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Preliminary Determination of Compliance

Humboldt Bay Repowering Project (HBRP)

North Coast Unified Air Quality Management District
2300 Myrtle Avenue Eureka, CA 95501
(707) 443-3093

Permit Number 000440-1
October 22, 2007

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I. Background

On October 20, 2006, Pacific Gas & Electric Company submitted an Application for Certification (AFC) for the installation and operation of the Humboldt Bay Repowering Project, consisting of ten (10) nominal 16.3 MW Wärtsilä Dual Fuel Reciprocating Engines, one (1) 469 HP Caterpillar DM8149 350kW Diesel-fired emergency IC engine generator, and one (1) 210 HP Clarke diesel fired emergency IC engine powering a fire water pump. The Humboldt Bay Repowering Project (HBRP) will replace the existing steam boiler Units 1 and 2 and the existing peaking turbines (Mobile Emergency Power Plants [MEPPs]) 2 and 3, which will be shut down. The nominal plant output after repowering will be 163 MW. This is the Preliminary Determination of Compliance (PDOC) and Proposed Conditions for the HBRP issued by the North Coast Unified Air Quality Management District (District).

The proposed project is subject to District Regulation I, Rule 110, which contains the District's New Source Review (NSR) and Prevention of Significant Deterioration (PSD) permitting requirements. The project is also subject to Rules 1-200(c) and 1-220, adopted March 14, 1984, and approved by USEPA as part of the State Implementation Plan (SIP). The District has been delegated the authority to perform PSD review in accordance with the requirements of the 1984 rules.

Pursuant to District Regulation 1, Rule 110, this document presents the District's preliminary determination that the proposed project will comply with applicable federal, state, and District regulations, including the Best Available Control Technology (BACT) and emission offset requirements of the District's New Source Review regulation. Proposed permit conditions necessary to insure compliance with applicable rules and regulations and air pollutant emission calculations are also included.

In accordance with District Regulation I, Rule 110, this PDOC is subject to public notice, public inspection, and public comment requirements. Notice is being given to the public of the availability of this PDOC, and the public will have 30 days from the date of the notice to comment on it. The District will review and consider all comments received from the public, amend permit conditions as deemed appropriate by the District and make a Final Determination of Compliance (FDOC) pursuant to District Regulation I, Rule 110, which will be submitted to the California Energy Commission (CEC) for use during the certification process for this proposed facility.

This PDOC is being issued subject to the following description and conditions.

NORTH COAST UNIFIED AIR QUALITY MANAGEMENT DISTRICT
2300 Myrtle Avenue, Eureka, CA 95501
Phone: (707) 443.3093 Fax: (707) 443.3099

PRELIMINARY DETERMINATION OF COMPLIANCE AND PROPOSED CONDITIONS FOR THE HUMBOLDT BAY REPOWERING PROJECT

Permittee:	Pacific Gas & Electric Company (PG&E)
Location:	Humboldt Bay Power Plant 1000 King Salmon Avenue Eureka, California 95503
Responsible Official:	Roy B. Willis Plant Manager, HBPP Fossil
Contact:	Roy B. Willis Phone: (707) 444-0700 Fax: (707) 444-0736
Issue Date:	October 15, 2007
Issued by:	North Coast Unified Air Quality Management District Air Pollution Control Officer

FOR THE SOURCES LISTED BELOW:

Installation and operation of the Humboldt Bay Repowering Project, consisting of ten (10) nominal 16.3MW 18V50DF Wärtsilä Dual Fuel Reciprocating Engines, one (1) 469 HP Caterpillar DM8149 350kW Diesel-fired emergency IC engine generator, and one (1) 210 HP Clarke diesel fired emergency IC engine powering a fire water pump.

SUBJECT TO THE FOLLOWING CONDITIONS:

II. GENERAL CONDITIONS

1. This Permit is issued pursuant to California Health and Safety Code Section 42301.1.

2. The NCUAQMD Rules and Regulations may be superseded or revised by the NCUAQMD Board with notice as required by state law. It is Permittee's responsibility to stay current with Rules and Regulations governing its business. The Permittee is therefore expected to comply with all new Rules and Regulations.

3. The "Right of Entry", as delineated in California Health and Safety Code Section 41510 of Division 26, shall apply at all times. Failure to do so may be grounds for permit suspension or revocation.

4. This Permit does not convey any property rights of any sort, or any exclusive privilege.

5. Any violation of any condition of this Permit is a violation of NCUAQMD Rules and Regulations, and California State Law.

6. Permit requirements apply to the facility owner and/or operator(s) and any contractor(s) or subcontractor(s) performing any activity authorized under this Permit. Any person(s) including contractor(s), subcontractor(s), not in compliance with the applicable permit requirements are in violation of State and Local laws and subject to appropriate civil and criminal penalties. The facility owner and/operator, and all contractor(s) or subcontractor(s) are strictly liable for the actions and violations of their employee(s). A violation committed by a contractor(s) or subcontractor(s) shall be considered a violation by the facility owner(s) and/or operator(s), and is also a violation by the contractor(s) and/or any subcontractor(s).

7. This Permit shall be posted in a conspicuous location at the site and shall be made available to NCUAQMD representatives upon request.

8. Changes in plans, specifications, and other representations proposed in the application documents shall not be made if they will increase the discharge of emissions or cause a change in the method of control of emissions or in the character of emissions. Any proposed changes, regardless of emissions consequence, shall be submitted as a modification to this Permit. No modification shall be made prior to issuance of a permit revision for such modification.

9. Knowing and willful misrepresentation of a material fact in the application for the Permit, or failure to comply with any condition of the Permit or of the NCUAQMD

Rules and Regulations, or any state or federal law, shall be grounds for revocation of this Permit.

10. Permittee shall not construct, erect, modify, operate, or use any equipment which conceals the emission of an air contaminant, which would otherwise constitute a violation of the limitations of this Permit.

11. Commencement of any act or operation authorized by this Permit shall be conclusively deemed to be acceptance of all terms and conditions of this Permit.

12. The APCO reserves the right to amend this Permit in order to ensure compliance with all applicable Federal, State and Local laws, Rules and Regulations or to mitigate or abate any public nuisance. Such amendments may include requirements for additional operating conditions, testing, data collection, reporting and other conditions deemed necessary by the APCO.

13. In the event that two or more conditions may apply, and such conditions both cannot apply without conflict, the condition(s) most protective of the environment and the public health and safety shall prevail. In the event that a condition(s) of the Permit and a requirement of a Federal, State or Local law, rule or regulation may also apply, and both cannot apply without conflict, the requirements most protective of the environment and the public health and safety shall prevail.

14. If any provision or condition of this Permit is found invalid by a court of competent jurisdiction, such finding shall not affect the validity or enforcement of the remaining provisions.

15. This Permit is effective only upon payment of fees in accordance with NCUAQMD Rules and Regulations. In the event of facility closure or change of ownership or responsibility, the new owner or operator shall be assessed and shall pay any unpaid fees.

16. This Permit is not transferable from either one location to another, from one piece of equipment to another, or from one person to another, except as provided herein. In the event of any change in control or ownership of the subject facility, the Permittee shall notify the succeeding owner of this Permit and its conditions; and shall notify the NCUAQMD of the change in control or ownership within fifteen (15) days of that change.

17. A request for Transfer of Ownership of this Permit shall be submitted to the APCO prior to commencing any operation of the subject equipment and/or operations by any owner(s) and/or operator(s) not otherwise identified in this Permit. Failure to file the Transfer of Ownership constitutes a separate and independent violation, and is cause for voiding this Permit. The burden of applying for a Transfer of Ownership is on the new owner(s) and/or operator(s). Any Permit transfer

authorized pursuant to a transfer of ownership request shall contain the same conditions as this Permit.

18. This Permit is issued pursuant to NCUAQMD Rule 110 §9 and shall only become effective after a Final Determination of Compliance has been issued by the APCO pursuant to NCUAQMD Rule 110 §9.6.

19. The authorization for equipment installation and construction activities identified in this Permit shall expire no more than 545 days from date of issue. Should the need arise, the Permit may be extended by the NCUAQMD APCO for up to an additional twelve (12) months for good cause shown. The burden of proof lies with the Permittee to demonstrate good cause for such action.

20. Once the subject equipment has been constructed in compliance with the conditions of this permit, this Authority to Construct Permit shall serve as a Temporary Permit to Operate for a period not to exceed one hundred and eighty (180) days of operation. Should the need arise, the Temporary Permit to Operate may be extended by the APCO for up to an additional ninety (90) days for good cause shown. The burden of proof lies with the Permittee to demonstrate good cause for such action.

21. This Permit does not authorize the emission of air contaminants in excess of those allowed by the federal Clean Air Act, California Health and Safety Code or the Rules and Regulations of the NCUAQMD. This Permit shall not be considered as permission to violate existing laws, ordinances, regulation or statutes of other governmental agencies. The violation of any of these terms and conditions shall be grounds for revocation of this Permit, and shall be a violation of NCUAQMD Rules and Regulations.

22. Permittee shall not discharge such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property.

23. Permittee shall not discharge into the atmosphere from any source whatsoever any air contaminant for a period or periods aggregating more than three (3) minutes in any one hour which is 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 of such opacity as to obscure an observer's view to a degree equal to or greater than Ringelmann 1 or twenty (20) percent opacity.

24. The handling, transporting, or open storage of material in such a manner which allows unnecessary amounts of particulate matter to become airborne shall not be permitted. Reasonable precautions shall be taken to prevent particulate matter from becoming airborne.

25. All equipment regulated by this Permit shall at all times be maintained in good working order and shall be operated as efficiently as possible so as to ensure compliance with all applicable emission limits. For purposes of compliance with this requirement, good working order, efficient operation, and proper maintenance shall mean the implementation of all protocols, procedures, and activities recommended by the device manufacturer or those required by this Permit.

26. The Permittee shall provide training and instruction to all contractor(s), subcontractor(s), and employee(s). Training shall include the identification of all the requirements contained within this Permit, and the appropriate method to be used to comply with the permit conditions. Training shall occur prior to any of the contractor(s), subcontractor(s), or employee(s) constructing or operating equipment authorized by this permit. Records documenting the persons receiving instruction and the instruction materials shall be made available to the APCO upon request.

27. Permittee shall furnish to the APCO, within a reasonable time, any information that the NCUAQMD may request to determine compliance with this Permit or whether cause exists for modifying, revoking and reissuing, or terminating this Permit. Upon request, Permittee shall also furnish to the NCUAQMD copies of records required to be kept by this Permit.

28. As used in this Permit, the following terms shall have the meaning set out herein:

III. Terms & Definitions

a. **Acfm**: actual cubic feet per minute
b. **Alternative Liquid Fuel**: An alternative diesel fuel or CARB Diesel Fuel with fuel additives that meets the requirements of the California Air Resources Board Verification Procedure, as codified in title 13, CCR, sections 2700-2710
c. **APCO:** the NCUAQMD Air Pollution Control Officer
d. **Calendar Day**: Any continuous 24-hour period beginning at 12:00 AM or 0000 hours
e. **California Air Resources Board (CARB) Diesel Fuel**: Any diesel fuel that is commonly or commercially known, sold, or represented by the supplier as diesel fuel No. 1-D or No. 2-D, pursuant to the specifications in ASTM D975-81, "Standard Specification for Diesel Fuel Oils," as modified in May 1982, which is incorporated herein by reference, and that meets the specifications defined in Title 13 CCR, sections 2281, 2282 and 2284
f. **CAM Plan**: Compliance Assurance Monitoring Plan, as defined in 40 CFR 64
g. **CARB**: the California Air Resources Board
h. **CEC CPM**: California Energy Commission Compliance Program Manager
i. **CEMS**: Continuous Emissions Monitoring System
j. **CFR**: the Code of Federal Regulations
k. **Commencement of Onsite Construction**: the commencement of a program of significant and continuous construction at the Facility or modification of the emissions unit(s) subject to this Permit
l. **Commissioning Activities**: All testing, adjustment, tuning, and calibration activities recommended by the equipment manufacturers and the owner's engineer to ensure safe and reliable steady state operation of the reciprocating engines and associated electrical delivery systems
m. **Commissioning Period**: For each reciprocating engine considered separately, the time period that commences when a Reciprocating Engine is first fired. The period shall terminate when each individual reciprocating engine has successfully completed both performance and compliance testing. The commissioning period shall not exceed 180 days under any circumstances.
n. **COMS**: Continuous Opacity Monitor
o. **Corrected Concentration**: The concentration of any pollutant (generally NO_x, CO, ROG, or NH_3) corrected to a standard stack gas oxygen concentration. For emission points S-1 through S-12, the standard stack gas oxygen concentration is 15% O_2 by volume on a dry basis
p. **Diesel Mode:** the firing of reciprocating engines S-1 through S-10 on 100 percent CARB diesel or alternative liquid fuel

q. **Diesel Particulate Matter (DPM):** filterable particulate matter (PM) measured using EPA method 5

r. **Diesel Particulate Matter ATCM Emergency Use**: shall only pertain to engines S-11 and S-12 and shall mean providing electrical power or mechanical work during any of the following events and subject to the following conditions:

   i. The failure of loss of all or part of normal electrical power service or normal gas supply to the facility which is demonstrated by the Permittee to the NCUAQMD APCO's satisfaction to have been beyond the reasonable control of the Permittee.

   ii. The failure of the facility's internal power distribution system which is demonstrated by the owner or operator to the NCUAQMD APCO's satisfaction to have been beyond the reasonable control of the Permittee.

   iii. The pumping of water for fire suppression or protection.

s. **District**: North Coast Unified Air Quality Management District

t. **Dscfm**: dry standard cubic feet per minute

u. **Emergency:** operation arising from a sudden and reasonably unforeseeable event beyond the control of the permittee (e.g., an act of God) which causes the excess of a limitation under this permit and requires immediate and corrective action. An "emergency" does not include noncompliance as a result of improperly designed or installed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

v. **EPA**: the United States Environmental Protection Agency

w. **Facility:** the site of the Humboldt Bay Repowering Project at HBPP

x. **Firing Hours:** Period of time during which fuel is flowing to a unit, measured in minutes divided by 60

y. **HBRP**: Humboldt Bay Repowering Project

z. **HBPP**: Existing Humboldt Bay Power Plant and applicable NCUAQMD permits.

aa. **Heat Input**: the energy (heat) input of the fuel combusted at the higher heating value (HHV) of the fuel

bb. **HHV**: Higher Heating Value

cc. **Hr**: one hour – a standard measurement of time

dd. **H_2S**: Hydrogen Sulfide

ee. **Lb**: pound – an English unit of measurement of weight and mass being equivalent to 7000 grains, 16 ounces, and 0.453 kilograms

ff. **Maintenance and Testing:** Operation of the reciprocating engines to (a) evaluate the ability of an engine or its supported equipment to perform during an emergency; or (b) facilitate the training of personnel on emergency activities; or (c) perform emissions testing, maintenance and operational testing, or safety-related testing as required by any government agency or by the manufacturer as a requirement of any law, regulation, rule, ordinance, standard, or contract

gg. **MMBtu**: million British thermal units

hh. **Natural Gas**: any mixture of gaseous hydrocarbons containing at least 80 percent methane by volume as determined by Standard Method ASTM D1945-64

ii. **Natural Gas Curtailment:** A reduction in the natural gas supply available to the Facility as specified below.
   i. Curtailment directed by a regulatory agency, or automatically implemented by PG&E in accordance with procedures approved by a regulatory agency; and
   ii. Curtailment cannot be related to fuel pricing (i.e., units will not be switched to Diesel fuel operation simply because gas prices are higher than Diesel prices).

jj. **Natural Gas Mode:** the firing of natural gas and CARB diesel or alternative liquid fuel in the engines where the diesel fuel or alternative liquid fuel is used solely for pilot injection and does not exceed 0.8 MMBtu total heat input per hour

kk. **NCUAQMD**: North Coast Unified Air Quality Management District

ll. **NFPA**: National Fire Protection Association

mm. **Normal Operations:** the operation of the Wärtsilä reciprocating engines identified in this permit, when firing in natural gas mode with diesel pilot injection, when not in startup, shutdown or malfunction mode

nn. **Notice**: unless otherwise stated, shall be in writing, sent postage prepaid, to the APCO and include all information required. Notice shall be sent to the APCO at the following address: 2300 Myrtle Ave., Eureka, CA 95501

oo. **O_2**: Oxygen

pp. **Permittee:** the owner or operator identified on the Permit title page (PG&E)

qq. **PM**: Particulate Matter

rr. **Ppmvd:** parts per million, volumetric dry

ss. **Responsible Official:** person(s) who have direct supervisorial authority or control to affect operations of the equipment authorized pursuant to this Permit, and who have the ability to certify that a source complies with all applicable federal requirements and federally enforceable permit conditions as generally defined in NCUAQMD Rule 101 §1.245

tt. **Rolling 3-hour Period**: Any consecutive three-hour period, not including start-up or shut-down periods

uu. **ROC:** reactive organic carbon consistent with NCUAQMD Rule 101 §1.294 and HSC

vv. **Quarter:** calendar quarter, consisting of the following Q1 - January through March; Q2 - April through June; Q3 - July through September; Q4 - October through December

ww. **Shutdown Period:** The 30 minute period immediately prior to the termination of fuel flow to the reciprocating engine.

xx. **SO_2**: Sulfur Dioxide

yy. **Startup Period:** The lesser of the first 60 minutes of continuous fuel flow to the reciprocating engine after fuel flow is initiated or the period of time

from reciprocating engine fuel flow initiation until the reciprocating engine achieves two consecutive valid 15-minute average CEM data points in compliance with the emission concentration limits of conditions 55 and 57.

zz. **VEE**: Visible Emissions Evaluation

aaa. **Year**: Any consecutive twelve-month period of time

IV. Authorized Equipment

29. The Permittee shall install and construct the project as described in Authority To Construct application October 20th 2006 and its series of amendments ending with the most recent submittal of September 30th 2007. Should discrepancies or contradictions exist between the application and this Permit, the provisions of this Permit shall prevail. The specific components authorized are listed in Table 1.0 and Table 2.0 below.

Table 1.0 Authorized Emission Devices

Unit No.	Equipment	Nominal Size
S-1	**Wärtsilä 18V50DF Dual Fuel Reciprocating Engine #1**, equipped with lean burn technology, abated by A-1 SCR and B-1oxidation catalyst	148.9 MMBtu/hr 16.3 MW 22,931 BHp
S-2	**Wärtsilä 18V50DF Dual Fuel Reciprocating Engine #2**, equipped with lean burn technology, abated by A-2 SCR and B-2 oxidation catalyst	148.9 MMBtu/hr 16.3 MW 22,931 BHp
S-3	**Wärtsilä 18V50DF Dual Fuel Reciprocating Engine #3**, equipped with lean burn technology, abated by A-3 SCR and B-3 oxidation catalyst	148.9 MMBtu/hr 16.3 MW 22,931 BHp
S-4	**Wärtsilä 18V50DF Dual Fuel Reciprocating Engine #4**, equipped with lean burn technology, abated by A-4 SCR and B-4 oxidation catalyst	148.9 MMBtu/hr 16.3 MW 22,931 BHp
S-5	**Wärtsilä 18V50DF Dual Fuel Reciprocating Engine #5**, equipped with lean burn technology, abated by A-5 SCR and B-5 oxidation catalyst	148.9 MMBtu/hr 16.3 MW 22,931 BHp
S-6	**Wärtsilä 18V50DF Dual Fuel Reciprocating Engine #6**, equipped with lean burn technology, abated by A-6 SCR and B-6 oxidation catalyst	148.9 MMBtu/hr 16.3 MW 22,931 BHp
S-7	**Wärtsilä 18V50DF Dual Fuel Reciprocating Engine #7**, equipped with lean burn technology, abated by A-7 SCR and B-7 oxidation catalyst	148.9 MMBtu/hr 16.3 MW 22,931 BHp
S-8	**Wärtsilä 18V50DF Dual Fuel Reciprocating Engine #8**, equipped with lean burn technology, abated by A-8 SCR and B-8 oxidation catalyst	148.9 MMBtu/hr 16.3 MW 22,931 BHp
S-9	**Wärtsilä 18V50DF Dual Fuel Reciprocating Engine #9**, equipped with lean burn technology, abated by A-9 SCR and B-9 oxidation catalyst	148.9 MMBtu/hr 16.3 MW 22,931 BHp
S-10	**Wärtsilä 18V50DF Dual Fuel Reciprocating Engine #10**, equipped with lean burn technology, abated by A-10 SCR and B-10 oxidation catalyst	148.9 MMBtu/hr 16.3 MW 22,931 BHp
S-11	**Caterpillar DM8149 (or equivalent) Diesel-fired Emergency IC Engine** powering a 350kW electrical generator	469 HP
S-12	**Clarke/John Deere JU6H-UF50 (or equivalent) Diesel-fired**	210 HP

	Emergency IC Engine powering a fire water pump	

30. The Permittee shall not modify the equipment subject to this permit in such a manner so as to exceed the Heat Input Capacities, or deviate from the nominal full-load design specifications so as to alter the dispersion modeling results, as identified in Table 1.1, Table 1.2, or Table 1.3.

Table 1.1 S-1 Through S-10 Engine Specifications

Primary Fuel	Natural Gas
Backup Fuel	CARB Diesel
Design Ambient Temperature	67.5 °F
Nominal Heat Input Rate (HHV)	143.9 MMBtu/hr natural gas plus 0.79 MMBtu pilot fuel (natural gas mode) – OR – 148.9 MMBtu/hr CARB Diesel Fuel (diesel mode)
Nominal Exhaust Temperature	728°F
Exhaust Flow Rate	121,500 acfm
Exhaust Release Height	100 Feet
Exhaust O2 Concentration, dry volume	11.6%
Exhaust CO2 Concentration, dry volume	5.3%
Emission Controls	Lean Burn Technology and SCR; Oxidation Catalyst
SIC	4911
SCC	20100202 natural gas mode; 20100301 diesel mode

Table 1.2 S-11 Engine Specifications

Primary Fuel	CARB Diesel
Nominal Heat Input Rate (HHV)	4.0 MMBtu/hr
Heat Input, gal/hr	29.1
SIC	4911
SCC	20100301

Table 1.3 S-12 Engine Specifications

Primary Fuel	CARB Diesel
Nominal Heat Input Rate (HHV)	1.68 MMBtu/hr
Heat Input, gal/hr	12.3
SIC	4911
SCC	20201607

The Permittee shall only fire reciprocating engines S-1 through S-10 with fuel which meets or exceeds the fuel specifications identified in Table 1.4.

Table 1.4 Fuel Specifications for S-1 through S-10

Fuel Type	Property	Value
Natural Gas	Sulfur Content	< 1 gr / 100scf per test; annual average <0.33gr/100scf
CARB Diesel	Sulfur Content	< 15 ppm

31. Reciprocating engines S-1 through S-10 shall be equipped with a monitoring system capable of measuring and recording hours of operation (in tenths of an hour) and fuel consumption (in tenths of a gallon) while operating in natural gas mode and diesel mode. The measuring devices shall be accurate to plus or minus 1% at full scale, and at least once every twelve months or at more frequent intervals if necessary to ensure compliance with the 1% accuracy requirement.

32. The exhaust stacks shall not be fitted with rain caps or any other similar device which would impede vertical exhaust flow.

33. The Permittee shall install and maintain a non-resettable hour meter with a minimum display capability of 9,999 hours upon the Emergency IC Diesel Generators S-11 and S-12. [Section 93115, Title 17, California Code of Regulations, Air Toxic Control Measure (ATCM) for Stationary Compression Ignition (CI) engines]

34. The Emergency IC Diesel Generators S-11 and S-12 shall use one of the following fuels:
    a. CARB Diesel Fuel, or
    b. An alternative diesel fuel that meets the requirements of the Verification Procedure (as codified in CCR Title 13 Sections 2700-2710), or
    c. CARB Diesel Fuel used with fuel additives that meets the requirements of the Verification Procedure (as codified in CCR Title 13 Sections 2700-2710), or
    d. Any combination of a) through d) above.

35. The reciprocating engines S-11 and S-12 shall be certified to meet the EPA Tier 3 emission levels. [40 CFR 60 Subpart IIII]

36. The Permittee shall obtain APCO approval for the use of any equivalent engine for S-11 or S-12 not specifically approved by this Authority to Construct. Approval of an equivalent engine shall be made only after the APCO's determination that the submitted design and performance data for the proposed IC engine is equivalent to the approved engine.

37. The Permittee's request for approval of an equivalent engine shall include the following information: engine manufacturer and model number, horsepower (hp)

rating, exhaust stack information, and manufacturer's guaranteed emission concentrations.

38. The Permittee's request for approval of an equivalent engine shall be submitted to the District at least 90 days prior to the planned installation date. The Permittee shall also notify the District at least 30 days prior to the actual installation of the District approved equivalent engine. [District Rule 103 §6.0]

Table 2.0 Authorized Control Devices

Control Equipment	Mfgr	Model	Type	Specifications
Oxidation Catalyst	TBD	TBD	TBD	TBD (min 70% reduction CO)
Selective Catalytic Reduction System	TBD	TBD	TBD	TBD

39. The Permittee shall install a gas temperature monitor at the selective catalytic reduction inlet and at the face of the oxidation catalyst. [40 CFR 63 Subpart ZZZZ; BACT]

40. Ammonia injection grids shall be equipped with operational ammonia flow meters and injection pressure indicators. The flow meters shall be accurate to plus or minus 1% at full scale and shall be calibrated at least once every twelve months or at more frequent intervals if necessary to ensure compliance with the 1% requirement.

41. The Permittee shall install points of access to the Emission Devices, Control Devices, and Continuous Emission Monitoring Devices such that source testing in accordance with the appropriate reference test methods can be performed. All points of access shall conform to the latest Cal-OSHA safety standards. For purposes of compliance with this part, appropriate test methods shall mean the test methods identified in the Testing and Compliance Monitoring Conditions section of this Permit; and the collection of gas samples with a portable NOx, CO, and O2 analyzer. Sample collection ports shall be located in accordance with 40 CFR Part 60 Appendix A, and with the CARB document entitled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Emission Monitoring and Testing.

42. Each reciprocating engine shall be equipped with a continuous emission monitor (CEM) for NOx, CO, and CO_2. Continuous emissions monitor(s) shall meet the requirements of 40 CFR part 60, Appendices B and F, and District-approved protocol during normal operations. The monitors shall be designed and operated so as to be capable of monitoring emissions during normal operating conditions and during Startup and Shutdowns Periods.

43. The Permittee shall demonstrate compliance with the ammonia slip limit by using the following calculation procedure: The ammonia emission concentration shall be verified by the continuous recording of the ratio of the ammonia injection rate to the NOx inlet rate into the SCR control system (molar ratio). The maximum allowable NH3:NOx molar ratio shall be determined during any required source test, and shall

not be exceeded until reestablished through another valid source test. Alternatively, the Permittee may be required to install, operate and maintain a continuous in-stack emissions monitor for emissions of ammonia. The Permittee shall obtain APCO approval for the installation and use the ammonia CEMs equipment at least 60 days prior to the planned installation date. [District Rule 103 §6.0]

44. Prior to commencement of construction, in accordance with Rule 106 §6.6, the Permittee shall provide to the NCUAQMD APCO documentation of transfer of ownership of Emission Reduction Credits sufficient to offset the emissions identified in Table 3. Prior to commencement of the Commissioning Period, the Permittee shall surrender to the NCUAQMD sufficient emission credits to offset the increases listed in Table 3.0 below. NOx credits provided to offset PM10 increases shall be at an inter-pollutant ratio of 3.58:1 after the appropriate distance ratio is applied. [District Rule 110] [40 CFR 51, Appendix S]

Table 3.0 HBRP Required Offsets By Quarter

Pollutant	Pollutant Quantities in Tons			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
NOx	1.40	1.34	1.35	1.33
PM_{10}	2.45	2.35	2.37	2.34
ROC	0.62	0.59	0.59	0.59

V. Emission Limiting Conditions

45. The Permittee shall not discharge particulate matter into the atmosphere from any combustion source in excess of 0.20 grains per cubic foot of dry gas calculated to 12 percent CO_2 at standard conditions. [NCUAQMD Rule 104 §3.1]

46. The Permittee shall not discharge sulfur dioxide into the atmosphere in excess of 1000 ppmv or 40 tons per year from each of the Emergency IC Diesel Generators S-11 and S-12.

47. Visible emissions from reciprocating engines S-1 through S-12 shall not exhibit opacity of 20% or greater, except for up to three minutes in any hour.

48. During periods of normal plant operations when any combination of reciprocating engines S-1 through S-10 are in a Startup Period, the discharge of NOx from the combination of all engines, shall not exceed 392 lbs per hour.

49. During periods of Natural Gas Curtailment when any combination of reciprocating engines S-1 through S-10 are in a Startup Period, the discharge of NOx from the combination of all engines shall not exceed 676 lbs per hour.

50. The Permittee shall not discharge diesel particulate matter from reciprocating engines S-1 through S-10 while operating in Diesel Mode such that emissions of Diesel Particulate Matter exceed 0.15 g/bhp-hr.

VI. Heat Input & Fuel Limitations

Engines S-1 Through S-10

51. The Permittee shall not operate reciprocating internal combustion engines S-1 through S-10 in such a manner so as to exceed the heat input capacities listed in Table 4.0 on a per engine basis.

Table 4.0 Heat Input Limitations Per Engine

Each Unit[1]	Heat Input, MMBtu (HHV)		
	Hourly 3 hr rolling average	Daily 24 hour rolling average	Annual 365 day rolling average
Natural Gas[2]	143.9	3,454	927,450
Diesel Pilot	0.8	19	5,100
Diesel Mode	148.9	3574	14,890[3]

Notes:

1) Each unit can only run in either Natural Gas or Diesel Mode, not both simultaneously.
2) Heat Input in Natural Gas Mode is the sum of natural gas and diesel pilot also.
3) This limit applies to operation for maintenance and testing, and during periods of Natural Gas Curtailments as defined in this permit. The limit shall not apply to fuel consumed during the Commissioning Period.

52. The Permittee shall not operate reciprocating internal combustion engines S-1 through S-10 in such a manner so as to exceed the heat input capacities listed in Table 4.1 below calculated as a sum of all 10 engines.

Table 4.1 Heat Input Limitations S-1 Through S-10 Engines Combined

Sum of All 10 Units	Heat Input, MMBtu (HHV)		
	Hourly	Daily	Annual
Natural Gas[1]	1,439	34,536	9,274,500
Diesel Pilot	7.9	190	51,000
Diesel Mode	1,489	35,736	140,890[2]

Notes:

1) Total Heat Input in Natural Gas Mode is the sum of natural gas and diesel pilot.
2) This limit applies to operation for maintenance and testing, and during periods of Natural Gas Curtailments as defined in this permit. The limit shall not apply to fuel consumed during the Commissioning Period.

53.

53. The Permittee shall not exceed the diesel fuel firing limits listed in Table 4.2 below while operating reciprocating engines S-1 through S-10 in Natural Gas Mode.

Table 4.2 Diesel Fuel Firing Limitations (Pilot)

Engines S-1 Through S-10	Gallons of Diesel Fuel		
	Hourly 3 hr rolling average	Daily 24 hour rolling average	Annual 365 day rolling average
All Combined	58	1,402	376,734

54. The Permittee shall not exceed the diesel fuel firing limits listed in Table 4.3 below while operating reciprocating engines S-1 through S-10 in Diesel Mode.

Table 4.3 Diesel Fuel Firing Limitations

Engines S-1 Through S-10	Gallons of Diesel Fuel		
	Hourly 3 hr rolling average	Daily 24 hour rolling average	Annual 365 day rolling average
Per Engine	1,088	26,106	-
All Combined	10,876	261,061	1,088,362

VII. Pollutant Limitations

S-1 - S-10 Natural Gas Mode

55. The Permittee shall not operate reciprocating engines S-1 through S-10, such that they individually discharge pollutants exceeding the limits identified in Table 5.0 below based upon a three (3) hour rolling average. The limits shall not apply during Startup or Shutdown Periods.

Table 5.0 Natural Gas Mode Emission Limits Reciprocating Engines S-1 through S-10

Pollutant	Emission Rate		
	Ppmvd @ 15% O_2	Lb/hr	Lb/MMBtu
CO	13	4.1	0.029
NH_3	10	1.9	0.013
NOx	6.0	3.1	0.022
PM_{10}	-	3.6	-
ROC	28	5.1	0.035
SOx	-	0.40	0.0028

56. The combined discharge of pollutants, from the reciprocating engines S-1 through S-10 shall not exceed the limits listed in Table 5.1 below during any Calendar Day in which none of the engines are operated in Diesel Mode for any period of time. For purposes of compliance with this condition, the emissions from Startup and Shutdown Periods shall be included in the daily calculation of emissions.

Table 5.1 S-1 Through S-10 Combined Natural Gas Mode Limit

Pollutant	Emission Rate Lb/Day
CO	1,589
NH_3	456
NOx	1,365
PM_{10}	864
ROC	1,608
SOx	97

S-1 - S-10 Diesel Mode

57. The Permittee shall not discharge pollutants into the atmosphere from the reciprocating engines S-1 through S-10 while in Diesel Mode, based upon a three (3) hour rolling average, in excess of the emission limits identified in Table 5.2 below. The limits shall not apply during Startup or Shutdown Periods.

Table 5.2 Diesel Mode Emission Limits for Reciprocating Engines S-1 through S-10

Pollutant	Emission Rate		
	ppmvd @ 15% O_2	Lb/hr	Lb/MMBtu
CO	20.0	6.9	0.047
NH_3	10	2.1	0.014
NOx	35.0	19.6	0.134
PM_{10}	-	10.8	0.14
ROC	40.0	7.9	0.053
SOx	0.40	0.22	0.0016

58. While operating in reciprocating engines S-1 through S-10 during an event consistent with the definition of Diesel Particulate Matter ATCM Emergency Use, the Permittee shall not operate the reciprocating engines S-1 through S-10 such that Diesel Particulate Matter is emitted exceeds 0.15 g/bhp-hr.

59. The discharge of Diesel Particulate Matter into the atmosphere from the reciprocating engines S-1 through S-10 while in Diesel Mode shall not exceed the emission limits identified in Table 5.3 below. The limits shall not apply during Startup or Shutdown Periods and shall exclude emissions during the Commissioning Period and during periods of Natural Gas Curtailment as defined in this permit.

Table 5.3 Diesel Particulate Matter Limitations

Engines S-1 Through S-10	Diesel Particulate Matter (pounds)		
	Hourly 3 hr rolling average	Daily 24 hour rolling average	Annual 365 day rolling average
Per Engine	5.56	133.4	-
All Combined	55.6	1,334	5,560

60. The combined discharge of pollutants from the reciprocating engines S-1 through S-10 during any Calendar Day shall not exceed the limits listed in Table 5.4 below during any Calendar Day in which one or more of the engines are operated in diesel mode for any period of time. For purposes of compliance with this condition, the emissions from Startup and Shutdown Periods shall be included in the daily calculation of emissions.

Table 5.4 S-1 Through S-10 Combined Diesel Mode Limit

Pollutant	Emission Rate Lb/Day
CO	2,219
NH_3	507
NOx	9,101
PM_{10}	1,542
ROC	2,183
SOx	96

61. The combined discharge of pollutants from the reciprocating engines S-1 through S-10 during any calendar year shall not exceed the limits listed in Table 5.5 below.

Table 5.5 S-1 Through S-10 Combined Annual Emission Limits

Pollutant	Emission Rate Tons/Yr
CO	171.0
NOx	174.2
PM_{10}	118.7
ROC	188.9
SOx	4.4

Engines S-11 and S-12

62. The Permittee shall not operate reciprocating engines S-11 and S-12 such that pollutant discharge into the atmosphere exceeds the quantities in Table 5.6 below.

Table 5.6 Reciprocating Engines S-11 and S-12 Emission Limits

Unit	Pollutant	g/Hp – hr	lb/hr
S-11 Emergency Generator	CO	0.63	0.65
	DPM	0.05	0.05
	NOx	3.47	3.59
	ROC (non-methane HC)	0.4	0.41
	SOx	-	.0061
S-12 Fire Pump	CO	0.59	.27
	DPM	0.14	0.06
	NOx	4.9	2.27
	ROC (non-methane HC)	0.5	0.23
	SOx	-	0.0026

63. The combined discharge of pollutants from the reciprocating engines S-11 through S-12 during any calendar year shall not exceed the limits listed in Table 5.7 below.

Table 5.7 S-11 and S-12 Combined Annual Emission Limits

Pollutant	Emission Rate Lbs/Yr
CO	46
NOx	293
DPM	5.5
ROC	32
SOx	0.4

VIII. Startup Commissioning & Simultaneous Operation

64. This Permit supplements existing NCUAQMD Permit Numbers for the HBPP of NS-020 (Boiler #1), NS-21 (Boiler #2) and NS-057 (Turbines) until such time as the sources are decommissioned.

65. The Permittee shall notify the District of the anticipated date of initial startup of the reciprocating engines S-1 through S-10 not more than 60 days, or less than 30 days prior to initial startup. The Permittee shall notify the APCO of the actual startup of reciprocating engines S-1 through S-10 not more than 15 days after actual initial startup.

66. The existing generating units at Humboldt Bay Power Plant shall be shut down as soon as possible following the commercial operation of all of the reciprocating engines S-1 through S-10. The existing generating units at Humboldt Bay Power Plant (NCUAQMD Permit Numbers NS-020, NS-21 and NS-057) and the new HBRP reciprocating engines S-1 through S-10 shall not be in simultaneous operation for more than 180 calendar days, including the Commissioning Period, unless such operation is required by the California Independent System Operator. [District Rule 110]

67. Selective catalytic reduction (SCR) systems and oxidation catalysts shall serve each reciprocating engine except as provided for in Condition #71. Permittee shall submit SCR and oxidation catalyst design details to the District at least 90 days prior to scheduled delivery of these systems to the site. [District Rule 110]

68. Permittee shall submit continuous emission monitor design, installation, and operational details to the District within 120 days following commencement of construction. [District Rule 110]

69. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the reciprocating engines shall be tuned to minimize emissions.

70. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the Selective Catalytic Reduction (SCR) system and the oxidation catalyst shall be installed, adjusted, and operated to minimize emissions from each reciprocating engine.

71. The continuous monitors specified in Permit Conditions 32, 34, 40, and 41 shall be installed, calibrated, and operational prior to the first firing of reciprocating engines S-1 through S-10. After first firing, the detection range of the CEMS shall be adjusted as necessary to accurately measure the resulting range of NOx and CO emission concentrations.

72. The Permittee shall record and monitor the parameters identified in Table 7.0 of this Permit at least once every 15 minutes (excluding normal calibration periods or when the monitored source is not in operation). The Permittee shall use APCO

approved methods to calculate heat input rates, oxides of nitrogen mass emission rates (reported as nitrogen dioxide), carbon monoxide mass emission rates, and NOx and CO emission concentrations, summarized for each hour and each day.

73. The total number of firing hours of each reciprocating engine S-1 through S-10 without abatement of emissions by the SCR system and the oxidation catalyst shall not exceed 100 hours for each engine during the Commissioning Period. Such operation of each reciprocating engine without abatement shall be limited to discrete Commissioning Activities that can only be properly executed without the SCR system and the oxidation catalyst in place. Upon completion of these activities for each engine, the Permittee shall provide written notice to the District and the unused balance of the allowable firing hours without abatement for that engine shall expire.

74. When one or more reciprocating engines S-1 through S-10 are undergoing Commissioning Activities without an SCR system and oxidation catalyst installed, the Permittee shall not:

    a. Fire more than five uncontrolled reciprocating engines simultaneously.

    b. Operate the uncontrolled engines such that their combined hours of operation exceed 90 engine-hours during any Calendar Day.

75. During the Commissioning Period while the engines are being operated without an SCR system and oxidation catalyst, the Permittee shall not operate reciprocating engines S-1 through S-10, such that the combined emissions exceed any of the limits in Table 5.6 below:

Table 5.6 S-1 through S-10 Combined Commissioning Emission Limits

Pollutant	Lbs/hr	Lbs/day
CO	197.2	2,662
NOx	323.3	4,365
PM_{10}	54	1,296
ROC (Methane)	86.6	1,559
SOx (SO_2)	2.0	48.4

76. During the Commissioning Period, after steady-state operation of the SCR system and the oxidation catalyst has been achieved, the NOx and CO emissions from each reciprocating engine shall thereafter comply with the limits specified in Permit Conditions 54, 55, 56, 57, and 58.

77. Firing hours on 100% CARB Diesel Fuel or Alternative Liquid Fuel during the Commissioning Period shall not be considered Maintenance and Testing for purposes of compliance with the annual operating hour limitations specified in the Operational Conditions section of this Permit.

78. The total mass emissions of NOx, CO, VOC, PM_{10}, and SOx that are emitted from the reciprocating engines during the Commissioning Period shall accrue towards the emission limits specified in Condition 59.

79. The Permittee shall submit a plan to the District at least four weeks prior to the first operation of the first of reciprocating engines S-1 through S-10, describing the procedures to be followed during the Commissioning Period. The plan shall include a description of each Commissioning Activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described shall include, but not be limited to, the tuning of the reciprocating engines, the installation and operation of the SCR systems and the oxidation catalysts, the installation, calibration, and testing of the NOx and CO continuous emissions monitors, and any activities requiring the firing of each unit without abatement by an SCR system or oxidation catalyst.

80. Not later than 90 days prior to first operation, the Permittee shall prepare and submit to the District for approval a plan for complying with the requirements of 40 CFR 63 Subpart ZZZZ. This compliance plan shall provide for an initial performance test on each engine to demonstrate that each oxidation catalyst is achieving a minimum 70% reduction in CO. Oxidation catalyst pressure drop and inlet temperature shall be measured during the initial performance test.

81. Not later than 90 days prior to first operation, the Permittee shall prepare and submit to the District for approval a plan for complying with the requirements of 40 CFR 60 Subpart IIII. This compliance plan shall provide for an initial performance test on each reciprocating engine to demonstrate compliance with the NOx and PM limitations of 40 CFR §60.4204(c)(1) and (c)(2) and shall establish operating parameters to be monitored continuously to ensure that each reciprocating engine continues to meet the applicable emission standards.

IX. Operational Conditions

82. In the event of an excess emission incident, regardless of the cause, the Permittee shall immediately take corrective action to minimize the release of excess emissions. Notice shall be provided to the District as indicated in the Reporting and Recordkeeping Section of this Permit. For purposes of compliance with this condition, excess emissions shall mean discharge of pollutants in quantities which exceed those authorized by Federal, State, NCUAQMD Rules, and this Permit.

83. All equipment listed in Table 1.0 Authorized Emission Devices and 2.0 Authorized Control Devices shall be operated and maintained by the Permittee in accordance with manufacturer's specifications for optimum performance; and in a manner so as to minimize emissions of air contaminants into the atmosphere.

84. The Permittee shall implement and maintain a written Startup, Shutdown, and Malfunction Plan as described in as described in 40 CFR 63.6(e) (3) which contains specific procedures for maintaining the reciprocating engines S-1 through S-12, their associated control devices, their associated CEMS, sensors, measuring devices, and their associated exhaust gas duct work, during periods of startup, shutdown, and malfunction. The Plan shall also include a specific program of corrective actions to be implemented in the event of a malfunction in either the process or control systems. Modifications to the Plan are subject to APCO approval and the Permittee shall not operate the reciprocating engines S-1 through S-12 and their associated control devices unless a District approved Startup, Shutdown, and Malfunction Plan is in effect. The Plan shall be submitted to the District less than thirty (30) calendar days prior to the Commissioning Period for any of reciprocating engines S-1 through S-10.

85. The Permittee shall develop, implement and maintain a written Device Operational Plan that contains specific procedures for operating the reciprocating engines S-1 through S-12, their associated control devices, their associated CEMS, sensors, measuring devices, and their associated exhaust gas duct work under the varying load conditions which may occur during normal modes of operation. The Plan shall also include specific protocols to be followed when transitioning between modes of operation. This plan shall be consistent with the requirements of this Permit, and all local, state and federal laws, rules, and regulations. The plan shall include, but not be limited to, daily system integrity inspections and the recording of operational parameters. The Plan shall be submitted to the District not more than sixty (60) calendar days following expiration of the Commissioning Period for any of reciprocating engines S-1 through S-10. The Plan is subject to APCO approval. The Permittee shall not operate the reciprocating engines S-1 through S-12 and their associated control devices, after the expiration of the Commissioning Period for any of the reciprocating engines plus 60 days, unless a District approved Device

Operational Plan is in effect.

86. The Permittee shall develop, implement and maintain a written Device Maintenance & Replacement Plan that contains specific procedures for equipment maintenance and identifies replacement intervals for components of the reciprocating engines S-1 through S-12, their associated control devices, their associated CEMS, sensors, measuring devices, and their associated exhaust gas duct work. The Plan shall be submitted to the District not more than sixty (60) calendar days following expiration of the Commissioning Period for any of reciprocating engines S-1 through S-10. The Plan is subject to APCO approval. The Permittee shall not operate the reciprocating engines S-1 through S-12 and their associated control devices, after the expiration of the Commissioning Period for any of the reciprocating engines plus 60 days, unless a District approved Device Maintenance & Replacement Plan is in effect.

87. The Permittee shall only operate the Reciprocating engines S-1 through S-10 in Natural Gas Mode except during the Commissioning Period, during Maintenance and Testing, and during Natural Gas Curtailments as set forth in this permit.

88. The Permittee shall not operate reciprocating engines S-1 through S-10 such that Startup Periods exceed 60 minutes in length.

89. The Permittee shall not operate reciprocating engines S-1 through S-10 such that Shutdown Periods exceed 30 minutes in length.

90. The Permittee shall not operate the reciprocating engines S-1 through S-10 such that the combined hours of operation during Startup and Shutdown Periods exceeds 30 engine-hours per day.

91. The Permittee shall not operate the reciprocating engines S-1 through S-10 such that the combined hours of operation during Startup and Shutdown Periods exceeds 3,650 engine-hours per calendar year.

92. The Permittee shall not operate any of the reciprocating engines S-1 through S-10 below 50% load except during Startup and Shutdown Periods.

93. The Permittee shall not operate the reciprocating engines S-1 through S-10 for more than 80 engine-hours per Calendar Day at loads less than 12.0 MW.

94. While operating the reciprocating engines S-1 through S-10 in Diesel Mode, the Permittee shall fire the engines:

    a. Only with CARB Diesel as specified in Table 1.4 Fuel Specifications for S-1 through S-10;

    b. For no more than 50 hours per year for each engine for Maintenance and Testing. [CCR Title 17, §93115], and

c. Such that the combined engine operating hours does not exceed 1000.0 engine hours per year on a 365 day rolling average basis.

95. For each Oxidation Catalyst installed, during the performance testing required pursuant to the Testing and Monitoring section of this Permit, the Permittee shall determine the pressure drop across each catalyst. The Permittee shall operate the reciprocating engines S-1 through S-10 such that the pressure drop across the catalyst does not exceed the following acceptable range for any period of time: The acceptable pressure range is two inches of water column (plus or minus 10%) deviation from the pressure drop established during performance testing.

96. The Permittee shall not operate reciprocating engines S-1 through S-10 if the inlet temperature of the oxidation catalyst is outside of the acceptable operating range for any period of time. The acceptable operating range of the oxidation catalyst is greater than or equal to 450 °F and less than or equal to 1350 °F. Each reciprocating engine is paired with a single oxidation catalyst unit. For purposes of compliance with this condition, each engine and catalyst pair is evaluated separately. This Condition does not apply during Startup or Shutdown Periods or during malfunctions. [40 CFR 63 Subpart ZZZZ]

97. The Permittee shall not operate reciprocating engines S-1 through S-10 unless the CO emissions from the units are abated by the oxidation catalyst at a rate greater than or equal to 70%, calculated on a 3 hour rolling average. This Condition does not apply during Startup or Shutdown Periods or during malfunctions. [40 CFR 63 Subpart ZZZZ]

Engines S-11 and S-12

98. The Emergency IC Diesel Generators S-11 and S-12 are authorized the following maximum allowable annual hours of operation governed by the Stationary Diesel Engine ATCM as listed in Table 6.0 below:

Table 6.0 Hours of Operation for Emergency IC Diesel Generators S-11 & S-12

Emergency Use	Non-Emergency Use	
	Emission Testing to show compliance	Maintenance & Testing
Not Limited by the ATCM	Not Limited by the ATCM	50 hours/year

99. The Permittee shall not operate the reciprocating engines S-11 and S-12, for the purpose of maintenance and testing, in excess of the hours limits listed in Table 6.1 below:

Table 6.1 S-11 and S-12 Hourly Operating Limits

Device	Daily	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
S-11	1	12	12	13	13
S-12	1	12	12	13	13

100. The Permittee shall not operate the reciprocating engines S-11 and S-12, for the purpose of maintenance and testing, within the same 24 hour period.

101. The Permittee shall not operate the reciprocating engines S-11 and S-12, for the purpose of maintenance and testing, when any of the reciprocating engines S-1 through S-10 are operating in diesel mode.

102. The Permittee shall not operate reciprocating engine S-11, for the purpose of maintenance and testing, for more than 45 minutes in any 60 minute period.

X. Reporting & Recordkeeping Conditions

103. The Permittee shall report all occurrences of breakdowns of the equipment listed in Table 1.0 Authorized Emission Devices or Table 2.0 Authorized Control Devices which result in the release of emissions in excess of the limits identified in this Permit. Said report shall be submitted to the District in accordance with the timing requirements of NCUAQMD Rule 105 §5.0.

104. The Permittee shall maintain a Breakdown log that describes the breakdown or malfunction, includes the date and time of the malfunction, the cause of the malfunction, corrective actions taken to minimize emissions and the date and time when the malfunction was corrected.

105. The Permittee shall immediately record the following information when an event occurs where emissions from the equipment listed in Table 1.0 Authorized Emission Devices are in excess of any limits incorporated within this permit:
   a. Date and time of the excess emission event
   b. Duration of the excess emission event
   c. Description of the condition or circumstance causing or contributing to the excess emission event
   d. Emission unit of control device or monitor affected
   e. Estimation of the quantity and type of pollutants released
   f. Description of corrective action taken
   g. Actions taken to prevent reoccurrence of excess emission event.

106. The Permittee shall provide to the District, a completed "Compliance Certification" form signed by the Facility's Responsible Official which certifies the compliance status of the facility twice per calendar year. The compliance certification form must be submitted to the NCUAQMD according to the following schedule: The semiannual certification (covering quarters 1 and 2) must be submitted prior to July 31st of the reporting year; and the annual certification (covering quarters 1, 2, 3, and 4) prior to January 31st of the following calendar year. The content of the Certification shall include copies of the "" records designated in Table 7.0 to be kept "Annually".

107. The Permittee shall maintain monthly log of usage for the Emergency IC Diesel Generators S-11 and S-12 in accordance with applicable Reporting Requirements for Emergency Standby Engines, Item (e)(4)(I) of Section 93115, Title 17, California Code of Regulations, Air Toxic Control Measure (ATCM) for Stationary Compression Ignition (CI) engines. The monthly log of usage shall list and document the nature of use for each of the following by recording the hour meter readings for each operational event:
   a. Emergency use hours of operation;

b. Maintenance and testing hours of operation (e.g., load testing, weekly testing, rolling blackout, general power outage, etc
c. Hours of operation for emission testing to show compliance with §(e)(2)(A)3 and (e)(2)(B)3 of the ATCM;
d. Hours of operation to comply with requirements of NFPA 25;
e. Hours of operation for all other uses other than those specified in§(e)(2)(A)3 and (e)(2)(B)3 of the ATCM;
f. Fuel used through the retention of fuel purchase records that account for all fuel used in the engine and all fuel purchased for use in the engine, and, at a minimum, contain the following information for each individual fuel purchase transaction:
    i. Identification of the fuel purchased as either CARB Diesel, or an alternative diesel fuel that meets the requirements of the Verification Procedure;
    ii. Sulfur content of the fuel;
    iii. Amount of fuel purchased;
    iv. Date when the fuel was purchased;
    v. Signature of owner or operator or representative of owner or operator who received the fuel; and
    vi. Signature of fuel provider indicating fuel was delivered.

108. The Permittee shall continuously maintain onsite for the most recent five year period and shall be made available to the NCUAQMD APCO upon request, the records as listed in Table 7.0 below.

Table 7.0 Required Records for Engines S-1 through S-10

Frequency	Information to be Recorded
Upon Occurrence	A. Records of maintenance conducted on engines (40 CFR 60 Subpart IIII) B. Time, duration, and fuel firing mode for each engine startup C. Time, duration, and fuel firing mode for each engine shutdown D. Time, duration and reason for each period of operation in Diesel Mode E. For each bulk delivery of diesel fuel received, certification from the supplier that the diesel fuel meets or exceeds CARB Diesel specifications F. For each bulk delivery of diesel fuel received, the higher heating value (HHV) of the fuel
At least one electronic reading every 15 minutes	A. NOx (ppmvd @15% O_2) B. CO (ppmvd @15% O_2) C. O_2 (%) D. Exhaust gas temperature as SCR inlet (°F) E. Exhaust gas temperature at OC inlet (°F) F. Engine load (%)
Hourly	A. NOx (ppmvd @15% O_2) and lb/hr, on a rolling 3 hour average

Frequency	Information to be Recorded
	B. CO (ppmvd @15% O_2) and lb/hr, on a rolling 3 hour average C. ROC (ppmvd @15% O_2) and lb/hr, on a rolling 3 hour average D. NH3 (ppmvd @15% O_2) and lb/hr, on a rolling 3 hour average E. SOx (ppmvd @15% O_2) and lb/hr, on a rolling 3 hour average F. Natural gas fuel consumption (MMBtu HHV, 3-hr rolling average) G. Diesel pilot fuel consumption (MMBtu HHV, 3-hr rolling average) H. Diesel fuel consumption during Diesel Mode (MMBtu HHV, 3-hr rolling average) I. Volumetric proportion of natural gas to diesel pilot injection when operating in Natural Gas Mode
Daily	A. NOx (lbs/day) B. CO (lbs/day) C. ROC (lbs/day) D. SOx (lbs/day) E. PM (lbs/day) F. Diesel Particulate Matter (lbs/day) G. Natural gas fuel consumption (MMBtu HHV) H. Diesel pilot fuel consumption (MMBtu HHV) I. Diesel fuel consumption during Diesel Mode (MMBtu HHV) J. Engine load (% load on a 24 hour average) K. Hours of operation L. Quantity of fuel combusted (therms, gallons)
Monthly	A. Sulfur content of natural gas (gr/100scf, monthly fuel testing) B. Natural gas sulfur content (gr/100scf, 12 month rolling average)
Quarterly	A. NOx (tons) B. CO (tons) C. SOx (tons) D. ROC(tons) E. PM (tons) F. Diesel Particulate Matter (tons) G. Natural gas fuel consumption (MMBtu HHV) H. Diesel pilot fuel consumption (MMBtu HHV) I. Diesel fuel consumption during Diesel Mode (MMBtu HHV) J. Sulfur content of natural gas (gr/100scf, 12 month rolling average) K. Hours of operation L. Quantity of fuel combusted (therms, gallons)
Annually	A. NOx (tons) B. CO (tons)

Frequency	Information to be Recorded
	C. SOx (tons) D. ROC(tons) E. PM (tons) F. Diesel Particulate Matter (tons) G. Natural gas fuel consumption (MMBtu HHV) H. Diesel pilot fuel consumption (MMBtu HHV) I. Diesel fuel consumption during Diesel Mode (MMBtu HHV) J. Sulfur content of natural gas (gr/100scf, annual average) K. Hours of operation L. Quantity of fuel combusted (therms, gallons)

109. For each Quarter, the Permittee shall submit a written report to the APCO detailing the following items for the operation of the CEMS. The report shall conform to the requirements of District Rules and Regulations Appendix B, Section 2.2, and shall be submitted within 30 days of the end of the quarter.

    a. Time intervals,

    b. Date and magnitude of excess emissions,

    c. Nature and cause of excess (if known),

    d. Corrective actions taken and preventive measures adopted;

    e. Averaging period used for data reporting shall correspond to the averaging period for each respective emission standard;

    f. Applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and

    g. A negative declaration when no excess emissions occurred.

110. The Permittee shall provide notification and record keeping as required pursuant to 40 CFR, Part 60, Subpart A, 60.7.

111. The Permittee shall annually prepare and submit a comprehensive facility wide emission inventory report for all criteria pollutants and toxic air contaminants emitted from the facility. The inventory and report shall be prepared in accordance with the most recent version of the CAPCOA / CARB reference document ***Emission Inventory Criteria Guidelines***. The inventory report shall be submitted to the NCUAQMD APCO no later than January 31st of the following calendar year. The inventory report is subject to NCUAQMD APCO approval.

112. No later than 14 months after the Commissioning Period for reciprocating engines S-1 through S-10 has concluded, the Permittee shall submit to the NCUAQMD APCO a revised health risk assessment. The health risk assessment shall be prepared pursuant to an NCUAQMD APCO approved protocol based

upon CARB and California Office of Health and Hazard Assessment guidance documents.

113. The Permittee shall submit the health risk assessment protocol to the NCUAQMD APCO for review no later than 9 months after the Commissioning Period for the reciprocating engines S-1 through S-10 has concluded.

114. Not later than 24 hours after determining that diesel mode operation is to occur as a result of an expected Natural Gas Curtailment, the permittee shall notify the APCO by telephone, email, electronic page, or facsimile. The notification shall include, but not be limited to, the following:

    a. The anticipated start time and duration of operation in diesel mode under the Natural Gas Curtailment; and

    b. The anticipated quantity of Diesel fuel expected to be burned under the Natural Gas Curtailment.

115. Not later than 24 hours following the end of a period of any diesel mode operation, the permittee shall notify the APCO by email or facsimile of the following:

    a. The actual start time and end time of the period of diesel mode operation;

    b. The identification of the Reciprocating engines that were operated and the average load at which each reciprocating engine was operated on Diesel fuel during the diesel mode operating period; and

    c. The actual quantity of Diesel fuel consumed during the diesel mode operation.

XI. Testing & Compliance Monitoring Conditions

116. The Permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F.

117. The Permittee shall monitor and record exhaust gas temperature at selective catalytic reduction inlet and at the face of the oxidation catalyst. [40 CFR 63 Subpart ZZZZ]

118. Not less than thirty days prior to the date of any source test required by this Permit, the Permittee shall provide the NCUAQMD APCO with written notice of the planned date of the test and a copy of the source test protocol.

119. Source test results shall be summarized in a written report and submitted to the NCUAQMD APCO directly from the independent source testing firm on the same day, the same time, and in the same manner as submitted to Permittee. Source Test results shall be submitted to the NCUAQMD APCO no later than 60 days after the testing is completed.

120. The Permittee shall demonstrate compliance with all the emission limits identified in this Permit during the Commissioning Period of each of the reciprocating engines S-1 through S-10 using the following methods. Testing shall be conducted both while the engines are operated in Natural Gas Mode and while operated in Diesel Mode. All compliance tests shall be conducted at 50%, 75%, and 95% or greater of the operating capacity of each reciprocating engine. Alternative test methods may be approved by the APCO.
    a. Particulate Matter – CARB Method 5 (front and back half) or EPA Methods 201a and 202
    b. Diesel Particulate Matter – CARB Method 5 (front half)
    c. Visible Emissions
        ii. Permittee shall perform a "Visible Emission Evaluation" (VEE) concurrent with particulate matter testing. A CARB certified contractor shall perform such an evaluation.
    d. Ammonia – Bay Area Air Quality Management District Method ST-1B
    e. Reactive Organic Gases – CARB Method 100
    f. Nitrogen Oxides – CARB Method 100
    g. Carbon Monoxide – CARB Method 100
    h. Oxygen – CARB Method 100
        iii. Oxygen shall be measured at the inlet and outlet of the oxidation catalyst

iv. Oxygen measurements shall be made at the same time as the CO measurements
v. Pressure drop measurements across the catalyst shall be made at the same time as the CO measurements

i. Natural Gas Fuel Sulfur Content – ASTM D3246
j. Liquid Fuel Sulfur Content – ASTM D5453-93

121. The Permittee shall demonstrate compliance with all the emission limits identified in this Permit for the reciprocating engines S-1 through S-10 once per calendar year unless indicated below, using the following methods. Except as provided in Condition 123, testing shall be conducted while the engines are operated in Natural Gas Mode. All compliance tests shall be conducted at an operating capacity of 50%, 75%, or 95% or greater during the testing of each reciprocating engine. Alternative test methods may be approved by the APCO.

a. Particulate Matter – CARB Method 5 (front and back half) or EPA Methods 201a and 202
b. Diesel Particulate Matter – CARB Method 5 (front half)
c. Visible Emissions - Permittee shall perform a "Visible Emission Evaluation" (VEE) concurrent with particulate matter testing. A CARB certified contractor shall perform such an evaluation.
d. Ammonia – Bay Area Air Quality Management District Method ST-1B
e. Reactive Organic Gases – CARB Method 100
f. Nitrogen Oxides – CARB Method 100
g. Carbon Monoxide – CARB Method 100
h. Oxygen – CARB Method 100
    i. Oxygen shall be measured at the inlet and outlet of the oxidation catalyst
    ii. Oxygen measurements shall be made at the same time as the CO measurements
    iii. Pressure drop measurements across the catalyst shall be made at the same time as the CO measurements
i. Natural Gas Fuel Sulfur Content – ASTM D3246
j. Liquid Fuel Sulfur Content – ASTM D5453-93

122. The engines shall be tested on a rotating basis with all of the engines to be tested in natural gas mode each year and all engines tested at the three different load values at east once every three years. Each engine shall be tested, at the following loads (50%, 75%, >95%) or under conditions determined by the APCO to most challenge the emission control equipment. The APCO may waive some or all of the testing requirements if the results of previous compliance tests have demonstrated compliance with permitted emission limits by a sufficient margin.

123. Permittee shall demonstrate compliance with permitted emission limits for Engines S-1 through S-10 while operating in Diesel Mode once every three years or

following each 200 hours of operation of an individual engine in Diesel mode whichever is sooner. Compliance shall be demonstrated as indicated below using the following methods. All compliance tests shall be conducted while an engine is operated in Diesel mode at 50%, 75% or 95% or greater operating capacity of each engine; or under conditions determined by the APCO to most challenge the emission control equipment. Alternative test methods may be approved by the APCO:

a. Particulate Matter - CARB Method 5 (front and back half), or EPA Methods 201a and 202.
b. Diesel Particulate Matter – CARB Method 5 (front half only)
c. Visible Emissions - U.S. EPA Method 9
d. Ammonia – Bay Area Air Quality Management District Method ST-1B
e. Reactive Organic Gases – ARB Method 100
f. Nitrogen Oxides -- ARB Method 100
g. Carbon Monoxide – ARB Method 100
    i. CO shall be measured at the inlet and outlet of the oxidation catalyst.
h. Oxygen – ARB Method 100
    i. Oxygen shall be measured at the inlet and outlet of the oxidation catalyst.
    ii. Oxygen measurements shall be made at the same time as the CO measurements.
i. Liquid Fuel Sulfur Content – ASTM D5453-93

124. The engines shall be tested at various loads (50%, 75%, >95%) on a rotating basis, with one-third of the engines to be tested in diesel mode in each year tested at each of the three loads. The APCO may waive some or all of the testing requirements if the results of previous compliance tests have demonstrated compliance with permitted emission limits by a sufficient margin.

125. The Permittee shall demonstrate compliance with the hourly, daily, and annual ROC emission limits through the use of valid CO CEM data and the ROC/CO relationship determined by annual CO and ROC source tests; and APCO approved emission factors and methodology.

126. The Permittee shall demonstrate compliance with the hourly, daily, and annual SOx emission limits through the use of valid fuel use records, natural gas sulfur content, diesel fuel sulfur content, mass balance calculations; and APCO approved emission factors and methodology. The natural gas sulfur content shall be determined on a monthly basis using ASTM D3246.

127. The Permittee shall demonstrate compliance with the hourly, daily, and annual PM emission limits and the diesel particulate matter emission limits through the use of valid fuel use records, source tests, and APCO approved emission factors and methodology.

128. Relative accuracy test audits (RATAs) shall be performed on each CEMS at least once every twelve months, in accordance with the requirements of 40 CFR 60, Appendix B. Calibration Gas Audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified at least 30 days in advance of the scheduled date of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District within 60 days after the testing was performed.

129. No later than 180 days after construction of the equipment authorized pursuant to this permit begins, and concurrent with the commencement of operation, the Permittee shall provide full funding for the purchase and installation of a new PM10/PM2.5 monitoring station to be installed at a location approved by the APCO. The funding shall include all costs associated with the purchase, installation, operation and maintenance (including personnel costs) of the monitoring station for an initial period of not less than five (5) years. PG&E shall reimburse the District for costs incurred within 30 days of receiving an invoice from the District. At the conclusion of that period, the APCO may extend the operation of the site if deemed in the best interest of the District, and PG&E will continue to fund all costs associated with its continued operation. The District shall be responsible for the procurement, operation and maintenance of the site, and District staff will be responsible for collecting, securing, and quality assuring all data.

130. No later than 180 days after construction of the equipment authorized pursuant to this permit begins, and concurrent with the commencement of operation, the Permittee shall provide full funding for the purchase and installation of a new meteorological monitoring station to be installed at a location approved by the APCO. The funding shall include all costs associated with the purchase, installation, operation and maintenance (including personnel costs) of the meteorological monitoring station for an initial period of not less than five (5) years. PG&E shall reimburse the District for costs incurred within 30 days of receiving an invoice from the District. At the conclusion of that period, the APCO may extend the operation of the site if deemed in the best interest of the District, and PG&E will continue to fund all costs associated with its continued operation. The District shall be responsible for the procurement, operation and maintenance of the site, and District staff will be responsible for collecting, securing, and quality assuring all data. The data collected at the station shall meet the requirements of EPA-454/R-99-005 "Meteorological Monitoring Guidance for Regulatory Modeling Applications" February 2000.

NORTH COAST UNIFIED AIR QUALITY MANAGEMENT DISTRICT

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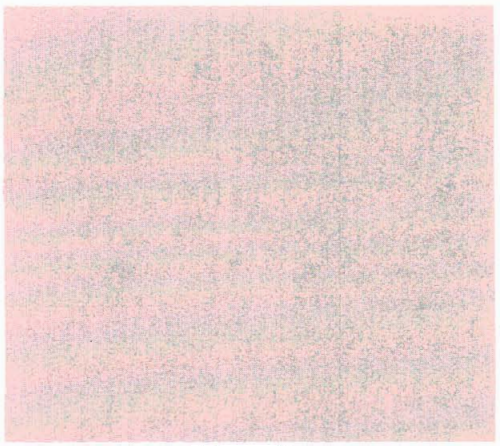
RICHARD L. MARTIN, JR.
AIR POLLUTION CONTROL OFFICER



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