Permit to Operate shall not be affected thereby. [Re: 40 CFR 70.6(c), APCD Rules 103 and 1303.D.1]

A.15 **Permit Life.** The Part 70 permit shall become invalid three years from the date of issuance unless a timely and complete renewal application is submitted to the APCD. Any operation of the source to which this Part 70 permit is issued beyond the expiration date of this Part 70 permit and without a valid Part 70 operating permit (or a complete Part 70 permit renewal application) shall be a violation of the CAAA §502(a) and §503(d), and of the APCD rules.

The permittee shall submit an application for renewal of the Part 70 permit not later than 6 months before the date of the permit expiration. Upon submittal of a timely and complete renewal application, the Part 70 permit shall remain in effect until the Control Officer issues or denies the renewal application. [Re: APCD Rule 1304.D.1]

A.16 **Payment of Fees.** The permittee shall reimburse the APCD for all its Part 70 permit processing and compliance expenses for the stationary source on a timely basis. Failure to reimburse on a timely basis shall be a violation of this permit and of applicable requirements and can result in

forfeiture of the Part 70 permit. Operation without a Part 70 permit subjects the source to potential enforcement action by the APCD and the USEPA pursuant to section 502(a) of the Clean Air Act. [Re: APCD Rules 1303.D.1 and 1304.D.11, 40 CFR 70.6(a)(7)]

- A.17 **Prompt Reporting of Deviations.** The permittee shall submit a written report to the APCD documenting each and every deviation from the requirements of this permit or any applicable federal requirements within 7 days after discovery of the violation, but not later than 180 days after the date of occurrence. The report shall clearly document 1) the probable cause and extent of the deviation; 2) equipment involved; 3) the quantity of excess pollutant emissions, if any; and, 4) actions taken to correct the deviation. The requirements of this condition shall not apply to deviations reported to APCD in accordance with Rule 505. *Breakdown Conditions*, or Rule 1303.F *Emergency Provisions*. [APCD Rule 1303.D.1, 40 CFR 70.6(a) (3)]
- A.18 **Reporting Requirements/Compliance Certification.** The permittee shall submit compliance certification reports to the USEPA annually, i.e., along with the March 1 Annual Report; the reports shall be provided to the Control Officer every six months. These reports shall be submitted on APCD forms and shall identify each applicable requirement/ condition of the permit, the compliance status with each requirement/condition, the monitoring methods used to determine compliance, whether the compliance was continuous or intermittent, and include detailed information on the occurrence and correction of any deviations (excluding emergency upsets) from permit requirement. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1 and March 1, respectively, each year. Supporting monitoring data shall be submitted in accordance with the “Semi-Annual Monitoring/Compliance Verification Report” condition in section 9.C. The permittee shall include a written statement from the responsible official, which certifies the truth, accuracy, and completeness of the reports. [Re: APCD Rules 1303.D.1, 1302.D.3, 1303.2.c]
- A.19 **Federally-enforceable Conditions.** Each federally enforceable condition in this permit shall be enforceable by the USEPA and members of the public. None of the conditions in the APCD-only enforceable section of this permit are federally enforceable or subject to the public/USEPA review [Re: CAAA, § 502(b)(6), 40 CFR 70.6(b)]
- A.20 **Recordkeeping Requirements.** The permittee shall maintain records of required monitoring information that include the following:
- (a) The date, place and time of sampling or measurements or maintenance activity ;
 - (b) operating conditions at the time of sampling or measurement or maintenance activity;
 - (c) date, place, name of company or entity that performed the analyses or measurement or maintenance activity and the methods used; and
 - (d) results of the analyses or measurement or maintenance. Additionally, records must be kept that document the date of analysis and the analytical techniques or methods used.
- The records (electronic or hard copy), as well as all supporting information including calibration and maintenance records, shall be maintained for a minimum of five (5) years from date of initial entry by the permittee and shall be made available to the APCD upon request. . [Re: APCD Rule 1303.D.1.f, 40 CFR 70.6(a)(3)(ii)(A)]
- A.21 **Conditions for Permit Reopening.** The permit shall be reopened and revised for cause under any of the following circumstances:

- (a) Additional Requirements: If additional applicable requirements (e.g., NSPS or MACT) become applicable to the source which has an unexpired permit term of three (3) or more years, the permit shall be reopened. Such a reopening shall be completed no later than 18 months after promulgation of the applicable requirement. However, no such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended. All such re-openings shall be initiated only after a 30 day notice of intent to reopen the permit has been provided to the permittee, except that a shorter notice may be given in case of an emergency.
- (b) Inaccurate Permit Provisions: If the APCD or the USEPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emission standards or other terms or conditions of the permit, the permit shall be reopened. Such re-openings shall be made as soon as practicable.
- (c) Applicable Requirement: If the APCD or the USEPA determines that the permit must be revised or revoked to assure compliance with any applicable requirement including a federally enforceable requirement, the permit shall be reopened. Such re-openings shall be made as soon as practicable.

Administrative procedures to reopen a permit shall follow the same procedures as apply to initial permit issuance. Re-openings shall affect only those parts of the permit for which cause to reopen exists. If the permit is reopened, and revised, it will be reissued with the expiration date that was listed in the permit before the re-opening. [Re: 40 CFR 70.7(f), 40 CFR 70.6(a)]

9.B Generic Conditions

The generic conditions listed below apply to all emission units, regardless of their category or emission rates. In case of a discrepancy between the wording of a condition and the applicable federal or APCD rule(s), the wording of the rule shall control.

- B.1 **Circumvention (Rule 301)**. A person shall not build, erect, install, or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total release of air contaminants to the atmosphere, reduces or conceals an emission which would otherwise constitute a violation of Division 26 (Air Resources) of the Health and Safety Code of the State of California or of these Rules and Regulations. This Rule shall not apply to cases in which the only violation involved is of Section 41700 of the Health and Safety Code of the State of California, or of APCD Rule 303. [Re: APCD Rule 301]
- B.2 **Visible Emissions (Rule 302)**. POO-LLC shall not discharge into the atmosphere from any single source of emission any air contaminants 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 subsection B.2.(a) above.

POO-LLC shall determine compliance with this Rule per Condition 9.C.12.

- B.3 **PM Concentration - South Zone (Rule 305).** POO-LLC shall not discharge into the atmosphere, from any source, particulate matter in excess of the concentrations listed in Table 305(a) of Rule 305. [Re: APCD Rule 305]
- B.4 **Specific Contaminants (Rule 309).** POO-LLC shall not discharge into the atmosphere from any single source sulfur compounds, carbon monoxide and combustion contaminants in excess of the applicable standards listed in Sections A, E and G of Rule 309. [Re: APCD Rule 309].
- B.5 **Odorous Organic Sulfides (Rule 310).** POO-LLC shall not discharge into atmosphere H₂S and organic sulfides that result in a ground level impact beyond the POO-LLC property boundary in excess of either 0.06 ppmv averaged over 3 minutes or 0.03 ppmv averaged over 1 hour. [Re: APCD Rule 310]
- B.6 **Sulfur Content of Fuels (Rule 311).** POO-LLC shall not burn fuels with sulfur content in excess of 0.5% (by weight) for liquid fuels. Compliance with this condition shall be based on diesel fuel billing records or other data showing the certified sulfur content for each shipment. POO-LLC shall submit such statement *semi-annually* as a part of its semi-annual Part 70 compliance verification report to the APCD. [Re: APCD Rule 311]
- B.7 **Organic Solvents (Rule 317).** POO-LLC shall comply with the emission standards listed in Section B of Rule 317. Compliance with this condition shall be based on POO-LLC's compliance with Condition C.7 of this permit. [Re: APCD Rule 317]
- B.8 **Metal Surface Coating Thinner and Reducer (Rule 322).** The use of photochemically reactive solvents as thinners or reducers in metal surface coatings is prohibited. Compliance with this condition shall be based on POO-LLC's compliance with Condition C.7 of this permit and facility inspections. [Re: APCD Rule 322]
- B.9 **Architectural Coatings (Rule 323).** POO-LLC shall comply with the coating ROC content and handling standards listed in Section D of Rule 323 as well as the Administrative requirements listed in Section F of Rule 323. Compliance with this condition shall be based on POO-LLC's compliance with Condition C.7 of this permit and facility inspections. [Re: APCD Rules 323, 317, 322, 324]
- B.10 **Disposal and Evaporation of Solvents (Rule 324).** POO-LLC shall not dispose through atmospheric evaporation of more than one and a half gallons of any photochemically reactive solvent per day. Compliance with this condition shall be based on POO-LLC's compliance with Condition C.7 of this permit and facility inspections. [Re: APCD Rule 324]
- B.11 **Emergency Episode Plan.** During emergency episodes, POO-LLC shall implement the Emergency Episode Plan as approved by the APCD in July 2002. [Re: APCD Rule 1303, 40 CFR 70.6]
- B.12 **Adhesives and Sealants (Rule 353).** The permittee shall not use adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primers, unless the permittee complies with the following:
- A) Such materials used are purchased or supplied by the manufacturer or suppliers in containers of 16 fluid ounces or less; or alternately

- B) When the permittee uses such materials from containers larger than 16 fluid ounces and the materials are not exempt by Rule 353, Section B.1, the total reactive organic compound emissions from the use of such material shall not exceed 200 pounds per year unless the substances used and the operational methods comply with Sections D, E, F, G, and H of Rule 353. Compliance shall be demonstrated by recordkeeping in accordance with Section B.2 and/or Section O of Rule 353.

[Re: APCD Rule 353]

- B.13 **Emissions Of Oxides Of Nitrogen From Large Water Heaters and Small Boilers (Rule 360):** This rule applies to any person who supplies, sells, offers for sale, installs, or solicits the installation of any new water heater, boiler, steam generator or process heater for use within the APCD with a rated heat input capacity greater than or equal to 75,000 Btu/hour up to and including 2,000,000 Btu/hour.
- B.14 **Small Boilers, Steam Generators, and Process Heaters (Rule 361):** The permittee shall comply with the requirements of APCD Rule 361: *Small Boilers, Steam Generators, and Process Heaters* whenever a new boiler, process heater or other external combustion device is added or an existing unit is replaced.
- B.15 **Oil and Natural Gas Production MACT.** POO-LLC is exempt from this MACT under 40 CFR 63.760(e)(1) [*Black Oil Exemption*]; however, it is subject to recordkeeping required under the General Standards of 40 CFR 63.10(b)(3). [Re: 40 CFR 63, Subpart HH]

9.C Equipment Specific Conditions

This section includes non-generic federally enforceable conditions, incorporating emissions and operations limits, and monitoring, recordkeeping and reporting requirements. This section may also contain other non-generic conditions.

- C.1 **Internal Combustion Engines.** The following equipment is included in this emissions unit category:

Table C.1-1

APCD ID #.	Name: HP, Model and Serial Number, if applicable
4861	North crane, 230 hp, diesel-fired: DD 6-71,6A168663
4860	South Crane, 99 hp, diesel-fired: DD 3-71(N-60 nozzle), 3A68303
4862	Emergency Generator, 510 hp, diesel-fired: Cat D-379, 76B298
9181	Emergency Generator (2MW), 2847 hp, diesel-fired: Cat 3516B, 1HZ0048
4863	Emergency Fire Water Pump, 110 hp, diesel-fired: Cat D-330, 85B1492
102688	Well kill pump, 230 hp, diesel-fired: DD 8-71, 7083-7200
7108	Well Service Rig, 400 hp, diesel-fired: DD 8VF 00734, 8038-7000

- (a) **Emission Limits:** Mass emission rates resulting from the operation of the IC engines permitted herein shall not exceed the corresponding values listed for it in Tables 5.1-3, 5.1-4 and 5.2. Compliance with these limits shall be assessed through compliance with the monitoring, recordkeeping, and reporting (MRR) conditions listed below.

Emission Concentration Limit for North Crane engine and well service rig engine – The NO_x concentration in the exhaust from the North crane engine (Dev. no. 4861) and well service rig

engine (Dev. No. 7108) shall not exceed 797 ppmvd, corrected to 15% O₂. Beginning November 21, 2010, the NO_x, ROC and CO concentrations in the exhaust from the north crane engine and well service rig engine shall not exceed the applicable revised Rule 333 concentration limits. (Reference: APCD Rule 333, ATC 10357-02 and OCS PTO 9109)

(b) Operational Limits: The following operational limits apply to the IC engine:

(i) *Fuel Use* —

North Crane Engine: The north crane engine shall not use more than 200 gallons per day and 12,503 gallons per year of diesel fuel. In addition, the heat input to this engine is restricted to 1.7505 MMBtu/hour and 1,750.5 MMBtu/year.

(ii) *Engine Use* —

North crane engine: The north crane engine shall not operate more than: (a) 16 hours on any calendar day and (b) 1000 hours during the calendar year.

Emergency generators: The Standby Emergency Generators shall limit maintenance and testing⁵ operations to no more than 200 hours per year. Emergency use operations, as defined in Section 93115.4 (30) of the ATCM⁶, have no operational hours limitations.

South crane engine well kill pump engine and fire pump engines: Annual operation of the South Crane engine, well kill pump engine and fire pump engines shall not exceed 200 hours per year.

(iii) *Fuel and Fuel Additive Requirements:* The permittee may only add CARB Diesel, or an alternative diesel fuel that meets the requirements of the Stationary Diesel ATCM Verification Procedure, or CARB Diesel fuel used with additives that meet the requirements of the Stationary Diesel ATCM Verification Procedure, or any combination of the above to each IC engine or any fuel tank directly attached to each IC engine. Diesel fuel used by all IC engines shall have a sulfur content no greater than 0.0015 weight percent.

(iv) *Engine Identification* – The IC engines listed in Table C.1-1 shall be identified with permanently-affixed plates, tags or marking, referencing either: (i) the IC engine’s make, model, serial number, rated BHP and corresponding RPM; or (ii) the operator’s unique tag number. The tag shall be made accessible and legible to facilitate APCD inspection of the IC engine. (Reference: APCD Rules 333, OCS PTO 9109, and ATC 10357-02)

(c) Monitoring: The following source testing and periodic monitoring conditions shall apply:

(i) *Source Testing* – POO-LLC shall source test the air emissions and process parameters of the North crane IC Engine and well service rig engine biennially, in accordance with Table 4.1 and Condition C.15 of this permit (within thirty days, or other APCD-approved date, of the units' source test anniversary date) for compliance with applicable emission limits.

⁵ “maintenance and testing” is defined in Section (d)(41) of the ATCM

⁶ As used in the permit, “ATCM” means Section 93115, Title 17, California Code of Regulations. Airborne Toxic Control Measure for Stationary Compression Ignition (CI) Engines

- (ii) *I&M Plan* – POO-LLC shall implement its APCD-approved “Rule 333, Section F – Inspection and Maintenance Plan ("I&M" Plan)” (May 2009) and any subsequent APCD-approved updates). The I&M Plan may be revised only upon written APCD-approval.
 - (iii) *Inspections of IC Engines*: POO-LLC shall conduct inspections of the North Crane engine exhaust and well kill engine exhaust for NO_x and CO, in accordance with APCD Rule 333 requirements and the approved I&M Plan. All portable analyzer calibration and repairs shall be logged. The procedures outlined in Section F of Rule 333 shall be followed for POO-LLC’s use of the portable analyzer. The calibration and repairs of this instrument shall be done in accordance with the manufacturer’s requirements.
 - (iv) *Hourly Use Meters* – POO-LLC shall report the engine hours of operation for each engine listed above utilizing APCD-approved dedicated, non-resettable, elapsed time meters. A monthly log shall be maintained that records the hours of operation of the engine each day it is operated along with the monthly and annual hours. POO-LLC shall record in a log the following: ID number of the equipment; the number of operating hours on each day the engine is operated; and, the cumulative total monthly and annual hours.
 - (v) *Fuel Use Meter* – POO-LLC shall report the fuel usage for the Emergency Generator (2MW) (APCD Dev. No. 9181) through the use of a dedicated APCD-approved fuel flow meter. A monthly log shall be maintained that records the monthly and annual fuel consumption. The meter shall be calibrated according to manufacturer’s specifications and the calibration records shall be made available to the APCD upon request.
 - (vi) *Fuel Data* - POO-LLC shall measure the higher heating value (HHV) of the fuel (Btu/gal) on an *annual* basis using APCD approved methods. POO-LLC shall also maintain documentation of the diesel fuel sulfur content (as determined by APCD-approved ASTM methods) for each fuel shipment as certified in the fuel suppliers billing vouchers. (semi-annual statement(s) from all fuel suppliers certifying the fuel supplied as meeting the CARB’s low-sulfur diesel limit are also acceptable).
- (d) Record Keeping: The following record keeping requirements shall apply:

POO-LLC must keep the required logs and analyses results, as applicable to this permit, which demonstrate compliance with operation limits (9.C.1.(b)) and monitoring requirements (9.C.1.(c)) above. All logs and analyses results shall be available to the APCD upon request. POO-LLC shall keep all such data for a minimum of five (5) years from the date of information collection and log entry. Information shall include, but may not be limited to:

- (i) Written ICE operations logs, including quarterly inspection results, consistent with the requirements of Rule 333;
- (ii) Written records documenting individual IC Engine fuel use (gallons) on a monthly basis, and the number of days of operation per month for each engine⁷;

⁷ The hours of operation, along with the engine horsepower rating and BSFC data as listed in Table 5.1-1 of this permit, a fuel correction factor of 1.06, and a high heating value of 138,200 Btu/gal will be used to determine the number of gallons of fuel consumed per time period for all engines except the Emergency Generator (2MW) (APCD Dev. No. 9181) [see Condition 9.C.1.(d)(ii)].

- (iii) Written records documenting each IC Engine operating hours on a daily/monthly basis.
 - (iv) For the emergency generators, mud pump and firewater pump, monthly and annual maintenance and testing hours of operation.
 - (v). On an annual basis, the heating value of the diesel fuel (Btu/gal) shall be recorded based on measurement by POO-LLC or certified by the fuel supplier.
 - (vi). Fuel purchase records or a written statement on the fuel supplier's letterhead signed by an authorized representative of the company confirming that the fuel purchased is either CARB Diesel, or an alternative diesel fuel that meets the requirements of the Verification Procedure, or an alternative fuel, or CARB Diesel fuel used with additives that meet the requirements of the Verification Procedure, or any combination of the above (*Reference Stationary Diesel ATCM and Title 13, CCR, Sections 2281 and 2282*).
 - (vii) If an operator's tag number is used in lieu of an IC Engine identification plate, written documentation which references the operator's unique IC Engine ID number to a list containing the make, model, serial number, rated maximum BHP and the corresponding RPM.
(*Reference: APCD Rule 333, 40 CFR 70.6.a.3.(ii), OCS PTO 9108, APCD ATC 10357-02 and PTO 11950-01*)
- (e) Reporting: POO-LLC shall report to the APCD all information required under the *Semi-Annual Compliance Verification Report* condition of this permit (see permit condition 9.C.17).
[*References: 40 CFR 70.6(a)(3), OCS PTO 9109 and APCD Rule 333*]
- (f) Temporary Engine Replacements - DICE ATCM. Any reciprocating internal combustion engine subject to this permit may be replaced temporarily only if the requirements (i – vi) listed herein are satisfied.
- (i) The permitted engine is in need of routine repair or maintenance.
 - (ii) The permitted engine that is undergoing routine repair or maintenance is returned to its original service within 180-days of installation of the temporary engine.
 - (iii) The temporary replacement engine has the same or lower manufacturer rated horsepower and same or lower potential to emit of each pollutant as the permitted engine that is being temporarily replaced. At the written request of the permittee, the APCD may approve a replacement engine with a larger rated horsepower than the permitted engine if the proposed temporary engine has manufacturer guaranteed emissions (for a brand new engine) or source test data (for a previously used engine) less than or equal to the permitted engine.
 - (iv) The temporary replacement engine shall comply with all rules and permit requirements that apply to the permitted engine that is undergoing routine repair or maintenance.
 - (v) For each permitted engine to be temporarily replaced, the permittee shall submit a completed *Temporary IC Engine Replacement Notification* form (Form ENF-94) within 14-days of the temporary engine being installed. This form may be sent hardcopy to the

APCD (Attn: Engineering Supervisor), or can be sent electronically to: temp-engine@sbcapcd.org.

- (vi) Within 14-days upon return of the original permitted engine to service, the permittee shall submit a completed *Temporary IC Engine Replacement Report* form (Form ENF-95). This form may be sent hardcopy to the APCD (Attn: Engineering Supervisor), or can be sent electronically to: temp-engine@sbcapcd.org.

Any engine in temporary replacement service shall be immediately shut down if the APCD determines that the requirements of this condition have not been met. This condition does not apply to engines that have experienced a cracked block (unless under manufacturer's warranty), to engines for which replacement parts are no longer available, or new engine replacements {including "reconstructed" engines as defined in the ATCM. Such engines are subject to the provisions of New Source Review and the new engine requirements of the ATCM.

- (g) Permanent Engine Replacements. Any E/S engine, firewater pump engine or engine used for an essential public service that breaks down and cannot be repaired may install a new replacement engine without first obtaining an ATC permit only if the requirements (i – v) listed herein are satisfied.
 - (i) The permitted stationary diesel IC engine is an E/S engine, a firewater pump engine or an engine used for an essential public service (as defined by the APCD).
 - (ii) The engine breaks down, cannot be repaired and needs to be replaced by a new engine.
 - (iii) The facility provides "good cause" (in writing) for the immediate need to install a permanent replacement engine prior to the time period before an ATC permit can be obtained for a new engine. The new engine must comply with the requirements of the ATCM for new engines. If a new engine is not immediately available, a temporary engine may be used while the new replacement engine is being procured. During this time period, the temporary replacement engine must meet the same guidelines and procedures as defined in the permit condition above (*Temporary Engine Replacements - DICE ATCM*).
 - (iv) An Authority to Construct application for the new permanent engine is submitted to the APCD within 15-days of the existing engine being replaced and the APCD permit for the new engine is obtained no later than 180-days from the date of engine replacement (these timelines include the use of a temporary engine).
 - (v) For each permitted engine to be permanently replaced pursuant to the condition, the permittee shall submit a completed *Permanent IC Engine Replacement Notification* form (Form ENF-96) within 14-days of either the permanent or temporary engine being installed. This form may be sent hardcopy to the APCD (Attn: Engineering Supervisor), or can be sent electronically to: temp-engine@sbcapcd.org.

Any engine installed (either temporarily or permanently) pursuant to this permit condition shall be immediately shut down if the APCD determines that the requirements of this condition have not been met.

C.2 **Fugitive Hydrocarbon Emissions Components.** The following equipment is included in this emissions unit category:

ID No.	Equipment. Item Name, Number of Component Leak Paths/item
	<i>Oil Service Components</i>
102718	Components -- controlled (4,984 component leak paths)
102719	Components -- unsafe (195 component leak paths)
	<i>Gas/Light Liquid Service Components</i>
102717	Components -- controlled (1,177 component leak paths)
105826	Components -- unsafe (116 component leak paths)

- (a) **Emission Limits:** Emissions from equipment items listed in the table above shall meet the limits listed for these items in Tables 5.1-3 and 5.1-4 of this permit. Compliance with these limits shall be assessed through compliance with the monitoring, record-keeping and reporting (MRR) conditions listed in this permit. (*Reference: OCS PTO 9109*)
- (b) **Operational Limits:** Operation of the equipment listed in this section shall conform to the requirements listed in APCD Rule 331.D and E. Compliance with these limits shall be assessed through compliance with the monitoring, recordkeeping, and reporting conditions in this permit. In addition POO-LLC shall meet the following specific requirements:
- (i) The APCD-approved I&M Plan for Platform Houchin shall be implemented for the life of the facility. The Plan, and any subsequent APCD-approved revisions, is incorporated by reference as an enforceable part of this permit.
 - (ii) The total leak-path component counts listed in POO-LLC's most recent I&M component leak-path inventory (*e.g., Avanti Report to the APCD dated 8/6/2001*) shall not exceed the total leak-path component counts listed in the Table above (Section 9.C.2) and the Table 5.1-1 by more than five percent.
 - (iii) All routine venting of hydrocarbons shall be routed to either the sales compressor, flare header, injection well or other APCD-approved control device.
(*References: APCD Rule 331, 40 CFR 70.6.a.3.(iii), OCS PTO 9109*)
- (c) **Monitoring:** The equipment listed in this section is subject to all the monitoring requirements listed in APCD Rule 331.F. The test methods in Rule 331.H shall be used, when applicable.
(*References: APCD Rule 331, 40 CFR 70.6.a.3.(iii)*)
- (j) **Recordkeeping:** All inspection and repair records shall be retained at the source for a minimum of five years. The equipment listed in this section is subject to all the recordkeeping requirements listed in APCD Rule 331.G. In addition, POO-LLC shall do the following:

POO-LLC shall record in a log the following:

- a record of leaking component-leak-paths found (including name, location, type of component-leak-path, date of leak detection, the ppmv reading, date of repair attempt, method of detection, date of re-inspection and ppmv reading after leak is repaired);
- a record of the total component leak paths inspected and the total number and percentage found leaking by component-leak-path type;
- a record of leaks from critical component-leak-paths;

- a record of leaks from component-leak-paths that incur five repair actions within a continuous 12-month period;
- a record of component-leak-path repair actions including dates of component-leak-path re-inspections; and
- calibration records of Organic Vapor Analyzer including dates and methods of calibration and repair

[References: APCD Rule 331]

- (d) **Reporting** : POO-LLC shall report to the APCD all information required under the *Semi-Annual Compliance Verification Report* condition of this permit (see permit condition 9.C.17).
 [References: 40 CFR 70.6(a)(3), OCS PTO 9109 and APCD Rule 331]

C.3 **Crew and Supply Boats.** The crew boat is diesel-powered equipped with three (3) 510 hp main engines and two (2) 45 bhp auxiliary engines. The supply boat engine data corresponds to a diesel-powered boat, equipped with two (2) 1125 bhp main engines, two (2) 230 bhp auxiliary engines and one (1) 230 bhp bow thruster engine. The following equipment are included in this category:

ID No.	Equipment Name and Description
<i>Crew Boat</i>	
5488	Crew Boat Main Engines (3), 510 hp each– Controlled
105141	Crew Boat Main Engines – Uncontrolled
5489	Crew Boat Auxiliary Engines (2), 45 hp each
<i>Supply Boat</i>	
5484	Supply Boat Main Engines (2), 1125 hp each – Controlled
105140	Supply Boat Main Engines – Uncontrolled
5485	Supply Boat – Auxiliary Engines (2), 230 hp each
102699	Supply Boat – Bow Thruster Engine (1), 230 hp
<i>Emergency Response Boat</i>	
5487/105827	Emergency Response Main/Aux Engines

- (a) **Emission Limits** : POO-LLC shall comply with the short term and long term mass emission rate limits in Tables 5.1-3 and 5.1-4. Compliance with the quarterly and annual mass emission limits for the main engines on the combined ‘controlled crew and supply boats and spot charter crew and supply boats’ shall be based on the subtotal emission limits in Table 5.1-4. Compliance with this condition shall be based on the operational, monitoring , recordkeeping and reporting conditions in this permit. POO-LLC shall also comply with the following:

NO_x Emissions - Controlled emissions of NO_x from each diesel fired main engine in each controlled crew boat and each controlled supply boat shall not exceed 337 lb/1000 gallons (8.4 g/bhp-hr). These values for controlled emission factors shall be used for all emissions reporting. Spot charter crew and supply boats and emergency response (e.g., *Clean Seas*) boats shall not be required to comply with this controlled NO_x emission rate. Compliance shall be based on annual source testing consistent with the requirements listed in Table 4.1 and the Source Testing permit condition 9.C.15.

(Reference: OCS PTO 9109, BMRP Update on 2 July 1998 per POO-LLC Request to APCD)

(b) Operating Limits: POO-LLC Operation of the equipment listed in this section shall not exceed the limits listed below. Compliance with these limits shall be assessed through compliance with the monitoring, recordkeeping and reporting conditions in this permit.

(i) *Fuel Use*:

- The combined controlled and spot charter supply boat main engines shall not use more than: 973 gallons per day; 24,333 gallons per quarter; 97,418 gallons per year of diesel fuel.
- The supply boat auxiliary engines shall not use more than: 166 gallons per day; 3,745 gallons per quarter; 14,966 gallons per year of diesel fuel.
- The emergency response boat engines shall not use more than: 12,500 gallons per quarter; 50,000 gallons per year of diesel fuel. POO-LLC's allocation of allowable emergency response boat fuel usage shall not exceed: 1,137 gallons per quarter; 4,546 gallons per year of diesel fuel.
- The combined controlled and spot charter crew boat main engines shall not use more than: 788 gallons per day; 32899 gallons per quarter; 129,980 gallons per year of diesel fuel.
- The crew boat auxiliary engines shall not use more than: 25 gallons per day; 941 gallons per quarter; 3,762 gallons per year of diesel fuel.

(ii) Crew and/or Supply Boat Use – The crew, supply and spot charter boats shall be for the activities specified in Sections 2.2.3 and 2.2.4. Any boats used for or in support of activities not specified in Section 2.2.3 or 2.2.4 of this PTO will be considered as new projects, and the boat emissions associated with such projects will be considered in the project potential to emit.

(iii) Spot Charter Boat Use – The number of allowable annual spot charter crew boat trips shall not exceed ten percent of the actual annual number of trips made by the controlled (i.e., primary, see Section 4.5) crew boat. The number of allowable annual spot charter supply boat trips shall not exceed ten percent of the actual annual number of trips made by the controlled (i.e., primary, see Section 4.5) supply boats. A trip is defined as any time the boat makes a trip from the port to the platform and back (i.e., a round trip).

(iv) Liquid Fuel Sulfur Limit – Diesel fuel used by all IC engines shall have sulfur content no greater than 0.0015 weight percent as determined by APCD-approved methods.

(v) New/Replacement Boats – POO-LLC may utilize any new/replacement project boat without the need for a permit revision if that boat meets the following conditions:

- (a) The main engines are of the same or less bhp rating; and
- (b) The combined pounds per day potential to emit (PTE) of all generator and bow thruster engines is the same or less than the sum of the pounds per day PTE for these engines as determined from the corresponding Table 5.1-3 emission line items of this permit; and

- (c) The NO_x, ROC, CO, PM and PM₁₀ emission factors are the same or less for the main and auxiliary engines. For the crew boat main engines, NO_x emissions must meet the 337 lb/1000 gallons emission standard.

The above criteria also apply to spot charter boats, except for the NO_x emission standard noted in (c) above. Any proposed new/replacement crew, supply or spot charter boat that does not meet the above requirements (a) - (c) shall first obtain a permit revision prior to operating the boat. The APCD may require manufacturer guarantees and emission source tests to verify this NO_x emission standard.

POO-LLC shall revise the Boat Monitoring and Reporting Plan, obtain APCD approval of such revisions and implement the revised Plan prior to bringing any new/replacement boat into service, except for the use of spot charters. If a new spot charter is brought into service then POO-LLC shall revise and resubmit the boat plan within thirty (30) calendar days after it is first brought into service. If the fuel metering and emissions computation procedures for a new spot charter are identical to a boat that is already addressed in the approved boat plan, a letter addendum stating this will suffice for the revision/re-submittal of the boat plan.

Prior to bringing the boat into service for the first time, POO-LLC shall submit the information listed below to the APCD for any new/replacement crew and supply boat that meets the requirements set forth in (a) - (c) above, and for new spot charters that have not been previously used by the POO-LLC OCS platforms. For spot charters, this information shall be submitted within thirty (30) calendar days after the boat is first brought into service. POO-LLC shall notify the APCD Project Manager (via fax or e-mail) within three (3) calendar days after a new spot charter is first brought into operation. Any boat put into service that does not meet the requirements above, as determined by the APCD at any time, shall immediately cease operations and all prior use of that boat shall be considered a violation of this permit.

- (i) Boat description, including the type, size, name, engine descriptions and emission control equipment.
- (ii) Engine manufacturers' data on the emission levels for the various engines and applicable engine specification curves.
- (iii) A quantitative analysis using the operating and emission factor assumptions given in tables 5.1-1 and 5.1-2 of this permit that demonstrates criteria (b) above is met.
- (iv) Estimated fuel usage within 25-miles of Platform Hogan/Houchin.
- (v) Any other information the APCD deems necessary to ensure the new boat will operate consistent with the analyses that form the basis for this permit.
(Reference: OCS PTO 9109, 40 CFR 70.6 (a)(3)(b))

- (c) Monitoring : POO-LLC shall adhere to the guidelines of the APCD's *Data Reporting Protocol for Crew and Supply Boat Activity Monitoring* document (June 21, 1991) in order to document and report boat activity, fuel usage and emissions associated with the platform — via a boat monitoring and reporting plan or any of its updates.
- (i) POO-LLC shall comply with the provisions of their APCD-approved *Boat Monitoring and Reporting Plan (May 1998)* and any subsequent approved updates.
 - (ii) The data collected under the *Boat Monitoring and Reporting Plan* shall demonstrate that the boats are being operated consistent with the emission assumptions used in the issuance of this operating permit. Fuel use for all the engines must be collected while the boats are within 25-miles of the platform. Spot charter boats shall, at a minimum, track total fuel usage on a per trip basis using APCD-approved procedures. Emergency response boats shall, at a minimum, track fuel usage on a quarterly basis using APCD-approved procedures. These data shall be submitted in an APCD-approved format to the APCD.
 - (iii) POO-LLC shall log in data on injector timing, setting adjustments, major engine overhauls, and routine engine maintenance for the boat engines.
(Reference: OCS PTO 9109)
- (d) Recordkeeping: The following records shall be maintained in legible logs and shall be made available to the APCD upon request:
- (i) *Maintenance Logs* - Maintenance log summaries that include details on injector timing, setting adjustments, major engine overhauls, and routine engine maintenance. For each main and auxiliary engine with timing retard, an APCD Form – 10 (IC Engine Timing Certification Form) must be completed each time the engine is serviced with timing changes. These logs and summaries shall be made available to the APCD upon request.
 - (ii) *Crew Boat Fuel Usage* - Daily, quarterly and annual fuel use for the crew boat main engines and auxiliary engines.
 - (iii) *Supply Boat Fuel Usage* - Daily, quarterly and annual fuel use for the supply boat (or for the crew boat when it is used as supply boat) main engines, generator engine and bow thruster engine.
 - (iv) *Spot Charter Usage* – Cumulative number of trips for the calendar year.
 - (v) *Emergency Response Boat Fuel Usage* - Total quarterly and annual fuel use for the emergency response boat and Platform Houchin's allocation of that total.
 - (vi) *Diesel Fuel Sulfur* - POO-LLC shall maintain documentation of the sulfur content of each diesel fuel shipment as certified in the fuel suppliers billing vouchers.
 - (vii) In addition to the recordkeeping requirements of POO-LLC's approved *Boat Monitoring and Reporting Plan*, the following log shall be maintained and shall be provided to the APCD in the semi-annual `Compliance Verification Reports:

- The number of boat trips made by the primary crew and supply boats, itemized by the date of the trip and the boat name.
- The number of boat trips made by the spot-charter crew and supply boats, itemized by the date of the trip and the boat name.

[References: 40 CFR 70.6(a)(3), and OCS PTO 9109]

- (e) **Reporting** : POO-LLC shall report to the APCD all information required under the *Semi-Annual Compliance Verification Report* condition of this permit (see permit condition 9.C.17).
[References: 40 CFR 70.6(a)(3), and OCS PTO 9109]

C.4 **Pigging Equipment.** The following equipment is included in this emissions category:

ID No.	Name, Serial No., if applicable, size, events/week, release pressure
102707	Oil launcher: 5 acf volume; 165 launches/yr.; release pressure 5 psig

- (a) **Emission Limits:** Mass emissions for the equipment item (i.e., emissions unit) shall not exceed the values listed in Tables 5.1-3 and 5.1-4. Compliance with these limits is assumed to be met through compliance with the operating limit and monitoring condition listed below.
- (b) **Operational Limits:** Operation of the equipment listed in this section shall conform to the requirements listed in APCD Rule 325.E. In addition POO-LLC shall meet the following requirements:

Openings – Access openings to the oil pig launcher shall be kept closed at all times, except when a pipeline pig is being placed into or removed from the launcher. The gas pig launcher unit shall be locked out of service.

Events – The number of oil and gas pig operations (events) shall not exceed the maximum operating schedule listed in Table 5.1-1.

- (c) **Monitoring:** POO-LLC shall maintain a log for oil pigging operations. The log shall include the date each pigging operation occurred.
- (d) **Recordkeeping:** POO-LLC shall keep a written record of all pigging operations at the facility pursuant to Condition 9.C.4.(c) above. This record shall contain all permit-required pigging operations data including operations data extending back to five years from the last pigging operation date.
- (e) **Reporting** : POO-LLC shall report to the APCD all information required under the *Semi-Annual Compliance Verification Report* condition of this permit (see permit condition 9.C.17).
(Reference: 40 CFR 70.6.(a).(iii), OCS PTO 9109)

C.5 **Tanks and Separators.** The following equipment is included in this emissions category:

ID No.	Equipment Name; Serial #, if applicable, Capacity, size
102721	Deck drain sump tank, surface area 18 sq.ft.; vents to atmosphere
5491	Settling sump tank, surface area 108 sq.ft.; vents to atmosphere

- (a) **Emission Limits:** : Mass emissions for the equipment item (i.e., emissions unit) shall not exceed the values listed in Tables 5.1-3 and 5.1-4. Compliance with these limits is assumed to be met through compliance with the monitoring condition listed below.
- (b) **Monitoring:** The equipment listed in this section shall is subject to all the monitoring requirements of APCD Rule 325.H. The test methods outlined in APCD Rule 325.G shall be used, when applicable.
- (c) **Recordkeeping:** The equipment listed in this section is subject to all the recordkeeping requirements listed in APCD Rule 325.F
- (d) **Reporting :** POO-LLC shall report to the APCD all information required under the *Semi-Annual Compliance Verification Report* condition of this permit (see permit condition 9.C.17). (Reference: 40 CFR 70.6.(a).(iii), OCS PTO 9109)

C.6 **Combustion Equipment - Flare.** The following equipment are included in this emissions unit category:

ID No.	Name
111371	Production Flare

- (a) **Emission Limits:** Mass emissions from the flare system listed above shall not exceed the limits listed in Tables 5.1-3 and 5.1-4.
- (b) **Operational Limits:**
 - (i) *Flaring Volumes* - Flaring volumes from the flare pilots, planned-other, and unplanned events shall not exceed the volumes in Table 5.1-1.
 - (ii) *Ignition System* - The outlet shall be equipped with an automatic ignition system including a pilot-light gas source or equivalent system, or, shall operate with a pilot flame present at all times -- with the exception of purge periods for automatic-ignition equipped flares or thermal oxidizers.
 - (iii) *Flame Monitoring* - The presence of the flame in the pilot of the flare shall be continuously monitored using a thermocouple or an equivalent device that detects the presence of a flame.
 - (iv) *Flame Operation* - The flame shall be operating at all times when combustible gases are vented through the flare.
 - (v) *Purge Gas* – Only an inert gas shall be used as purge gas.

- (vi) *Flare Fuel Gas Sulfur Limit* - The sulfur content of produced gas combusted in the pilot and during flaring events shall not exceed 15 gr/100 scf (239 ppmv) total sulfur calculated as hydrogen sulfide at standard conditions. Planned flaring is defined in APCD Rule 359. Compliance shall be based on annual lab analyses. The operator shall perform additional testing/analyses of the sulfur content, using approved test methods, as requested by the APCD. The operator shall submit all such lab analyses reports to the APCD.
- (c) **Monitoring:** The following monitoring conditions apply to the flare system:
 - (i) *Flare Volumes* - The volumes of gas flared shall be monitored by use of the APCD-approved flare flow meter.
 - (ii) *Purge and Pilot Volumes:* The volume of purge and pilot gas shall be monitored by use of an APCD approved flow meter.
 - (iii) *Sulfur Content* – For each flare event *lasting more than one hour*, the H₂S concentration of the flared gas shall be measured by detection tube. The operator shall perform additional testing of the sulfur content, using approved test methods, as requested by the APCD. The operator shall submit all such lab analyses reports to the APCD.
- (d) **Recordkeeping:** The following recordkeeping conditions apply to the flare system:
 - (i) *Flare Volumes* - All flaring events shall be recorded in a log. The log shall include: date; duration of flaring events (start and stop times); quantity of gas flared; reason for flaring events; and the type of event (e.g., planned or unplanned).
 - (ii) *Sulfur Content* - A log of the total sulfur content of gas combusted during flaring events shall be maintained.
 - (iii) All requirements of APCD Rules 331.G and 359.G.
- (e) **Reporting:** On a semi-annual basis, a report detailing the previous six month’s activities shall be provided to the APCD. The report must list all data required by the *Semi-Annual Compliance Verification Reports* condition of this permit.
(*Re: APCD Rules 359 and 1303, 40 CFR 70.6*)

C.7 Solvent Usage. The following emissions unit is included in this category:

ID No.	Emissions Unit Name
102725	Cleaning/Degreasing

- (a) **Operational Limits:** POO-LLC shall use no more than 500 gallons/year of solvents. In addition, POO-LLC shall comply with the requirements listed below for all solvent usage:
 - (i) *Containers* - Vessels or containers used for storing materials containing organic solvents shall be kept closed unless adding to or removing material from the vessel or container.

- (ii) *Materials* - All materials that have been soaked with cleanup solvents shall be stored, when not in use, in closed containers that are equipped with tight seals.
 - (iii) *Solvent leaks* – Solvent leaks shall be minimized to the maximum extent feasible or the solvent shall be removed to a sealed container and the equipment taken out of service until repaired. A solvent leak is defined as either the flow of three liquid drops per minute or a discernable continuous flow of solvent.
 - (iv) *Reclamation Plan* - POO-LLC may submit a Plan to the APCD for the disposal of any reclaimed solvent. If the Plan is approved by the APCD, all solvent disposed of pursuant to the Plan will not be assumed to have evaporated as emissions into the air and, therefore, will not be counted as emissions from the source. POO-LLC shall obtain APCD approval of the procedures used for such a disposal Plan. The Plan shall detail all procedures used for collecting, storing, and transporting the reclaimed solvent. Further, the ultimate fate of these reclaimed solvents must be stated in the Plan.
- (b) Recordkeeping: POO-LLC shall record in a log the following on a monthly basis:

For each solvent used:

- (i) amount used;
- (ii) the percentage of ROC by weight (as applied);
- (iii) the solvent density;
- (iv) the amount of solvent reclaimed for APCD-approved disposal; whether the solvent is photochemically reactive; and
- (v) the resulting emissions to the atmosphere in units of pounds per month and pounds per day (computed based on monthly emissions divided by the number of days in that month). Product sheets (MSDS or equivalent) detailing the constituents of all solvents shall be maintained in a readily accessible location on the platform. All applicable logs and MSDS data must be retained for a minimum of five years from the date of the last use of the solvent(s) concerned.

For each coating used:

- (i) coating type and manufacturing ID;
- (ii) the ROC content as applied; and
- (iii) the resulting emissions to the atmosphere in pounds per month.

- (c) Reporting: POO-LLC shall report to the APCD all information required under the *Semi-Annual Compliance Verification Report* condition of this permit (see permit condition 9.C.17). (*Reference: 40 CFR 70.6.(a).(iii), OCS PTO 9109*)

C.8 Facility Throughput Limitations. Platform Houchin production shall be limited to 15,000 barrels of oil emulsion and 15 million standard cubic feet of produced gas per day, averaged on a monthly basis. POO-LLC shall record in a log the volumes of crude oil, produced water and gas produced and the actual number of days in production per month. The above limits are based on actual days of operation during the month. (*Reference: OCS PTO 9109*)

C.9 Produced Gas. POO-LLC shall direct all produced gases to the sales compressors, the flare header or other permitted control device when de-gassing, purging or blowing down any oil and gas well or tank, vessel or container that contains reactive organic compounds or reduced sulfur compounds due to activities that include, but are not limited to, process or equipment turnarounds, process upsets (e.g., well spikes), well blow down and MMS ordered safety tests. [*Reference: APCD Rules 325, 331, PTO 9109*]

- C.10 **Abrasive Blasting Equipment.** All abrasive blasting activities performed on Platform Houchin shall comply with the requirements of the California Administrative Code Title 17, Sub-Chapter 6, Sections 92000 through 92530, and with all applicable APCD Rules approved by the USEPA under the State Implementation Plan (SIP). [*Reference: PTO 9109*]
- C.11 **Diesel IC Engines - Particulate Matter Emissions.** To ensure compliance with APCD Rules 205.A, 302, 304, 309 and the California Health and Safety Code Section 41701, POO-LLC shall implement manufacturer recommended operational and maintenance procedures to ensure that all diesel-fired engines at the platform minimize particulate emissions. POO-LLC shall implement their APCD-approved *IC Engine Particulate Matter Operation and Maintenance Plan* (July 2002 and all APCD-approved updates thereof) for the life of the project. All diesel-fired engines at the platform, regardless of exemption status, shall be included in this Plan. [*Reference: APCD Rules 205.A, 302, 304, 309, PTO 9109*]
- C.12 **Visible Emissions Rule Compliance for Diesel Fueled IC Engine(s).** POO-LLC shall not discharge any visible emissions into the atmosphere from its IC engines for a period or periods aggregating more than three minutes in any one hour. Once per calendar quarter, POO-LLC shall perform a visible emissions observation for a six-minute period on each permitted and exempt engine when operating. If an engine does not operate during a calendar quarter, no monitoring is required. Visible emission observations shall be documented using an APCD-approved Visible Emissions Recordkeeping Log. If no visible emissions are detected during the six-minute observation period, no further monitoring is required. If visible emissions are detected during the six-minute period, then the visible emission inspection shall continue in accordance with the "Monitoring Procedure" listed below.
- Monitoring Procedure:* POO-LLC shall conduct visible emissions observations every 15 seconds (using a stop-watch) and record the observation as either "0" (no visible emissions) or "E" (visible emissions) on a Visible Emissions Recordkeeping Log. Any time visible emissions are observed at the end of a 15-second interval, it shall be assumed that the visible emissions occurred for the entire 15 seconds preceding the reading. The start time and end time of the visible emission observations shall be recorded together with the date of the observation and name of the observer. POO-LLC shall conduct a visible emissions observation for the length of time necessary to document three continuous minutes of no visible emissions or the presence of visible emissions for more than the aggregation of three minutes during any hour, whichever occurs first.
- Compliance Assessment:* POO-LLC shall be deemed in compliance with this condition if no visible emissions are observed during the initial six-minute period. If any visible emissions are observed during the initial six-minute period, POO-LLC shall continue with the visible emissions observation. POO-LLC shall be deemed to be in compliance with this condition if no more than 12 "E" notations occur within any one-hour period. For compliance purposes, "one hour period" shall mean a rolling hour.
- C.13 **Process Monitoring Systems - Operation and Maintenance.** All platform process monitoring devices listed in Section 4.11 of this permit shall be properly operated and maintained according to the APCD-approved *Process Monitor Calibration and Maintenance Plan* as approved by the APCD in July 2002 (and its subsequent APCD-approved updates). (*Reference: PTO 9109*).

C.14 **Process Stream Sampling and Analysis.** POO-LLC shall sample and analyze the process streams listed in Section 4.12.2 of this permit according to the methods and frequency detailed in that Section. All process stream samples shall be taken according to APCD approved ASTM methods and must follow traceable chain of custody procedures. (*Re: APCD Rules 325, 331, 333, PTO 9109*)

C.15 **Source Testing.** The following source testing provisions shall apply:

- (i) POO-LLC shall conduct source testing of air emissions and process parameters listed in Section 4.12 and Table 4.1 of this Permit to Operate. More frequent source testing may be required if the equipment does not comply with permitted limitations or if other compliance problems, as determined by the APCO, occur. Source testing of the North Crane engine shall be performed on a biennial schedule using October 2001 as the initial test date. Source testing of the well service rig engine shall be performed biennially, using December 2008 as the initial test date. The crane and rig engines shall be loaded to the maximum safe load obtainable. Source testing of one crew boat and one supply boat shall occur on an annual basis, and testing shall be completed by December 31 each year. The crew and supply boat main engines shall be tested at normal cruise speeds (minimum of 70 percent of maximum engine load).
- (ii) POO-LLC shall submit a written source test plan to the APCD for approval at least thirty (30) calendar days prior to initiation of each source test. The source test plan shall be prepared consistent with the APCD's *Source Test Procedures Manual* (revised May 1990 and any subsequent revisions). POO-LLC shall obtain written APCD approval of the source test plan prior to commencement of source testing. The APCD shall be notified at least ten (10) calendar days prior to the start of source testing activity to arrange for a mutually agreeable source test date when APCD personnel may observe the test.
- (iii) A source test for an item of equipment shall be performed on the scheduled day of testing (the test day mutually agreed to) unless circumstances beyond the control of the operator prevent completion of the test on the scheduled day. Such circumstances include mechanical malfunction of the equipment to be tested, malfunction of the source test equipment, delays in source test contractor arrival and/or set-up, or unsafe conditions on site. Except in cases of an emergency, the operator shall seek and obtain APCD approval before deferring or discontinuing a scheduled test, or performing maintenance on the equipment item on the scheduled test day. Once the sample probe has been inserted into the exhaust stream of the equipment unit to be tested (or extraction of the sample has begun), the test shall proceed in accordance with the approved source test plan. In no case shall a test run be aborted except in the case of an emergency or unless approval is first obtained from the APCD. If the test cannot be completed on the scheduled day, then the test shall be rescheduled for another time with prior authorization by the APCD. Failing to perform the source test of an equipment item on the scheduled test day without a valid reason and without APCD's prior authorization, except in the case of an emergency, shall constitute a violation of this permit. If a test is postponed due to an emergency, written documentation of the emergency event shall be submitted to the APCD by the close of the business day following the scheduled test day.
- (iv) Source test results shall be submitted to the APCD within forty-five (45) calendar days following the date of source test completion and shall be consistent with the

requirements approved within the source test plan. Source test results shall demonstrate compliance with emission rates in Section 5 and applicable permit conditions. All APCD costs associated with the review and approval of all plans and reports and the witnessing of tests shall be paid by POO-LLC as provided for by APCD Rule 210. The timelines in (ii), (iii), and (iv) above may be extended for good cause provided a written request is submitted to the APCD at least three (3) days in advance of the deadline, and approval for the extension is granted by the APCD.
[Reference: PTO 9109, 40 CFR 70.6(a)(3)]

C.16 **Recordkeeping.** All records and logs required by this permit and any applicable APCD, State or Federal rule or regulation shall be maintained for a minimum of five calendar years from the date of information collection and log entry at the platform. These records or logs shall be readily accessible and be made available to the APCD upon request. [Re: APCD Rule 1303, PTO 9109, 40 CFR 70.6]

C.17 **Semi-Annual Compliance Verification Reports.** Twice a year, POO-LLC shall submit a compliance verification report to the APCD. Each report shall be used to verify compliance with the prior two calendar quarters. The first report shall cover calendar quarters 1 and 2 (January through June) and shall be submitted no later than September 1. The second report shall cover calendar quarters 3 and 4 (July through December) and shall be submitted no later than March 1. Each report shall contain information necessary to verify compliance with the emission limits and other requirements of this permit (if applicable for that quarter). These reports shall be in a format approved by the APCD. All logs and other basic source data not included in the report shall be available to the APCD upon request. The second report shall also include an annual report for the prior four quarters. Pursuant to Rule 212, the annual report shall include a completed *APCD Annual Emissions Inventory* questionnaire. The report shall include the following information:

(a) *Internal Combustion Engines.*

- (1) The daily and annual 'computed' fuel use for each pedestal crane engine in units of gallons [Ref: Condition 9.C.1.(c) (iv)].
- (2) The monthly and cumulative annual hours of operation for the emergency firewater pump, the emergency generator, and the south crane engine (by ID numbers or Serial Numbers).
- (3) Results of the Rule 333 portable NO_x analyzer readings.
- (4) A statement that all fuel delivered to the boats or the platform was ultra low sulfur diesel. The APCD may request the records per condition 9.C.1.(c)(v).
- (5) On an annual basis, the heating value of all diesel fuel, in units of Btu/gal.
- (6) Summary results of the most recent compliance emission source testing performed.

(b) *Fugitive Hydrocarbons.*

[Rule 331 fugitive hydrocarbon I&M program data (summarized on a quarterly basis)]:

- (1) Inspection summary.
- (2) Record of leaking components.
- (3) Record of leaks from critical components.
- (4) Record of leaks from components that incur five repair actions within a continuous 12-month period.
- (5) Record of component repair actions including dates of component re-inspections.

- (6) An updated FHC I&M inventory due to change in component list or diagrams.
- (7) Listing of components installed as BACT under APCD Rule 331 as approved by the APCD.

(c) *Crew and/or Supply Boats.*

- (1) Daily, quarterly and annual fuel use for the crew boat main engines and auxiliary engines while operating within 25 miles of Platform Houchin, itemized by controlled boat usage and uncontrolled boat usage.
- (2) Daily, quarterly and annual fuel use for the supply boat main engines and auxiliary engines (including the bow thruster engine) while operating within 25 miles of Platform Houchin, itemized by controlled boat usage and uncontrolled boat usage.
- (3) The sulfur content of diesel fuel used by the crew and/or supply boats (the latest dealer certification will be acceptable).
- (4) Information regarding any new project boats servicing the platforms as detailed in Permit Condition 9.C.3(c) above.
- (5) Maintenance log summaries including details on injector type and timing, setting adjustments, major engine overhauls, and routine engine tune-ups. For spot charters this shall be provided as available.
- (6) Summary results of all compliance emission source testing performed.
- (7) Any helicopter trips (by type and trip segments with emission calculations) to transport POO-LLC personnel assisting POO-LLC operations.
- (8) Fuel Use by 'spot charter' crew/supply boats and this number as a percentage compared to the stationary source's total crew and/or supply boat fuel use.

(d) *Pigging.*

For each pig receiver and launcher, the number of pigging events per day, quarter and year.

(e) *Tanks/Sumps/Separators.*

- (1) On a monthly basis, the crude oil, produced water and produced gas production along with the number of days per month of production.
- (2) Process stream analyses data as required by the *Process Stream Sampling and Analysis* permit condition No. 9.C.14 above (see also Section 4.12.2 of the permit).

(f) *Production Flare.*

- (1) The volumes of gas combusted and resultant mass emissions for each flare category (i.e., pilot, planned – other, or unplanned), shall be presented as a cumulative summary for each quarter and year.
- (2) The hydrogen sulfide concentration for each flare event lasting more than one hour.

(g) *Solvent Usage.*

On a monthly basis: the amount of solvent used; the percentage of ROC by weight (as applied); the solvent density; the amount of solvent reclaimed; whether the solvent is photochemically reactive; and, the resulting emissions of ROC and photochemically reactive solvents to the atmosphere in units of pounds per month.

(h) *General Reporting Requirements.*

- (1) On quarterly basis, the emissions from each permitted emission unit for each criteria pollutant.
- (2) On quarterly basis, the emissions from each exempt emission unit for each criteria pollutant.

- (3) A summary of each and every occurrence of non-compliance with the provisions of this permit, APCD rules, and any other applicable requirement.
- (4) Breakdowns and variances reported/obtained per Regulation V along with the excess emissions that accompanied each occurrence
- (5) Helicopter trips, if any, (by type and trip segments with emission calculations)
- (6) On an annual basis, the ROC and NO_x emissions from all permit exempt activities.
- (7) Tons per quarter totals of all pollutants (by each emission unit). The third/fourth quarter report shall include tons per year totals for all pollutants (by each emission unit).
- (8) A copy of the Rule 202 De Minimis Log for the stationary source, summarized bi-annually.

[Re: APCD Rule 212, 40 CFR 70.6, PTO 9109, PTO 9109-01, ATC 9556, ATC 10367-02]

C.18 **Permitted Equipment.** Only those equipment items listed in Attachment 10.4 are covered by the requirements of this permit and APCD Rule 201.B. [Re: APCD Rule 1303, PTO 9109]

C.19 **Mass Emission Limitations.** Mass emissions for the entire facility shall not exceed the total limits listed in Table 5.2. [Re: APCD Rule 1303, PTO 9109, ATC 10357-02, 40 CFR 70.6]

C.20 **Documents Incorporated by Reference.** The documents listed below, including any APCD-approved updates thereof, are incorporated herein and shall have the full force and effect of a permit condition for this operating permit:

- (a) Rule 333, Section F – Inspection and Maintenance Plan (approved June 2009)
- (b) Diesel IC Engine Particulate Matter Operation and Maintenance Plan (approved July 2002)
- (c) Data Reporting Protocol for Crew and Supply Boat Activity Monitoring (approved July 2002)
- (d) Boat Monitoring and Reporting Plan for Platform Houchin (May 1998)
- (e) Process Monitor Calibration and Maintenance Plan for Platform Houchin (approved July 2002)

9.D **APCD-Only Conditions**

The following section lists permit conditions that are not enforceable by the USEPA or the public. However, these conditions are enforceable by the APCD and the State of California. These conditions are issued pursuant to APCD Rule 206 (*Conditional Approval of Authority to Construct or Permit to Operate*), which states that the Control Officer may issue an operating permit subject to specified conditions. Permit conditions have been determined as being necessary for this permit to ensure that operation of the facility complies with all applicable local and state air quality rules, regulations and laws. Failure to comply with any condition specified pursuant to the provisions of Rule 206 shall be a violation of that rule, this permit, as well as any applicable section of the California Health & Safety Code.

D.1 **California Administrative Code Title 17 Section 93118.5:** The Airborne Toxic Control Measure (ATCM) for Diesel Engines on Commercial Harbor Craft Operated within California Waters and 24 Nautical Miles of the California Baseline specifies emission standards and operational requirements for new and in-use engines. The crew and supply boat engines shall comply with the following ATCM requirements:

- Only CARB ultra-low sulfur (0.0015 %) diesel shall be burned in the engines onboard the vessel
- Hour meters shall be installed and operated on each diesel engine.

In addition, the ATCM requires that all newly acquired engines on the crew and supply vessels, or any newly acquired crew or supply vessels, shall adhere to the Tier standards as specified in the California Code of Regulations Section 9.118.5 Airborn Toxic Control Measure for Commercial Harbor Craft.

D.2 External Combustion Units - Permits Required.

- (1) An ATC/PTO permit shall be obtained prior to installation of any grouping of Rule 360 applicable boilers or hot water heaters whose combined system design heat input rating exceeds 2.000 MMBtu/hr.
- (2) An ATC permit shall be obtained prior to installation, replacement, or modification of any existing Rule 361 applicable boiler or water heater rated over 2.000 MMBtu/hr.
- (3) An ATC shall be obtained for any size boiler or water heater if the unit is not fired on natural gas or propane except as provided for by APCD Rule 202.L.15 and L.16.

AIR POLLUTION CONTROL OFFICER

Date

NOTES:

- (a) This permit supersedes all previous APCD permits issued for the Platform Houchin.
- (b) APCD Permit to Operate 9109 Reevaluation Due Date: April 2013
- (c) Part 70 Operating Permit 9109 Expiration Date: April 2013

RECOMMENDATION

It is recommended that this PTO be issued with the conditions as specified in the permit.

David Harris
AQ Engineer

2/16/2010

Brian Shafritz
Engineering Supervisor

10.0 Attachments

10.1 Emission Calculation Documentation

10.2 Fee Calculations

10.3 IDS Database Emission Tables

10.4 Equipment List

10.5 APCD Permit-Exempt Equipment List

10.6 Insignificant Activities List

10.1 EMISSION CALCULATION DOCUMENTATION - PLATFORM HOUCHIN :

This attachment contains all relevant emission calculation documentation used for the emission tables in Section 5. Refer to Section 4 for the general equations. Detailed calculation spreadsheets are attached in Section 10.2, where necessary. The letters A-H refer to Tables 5.1-1, 5.4-1, and 5.1-2.

Reference A - Combustion Engines

- The maximum operating schedule is in units of hours
- The default diesel fuel #2 characteristics are:
 - density = 7.043 lb./gal (36°API)
 - LHV = 18,753 Btu/lb. (132,075 Btu/gal)
 - HHV = 19,878 Btu/lb. (140,000 Btu/gal)
- BSFC = 7,180 Btu/bhp-hr (230 bhp north crane engine)
 - energy based value-using LHV
 - Detroit Diesel 6-71 engine specification basis = 0.390 lb./bhp-hr
- BSFC = 7,272 Btu/bhp-hr (230 bhp well kill pump engine)
 - energy based value using LHV
 - Detroit Diesel 8-71 engine specification basis = 0.395 lb./bhp-hr
- BSFC = 7,548 Btu/bhp-hr (99 bhp south crane engine)
 - energy based value using LHV
 - Detroit Diesel 3-71 (N-60) engine specification basis = 0.410 lb./bhp-hr
- BSFC = 8581 Btu/bhp-hr (510 bhp emergency generator engine)
 - energy based value using LHV
 - Caterpillar D-379 engine specification basis = 0.466 lb./bhp-hr
- BSFC = 8581 Btu/bhp-hr (2847 bhp emergency generator engine)
 - energy based value using LHV
 - Caterpillar 3516B engine specification basis = 0.334 lb./bhp-hr
- BSFC = 8,382 Btu/bhp-hr (110 bhp fire water pump engine)
 - energy based value using LHV
 - Caterpillar D-330 engine specification basis = 0.455 lb./bhp-hr
- BSFC = 8,162 Btu/bhp-hr (400 bhp well service rig engine)
 - energy based value using LHV
 - Detroit Diesel 8VF 00734 engine specification basis = 0.443 lb./bhp-hr
- Emission factors units (lb./MMBtu) are based on HHV.
- FCF (LHV to HHV) value of 6 percent used for diesel

- NO_x emission factors for North crane engine and well service rig engine are based on Rule 333 emission limit of 797 ppmv or 8.4 g/bhp-hr. This emission limit will be lowered, and CO and ROC emission factors will be added, on November 21, 2010.
- NO_x emission factors for all IC engines based on USEPA AP-42, table 3.3-1 (7/93)
- Similarly, ROC, CO and PM emission factors based on USEPA AP-42, table 3.3-1 (7/93)
- SO_x emissions based on mass balance
 - $SO_x \text{ (as } SO_2) = (\%S) \times (\rho_{oil}) \times (20,000) \div (HHV)$
- PM₁₀:PM ratio = 0.96; ROC:TOC ratio = 1.0
- North Crane engine operational limits: General Equation

$$Q = (BSFC) \times (bhp) \times (LCF) \times (\text{hours/time period}) \div (HHV, \text{ Btu/gal})$$

North Crane Engine

$$Q = (7180 \text{ Btu/bhp-hr}) \times (230 \text{ bhp}) \times (1.06) \times (16 \text{ hours/day}) \div (140,000 \text{ Btu/gal})$$

$$= 200.06 \text{ gallons per day}$$
 - $Q = (7180 \text{ Btu/bhp-hr}) \times (230 \text{ bhp}) \times (1.06) \times (1000 \text{ hours/yr.}) \div (140,000 \text{ Btu/gal})$

$$= 12,503 \text{ gallons per year}$$
- All IC engines, *except the North crane engine and the well service rig engine*, are restricted to 199 hours/year.

Reference B - Fugitive Components

- The maximum operating schedule is in units of hours
- All safe to monitor components are credited an 80 percent control efficiency. Unsafe to monitor components (as defined in Rule 331) are considered uncontrolled,
- The component leak path definition differs from the Rule 331 definition of a component. A typical leak path count for a valve would be equal to 4 (one valve stem, a bonnet connection and two flanges).
- Leak path counts are provided by applicant. The total count has been verified to be accurate within 5 percent of the APCD's P&ID and platform review/site checks.
- Emission factors based on the SBCAPCD/Tecolote Report, *Modeling of Fugitive Hydrocarbon Emissions, Model B* (1/86).

Reference C - Supply Boat

- The maximum operating schedule is in units of hours

- Supply boat engine data based on Tidewater Marine's *Toby Tide* (primary boat)
- Two 1,125 bhp main engines (i.e., 2,250 bhp), two 230 bhp auxiliary engines (i.e., 460 bhp) and one 230 bhp bow thruster engine are utilized
- Main engine load factor based on APCD *Crew and Supply Boat* study (6/87)
- Supply boat bow thruster engine only operates during maneuver mode
- Supply boat generator engines provide half of total rated load, either with one engine at full load or both engines at half load
- The APCD has standardized the total time a supply boat operates (per trip) within 25 miles of platform is 11 hours. A trip includes time to, from, and at the platform. This is based on a typical trip consisting of: 8 hours cruise, 2 hours maneuver and 1 hour idle. Annual supply boat usage time is based on 91 trips. Spot charter trips add 100 hours per year to the PTE.
- Main engine emission factors are based only on cruise mode values.
- Supply boat main engines achieve a controlled NO_x emission rate of 8.4 g/bhp-hr through the use of turbo-charging, enhanced inter-cooling, sea water scrubbing and 4° timing retard. This emission factor equates to 337 lb/1000 gallons.
 - $EF_{NO_x} = (6.73 \text{ g/bhp-hr}) \div (0.055 \text{ gal/bhp-hr}) \times (453.6 \text{ g/lb.}) \times (1000)$
- Spot charter supply boat usage limited to 10 percent of actual annual controlled supply boat usage.
- Spot charter and Emergency Response vessels are uncontrolled for NO_x.
- Uncontrolled ROC and CO emission factors for the main engines are based on USEPA AP-42, Volume II, Table II-3.3 (1/75) {cruise factor, 1500 bhp engine}
- Uncontrolled NO_x emissions from spot charter supply and emergency response boat main engines based on an emission rate of 14 g/bhp-hr. This emission factor equates to 561 lb/1000gallons:
 - $EF_{NO_x} = (14 \text{ g/bhp-hr}) \div (0.055 \text{ gal/bhp-hr}) \times (453.6 \text{ g/lb.}) \times (1000)$
- PM emission factors for the main engines are based on *Kelly, et. al.* (1981)
- PM₁₀:PM ratio = 0.96; ROC:TOC ratio = 1.0
- All SO_x emissions based on mass balance
 - $SO_x \text{ (as } SO_2) = (\%S) \times (\square_{oil}) \times (20,000) \div (HHV)$
- Auxiliary and bow thruster engine emission factors (uncontrolled) are based on USEPA AP-42, Table 3.3-1 (7/93). Table emission factors converted to fuel basis using:
 - $EF_{lb/1000 \text{ gal}} = (EF_{lb/MMBtu}) \div (19,300 \text{ Btu/lb.}) \times (7.05 \text{ lb./gal}) \times (1000)$

- Spot charter engine set-up assumed to be equal to main supply boat.
- Emergency response vessel is permanently assigned to Platforms Henry, Hillhouse, A, B, C, Houchin, Hogan, Habitat, Hondo, Heritage, and Harmony. Vessel total bhp is 1770 bhp. Short-term emissions from this vessel are not assessed. Long-term emissions are assessed equally amongst the eleven affected platforms.
- Emergency response vessel emissions calculated as an aggregate (main and auxiliary engines) using the uncontrolled supply boat emission factors. The long term hours of operating are back-calculated based on the fuel usage allocation for this platform of 4,546 gallons per year (50,000 gal/yr. basis).
 - $T_{yr} = \{(4,546 \text{ gal/yr.}) \div (0.055 \text{ gal/bhp-hr} \div 1770 \text{ bhp} \div 0.65)\} = 72 \text{ hr/yr.}$
- Main and auxiliary engine operational limits: General Equation

$$Q = (\text{BSFC}) \times (\text{bhp}) \times (\text{hours/time period}) \times (\text{load factor})$$

Main engines

- $Q = (0.055 \text{ gal/bhp-hr}) \times (2250 \text{ bhp}) \times (11 \text{ hours/day}) \times (0.65)$
= 885 gallons per day
- $Q = (0.055 \text{ gal/bhp-hr}) \times (2250 \text{ bhp}) \times (275 \text{ hours/qtr}) \times (0.65)$
= 22,121 gallons per quarter
- $Q = (0.055 \text{ gal/bhp-hr}) \times (2250 \text{ bhp}) \times (1101 \text{ hours/yr.}) \times (0.65)$
= 88,562 gallons per year

Auxiliary engines - Generators

- $Q = (0.055 \text{ gal/bhp-hr}) \times (460 \text{ bhp}) \times (11 \text{ hours/day}) \times (0.50)$
= 140 gallons per day
- $Q = (0.055 \text{ gal/bhp-hr}) \times (460 \text{ bhp}) \times (250 \text{ hours/qtr}) \times (0.50)$
= 3,163 gallons per quarter
- $Q = (0.055 \text{ gal/bhp-hr}) \times (460 \text{ bhp}) \times (1001 \text{ hours/yr.}) \times (0.50)$
= 12,663 gallons per year

Auxiliary engines - Bow Thruster

- $Q = (0.055 \text{ gal/bhp-hr}) \times (230 \text{ bhp}) \times (2 \text{ hours/day})$
= 26 gallons per day
- $Q = (0.055 \text{ gal/bhp-hr}) \times (230 \text{ bhp}) \times (46 \text{ hours/qtr})$
= 582 gallons per quarter
- $Q = (0.055 \text{ gal/bhp-hr}) \times (230 \text{ bhp}) \times (182 \text{ hours/yr.})$
= 2,303 gallons per year

Reference D - Crew Boat

- The maximum operating schedule is in units of hours
- Crew boat engine data based on *MV Matthew* (primary boat)
- Three 510 bhp main engines (i.e., 1,530 bhp), two 45 bhp auxiliary engines
- Main engine load factor based on APCD *Crew and Supply Boat* study
- Crew boat auxiliary engine provides half of the total rated load
- The total time a crew boat operates (per trip) is 2.0 hours. A trip includes time to, from, and at the platform. This is based on a typical trip consisting of: 1 hour cruise, 0.5 hour maneuver, and 0.5 hour idle. Annual crew boat usage time is based on 760 trips at 2.0 hrs/trip for a total of 1,520 hours per year. Spot charter adds 152 hours per year to the PTE.
- Crew boat main engines achieve a controlled NO_x emission rate of 8.4 g/bhp-hr through the use of turbo-charging, enhanced inter-cooling, sea-water scrubbing and 4° timing retard. This emission factor equates to 337 lb/1000 gallons:
 - $EF_{NO_x} = (8.4 \text{ g/bhp-hr}) \div (0.055 \text{ gal/bhp-hr}) \times (453.6 \text{ g/lb.}) \times (1000)$
- Uncontrolled ROC and CO emission factors for the main engines are based on USEPA AP-42, Volume II, Table II-3.3 (1/75) {cruise factor, 500 bhp engine}
- Uncontrolled NO_x emissions from spot charter crew boat main engines based on an emission rate of 14 g/bhp-hr. This emission factor equates to 561 lb/1000gallons:
 - $EF_{NO_x} = (14 \text{ g/bhp-hr}) \div (0.055 \text{ gal/bhp-hr}) \times (453.6 \text{ g/lb.}) \times (1000)$
- PM emission factors for the main engines are based on *Kelly, et. al.* (1981)
- PM₁₀:PM ratio = 0.96; ROC:TOC ratio = 1.0
- All SO_x emissions based on mass balance
 - $SO_x \text{ (as SO}_2\text{)} = (\%S) \times (\rho_{oil}) \times (20,000) \div (HHV)$
- Auxiliary engine emission factors (uncontrolled) are based on USEPA AP-42, Table 3.3-1 (7/93). Table emission factors converted to fuel basis using:
 - $EF_{lb/1000 \text{ gal}} = (EF_{lb/MMBtu}) \div (19,300 \text{ Btu/lb.}) \times (7.05 \text{ lb./gal}) \times (1000)$
- Main and auxiliary engine operational limits: General Equation

$$Q = (\text{BSFC}) \times (\text{bhp}) \times (\text{hours/time period}) \times (\text{load factor})$$

Main engines

- $Q = (0.055 \text{ gal/bhp-hr}) \times (1530 \text{ bhp}) \times (10 \text{ hours/day}) \times (0.85)$
= 716 gallons per day

- $Q = (0.055 \text{ gal/bhp-hr}) \times (1530 \text{ bhp}) \times (418 \text{ hours/qtr}) \times (0.85)$

=29,899 gallons per quarter

$$\square Q = (0.055 \text{ gal/bhp-hr}) \times (1530 \text{ bhp}) \times (1652 \text{ hours/yr.}) \times (0.85) \\ = 118,164 \text{ gallons per year}$$

Auxiliary engines - Generators

$$\square Q = (0.055 \text{ gal/bhp-hr}) \times (90 \text{ bhp}) \times (10 \text{ hours/day}) \times (0.50) \\ = 25 \text{ gallons per day}$$

$$\square Q = (0.055 \text{ gal/bhp-hr}) \times (90 \text{ bhp}) \times (380 \text{ hours/qtr}) \times (0.50) \\ = 941 \text{ gallons per quarter}$$

$$\square Q = (0.055 \text{ gal/bhp-hr}) \times (90 \text{ bhp}) \times (1520 \text{ hours/yr.}) \times (0.50) \\ = 3,762 \text{ gallons per year}$$

Reference E - Pigging Equipment

- Maximum operating schedule is in units of events (e.g., thrice/week for launcher)
- Gas launcher is locked out of service. Only the oil line launcher operates.
- Pressure and temperature are assumed to be 5 psig and 100°F
- All gas in launcher blown down back into the process per POO-LLC operating procedures prior to opening the pig launcher unit.
- The $MW_{oil} = 50 \text{ lb./lb.-mol}$ for oil. (*Reference: APCD file data*)
- Average ROC weight percent is = 88.5 % for oil launchers [*Reference: CARB VOC Speciation Profile 297 (storage tanks) for ROC/TOC ratio of 0.885*];
- Pig vessel volume is 5 acf, as indicated in Table 5.1-1 in the PTO
- Density $\rho = (\text{pressure} \times MW) \div (R \times T)$, density of vapor remaining in the vessel (lbs. VOC/acf)
- Site-specific pigging emission factor $EF = (\rho \times \text{ROC weight \%})$, in (lb. ROC/acf-event) units
- $\rho_{oil} = (20.7 \times 50) \div (10.73 \times 560) = 0.1722 \text{ lb./cu.ft}$, density of THC vapor remaining in vessel i.e., 0.1722 lb./cubic feet TOC for oil launchers;
- $EF (\text{oil}) = 0.1722 \times 0.885 = 0.1524 \text{ lb. of ROC/acf-event}$ for oil launchers.

Reference F - Sumps/Tanks/Separators

- Maximum operating schedule is in units of hours

- There are no oil/water separators (Wemco) on Platform Houchin
- Emission calculation methodology based on the CARB/KVB report *Emissions Characteristics of Crude Oil Production Operations in California* (1/83).
- Calculations are based on surface area of emissions unit as supplied by the applicant. A control efficiency of 85% is allowed since the vessels are equipped with covers.
 - All non-oil/water separator emission units are classified as secondary production and heavy oil service

Reference G - Vent Stacking:

- The maximum operating schedule for vent stacking is in units of fraction of the annual volume permitted. Volumes based on POO-LLC (via Atkins Environmental) September 1, 1994 letter to the APCD. These maximum volumes are:
 - Hourly: 8,000 scf/hr (fraction of annual = 0.08)
 - Daily: 8,000 scf/day (fraction of annual = 0.08)
 - Quarterly: 50 kscf/qtr scfh (fraction of annual = 0.50)
 - Annual: 0.100 MMscf/yr. (fraction of annual = 1.0)
- ROC emission factor of 7602 lb./MMscf is based on gas analyses provided in the application. Specific gravity of gas = 0.714; ROC wt. % = 13.9%. [ref density of air = 0.0766 lb./scf]

Reference H - Paints/thinners/degreasing solvents

- Solvents are used for daily operations such as wipe cleaning or cold solvent degreasing. A low VOC cleaner, D-5, is used. Solvents used to thin surface coatings are not included in this equipment category.
- To compute ROC emissions from paints and thinners under the *worst-case scenario*, the maximum allowable ROC content in such paints/thinners (420 g/l) has been used as the emission factor for the entire group of chemicals.
- In the absence of specific permit conditions, the annual estimated use of 1,500 gallons is assumed to consist of paints and thinners alone — as the *worst-case scenario*.
- The annual use has been extrapolated to daily use numbers; thus, **the daily emissions are estimates only.**

10.2 **Fee Calculations**

All work performed with respect to implementing the requirements of the Part 70 Operating Permit program and APCD permit reevaluation are also assessed on a "cost reimbursement basis" pursuant to APCD Rules 1304.D.11 and 210.I.C.

10.3 IDS Database Emission Tables

Table 1
Permitted Potential to Emit (PPTE)

	NO_x	ROC	CO	SO_x	TSP	PM₁₀
PTO 9109- Reeval Issued in March 2010						
lb./day	1492.66	139.91	321.85	0.60	111.69	108.66
tons/year	86.28	18.18	29.58	0.23	9.40	9.40

Reference: Table 5.2

Table 2
Facility Potential to Emit (FPTE)

	NO_x	ROC	CO	SO_x	TSP	PM₁₀
OCS Houchin – Reeval Issued in March 2010						
lbs./day	1492.66	139.91	321.85	0.60	111.69	108.66
tons/year	86.28	18.18	29.58	0.23	9.40	9.40

References: Table 5.2

Table 3
Federal Potential to Emit (PT 70 FPTE)

	NO_x	ROC	CO	SO_x	TSP	PM₁₀
OCS Houchin – Reeval Issued in March 2010						
lb./hr	1492.66	112.12	321.85	100.96	111.69	108.66
tons/year	86.28	10.60	29.58	6.05	9.40	9.40

References: Table 5.3

Table 4
Facility Net Emission Increase Since 1990 (FNEI-90)*

	NO_x	ROC	CO	SO_x	TSP	PM₁₀
OCS HOGAN – ATC 13371 (last ATC issued)						
lb./day	0.24	5.66	1.31	0.13	0.07	0.07
tons/year	1.69	1.40	2.60	0.19	0.31	0.31
OCS Houchin – ATC 3370 (last ATC issued)						
lb./day	23.40	7.24	6.30	2.81	1.70	1.70
tons/year	2.47	1.57	2.87	0.65	0.38	0.37
Total for POO-LLC OCS Stationary Source:						
lbs./day	23.64	12.90	7.60	2.94	1.77	1.77
tons/year	4.16	2.97	5.46	1.20	0.69	0.68

References: Tables in Sections 5.5

Table 5
Facility/Source Exempt Emissions (FXMT)*

	NO_x	ROC	CO	SO_x	TSP	PM₁₀
OCS Houchin – Reeval Issued in March 2010						
lb./day	0.0	--	0.0	0.0	0.0	0.0
tons/year	0.0	0.10	0.0	0.0	0.0	0.0

References: Sections 5.4

10.4 **Equipment List**
Monday, January 05, 2009
Santa Barbara County APCD – Equipment List

PT-70/Reeval 09109 R3 / FID: 08002 Platform Houchin / SSID: 08001

A PERMITTED EQUIPMENT

1 Stationary Internal Combustion Engines

1.1 IC Engine: North Crane

<i>Device ID #</i>	004861	<i>Device Name</i>	IC Engine: North Crane
<i>Rated Heat Input</i>		<i>Physical Size</i>	230.00 Brake Horsepower
<i>Manufacturer Model</i>	Detroit Diesel 6-71:RA #6055c	<i>Operator ID</i>	
<i>Location Note</i>	north drill deck	<i>Serial Number</i>	6A-180412
<i>Device Description</i>	Operation limited to 24 hr/day, 365 hr/qtr, 1460 hr/year. No emission controls used.		

1.2 IC Engine: Emergency Generator

<i>Device ID #</i>	004862	<i>Device Name</i>	IC Engine: Emergency Generator
<i>Rated Heat Input</i>		<i>Physical Size</i>	510.00 Brake Horsepower
<i>Manufacturer Model</i>	Caterpillar D-379	<i>Operator ID</i>	
<i>Part 70 Insig?</i>	No	<i>Serial Number</i>	6881301
<i>Location Note</i>	production deck		
<i>Device Description</i>	Rated bhp at 1200 rpm. Operating hours limited to 24 hr/day, 50 hr/quarter and 200 hr/year. No emission controls used.		

1.3 IC Engine: South Crane

<i>Device ID #</i>	004860	<i>Device Name</i>	IC Engine: South Crane
<i>Rated Heat Input</i>		<i>Physical Size</i>	99.00 Brake Horsepower
<i>Manufacturer</i>	Detroit Diesel	<i>Operator ID</i>	
<i>Model</i>	3-71 (N-60)	<i>Serial Number</i>	3A-72372
<i>Part 70 Insig?</i>	No	<i>APCD Rule Exemption:</i>	
<i>Location Note</i>	south drill deck		
<i>Device</i>	Rated BHP at 2100 rpm. Operating hours limited to 24 hr/day, 50		
<i>Description</i>	hr/quarter, and 200 hr/yr. No emissions controls used.		

1.4 IC Engine: Emergency Fire Water Pump

<i>Device ID #</i>	004863	<i>Device Name</i>	IC Engine: Emergency Fire Water Pump
<i>Rated Heat Input</i>		<i>Physical Size</i>	110.00 Brake Horsepower
<i>Manufacturer</i>	Caterpillar	<i>Operator ID</i>	
<i>Model</i>	D330	<i>Serial Number</i>	85B1471
<i>Part 70 Insig?</i>	No	<i>APCD Rule Exemption:</i>	
<i>Location Note</i>	south production deck		
<i>Device</i>	Rated BHP at 2000 rpm. Operating hours limited to 24 hr/day, 50		
<i>Description</i>	hr/quarter, 200 hr/year. No emission controls used.		

1.5 IC Engine: Well Service Rig

<i>Device ID #</i>	007108	<i>Device Name</i>	IC Engine: Well Service Rig
<i>Rated Heat Input</i>		<i>Physical Size</i>	400.00 Brake Horsepower
<i>Manufacturer</i>	Detroit Diesel	<i>Operator ID</i>	
<i>Model</i>	8VA163811	<i>Serial Number</i>	7087-7000
<i>Part 70 Insig?</i>	No	<i>APCD Rule Exemption:</i>	
<i>Location Note</i>	drill deck		
<i>Device</i>	Rated BHP at 2100 rpm. Operating hours limited to 24 hr/day, 300		
<i>Description</i>	hr/quarter, and 1200 hr/year. No emission controls used.		

1.6 Well Kill Pump

<i>Device ID #</i>	102688	<i>Device Name</i>	Well Kill Pump
<i>Rated Heat Input</i>		<i>Physical Size</i>	230.00 Brake Horsepower
<i>Manufacturer</i>	Detroit Diesel	<i>Operator ID</i>	
<i>Model</i>	6-71	<i>Serial Number</i>	6A227221
<i>Part 70 Insig?</i>	No	<i>APCD Rule Exemption:</i>	
<i>Location Note</i>	center drill deck		
<i>Device Description</i>	Rated BHP (max) at 2100 rpm. Operating hours limited to 24 hr/day, 30 hr/quarter and 200 hr/year. No emission controls used.		

1.7 Emergency Backup Generator (2 MW)

<i>Device ID #</i>	009181	<i>Device Name</i>	Emergency Backup Generator (2 MW)
<i>Rated Heat Input</i>		<i>Physical Size</i>	2,487 Brake Horsepower
<i>Manufacturer</i>	Caterpillar	<i>Operator ID</i>	
<i>Model</i>	3516B	<i>Serial Number</i>	1HZ00487
<i>Part 70 Insig?</i>	No		
<i>Location Note</i>	Platform Houchin, Drilling Deck		
<i>Device Description</i>	This device is currently not in service. Used for drilling, if necessary		

2 Fixed Roof Storage Tanks

2.1 Solvent Storage

<i>Device ID #</i>	102691	<i>Device Name</i>	Solvent Storage
<i>Rated Heat Input</i>		<i>Physical Size</i>	250.00 Gallons
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	D-5 (mixed) liquid stored, not connected to vapor recovery.		

3 Vapor Recovery

3.1 Vapor recovery compressor

<i>Device ID #</i>	105818	<i>Device Name</i>	Vapor recovery compressor
<i>Rated Heat Input</i>		<i>Physical Size</i>	60.00 Horsepower
<i>Manufacturer</i>	Joy	<i>Operator ID</i>	
<i>Model</i>	WB-8	<i>Serial Number</i>	85768
<i>Location Note</i>			
<i>Device Description</i>	This compressor is rated at 168 scfm, powered by a 60 hp electric motor. Its housing/seals are not connected to any VRU.		

4 Pumps

4.1 Sump Pump #2

<i>Device ID #</i>	102695	<i>Device Name</i>	Sump Pump #2
<i>Rated Heat Input</i>		<i>Physical Size</i>	5.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Crane Deming	<i>Operator ID</i>	
<i>Model</i>	4521	<i>Serial Number</i>	
<i>Location Note</i>	production deck		
<i>Device Description</i>	Submersible pump pumps oil/water, rated capacity 100 gpm, powered by 5 hp electric motor.		

4.2 Diesel Transfer #1

<i>Device ID #</i>	102696	<i>Device Name</i>	Diesel Transfer #1
<i>Rated Heat Input</i>		<i>Physical Size</i>	6.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Teco	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	production deck		
<i>Device Description</i>	Pumps diesel, rated capacity 9 gpm, powered by 6 hp electric motor. Utilizes dual seals.		

4.3 Sump Pump #1

<i>Device ID #</i>	102694	<i>Device Name</i>	Sump Pump #1
<i>Rated Heat Input</i>		<i>Physical Size</i>	5.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Crane Deming	<i>Operator ID</i>	
<i>Model</i>	4521	<i>Serial Number</i>	
<i>Location Note</i>	production deck		
<i>Device</i>	Submersible pump pumps oil/water, rated capacity 100 gpm,		
<i>Description</i>	powered by 5 hp electric motor.		

4.4 Diesel Transfer #2

<i>Device ID #</i>	102697	<i>Device Name</i>	Diesel Transfer #2
<i>Rated Heat Input</i>		<i>Physical Size</i>	6.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Teco	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	production deck		
<i>Device</i>	Pumps diesel, rated capacity 9 gpm, powered by 6 hp electric motor,		
<i>Description</i>	utilizes dual seals.		

4.5 Settling Tank

<i>Device ID #</i>	102701	<i>Device Name</i>	Settling Tank
<i>Rated Heat Input</i>		<i>Physical Size</i>	5.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Rheem Superior	<i>Operator ID</i>	P-3082-0-95-8
<i>Model</i>	3L8	<i>Serial Number</i>	AS54634
<i>Location Note</i>	production deck; SW side		
<i>Device</i>	Pumps oil/water, rated capacity 200 gpm, powered by 5 hp electric		
<i>Description</i>	motor, utilizes dual seals.		

4.6 Pipeline Shipping Pump

<i>Device ID #</i>	102702	<i>Device Name</i>	Pipeline Shipping Pump
<i>Rated Heat Input</i>		<i>Physical Size</i>	75.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Gasco	<i>Operator ID</i>	#1
<i>Model</i>	1743	<i>Serial Number</i>	34208
<i>Location Note</i>	production deck		
<i>Device Description</i>	Pumps oil/water, rated capacity 175 gpm, powered by 75 hp electric motor, utilizes dual seals.		

4.7 Pipeline Pump

<i>Device ID #</i>	102703	<i>Device Name</i>	Pipeline Pump
<i>Rated Heat Input</i>		<i>Physical Size</i>	75.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Gasco	<i>Operator ID</i>	#2
<i>Model</i>	1743	<i>Serial Number</i>	34201
<i>Location Note</i>	production deck		
<i>Device Description</i>	Pumps oil/water, rated capacity 175 gpm, powered by 75 hp electric motor, utilizes dual seals.		

4.8 Pipeline Pump

<i>Device ID #</i>	102704	<i>Device Name</i>	Pipeline Pump
<i>Rated Heat Input</i>		<i>Physical Size</i>	100.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Gasco	<i>Operator ID</i>	#3
<i>Model</i>	1742	<i>Serial Number</i>	34202
<i>Location Note</i>	production deck		
<i>Device Description</i>	Pumps oil/water, rated capacity 128 gpm, powered by 100 hp electric motor, utilizes dual seals.		

4.9 Pipeline Pump

<i>Device ID #</i>	102705	<i>Device Name</i>	Pipeline Pump
<i>Rated Heat Input</i>		<i>Physical Size</i>	75.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Gasco	<i>Operator ID</i>	#4
<i>Model</i>	1743	<i>Serial Number</i>	
<i>Location Note</i>	production deck		
<i>Device</i>	Pumps oil/water, rated capacity 337 gpm, powered by 75 hp electric		
<i>Description</i>	motor, utilizes dual seals.		

4.10 Settling Tank Pump

<i>Device ID #</i>	102706	<i>Device Name</i>	Settling Tank Pump
<i>Rated Heat Input</i>		<i>Physical Size</i>	10.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Balador	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	production deck		
<i>Device</i>	Rated capacity 200 gpm, powered by 10 hp electric motor.		
<i>Description</i>			

5 Pigging Equipment

5.1 Oil/Water Pig Launcher

<i>Device ID #</i>	102707	<i>Device Name</i>	Oil/Water Pig Launcher
<i>Rated Heat Input</i>		<i>Physical Size</i>	6.10 Cubic Feet
<i>Manufacturer</i>	McDermott	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	east production deck		
<i>Device</i>	In oil water service, diameter 0.83 feet, length 8 feet,		
<i>Description</i>	diameter of attached pipe 0.83 feet, length of attached pipe 3.38 feet. Not connected to gas gathering or vapor recovery.		

6 Pressure Vessels

6.1 Production Test Separator

<i>Device ID #</i>	102709	<i>Device Name</i>	Production Test Separator
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Rheem Superior	<i>Operator ID</i>	P-3082-0-95-1
<i>Model</i>	Div.1x2910	<i>Serial Number</i>	6642
<i>Location Note</i>	production mezzanine		
<i>Device Description</i>	Horizontal separator in testing service. Diameter 6 feet, length 15 feet. Operating pressure 160-40 psig, MAWP 255 psig. Operating temperature 65 deg F. Connected to gas gathering or vapor recovery.		

6.2 Production Separator #1

<i>Device ID #</i>	102710	<i>Device Name</i>	Production Separator #1
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Rheem Superior	<i>Operator ID</i>	P-3082-0-95-4
<i>Model</i>	Div.1x2905	<i>Serial Number</i>	6644
<i>Location Note</i>	production mezzanine		
<i>Device Description</i>	Horizontal separator type in gas separation service, diameter 6 feet, length 15 feet, operating pressure 160-40 psig, MAWP 255 psig. Operating temperature 65 deg F. Connected to gas gathering or vapor recovery.		

6.3 Production Separator #2

<i>Device ID #</i>	102711	<i>Device Name</i>	Production Separator #2
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Rheem Superior	<i>Operator ID</i>	P-3082-0-95-3
<i>Model</i>	Div.1x2906	<i>Serial Number</i>	6643
<i>Location Note</i>	production mezzanine		
<i>Device Description</i>	Horizontal separator in gas separation service. Diameter 6 feet, length 15 feet. Operating pressure 160-40 psig, MAWP 255 psig. Operating temperature 65 deg F. Connected to gas gathering or vapor recovery.		

6.4 Clean Up/Test Separator

<i>Device ID #</i>	102712	<i>Device Name</i>	Clean Up/Test Separator
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Rheem Superior	<i>Operator ID</i>	
<i>Model</i>	Div.1x2903	<i>Serial Number</i>	
<i>Location Note</i>	production mezzanine		
<i>Device Description</i>	Horizontal separator in testing service. Diameter 6 feet, length 15 feet. Operating pressure 160-40 psig, operating temperature 65 deg F. Connected to gas gathering or vapor recovery. PSVs vented to atmosphere.		

6.5 Surge Tank #1

<i>Device ID #</i>	102713	<i>Device Name</i>	Surge Tank #1
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Rheem Superior	<i>Operator ID</i>	P-3082-0-95-6
<i>Model</i>	Div.1x2912	<i>Serial Number</i>	
<i>Location Note</i>	production mezzanine		
<i>Device Description</i>	Horizontal pump suction type, diameter 6 feet, length 15 feet, operating pressure 80-20 psig, MAWP 138 psig. Operating temperature 65 deg F. Connected to gas gathering or vapor recovery; PSVs vent to atmosphere.		

6.6 Surge Tank #2

<i>Device ID #</i>	102714	<i>Device Name</i>	Surge Tank #2
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Rheem Superior	<i>Operator ID</i>	P-3082-0-95-5
<i>Model</i>	Div.1x2911	<i>Serial Number</i>	
<i>Location Note</i>	production mezzanine		
<i>Device Description</i>	Horizontal pump suction, diameter 6 feet, length 15 feet. Operating pressure 80-20 psig, MAWP 138 psig. Operating temperature 65 deg F. Connected to gas gathering or vapor recovery, PSVs vent to atmosphere.		

6.7 Vapor Recovery Scrubber

<i>Device ID #</i>	102715	<i>Device Name</i>	Vapor Recovery Scrubber
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	production deck		
<i>Device</i>	Vertical separator in vapor compressor suction.	Diameter	2
<i>Description</i>	feet, length 5 feet. Connected to gas gathering or vapor recovery; PSVs vent to atmosphere.		

6.8 Automatic Well Tester

<i>Device ID #</i>	102716	<i>Device Name</i>	Automatic Well Tester
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Accuflow	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	00023
<i>Location Note</i>	Mezzaninel deck		
<i>Device</i>	Multi-phase metering skid horizontal separator in testing of		
<i>Description</i>	oil/water/gas service. Diameter 12", length 15". Operating pressure 160-40 psig, operating temperature 65 deg F. Connected to gas gathering or vapor recovery; PSVs vent to atmosphere.		

7 Fugitive HC Components - CLP

<i>Device ID #</i>	102682	<i>Device Name</i>	Fugitive HC Components - CLP
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>			
<i>Description</i>			

7.1 Gas/Condensate Service Components - Accessible

<i>Device ID #</i>	102717	<i>Device Name</i>	Gas/Condensate Service Components - Accessible
<i>Rated Heat Input</i>		<i>Physical Size</i>	1317.00 Component Leakpath
<i>Manufacturer Model</i>		<i>Operator ID Serial Number</i>	
<i>Location Note</i>	Houchin		
<i>Device Description</i>			

7.2 Oil Service Components - Accessible

<i>Device ID #</i>	102718	<i>Device Name</i>	Oil Service Components - Accessible
<i>Rated Heat Input</i>		<i>Physical Size</i>	4969.00 Component Leakpath
<i>Manufacturer Model</i>		<i>Operator ID Serial Number</i>	
<i>Location Note</i>	Houchin		
<i>Device Description</i>			

7.3 Oil Service Components - Unsafe to Monitor

<i>Device ID #</i>	102719	<i>Device Name</i>	Oil Service Components - Unsafe to Monitor
<i>Rated Heat Input</i>		<i>Physical Size</i>	301.00 Component Leakpath
<i>Manufacturer Model</i>		<i>Operator ID Serial Number</i>	
<i>Location Note</i>	Houchin		
<i>Device Description</i>			

7.4 Gas/Condensate Service Components - Unsafe to Monitor

<i>Device ID #</i>	105826	<i>Device Name</i>	Gas/Condensate Service Components - Unsafe to Monitor
<i>Rated Heat Input</i>		<i>Physical Size</i>	0.00 Component Leakpath
<i>Manufacturer Model</i>		<i>Operator ID</i>	
<i>Location Note</i>		<i>Serial Number</i>	
<i>Device Description</i>			

8 Wellheads

8.1 Oil and Gas Wellheads

<i>Device ID #</i>	102720	<i>Device Name</i>	Oil and Gas Wellheads
<i>Rated Heat Input</i>		<i>Physical Size</i>	31.00 Active Wells
<i>Manufacturer Model</i>		<i>Operator ID</i>	
<i>Location Note</i>	Houchin	<i>Serial Number</i>	
<i>Device Description</i>	No gas injection or water injection wells.		
	31 oil and gas wells : B-2A, B-1, B-3, B-4, B-8, B-9, B-11, B-12, B-13, B-15, B-16, B-17, B-18, B-19, B-21, B-27, B-28, B-29A, B-30, B-33, B-34, B-35, B-36, B-37, B-38, B-39, B-43, B-45, B-46, and B-47, B-40		
	11 plugged and abandoned wells : B-5A, B-2, B-5, B-7, B-10, B-22, B-23, B-26, B-29, B-31, and B-32.		

9 Sumps and Wastewater Tanks

9.1 Deck Sump

<i>Device ID #</i>	102721	<i>Device Name</i>	Deck Sump
<i>Rated Heat Input</i>		<i>Physical Size</i>	30.00 Square Feet Sump Area
<i>Manufacturer Model</i>		<i>Operator ID Serial Number</i>	
<i>Location Note</i>	Below production deck		
<i>Device Description</i>	Covered secondary vessel in deck drainage service, surface area 3 feet by 10 feet, not connected to vapor recovery.		

9.2 Settling Tank

<i>Device ID #</i>	005491	<i>Device Name</i>	Settling Tank
<i>Rated Heat Input</i>		<i>Physical Size</i>	108.00 Square Feet Surface Area
<i>Manufacturer Model</i>	Rheem Superior	<i>Operator ID Serial Number</i>	
<i>Location Note</i>	production deck		
<i>Device Description</i>	Covered secondary vessel in storm/spill recovery service. Not connected to vapor recovery.		

10 Supply Boats

10.1 Supply Boat (basis: M/V Toby Tide)

<i>Device ID #</i>	102698	<i>Device Name</i>	Supply Boat (basis: M/V Toby Tide)
<i>Rated Heat Input</i>		<i>Physical Size</i>	2940.00 Brake Horsepower Toby Tide
<i>Manufacturer Model</i>		<i>Operator ID Serial Number</i>	
<i>Location Note</i>	Pacific OCS		
<i>Device Description</i>			

10.1.1 Main Engines

<i>Device ID #</i>	005484	<i>Device Name</i>	Main Engines
<i>Rated Heat Input</i>		<i>Physical Size</i>	2250.00 Brake Horsepower
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	2 main engines at 1125 bhp each, controlled at 8.4 g/hp-hr or 337		
<i>Description</i>	lb/1000 gal for NOx. Load factor is 0.65 for emission calculation		

10.1.2 Generator Engines

<i>Device ID #</i>	005485	<i>Device Name</i>	Generator Engines
<i>Rated Heat Input</i>		<i>Physical Size</i>	460.00 Brake Horsepower
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	2 generator engines at 230 bhp each, uncontrolled for NOx. The load		
<i>Description</i>	factor for each engine is 0.50 for emission calculation.		

10.1.3 Bow Thruster Engine

<i>Device ID #</i>	102699	<i>Device Name</i>	Bow Thruster Engine
<i>Rated Heat Input</i>		<i>Physical Size</i>	230.00 Brake Horsepower
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	1 bow thruster engine at 230 bhp. Uncontrolled for NOx. load factor		
<i>Description</i>	is 1.0 for emission calculation purposes.		

10.2 Emergency Response Boat Engines

<i>Device ID #</i>	005487	<i>Device Name</i>	Emergency Response Boat Engines
<i>Rated Heat Input</i>		<i>Physical Size</i>	1770.00
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Total engine horsepower 1770 bhp, uncontrolled for NOx.		

10.3 Spot Charter Boat Engines

<i>Device ID #</i>	105140	<i>Device Name</i>	Spot Charter Boat Engines
<i>Rated Heat Input</i>		<i>Physical Size</i>	2250.00 Brake Horsepower
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Two main engines, w/horsepower = 1125 bhp each, uncontrolled for NOx.		

10.4 Auxilliary Engine to Emergency Response Boats

<i>Device ID #</i>	105827	<i>Device Name</i>	Auxilliary Engine to Emergency Response Boats
<i>Rated Heat Input</i>		<i>Physical Size</i>	1005.00 Brake Horsepower
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	The engine is uncontrolled for NOx. Load factor is 0.5 for emissin calculation		

11 Crew Boats

11.1 Crew Boat (basis: M/V Matthew)

<i>Device ID #</i>	102700	<i>Device Name</i>	Crew Boat (basis: M/V Matthew)
<i>Rated Heat Input</i>		<i>Physical Size</i>	1620.00 Brake Horsepower
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>			
<i>Description</i>			

11.1.1 Main Engines (Crew)

<i>Device ID #</i>	005488	<i>Device Name</i>	Main Engines (Crew)
<i>Rated Heat Input</i>		<i>Physical Size</i>	1530.00 Brake Horsepower
<i>Manufacturer</i>	Detroit Diesel	<i>Operator ID</i>	
<i>Model</i>	12V71TI	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>			
<i>Description</i>	3 main engines at 510 bhp each. NOx emissions controlled at 8.4 g/hp-hr or 337 lbs/1000 gal. Load factor is 0.85 for emission calculations.		

11.1.2 Generator Engines (Crew)

<i>Device ID #</i>	005489	<i>Device Name</i>	Generator Engines (Crew)
<i>Rated Heat Input</i>		<i>Physical Size</i>	90.00 Brake Horsepower
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	2 generator engines at 45 bhp each, uncontrolled for NOx.		
<i>Description</i>			

11.2 Spot Charter Boat Engines

<i>Device ID #</i>	105141	<i>Device Name</i>	Spot Charter Boat Engines
<i>Rated Heat Input</i>		<i>Physical Size</i>	1530.00 Brake Horsepower
<i>Manufacturer Model</i>		<i>Operator ID Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Main engines (3), horsepower 510 bhp each, uncontrolled for NOx. Generator engine hp = 90, also uncontrolled for NOx.		

12 Maintenance Activities

12.1 Maintenance Supply

<i>Device ID #</i>	102725	<i>Device Name</i>	Maintenance Supply
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer Model</i>		<i>Operator ID Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Coating/solvent brand name	D-5 degreaser	
	Application	wipe clean	
	Annual usage (gal per year)	<250	
	Regulatory VOC content (g/l)	none	
	ROC emission factor (lb/gal)	none	
	Emission controls used?	yes	
	Emission controls description	none	

13 Fugitives: Vent Stack

13.1 Vent Stack

<i>Device ID #</i>	105828	<i>Device Name</i>	Vent Stack
<i>Rated Heat Input</i>		<i>Physical Size</i>	0.10 MMcf/yr
<i>Manufacturer Model</i>		<i>Operator ID Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	This stack comes into use occasionally when pipeline gases have to be vented for "unplanned operations." The unplanned operations are defined in the permit.		

B EXEMPT EQUIPMENT

1 Diesel Day Tank

<i>Device ID #</i>	102692	<i>Device Name</i>	Diesel Day Tank
<i>Rated Heat Input</i>		<i>Physical Size</i>	500.00 Gallons
<i>Manufacturer Model</i>		<i>Operator ID Serial Number</i>	
<i>Part 70 Insig?</i>	No	<i>APCD Rule Exemption:</i>	
<i>Location Note</i>			
<i>Device Description</i>	Horizontal tank type, 5' x 7', not connecte to vapor recovery.		

2 Diesel Fuel Tank

<i>Device ID #</i>	102690	<i>Device Name</i>	Diesel Fuel Tank
<i>Rated Heat Input</i>		<i>Physical Size</i>	10400.00 Gallons
<i>Manufacturer Model</i>	McDermott	<i>Operator ID Serial Number</i>	No. Crane Pedestal
<i>Part 70 Insig?</i>	No	<i>APCD Rule Exemption:</i>	
<i>Location Note</i>	No crane pedestal		
<i>Device Description</i>	Not connected to vapor recovery.		

3 Maintenance Supply

<i>Device ID #</i>	102723	<i>Device Name</i>	Maintenance Supply
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer Model</i>		<i>Operator ID Serial Number</i>	
<i>Part 70 Insig?</i>	No	<i>APCD Rule Exemption:</i>	
<i>Location Note</i>			
<i>Device Description</i>	Coating/solvent brand name	DuPont Actuator	
	Application	architectural	

Annual usage (gal per year) 100
 Regulatory VOC content (g/l) 340
 ROC emission factor (lb/gal) 5.5
 Emission controls used? yes
 Emission controls description HVLP/Airless or Electrostatic

Coating/solvent brand name DuPont Primer
 Application architectural
 Annual usage (gal per year) 50
 Regulatory VOC content (g/l) 350
 ROC emission factor (lb/gal) 5.5
 Emission controls used? yes
 Emission controls description HVLP/Airless or Electrostatic

Coating/solvent brand name DuPont Coating
 Application architectural
 Annual usage (gal per year) 100
 Regulatory VOC content (g/l) 340
 ROC emission factor (lb/gal) 3
 Emission controls used? yes
 Emission controls description HVLP/Airless or Electrostatic

4 Maintenance Supply

<i>Device ID #</i>	102724	<i>Device Name</i>	Maintenance Supply
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer Model</i>		<i>Operator ID</i>	
<i>Part 70 Insig?</i>	No	<i>Serial Number</i>	
<i>Location Note</i>		<i>APCD Rule Exemption:</i>	
<i>Device Description</i>	Coating/solvent brand name	DuPont Primer	
	Application	architectural	
	Annual usage (gal per year)	50	
	Regulatory VOC content (g/l)	350	
	ROC emission factor (lb/gal)	5.5	
	Emission controls used?	yes	
	Emission controls description	HVLP/Airless or Electrostatic	

5 Maintenance Supply

<i>Device ID #</i>	102722	<i>Device Name</i>	Maintenance Supply
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Part 70 Insig?</i>	No	<i>APCD Rule Exemption:</i>	
<i>Location Note</i>			
<i>Device</i>	Coating/solvent brand name	DuPont Coating	
<i>Description</i>	Application architectural		
	Annual usage (gal per year)	100	
	Regulatory VOC content (g/l)	340	
	ROC emission factor (lb/gal)	3	
	Emission controls used?	yes	
	Emission controls description	HVLP/Airless or Electrostatic	

10.5 APCD Permit-exempt Equipment List

Permit-exempt Equipment (Per APCD Rule 202.)

Storage Tanks:

1. Diesel Fuel tank — POO-LLC ID # 'north crane pedestal', McDermott, fixed roof, 10,400 gallons. — *Reference: APCD Rule 202.V.2;*
2. Diesel Day tank — POO-LLC ID # 'none', 500 gallons. — *Reference: APCD Rule 202.V.2;*

Surface Coating/Maintenance Activities:

5. Paints, primers, coatings: 250 gal/year; solvents: 500 gal/year, for maintenance activities. — *Reference: APCD Rule 202.D.8*

10.6 **Insignificant Emissions Units/Activities :**

Table 10.6 below lists insignificant emission units at Platform Houchin that fall under the federal category of "insignificant emissions units/activities."

Table 10.6 List of Insignificant Emission Units and Applicable Requirements

EMISSION UNITS <i>Maintenance Activities</i>	Rule 303	Rule 317	Rule 321	Rule 323	Rule 324	Rule 505	Reg. XIII
Surface Coating: facility-wide, for equipment maintenance and for structural coating. Including solvents used for thinning and cleanup.	√	√	√	√	√	√	√