San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

October 20, 2020

Mark Terry
Biorem Energy LLC
1060 Cactus Drive
Pocatello, ID 83204

RE: Notice of Final Action - Authority to Construct
Facility Number: C-9639
Project Number: C-1193125

Dear Mr. Terry:

The Air Pollution Control Officer has issued the Authority to Construct permits to Biorem Energy LLC for anerobic digester with flare and IC engines, at 20330 Road 4, Chowchilla, CA. Enclosed are the Authority to Construct permits and a copy of the notice of final action that has been posted on the District's website (www.valleyair.org).

Notice of the District's preliminary decision to issue the Authority to Construct permits was posted on September 17, 2020. The District's analysis of the proposal was also sent to CARB on September 15, 2020. No comments were received following the District's preliminary decision on this project.

Also enclosed is an invoice for the engineering evaluation fees pursuant to District Rule 3010. Please remit the amount owed, along with a copy of the attached invoice, within 60 days.

Samir Sheikh
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: (661) 392-5500 FAX: (661) 392-5585

www.valleyair.org www.healthyairliving.com

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Leonard Scandura at (661) 392-5500.

Sincerely,

Arnaud Marjollet
Director of Permit Services

AM:rue

Enclosures

cc: Courtney Graham, CARB (w/ enclosure) via email

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING

Facility # C-9639
BIOREM ENERGY, LLC
1060 CACTUS DR
POCATELLO, ID 83204

AUTHORITY TO CONSTRUCT (ATC)

QUICK START GUIDE

1. **Pay Invoice**: Please pay enclosed invoice before due date.

2. **Fully Understand ATC**: Make sure you understand ALL conditions in the ATC prior to construction, modification and/or operation.

3. **Follow ATC**: You must construct, modify and/or operate your equipment as specified on the ATC. Any unspecified changes may require a new ATC.

4. **Notify District**: You must notify the District's Compliance Department, at the telephone numbers below, upon start-up and/or operation under the ATC. Please record the date construction or modification commenced and the date the equipment began operation under the ATC. You may NOT operate your equipment until you have notified the District's Compliance Department. A startup inspection may be required prior to receiving your Permit to Operate.

5. **Source Test**: Schedule and perform any required source testing. See http://www.valleyair.org/busind/comply/source_testing.htm for source testing resources.

6. **Maintain Records**: Maintain all records required by ATC. Records are reviewed during every inspection (or upon request) and must be retained for at least 5 years. Sample record keeping forms can be found at http://www.valleyair.org/busind/comply/compliance_forms.htm.

By operating in compliance, you are doing your part to improve air quality for all Valley residents.

For assistance, please contact District Compliance staff at any of the telephone numbers listed below.

Samir Sheikh
Executive Director/Air Pollution Control Officer

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San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

AUTHORITY TO CONSTRUCT

PERMIT NO: C-9639-1-0 **ISSUANCE DATE:** 10/16/2020

LEGAL OWNER OR OPERATOR: BIOREM ENERGY, LLC
MAILING ADDRESS: 1060 CACTUS DR
POCATELLO, ID 83204

LOCATION: 21463 ROAD 4
CHOWCHILLA, CA 93610

EQUIPMENT DESCRIPTION:
DIGESTER GAS PRODUCTION AND STORAGE OPERATION CONSISTING OF ONE COVERED LAGOON ANAEROBIC DIGESTER (460 FT X 360 FT X 24 FT), ONE 44.8 MMBTU/HR BACKUP FLARE; AND PERMIT EXEMPT GAS COLLECTION, CONDITIONING, AND STORAGE EQUIPMENT INCLUDING HYDROGEN SULFIDE (H2S) REMOVAL SCRUBBER(S), KNOCKOUT VESSEL(S), COMPRESSOR(S), CHILLER(S), ACTIVATED CARBON ADSORPTION VESSEL(S), CARBON DIOXIDE SEPARATION MEMBRANE UNIT(S), AND STORAGE TANK(S)/PRESSURE VESSEL(S)

CONDITIONS

1. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]
2. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
3. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
6. Only gas treated to remove sulfur shall be burned in the flare. [District Rule 2201]
7. A flame shall be present at all times whenever combustible gases are vented through the flare. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Samir Sheikh, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
C-9639-1-0 : Oct 16 2020 9:33AM -- EDGEHILR : Joint Inspection NOT Required

8. The flare outlet shall be equipped with an automatic ignition system, or shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 2201]

9. The flare shall be equipped with an operational, non-resettable, totalizing mass or volumetric fuel flow meter or other District-approved alternative method to determine the quantity of gas flared. [District Rule 2201]

10. The flare shall be operated only for testing and maintenance, required regulatory purposes, and when gas pipeline is not available. [District Rules 2201 and 4102]

11. Flaring of digester gas for testing and maintenance, required regulatory purposes, and when gas pipeline is not available shall not exceed either of the following limits: 1,075.2 MMBtu (equivalent to 1.536 MMscf @ 700 Btu/scf) in any one day and 500 hours per calendar year equivalent to 22,400 MMBtu (equivalent to 32.0 MMscf @ 700 Btu/scf). [District Rules 2201 and 4102]

12. Emissions from the flare shall not exceed any of the following limits: 0.06 lb-NOx/MMBtu, 0.015 lb-PM10/MMBtu, 0.046 lb-CO/MMBtu, or 0.006 lb-VOC/MMBtu. [District Rule 2201]

13. The VOC content of the digester gas shall not exceed 10% by weight. [District Rule 2201]

14. Flare shall only combust gas containing no more than 1 gr S/100 scf . [District Rule 2201]

15. The permittee may utilize an averaging period of up to 24 hours in length for demonstration of compliance with the flared gas sulfur content limit. [District Rules 2201 and 4801]

16. Flared gas sulfur content analysis shall be performed within 60 days of initial startup operation, and at least once every 12 months thereafter, using EPA Method 11 or EPA Method 15, as appropriate. Records of the flared gas sulfur content analysis shall be maintained and provided to the District upon request. [District Rule 2201]

17. The sulfur content of the flared gas shall be monitored and recorded at least once every calendar quarter in which a flared gas sulfur content analysis is not performed. If quarterly monitoring shows a violation of the sulfur content limit of this permit, monthly monitoring will be required until six consecutive months of monitoring show compliance with the sulfur content limit. Once compliance with the sulfur content limit is shown for six consecutive months, then the monitoring frequency may return to quarterly. Monitoring shall not be required during periods in which the flare does not operate. [District Rule 2201]

18. Monitoring of the flared gas sulfur content shall be performed using gas detection tubes calibrated for H2S; a Testo 350 XL portable emission monitor; a continuous fuel gas monitor that meets the requirements specified in SCAQMD Rule 431.1, Attachment A; District-approved source test methods, including EPA Method 15, ASTM Method D1072, D4084, and D5504; District-approved in-line H2S monitors; or an alternative method approved by the District. Prior to utilization of in-line monitors to demonstrate compliance with the flared gas sulfur content limit of this permit, the permittee shall submit details of the proposed monitoring system, including the make, model, and detection limits, to the District and obtain District approval for the proposed monitor(s). [District Rule 2201]

19. Records of hydrogen sulfide analyzer(s) installed or utilized and the calibration records of such analyzer(s) shall be maintained. Records are only required on such analyzer(s) utilized to demonstrate compliance with this permit. [District Rule 2201]

20. The permittee shall maintain flare operation records including the dates of operation, the purpose of operation, and the daily and annual quantities of flared gas flared, in standard cubic feet (scf). [District Rule 2201]

21. The permittee shall maintain records of annual throughput, material usage, or other information necessary to demonstrate that this stationary source (C-9639) has the potential to emit, for all processes, less than ten (10.0) tons per year of VOC and less than ten (10.0) tons per year of NOx. [District Rule 4311]

22. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. Records may be maintained and submitted in an electronic format approved by the District. [District Rules 2201 and 4311]

San Joaquin Valley AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

AUTHORITY TO CONSTRUCT

PERMIT NO: C-9639-2-0 **ISSUANCE DATE:** 10/16/2020

LEGAL OWNER OR OPERATOR: BIOREM ENERGY, LLC
MAILING ADDRESS: 1060 CACTUS DR
POCATELLO, ID 83204

LOCATION: 21463 ROAD 4
CHOWCHILLA, CA 93610

EQUIPMENT DESCRIPTION:
2,146 BHP MTU MODEL 12V4000L64 NATURAL GAS-FIRED LEAN-BURN IC ENGINE WITH AN OXIDATION CATALYST AND A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM; POWERING AN ELECTRICAL GENERATOR

CONDITIONS

1. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
2. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
3. The permittee shall obtain written District approval for the use of any equivalent control equipment not specifically approved by this Authority to Construct. Approval of the equivalent control equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate control equipment is equivalent to the specifically authorized equipment. [District Rule 2010]
4. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010]
5. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Samir Sheikh, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services

C-9639-2-0 : Oct 16 2020 9:33AM -- EDGEHILR : Joint Inspection NOT Required

6. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or power rating may be authorized for any alternate equivalent equipment. The power rating of the equivalent equipment shall not be greater than 2,146 bhp. [District Rule 2201]
7. All equipment shall be maintained in good operating condition and shall be operated in a manner consistent with good air pollution control practice to minimize emissions of air contaminants. [District Rule 2201]
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
10. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
11. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
12. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. . [District Rule 4702]
13. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rules 2201 and 4702]
14. This engine shall be equipped with either a positive crankcase ventilation (PCV) system that recirculates crankcase emissions into the air intake system for combustion, or a crankcase emissions control device of at least 90% control efficiency. [District Rule 2201]
15. Ammonia (NH3) emissions from this engine shall not exceed 10 ppmvd @ 15% O2. [District Rules 2201 and 4102]
16. IC engine shall combust only PUC-regulated natural gas. [District Rules 2201, 4702, and 4801]
17. Operator shall perform expeditious completion of commissioning activities not to exceed 7 hr/day and 70 hr/yr, and shall use good work practice standards to minimize emissions. [District Rule 2201]
18. The owner/operator shall minimize the emissions from the engine to the maximum extent possible during the commissioning period. [District Rule 2201]
19. During commissioning period, use of oxidation catalyst and SCR systems are not required. [District Rule 2201]
20. Commissioning activities are defined as, but not limited to, all testing, adjustment, tuning, and calibration activities recommended by the equipment manufacturers and the construction contractor to ensure safe and reliable operation of the reciprocating IC engine, emission control equipment, and associated electrical delivery systems. [District Rule 2201]
21. Commissioning period shall commence when all mechanical, electrical, and control systems are installed and individual system startup has been completed, or when a reciprocating engine is first fired, whichever occurs first. The commissioning period shall terminate when the engine has completed initial performance testing, completed initial engine tuning, and the engine is available for commercial operation. [District Rule 2201]
22. The permittee shall submit a summary of activities to be performed during the commissioning period to the District at least two weeks prior to the first firing of this engine. The summary shall include a list of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described shall include, but are not limited to, the tuning of the engine, the installation and operation of the SCR system, the installation, calibration, and testing of emissions monitors, and any activities requiring the firing of this unit without abatement by the SCR system. [District Rule 2201]
23. During the commissioning period permittee shall monitor and record the stack concentration of NOx, CO, NH3, and O2 at least once daily using a portable emission monitor that meets District specifications. If either the NOx or CO concentrations corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration for commissioning, NSCR catalyst unit(s) shall be added and/or replaced as necessary to bring the unit back into compliance. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

24. No more than one (1) of units C-9639-2 thru '-4 may be commissioned at any given time. While commissioning any of these units, any number of the other three (3) units may be operated as long as they are operated under their normal, non-commissioning parameters. [District Rules 2201 and 4102]

25. Air-to-fuel ratio controller(s) shall be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [District Rule 2201 and 40 CFR 60, Subpart JJJJ]

26. At the earliest feasible opportunity, in accordance with the recommendations of the equipment supplier and the construction contractor, the engine shall be tuned to minimize emissions. [District Rule 2201]

27. At the earliest feasible opportunity, in accordance with the recommendations of the equipment supplier and the construction contractor, the Selective Catalytic Reduction (SCR) system and oxidation catalyst shall be installed, adjusted, and operated to minimize emissions from this unit. [District Rule 2201]

28. Emissions from this engine during the commissioning period shall not exceed any of the following limits: 79 ppmvd NOx @ 15% O2, NOx referenced as NO2; 0.033 g-PM10/bhp-hr; 389 ppmvd CO @ 15% O2; and 159 ppmvd VOC @ 15% O2, VOC referenced as methane. [District Rule 2201]

29. The total number of firing hours of this unit without abatement of emissions by the SCR and oxidation catalyst systems shall not exceed 70 hours during the commissioning period. Such operation of this unit without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR and oxidation catalyst systems. Upon completion of these activities, the permittee shall provide written notice to the District and the unused balance of the 70 firing hours without abatement shall expire. [District Rule 2201]

30. Emissions from this engine after the commissioning period shall not exceed any of the following limits: 2 ppmvd NOx @ 15% O2, NOx referenced as NO2; 0.033 g-PM10/bhp-hr; 9 ppmvd CO @ 15% O2; and 5 ppmvd VOC @ 15% O2, VOC referenced as methane. [District Rules 2201 and 4702]

31. The inlet temperature of the SCR catalyst and the reagent injection rate shall be monitored and recorded during times in which NOx emissions are being source tested or monitored with a portable analyzer. [District Rules 2201 and 4702]

32. The SCR catalyst shall be maintained and replaced in accordance with the recommendations of the catalyst manufacturer or emission control supplier. Records of catalyst maintenance and replacement shall be maintained. [District Rule 2201 and 4702]

33. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]

34. Source testing to measure NOx, CO, VOC, and ammonia (NH3) emissions from this unit shall be conducted within 60 days of startup and at least once every 24 months of operation thereafter. [District Rules 1081, 2201, and 4702]

35. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702]

36. For emissions source testing, the arithmetic average of three 60-consecutive-minute test runs shall apply. Each test run shall be conducted within 10 percent of 100 percent peak (or the highest achievable) load. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as both methane and propane. NOx, CO, VOC, and NH3 concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702]

37. Compliance with the applicable emission limits of NOx, CO, and VOC shall be demonstrated by submittal of annual emission test results, within 30 days of the test date, to the District, from a unit or units that represents a specified group of units, provided all of the following are requirements are satisfied: The units are located at the same stationary source; the units were produced by the same manufacturer, have the same model number or other manufacturer's designation in common, and have the same rated capacity and operating specifications; the units are operated and maintained in a similar manner; and at least 20% of the total number of units are tested during each annual test cycle. [District Rule 4702]

CONDITIONS CONTINUE ON NEXT PAGE

38. If any of the representative units exceed the required emission limits, or if the District notifies the operator that the criteria in Sections 6.3.6.1 through 6.3.6.5 have not been fulfilled, each of the units in the group shall individually demonstrate compliance by emissions testing. Failure to complete emissions testing within 90 days of the failed test shall result in the untested units being in violation of this rule. After compliance with the requirements of Section 6.3.6.6 has been demonstrated, subsequent source testing shall be performed pursuant to Sections 6.3.2 or 6.3.6. [District Rule 4702]

39. The following methods shall be used for emissions source testing: NOx (ppmv) - EPA Method 7E; CO (ppmv) - EPA Method 10; VOC (ppmv) - EPA Method 18, 25A or 25B; stack gas oxygen - EPA Method 3 or 3A; stack gas velocity - EPA Method 2 or EPA Method 19; stack gas moisture content - EPA Method 4; PM10 (filterable and condensable) - EPA Method 201 and 202, EPA Method 201a and 202, ARB Method 5 (front half and back half), or ARB Method 5 (front half and back half) in combination with Method 501; NH3 - BAAQMD ST-1B or SCAQMD Method 207-1. Alternative test methods as approved by EPA and the District may also be used to address the source testing requirements of this permit. [District Rules 1081 and 4702]

40. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]

41. The results of each source test shall be submitted to the District and EPA within 60 days after completion of the source test. [District Rules 1081 and 4702]

42. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx, CO, and O2 analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Emission Monitoring and Testing. [District Rule 1081]

43. During non-commissioning operation, the permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every calendar quarter (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

44. During non-commissioning operation, if either the NOx or CO concentrations corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702]

45. During non-commissioning operation, all alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]

46. During both commissioning and non-commissioning operation, the permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 15% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4702]

CONDITIONS CONTINUE ON NEXT PAGE

47. The results of the measurements taken with the District approved analyzer shall be retained on-site at all times. [District Rule 1081]

48. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]

49. The permittee shall maintain records of: (1) the date and time of NOx, CO, O2, and NH3 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations, corrected to 15% O2; and NH3 concentration, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, (5) the method of determining the NH3 emissions concentration, and (6) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201 and 4702]

50. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier, and as specified in the Inspection and Monitoring (I&M) plan. [District Rule 4702]

51. The permittee shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: the total hours of operation, the type and quantity of fuel used, maintenance and modifications performed, monitoring data, compliance source test results, and any other information necessary to demonstrate compliance. Quantity of fuel used shall be recorded in standard cubic feet using a non-resettable, totalizing mass or volumetric fuel flow meter or other APCO approved-device. [District Rules 2201 and 4702]

52. The owner/operator shall submit to the APCO for approval, and Inspection and Maintenance (I&M) plan that specifies all actions to be taken to satisfy all of the requirements of Rule 4702 Sections 5.8 and 6.5. [District Rule 4702]

53. The operator shall collect data through the I&M plan in a form approved by the APCO. [District Rule 4702]

54. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702]

55. Permittee shall keep records of natural gas purchase and/or tariff agreements for insection by the District upon request. [District Rule]

56. The permittee shall record total operating time of the engine in hours during the commissioning period. [District Rule 2201]

57. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. All records may be maintained and submitted in an electronic format approved by the District. [District Rules 2201 and 4702]

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

AUTHORITY TO CONSTRUCT

PERMIT NO: C-9639-3-0 **ISSUANCE DATE:** 10/16/2020

LEGAL OWNER OR OPERATOR: BIOREM ENERGY, LLC
MAILING ADDRESS: 1060 CACTUS DR
POCATELLO, ID 83204

LOCATION: 21463 ROAD 4
CHOWCHILLA, CA 93610

EQUIPMENT DESCRIPTION:
2,146 BHP MTU MODEL 12V4000L64 NATURAL GAS-FIRED LEAN-BURN IC ENGINE WITH AN OXIDATION CATALYST AND A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM; POWERING AN ELECTRICAL GENERATOR

CONDITIONS

1. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
2. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
3. The permittee shall obtain written District approval for the use of any equivalent control equipment not specifically approved by this Authority to Construct. Approval of the equivalent control equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate control equipment is equivalent to the specifically authorized equipment. [District Rule 2010]
4. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010]
5. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Samir Sheikh, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
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6. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or power rating may be authorized for any alternate equivalent equipment. The power rating of the equivalent equipment shall not be greater than 2,146 bhp. [District Rule 2201]
7. All equipment shall be maintained in good operating condition and shall be operated in a manner consistent with good air pollution control practice to minimize emissions of air contaminants. [District Rule 2201]
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
10. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
11. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
12. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. . [District Rule 4702]
13. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rules 2201 and 4702]
14. This engine shall be equipped with either a positive crankcase ventilation (PCV) system that recirculates crankcase emissions into the air intake system for combustion, or a crankcase emissions control device of at least 90% control efficiency. [District Rule 2201]
15. Ammonia (NH3) emissions from this engine shall not exceed 10 ppmvd @ 15% O2. [District Rules 2201 and 4102]
16. IC engine shall combust only PUC-regulated natural gas. [District Rules 2201, 4702, and 4801]
17. Operator shall perform expeditious completion of commissioning activities not to exceed 7 hr/day and 70 hr/yr, and shall use good work practice standards to minimize emissions. [District Rule 2201]
18. The owner/operator shall minimize the emissions from the engine to the maximum extent possible during the commissioning period. [District Rule 2201]
19. During commissioning period, use of oxidation catalyst and SCR systems are not required. [District Rule 2201]
20. Commissioning activities are defined as, but not limited to, all testing, adjustment, tuning, and calibration activities recommended by the equipment manufacturers and the construction contractor to ensure safe and reliable operation of the reciprocating IC engine, emission control equipment, and associated electrical delivery systems. [District Rule 2201]
21. Commissioning period shall commence when all mechanical, electrical, and control systems are installed and individual system startup has been completed, or when a reciprocating engine is first fired, whichever occurs first. The commissioning period shall terminate when the engine has completed initial performance testing, completed initial engine tuning, and the engine is available for commercial operation. [District Rule 2201]
22. The permittee shall submit a summary of activities to be performed during the commissioning period to the District at least two weeks prior to the first firing of this engine. The summary shall include a list of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described shall include, but are not limited to, the tuning of the engine, the installation and operation of the SCR system, the installation, calibration, and testing of emissions monitors, and any activities requiring the firing of this unit without abatement by the SCR system. [District Rule 2201]
23. During the commissioning period permittee shall monitor and record the stack concentration of NOx, CO, NH3, and O2 at least once daily using a portable emission monitor that meets District specifications. If either the NOx or CO concentrations corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration for commissioning, NSCR catalyst unit(s) shall be added and/or replaced as necessary to bring the unit back into compliance. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

24. No more than one (1) of units C-9639-2 thru '-4 may be commissioned at any given time. While commissioning any of these units, any number of the other three (3) units may be operated as long as they are operated under their normal, non-commissioning parameters. [District Rules 2201 and 4102]

25. Air-to-fuel ratio controller(s) shall be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [District Rule 2201 and 40 CFR 60, Subpart JJJJ]

26. At the earliest feasible opportunity, in accordance with the recommendations of the equipment supplier and the construction contractor, the engine shall be tuned to minimize emissions. [District Rule 2201]

27. At the earliest feasible opportunity, in accordance with the recommendations of the equipment supplier and the construction contractor, the Selective Catalytic Reduction (SCR) system and oxidation catalyst shall be installed, adjusted, and operated to minimize emissions from this unit. [District Rule 2201]

28. Emissions from this engine during the commissioning period shall not exceed any of the following limits: 79 ppmvd NOx @ 15% O2, NOx referenced as NO2; 0.033 g-PM10/bhp-hr; 389 ppmvd CO @ 15% O2; and 159 ppmvd VOC @ 15% O2, VOC referenced as methane. [District Rule 2201]

29. The total number of firing hours of this unit without abatement of emissions by the SCR and oxidation catalyst systems shall not exceed 70 hours during the commissioning period. Such operation of this unit without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR and oxidation catalyst systems. Upon completion of these activities, the permittee shall provide written notice to the District and the unused balance of the 70 firing hours without abatement shall expire. [District Rule 2201]

30. Emissions from this engine after the commissioning period shall not exceed any of the following limits: 2 ppmvd NOx @ 15% O2, NOx referenced as NO2; 0.033 g-PM10/bhp-hr; 9 ppmvd CO @ 15% O2; and 5 ppmvd VOC @ 15% O2, VOC referenced as methane. [District Rules 2201 and 4702]

31. The inlet temperature of the SCR catalyst and the reagent injection rate shall be monitored and recorded during times in which NOx emissions are being source tested or monitored with a portable analyzer. [District Rules 2201 and 4702]

32. The SCR catalyst shall be maintained and replaced in accordance with the recommendations of the catalyst manufacturer or emission control supplier. Records of catalyst maintenance and replacement shall be maintained. [District Rule 2201 and 4702]

33. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]

34. Source testing to measure NOx, CO, VOC, and ammonia (NH3) emissions from this unit shall be conducted within 60 days of startup and at least once every 24 months of operation thereafter. [District Rules 1081, 2201, and 4702]

35. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702]

36. For emissions source testing, the arithmetic average of three 60-consecutive-minute test runs shall apply. Each test run shall be conducted within 10 percent of 100 percent peak (or the highest achievable) load. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as both methane and propane. NOx, CO, VOC, and NH3 concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702]

37. Compliance with the applicable emission limits of NOx, CO, and VOC shall be demonstrated by submittal of annual emission test results, within 30 days of the test date, to the District, from a unit or units that represents a specified group of units, provided all of the following are requirements are satisfied: The units are located at the same stationary source; the units were produced by the same manufacturer, have the same model number or other manufacturer's designation in common, and have the same rated capacity and operating specifications; the units are operated and maintained in a similar manner; and at least 20% of the total number of units are tested during each annual test cycle. [District Rule 4702]

CONDITIONS CONTINUE ON NEXT PAGE

38. If any of the representative units exceed the required emission limits, or if the District notifies the operator that the criteria in Sections 6.3.6.1 through 6.3.6.5 have not been fulfilled, each of the units in the group shall individually demonstrate compliance by emissions testing. Failure to complete emissions testing within 90 days of the failed test shall result in the untested units being in violation of this rule. After compliance with the requirements of Section 6.3.6.6 has been demonstrated, subsequent source testing shall be performed pursuant to Sections 6.3.2 or 6.3.6. [District Rule 4702]

39. The following methods shall be used for emissions source testing: NOx (ppmv) - EPA Method 7E; CO (ppmv) - EPA Method 10; VOC (ppmv) - EPA Method 18, 25A or 25B; stack gas oxygen - EPA Method 3 or 3A; stack gas velocity - EPA Method 2 or EPA Method 19; stack gas moisture content - EPA Method 4; PM10 (filterable and condensable) - EPA Method 201 and 202, EPA Method 201a and 202, ARB Method 5 (front half and back half), or ARB Method 5 (front half and back half) in combination with Method 501; NH3 - BAAQMD ST-1B or SCAQMD Method 207-1. Alternative test methods as approved by EPA and the District may also be used to address the source testing requirements of this permit. [District Rules 1081 and 4702]

40. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]

41. The results of each source test shall be submitted to the District and EPA within 60 days after completion of the source test. [District Rules 1081 and 4702]

42. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx, CO, and O2 analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Emission Monitoring and Testing. [District Rule 1081]

43. During non-commissioning operation, the permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every calendar quarter (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

44. During non-commissioning operation, if either the NOx or CO concentrations corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702]

45. During non-commissioning operation, all alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]

46. During both commissioning and non-commissioning operation, the permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 15% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4702]

CONDITIONS CONTINUE ON NEXT PAGE

47. The results of the measurements taken with the District approved analyzer shall be retained on-site at all times. [District Rule 1081]

48. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]

49. The permittee shall maintain records of: (1) the date and time of NOx, CO, O2, and NH3 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations, corrected to 15% O2; and NH3 concentration, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, (5) the method of determining the NH3 emissions concentration, and (6) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201 and 4702]

50. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier, and as specified in the Inspection and Monitoring (I&M) plan. [District Rule 4702]

51. The permittee shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: the total hours of operation, the type and quantity of fuel used, maintenance and modifications performed, monitoring data, compliance source test results, and any other information necessary to demonstrate compliance. Quantity of fuel used shall be recorded in standard cubic feet using a non-resettable, totalizing mass or volumetric fuel flow meter or other APCO approved-device. [District Rules 2201 and 4702]

52. The owner/operator shall submit to the APCO for approval, and Inspection and Maintenance (I&M) plan that specifies all actions to be taken to satisfy all of the requirements of Rule 4702 Sections 5.8 and 6.5. [District Rule 4702]

53. The operator shall collect data through the I&M plan in a form approved by the APCO. [District Rule 4702]

54. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702]

55. Permittee shall keep records of natural gas purchase and/or tariff agreements for insection by the District upon request. [District Rule]

56. The permittee shall record total operating time of the engine in hours during the commissioning period. [District Rule 2201]

57. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. All records may be maintained and submitted in an electronic format approved by the District. [District Rules 2201 and 4702]

AUTHORITY TO CONSTRUCT

PERMIT NO: C-9639-4-0 **ISSUANCE DATE:** 10/16/2020

LEGAL OWNER OR OPERATOR: BIOREM ENERGY, LLC
MAILING ADDRESS: 1060 CACTUS DR
POCATELLO, ID 83204

LOCATION: 21463 ROAD 4
CHOWCHILLA, CA 93610

EQUIPMENT DESCRIPTION:
2,146 BHP MTU MODEL 12V4000L64 NATURAL GAS-FIRED LEAN-BURN IC ENGINE WITH AN OXIDATION CATALYST AND A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM; POWERING AN ELECTRICAL GENERATOR

CONDITIONS

1. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
2. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
3. The permittee shall obtain written District approval for the use of any equivalent control equipment not specifically approved by this Authority to Construct. Approval of the equivalent control equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate control equipment is equivalent to the specifically authorized equipment. [District Rule 2010]
4. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010]
5. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Samir Sheikh, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
C-9639-4-0 : Oct 16 2020 9:33AM -- EDGEHILR : Joint Inspection NOT Required

6. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or power rating may be authorized for any alternate equivalent equipment. The power rating of the equivalent equipment shall not be greater than 2,146 bhp. [District Rule 2201]
7. All equipment shall be maintained in good operating condition and shall be operated in a manner consistent with good air pollution control practice to minimize emissions of air contaminants. [District Rule 2201]
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
10. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
11. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
12. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. . [District Rule 4702]
13. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rules 2201 and 4702]
14. This engine shall be equipped with either a positive crankcase ventilation (PCV) system that recirculates crankcase emissions into the air intake system for combustion, or a crankcase emissions control device of at least 90% control efficiency. [District Rule 2201]
15. Ammonia (NH3) emissions from this engine shall not exceed 10 ppmvd @ 15% O2. [District Rules 2201 and 4102]
16. IC engine shall combust only PUC-regulated natural gas. [District Rules 2201, 4702, and 4801]
17. Operator shall perform expeditious completion of commissioning activities not to exceed 7 hr/day and 70 hr/yr, and shall use good work practice standards to minimize emissions. [District Rule 2201]
18. The owner/operator shall minimize the emissions from the engine to the maximum extent possible during the commissioning period. [District Rule 2201]
19. During commissioning period, use of oxidation catalyst and SCR systems are not required. [District Rule 2201]
20. Commissioning activities are defined as, but not limited to, all testing, adjustment, tuning, and calibration activities recommended by the equipment manufacturers and the construction contractor to ensure safe and reliable operation of the reciprocating IC engine, emission control equipment, and associated electrical delivery systems. [District Rule 2201]
21. Commissioning period shall commence when all mechanical, electrical, and control systems are installed and individual system startup has been completed, or when a reciprocating engine is first fired, whichever occurs first. The commissioning period shall terminate when the engine has completed initial performance testing, completed initial engine tuning, and the engine is available for commercial operation. [District Rule 2201]
22. The permittee shall submit a summary of activities to be performed during the commissioning period to the District at least two weeks prior to the first firing of this engine. The summary shall include a list of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described shall include, but are not limited to, the tuning of the engine, the installation and operation of the SCR system, the installation, calibration, and testing of emissions monitors, and any activities requiring the firing of this unit without abatement by the SCR system. [District Rule 2201]
23. During the commissioning period permittee shall monitor and record the stack concentration of NOx, CO, NH3, and O2 at least once daily using a portable emission monitor that meets District specifications. If either the NOx or CO concentrations corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration for commissioning, NSCR catalyst unit(s) shall be added and/or replaced as necessary to bring the unit back into compliance. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

24. No more than one (1) of units C-9639-2 thru '-4 may be commissioned at any given time. While commissioning any of these units, any number of the other three (3) units may be operated as long as they are operated under their normal, non-commissioning parameters. [District Rules 2201 and 4102]

25. Air-to-fuel ratio controller(s) shall be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [District Rule 2201 and 40 CFR 60, Subpart JJJJ]

26. At the earliest feasible opportunity, in accordance with the recommendations of the equipment supplier and the construction contractor, the engine shall be tuned to minimize emissions. [District Rule 2201]

27. At the earliest feasible opportunity, in accordance with the recommendations of the equipment supplier and the construction contractor, the Selective Catalytic Reduction (SCR) system and oxidation catalyst shall be installed, adjusted, and operated to minimize emissions from this unit. [District Rule 2201]

28. Emissions from this engine during the commissioning period shall not exceed any of the following limits: 79 ppmvd NOx @ 15% O2, NOx referenced as NO2; 0.033 g-PM10/bhp-hr; 389 ppmvd CO @ 15% O2; and 159 ppmvd VOC @ 15% O2, VOC referenced as methane. [District Rule 2201]

29. The total number of firing hours of this unit without abatement of emissions by the SCR and oxidation catalyst systems shall not exceed 70 hours during the commissioning period. Such operation of this unit without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR and oxidation catalyst systems. Upon completion of these activities, the permittee shall provide written notice to the District and the unused balance of the 70 firing hours without abatement shall expire. [District Rule 2201]

30. Emissions from this engine after the commissioning period shall not exceed any of the following limits: 2 ppmvd NOx @ 15% O2, NOx referenced as NO2; 0.033 g-PM10/bhp-hr; 9 ppmvd CO @ 15% O2; and 5 ppmvd VOC @ 15% O2, VOC referenced as methane. [District Rules 2201 and 4702]

31. The inlet temperature of the SCR catalyst and the reagent injection rate shall be monitored and recorded during times in which NOx emissions are being source tested or monitored with a portable analyzer. [District Rules 2201 and 4702]

32. The SCR catalyst shall be maintained and replaced in accordance with the recommendations of the catalyst manufacturer or emission control supplier. Records of catalyst maintenance and replacement shall be maintained. [District Rule 2201 and 4702]

33. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]

34. Source testing to measure NOx, CO, VOC, and ammonia (NH3) emissions from this unit shall be conducted within 60 days of startup and at least once every 24 months of operation thereafter. [District Rules 1081, 2201, and 4702]

35. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702]

36. For emissions source testing, the arithmetic average of three 60-consecutive-minute test runs shall apply. Each test run shall be conducted within 10 percent of 100 percent peak (or the highest achievable) load. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as both methane and propane. NOx, CO, VOC, and NH3 concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702]

37. Compliance with the applicable emission limits of NOx, CO, and VOC shall be demonstrated by submittal of annual emission test results, within 30 days of the test date, to the District, from a unit or units that represents a specified group of units, provided all of the following are requirements are satisfied: The units are located at the same stationary source; the units were produced by the same manufacturer, have the same model number or other manufacturer's designation in common, and have the same rated capacity and operating specifications; the units are operated and maintained in a similar manner; and at least 20% of the total number of units are tested during each annual test cycle. [District Rule 4702]

CONDITIONS CONTINUE ON NEXT PAGE

38. If any of the representative units exceed the required emission limits, or if the District notifies the operator that the criteria in Sections 6.3.6.1 through 6.3.6.5 have not been fulfilled, each of the units in the group shall individually demonstrate compliance by emissions testing. Failure to complete emissions testing within 90 days of the failed test shall result in the untested units being in violation of this rule. After compliance with the requirements of Section 6.3.6.6 has been demonstrated, subsequent source testing shall be performed pursuant to Sections 6.3.2 or 6.3.6. [District Rule 4702]

39. The following methods shall be used for emissions source testing: NOx (ppmv) - EPA Method 7E; CO (ppmv) - EPA Method 10; VOC (ppmv) - EPA Method 18, 25A or 25B; stack gas oxygen - EPA Method 3 or 3A; stack gas velocity - EPA Method 2 or EPA Method 19; stack gas moisture content - EPA Method 4; PM10 (filterable and condensable) - EPA Method 201 and 202, EPA Method 201a and 202, ARB Method 5 (front half and back half), or ARB Method 5 (front half and back half) in combination with Method 501; NH3 - BAAQMD ST-1B or SCAQMD Method 207-1. Alternative test methods as approved by EPA and the District may also be used to address the source testing requirements of this permit. [District Rules 1081 and 4702]

40. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]

41. The results of each source test shall be submitted to the District and EPA within 60 days after completion of the source test. [District Rules 1081 and 4702]

42. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx, CO, and O2 analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Emission Monitoring and Testing. [District Rule 1081]

43. During non-commissioning operation, the permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every calendar quarter (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

44. During non-commissioning operation, if either the NOx or CO concentrations corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702]

45. During non-commissioning operation, all alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]

46. During both commissioning and non-commissioning operation, the permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 15% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4702]

CONDITIONS CONTINUE ON NEXT PAGE

47. The results of the measurements taken with the District approved analyzer shall be retained on-site at all times. [District Rule 1081]

48. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]

49. The permittee shall maintain records of: (1) the date and time of NOx, CO, O2, and NH3 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations, corrected to 15% O2; and NH3 concentration, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, (5) the method of determining the NH3 emissions concentration, and (6) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201 and 4702]

50. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier, and as specified in the Inspection and Monitoring (I&M) plan. [District Rule 4702]

51. The permittee shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: the total hours of operation, the type and quantity of fuel used, maintenance and modifications performed, monitoring data, compliance source test results, and any other information necessary to demonstrate compliance. Quantity of fuel used shall be recorded in standard cubic feet using a non-resettable, totalizing mass or volumetric fuel flow meter or other APCO approved-device. [District Rules 2201 and 4702]

52. The owner/operator shall submit to the APCO for approval, and Inspection and Maintenance (I&M) plan that specifies all actions to be taken to satisfy all of the requirements of Rule 4702 Sections 5.8 and 6.5. [District Rule 4702]

53. The operator shall collect data through the I&M plan in a form approved by the APCO. [District Rule 4702]

54. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702]

55. Permittee shall keep records of natural gas purchase and/or tariff agreements for insection by the District upon request. [District Rule]

56. The permittee shall record total operating time of the engine in hours during the commissioning period. [District Rule 2201]

57. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. All records may be maintained and submitted in an electronic format approved by the District. [District Rules 2201 and 4702]