



AUG 19 2013

N. Ross Buckenham
ABEC Bidart-Old River LLC
c/o California Bioenergy, LLC
2828 Routh Street Suite 500
Dallas, TX 75201-1438

RE: Notice of Final Action - Authority to Construct
Facility Number: S-7767
Project Number: S-1120734

Dear Mr. Buckenham:

The Air Pollution Control Officer has issued the Authority to Construct permits to ABEC Bidart-Old River LLC for installation of an anaerobic digester system and three 1,412 bhp digester gas-fired IC engines equipped with selective catalytic reduction (SCR) systems for emissions control, at Bidart Dairy located at 20400 Old River Road, Bakersfield, CA. Enclosed are the Authority to Construct permits and a copy of the notice of final action to be published approximately three days from the date of this letter.

Notice of the District's preliminary decision to issue the Authority to Construct permits was published on July 11, 2013. The District's analysis of the proposal was also sent to CARB on July 8, 2013. 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.

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

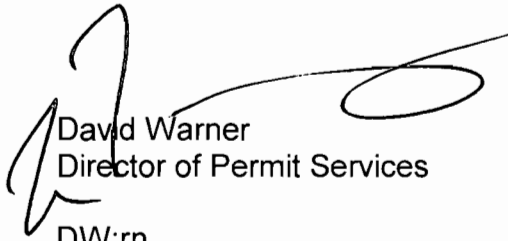
Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

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

Mr. N. Ross Buckenham
Page 2

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Jim Swaney at (559) 230-6000.

Sincerely,



David Warner
Director of Permit Services
DW:rn

Enclosures

cc: Mike Tollstrup, CARB (w/enclosure) via email

Bakersfield Californian

Newspaper notice for publication in Bakersfield Californian and for posting on
valleyair.org

**NOTICE OF FINAL ACTION
FOR THE ISSUANCE OF
AUTHORITY TO CONSTRUCT PERMITS**

NOTICE IS HEREBY GIVEN that the Air Pollution Control Officer has issued the Authority to Construct permits to ABEC Bidart-Old River LLC for installation of an anaerobic digester system and three 1,412 bhp digester gas-fired IC engines equipped with selective catalytic reduction (SCR) systems for emissions control, at Bidart Dairy located at 20400 Old River Road, Bakersfield, CA.

No comments were received following the District's preliminary decision on this project.

The application review for Project #1120734 is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm, the SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 1990 EAST GETTYSBURG AVENUE, FRESNO, CA 93726, and at any other District office. For additional information, please contact the District at (559) 230-6000.



AUTHORITY TO CONSTRUCT

PERMIT NO: S-7767-13-0

ISSUANCE DATE: 08/14/2013

LEGAL OWNER OR OPERATOR: ABEC BIDART-OLD RIVER LLC
MAILING ADDRESS: C/O CALIFORNIA BIOENERGY LLC
2828 ROUTH STREET SUITE 500
DALLAS, TX 75201-1438

LOCATION: 20400 OLD RIVER ROAD
BAKERSFIELD, CA

EQUIPMENT DESCRIPTION:

ANAEROBIC DIGESTER SYSTEM CONSISTING OF ONE 780' LONG X 270' WIDE X 24.5' DEEP (~29,752,505 GAL) COVERED LAGOON ANAEROBIC DIGESTER AND ONE 1,222' LONG X 216' WIDE X 22.75' DEEP (~34,252,385 GAL) COVERED LAGOON ANAEROBIC DIGESTER

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. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. 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]
4. The anaerobic digester system's covered lagoon digester system shall be configured and operated in accordance with National Resource Conservation Service (NRCS) California Field Office Technical Guide Code 366: Anaerobic Digester or other standards approved by the District. The covered lagoon anaerobic digester system shall have an average retention time of at least thirty eight (38) days. [District Rule 2201]
5. The permittee shall maintain records of the design specifications and calculations, including Minimum Treatment Volume (MTV), Hydraulic Retention Time (HRT), and volatile solids loading rate, of the covered lagoon anaerobic digester systems in order to demonstrate that each digester has been designed and is operating in accordance with the applicable National Resource Conservation Service (NRCS) technical guide. [District Rules 1070 and 2201]
6. The VOC content of the digester gas produced by the digester system shall not exceed 10% by weight. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 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.

Seyed Sadredin, Executive Director / APCO



DAVID WARNER, Director of Permit Services

S-7767-13-0, Aug 14 2013 2:43PM -- NORMANR : Joint Inspection Required with NORMANR

7. The digester system shall be designed to allow gas generated during summer conditions to be stored for more than 24 hours prior to venting in the event that the gas cannot be combusted in digester gas-fired engines or sent to another device with a VOC control efficiency of at least 95% by weight as determined by the APCO. [District Rule 2201]
8. 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 1070 and 2201]
9. This permit does not authorize the violation of any conditions established for this facility in the Conditional Use Permit (CUP), Special Use Permit (SUP), Site Approval, Site Plan Review (SPR), or other approval documents issued by a local, state, or federal agency. [Public Resources Code 21000-21177: California Environmental Quality Act]
10. 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]
11. The permittee's request for approval of equivalent equipment shall include, as applicable, the make, model, manufacturer's maximum rating, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010]
12. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
13. 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 firing rate may be authorized for any alternate equipment. [District Rule 2201]



AUTHORITY TO CONSTRUCT

PERMIT NO: S-7767-14-0

ISSUANCE DATE: 08/14/2013

LEGAL OWNER OR OPERATOR: ABEC BIDART-OLD RIVER LLC
MAILING ADDRESS: C/O CALIFORNIA BIOENERGY LLC
2828 ROUTH STREET SUITE 500
DALLAS, TX 75201-1438

LOCATION: 20400 OLD RIVER ROAD
BAKERSFIELD, CA

EQUIPMENT DESCRIPTION:

1,412 BHP CATERPILLAR MODEL G3516A+ (OR DISTRICT APPROVED EQUIVALENT) DIGESTER GAS-FIRED LEAN-BURN IC ENGINE WITH A JOHNSON MATTHEY SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM, AND AN IRON SPONGE H2S SCRUBBER (OR EQUIVALENT H2S REMOVAL SYSTEM) POWERING AN ELECTRICAL GENERATOR

CONDITIONS

1. 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 and 40 CFR 60, Subpart JJJJ]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. 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]
5. 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]
6. The minimum exhaust stack height shall be at least 30 feet above the ground. [District Rules 2201 and 4102]
7. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified in the Inspection and Monitoring (I&M) plan. [District Rule 4702]
8. This engine shall be operated within the ranges that the source testing has shown result in pollution concentrations within the emissions limits as specified on this permit. [District Rule 4702]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 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.

Seyed Sadredin, Executive Director / APCO



DAVID WARNER, Director of Permit Services

S-7767-14-0, Aug 14 2013 2:43PM -- NORMANR : Joint Inspection Required with NORMANR

9. This engine shall be fired only on digester gas as fuel except in the case that insufficient digester gas is available for the engine at the time that the required utility interconnect testing is scheduled the engine *will be permitted to fire* sufficient natural gas fuel to complete the required utility interconnect testing. [District Rule 2201]
10. During times this engine is fueled with natural gas for required utility interconnect testing, the engine shall continue to comply with all emission standards and limitations contained in this permit. [District Rule 2201]
11. The total amount of electrical energy produced by this engine while fueled on natural gas for required utility interconnect testing shall not exceed 96,000 kW-hrs. The following records shall be maintained: 1) date(s) and time(s) that this engine is fueled with natural gas for utility testing, 2) the total amount of electrical energy (kW-hr) produced by this engine when fueled with natural gas for utility testing, and 3) the total number of hours that this engine is fueled with natural gas. [District Rule 2201]
12. The sulfur content of the digester gas used as fuel in this engine shall not exceed 40 ppmv as H₂S. The District may approve an averaging period of up to one calendar day in length for demonstration of compliance with the fuel sulfur content limit. [District Rules 2201, 4702, and 4801]
13. This engine shall be equipped with an operational non-resettable elapsed time meter. [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. The owner/operator shall minimize the emissions from the engine to the maximum extent possible during the commissioning period. Conditions #16 through #26 shall apply only during the commissioning period as defined below. Unless otherwise indicated, conditions #27 through #51 shall apply after the commissioning period has ended. [District Rule 2201]
16. 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]
17. 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. The total duration of the commissioning period for this engine shall not exceed 120 hours of operation of the engine. [District Rule 2201]
18. No more than two of the digester gas-fired IC engines at this facility (Permit Units S-7767-14, S-7767-15, and S-7767-16) shall be operated for commissioning purposes at any one time without the Selective Catalytic Reduction (SCR) systems in place and operating. [District Rule 2201]
19. 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]
20. At the earliest feasible opportunity, in accordance with the recommendations of the equipment supplier and the construction contractor, the Selective Catalytic Reduction (SCR) system shall be installed, adjusted, and operated to minimize emissions from this unit. [District Rule 2201]
21. The permittee shall submit a plan to the District at least two weeks prior to the first firing of this engine unit, 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 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]
22. Emission rates from this engine unit during the commissioning period shall not exceed any of the following limits: 1.0 g-NO_x/bhp-hr, 0.031 g-PM₁₀/bhp-hr, 4.85 g-CO/bhp-hr, 1.0 g-VOC/bhp-hr. [District Rule 2201]
23. The permittee shall record total operating time of the engine in hours and total amount of gas (scf) used by the engine during the commissioning period. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

24. The total number of firing hours of this unit without abatement of emissions by the SCR system shall not exceed 120 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 system. Upon completion of these activities, the permittee shall provide written notice to the District and the unused balance of the 120 firing hours without abatement shall expire. [District Rule 2201]
25. The total heat input of the engine during the commissioning period and total mass emissions of NO_x that are emitted during the commissioning period shall accrue towards the consecutive twelve month limits specified in condition #54. [District Rule 2201]
26. Coincident with the end of the commissioning period, emissions from this unit shall comply with the emission limits specified in conditions #27 and #30 below. [District Rule 2201]
27. Emissions from this IC engine shall not exceed any of the following limits: 0.15 g-NO_x/bhp-hr (equivalent to 11.0 ppmvd NO_x @ 15% O₂), NO_x referenced as NO₂; 0.031 g-PM₁₀/bhp-hr; 1.75 g-CO/bhp-hr (equivalent to 210 ppmvd CO @ 15% O₂); 0.10 g-VOC/bhp-hr (equivalent to 20 ppmvd VOC @ 15% O₂), VOC referenced as methane. [District Rules 2201 and 4702]
28. The District has preliminarily determined that an emission limit of 0.15 g-NO_x/bhp-hr constitutes BACT for NO_x emissions from this engine. The permittee shall perform actions necessary to comply with this NO_x limit to the extent feasible. If NO_x emissions from the engine continue to exceed 0.15 g/bhp-hr after 12 months of operation, the permittee may submit a report to the District requesting a revised BACT determination for NO_x emissions from this engine. The report shall contain all monitoring and source test information and shall include an explanation of the steps taken to operate and maintain the engine in a manner as to minimize NO_x emissions and a detailed analysis of all factors that prevent compliance with the NO_x emissions limit. In the report, the permittee may also propose a revised BACT emission limit for NO_x for inclusion in this permit. If the permittee does not submit a report requesting a revised BACT determination within 18 months of initial startup of this engine, the 0.15 g-NO_x/bhp-hr emission limit shall be confirmed. [District Rule 2201]
29. If required, within 60 days of receipt of the report from the permittee, the District shall confirm or revise the BACT limit for NO_x, including establishment of any applicable averaging periods. The revised BACT limit shall be determined to the satisfaction of the Air Pollution Control Officer in accordance with District Rule 2201 and the District's BACT policy, after at least 12 months of operating history and a source test. Within 30 days of receipt of the District's determination of a revised BACT limit, the permittee shall submit an Authority to Construct application to incorporate the revised emissions limit(s). In no case shall the revised BACT emission limit be greater than 0.60 g-NO_x/bhp-hr (equivalent to 44 ppmvd NO_x @ 15% O₂). If NO_x emissions do not exceed 0.60 g-NO_x/bhp-hr, the engine may continue to operate until the Authority to Construct permit that includes the revised NO_x emission limit has been issued. [District Rule 2201]
30. Until the BACT limit for NO_x from this engine is confirmed or an Authority to Construct permit that includes a revised NO_x emission limit established by the District has been issued, NO_x emissions (as NO₂) from this engine in excess of 0.15 g/bhp-hr but not exceeding 0.60 g/bhp-hr shall not constitute a violation of this permit provided that NO_x emissions are limited to the lowest achievable emission rate to satisfy BACT and the permittee complies with all other emission limitations and operational and design conditions contained in this permit. [District Rule 2201]
31. The temperature of the SCR catalyst shall be maintained within the range for the highest efficiency for NO_x reduction as specified by the catalyst manufacturer or emission control supplier. [District Rule 2201 and 4702]
32. The inlet temperature of the SCR catalyst and the reagent injection rate shall be monitored and recorded during times in which NO_x emissions are being source tested or monitored with a portable analyzer. [District Rule 2201 and 4702]
33. 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]
34. Ammonia (NH₃) emissions from this engine shall not exceed 10 ppmvd @ 15% O₂. [District Rules 2201 and 4102]
35. 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]

CONDITIONS CONTINUE ON NEXT PAGE

36. Source testing to measure NO_x, CO, VOC, PM₁₀, and ammonia (NH₃) emissions from this unit shall be conducted within 120 days of initial start-up. [District Rules 1081, 2201, and 4702 and 40 CFR 60, Subpart JJJJ]
37. Source testing to measure NO_x, CO, VOC, and ammonia (NH₃) emissions from this unit shall be conducted at least once every 8,760 hours of operation or 24 months, whichever comes first. [District Rules 1081, 2201, and 4702 and 40 CFR 60, Subpart JJJJ]
38. 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]
39. 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. NO_x, CO, VOC, and NH₃ concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60, Subpart JJJJ]
40. The following methods shall be used for source testing: NO_x (ppmv) - EPA Method 7E; CO (ppmv) - EPA Method 10; VOC (ppmv) - EPA Method 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, or ARB Method 5 in combination with 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 and 40 CFR 60, Subpart JJJJ]
41. 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]
42. The results of each source test shall be submitted to the District and EPA within 60 days after completion of the source test. [District Rule 1081 and 40 CFR 60, Subpart JJJJ]
43. Fuel sulfur content analysis shall be performed at least annually using EPA Method 11 or EPA Method 15, as appropriate. Records of the fuel sulfur analysis shall be maintained and provided it to the District upon request. [District Rules 2201 and 4702]
44. The sulfur content of the digester gas used to fuel the engine shall be monitored and recorded at least once every calendar quarter in which a fuel sulfur analysis is not performed. If quarterly monitoring shows a violation of the fuel sulfur content limit of this permit, monthly monitoring will be required until six consecutive months of monitoring show compliance with the fuel sulfur content limit. Once compliance with the fuel sulfur content limit is shown for six consecutive months, then the monitoring frequency may return to quarterly. Monitoring of the sulfur content of the digester gas fuel shall not be required if the engine does not operate during that period. Records of the results of monitoring of the digester gas fuel sulfur content shall be maintained. [District Rule 2201]
45. Monitoring of the digester 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 digester 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]
46. 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 NO_x, 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]

CONDITIONS CONTINUE ON NEXT PAGE

47. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. [In-stack emission monitors may be allowed if they satisfy the standards required for portable analyzers as specified in District policies and are approved in writing by the APCO.] 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. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. After the BACT limit for NO_x is confirmed or an Authority to Construct permit has been issued for this engine that includes an approved NO_x emission limit, the permittee may submit a written request to the APCO to reduce the frequency of required portable analyzer stack concentration monitoring from monthly to quarterly. The request shall include details of operating parameters that ensure reasonable compliance with the applicable NO_x and CO emission limits that will be monitored at least monthly. Prior to reducing the frequency of stack concentration monitoring from monthly to quarterly, the request must be approved by the APCO and a permit must be issued including conditions for the APCO-approved operating parameters that shall be monitored at least monthly. [District Rules 2201 and 4702]
48. The permittee shall monitor and record the stack concentration of NH₃ at least once every calendar quarter in which a source test is not performed. NH₃ monitoring shall be conducted utilizing District approved gas-detection tubes or a District approved equivalent method. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last quarter. [District Rules 2201 and 4102]
49. If the NO_x, CO, or NH₃ concentrations, as measured by the portable analyzer or the District approved ammonia monitoring equipment, 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. Until the BACT limit for NO_x from this engine is confirmed or an Authority to Construct permit that includes a revised NO_x emission limit established by the District has been issued, NO_x emissions not exceeding 0.60 g-NO_x/bhp-hr (equivalent to 44 ppmvd NO_x @ 15% O₂) are not subject to the requirements contained in this condition to source test or stipulate that an emissions violation has occurred. [District Rules 2201 and 4702]
50. 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]
51. The permittee shall maintain records of: (1) the date and time of NO_x, CO, O₂, and NH₃ measurements, (2) the O₂ concentration in percent and the measured NO_x, CO, and NH₃ concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, (5) the method of determining the NH₃ emission concentration, and (6) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201 and 4702]
52. 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 during commissioning period(s), the type and quantity of fuel used during normal operation, 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 and 40 CFR 60, Subpart JJJJ]

CONDITIONS CONTINUE ON NEXT PAGE

53. 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]
54. The total combined NO_x (as NO₂) emissions from permit units S-7767-14, S-7767-15, and S-7767-16 (digester gas-fired IC engines) shall not exceed 19,999 lb during any consecutive 12-month rolling period. To demonstrate compliance with the 12-month rolling combined NO_x emission limit, monthly emissions for each engine shall be calculated by multiplying the heat input (MMBtu) (based on the HHV of the fuel) of the engine during commissioning periods and normal operation during that month by the applicable emissions factors given in this permit or approved by the District, or by multiplying the maximum power rating of each engine by the run time of the engine during commissioning periods and normal operation during that month and the applicable emissions factors given in this permit or approved by the District. The heat input-based emission factor used for during commissioning shall be: 0.286 lb-NO_x/MMBtu. The following heat input-based emission factors shall be used for during normal operation: 0.045 lb-NO_x/MMBtu if the engine demonstrates compliance with the 0.15 g-NO_x/bhp-hr emission limit, otherwise 0.173 lb-NO_x/MMBtu. The District may approve use of alternate emission factor(s) to calculate NO_x emissions during normal operation based on the most recently completed fuel analysis and monitoring or source test results to determine NO_x emissions provided that the alternate emission factor is at least as great as the emission factor determined by the source test or monthly monitoring for the period for which the alternate emission factor will be used to demonstrate compliance with the limit. The minimum alternate emission factor used shall be calculated as follows or using another method approved by the District: (lb-NO_x/MMBtu) = (measured ppmv @15% O₂) x (Fuel F-Factor dry) x (4.294E-7). The permittee shall obtain written approval from the District prior to use of alternative emission factor(s). The District will respond to a permittee request for use of an alternate emission factor based on supporting source test data within 30 days following the receipt of the request from the permittee. [District Rule 2201]
55. The permittee shall compile and maintain the following records for permit units S-7767-14, S-7767-15, and S-7767-16 (digester gas-fired IC engines): 1) the total operating time for each unit each month, 2) the total operating time for each unit during the previous 12-month rolling period, 3) the total amount of gas (scf) used in each unit each month, 4) the total amount of gas (scf) used in each of the units during the previous 12-month rolling period, 5) the calculated total heat input (MMBtu) for each unit each month, 6) the calculated total heat input (MMBtu) for each unit during the previous 12-month rolling period, 7) the calculated total NO_x emissions (in lbs) for each unit each month, and 8) the calculated total NO_x emissions for all the units during the previous 12-month rolling period. This condition may be deleted at the request of the applicant after the BACT limit for NO_x is confirmed or Authority to Construct permits have been issued that include approved NO_x emission limit(s) that ensure compliance with the total combined NO_x emission limit in this permit for permit units S-7767-14, S-7767-15, and S-7767-16. [District Rule 2201]
56. The methane content of the digester gas used to fuel the engines shall be measured and the heating value of the digester gas shall be determined at least once every calendar quarter. Records of the measured methane content and heating value of the digester gas shall be maintained. [District Rule 2201]
57. The Higher Heating Value (HHV) of the fuel gas shall be determined using ASTM D1826, ASTM 1945 in conjunction with ASTM D3588, or an alternative method approved by the District. [District Rules 2201 and 4702]
58. Records of any analyzer(s) installed or utilized to monitor methane, oxygen, and hydrogen sulfide shall be maintained and shall be made available for District inspection upon request. [District Rule 2201]
59. During the first 18 months after initial startup, when requested by the District, the permittee shall perform and submit a fuel analysis of the digester gas. [District Rule 2201]
60. 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 and 40 CFR 60, Subpart JJJJ]

CONDITIONS CONTINUE ON NEXT PAGE

61. Notification of the date construction of this engine commenced shall be submitted to the District and EPA and shall be postmarked no later than 30 days after such date as construction commenced. The notification shall contain the following information: 1) Name and address of the owner or operator; 2) The address of the affected source; 3) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement; 4) Emission control equipment; and 5) Fuel used. Notification of construction and copies of source test results shall be submitted to EPA at the following address: Director, Air Division, U.S. Environmental Protection Agency, 75 Hawthorne Street, San Francisco, CA 94105. [40 CFR 60, Subpart JJJJ]
62. 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]
63. 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]
64. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
65. 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 firing rate may be authorized for any alternate equipment. [District Rule 2201]



AUTHORITY TO CONSTRUCT

PERMIT NO: S-7767-15-0

ISSUANCE DATE: 08/14/2013

LEGAL OWNER OR OPERATOR: ABEC BIDART-OLD RIVER LLC
MAILING ADDRESS: C/O CALIFORNIA BIOENERGY LLC
2828 ROUTH STREET SUITE 500
DALLAS, TX 75201-1438

LOCATION: 20400 OLD RIVER ROAD
BAKERSFIELD, CA

EQUIPMENT DESCRIPTION:

1,412 BHP CATERPILLAR MODEL G3516A+ (OR DISTRICT APPROVED EQUIVALENT) DIGESTER GAS-FIRED LEAN-BURN IC ENGINE WITH A JOHNSON MATTHEY SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM, AND AN IRON SPONGE H2S SCRUBBER (OR EQUIVALENT H2S REMOVAL SYSTEM) POWERING AN ELECTRICAL GENERATOR

CONDITIONS

1. 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 and 40 CFR 60, Subpart JJJJ]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. 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]
5. 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]
6. The minimum exhaust stack height shall be at least 30 feet above the ground. [District Rules 2201 and 4102]
7. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified in the Inspection and Monitoring (I&M) plan. [District Rule 4702]
8. This engine shall be operated within the ranges that the source testing has shown result in pollution concentrations within the emissions limits as specified on this permit. [District Rule 4702]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 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.

Seyed Sadredin, Executive Director / APCO



DAVID WARNER, Director of Permit Services
S-7767-15-0 Aug 14 2013 2:43PM - NORMANR Joint Inspection Required with NORMANR

9. This engine shall be fired only on digester gas as fuel except in the case that insufficient digester gas is available for the engine at the time that the required utility interconnect testing is scheduled the engine will be permitted to fire sufficient natural gas fuel to complete the required utility interconnect testing. [District Rule 2201]
10. During times this engine is fueled with natural gas for required utility interconnect testing, the engine shall continue to comply with all emission standards and limitations contained in this permit. [District Rule 2201]
11. The total amount of electrical energy produced by this engine while fueled on natural gas for required utility interconnect testing shall not exceed 96,000 kW-hrs. The following records shall be maintained: 1) date(s) and time(s) that this engine is fueled with natural gas for utility testing, 2) the total amount of electrical energy (kW-hr) produced by this engine when fueled with natural gas for utility testing, and 3) the total number of hours that this engine is fueled with natural gas. [District Rule 2201]
12. The sulfur content of the digester gas used as fuel in this engine shall not exceed 40 ppmv as H₂S. The District may approve an averaging period of up to one calendar day in length for demonstration of compliance with the fuel sulfur content limit. [District Rules 2201, 4702, and 4801]
13. This engine shall be equipped with an operational non-resettable elapsed time meter. [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. The owner/operator shall minimize the emissions from the engine to the maximum extent possible during the commissioning period. Conditions #16 through #26 shall apply only during the commissioning period as defined below. Unless otherwise indicated, conditions #27 through #51 shall apply after the commissioning period has ended. [District Rule 2201]
16. 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]
17. 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. The total duration of the commissioning period for this engine shall not exceed 120 hours of operation of the engine. [District Rule 2201]
18. No more than two of the digester gas-fired IC engines at this facility (Permit Units S-7767-14, S-7767-15, and S-7767-16) shall be operated for commissioning purposes at any one time without the Selective Catalytic Reduction (SCR) systems in place and operating. [District Rule 2201]
19. 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]
20. At the earliest feasible opportunity, in accordance with the recommendations of the equipment supplier and the construction contractor, the Selective Catalytic Reduction (SCR) system shall be installed, adjusted, and operated to minimize emissions from this unit. [District Rule 2201]
21. The permittee shall submit a plan to the District at least two weeks prior to the first firing of this engine unit, 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 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]
22. Emission rates from this engine unit during the commissioning period shall not exceed any of the following limits: 1.0 g-NO_x/bhp-hr, 0.031 g-PM₁₀/bhp-hr, 4.85 g-CO/bhp-hr, 1.0 g-VOC/bhp-hr. [District Rule 2201]
23. The permittee shall record total operating time of the engine in hours and total amount of gas (scf) used by the engine during the commissioning period. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

24. The total number of firing hours of this unit without abatement of emissions by the SCR system shall not exceed 120 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 system. Upon completion of these activities, the permittee shall provide written notice to the District and the unused balance of the 120 firing hours without abatement shall expire. [District Rule 2201]
25. The total heat input of the engine during the commissioning period and total mass emissions of NO_x that are emitted during the commissioning period shall accrue towards the consecutive twelve month limits specified in condition #54. [District Rule 2201]
26. Coincident with the end of the commissioning period, emissions from this unit shall comply with the emission limits specified in conditions #27 and #30 below. [District Rule 2201]
27. Emissions from this IC engine shall not exceed any of the following limits: 0.15 g-NO_x/bhp-hr (equivalent to 11.0 ppmvd NO_x @ 15% O₂), NO_x referenced as NO₂; 0.031 g-PM₁₀/bhp-hr; 1.75 g-CO/bhp-hr (equivalent to 210 ppmvd CO @ 15% O₂); 0.10 g-VOC/bhp-hr (equivalent to 20 ppmvd VOC @ 15% O₂), VOC referenced as methane. [District Rules 2201 and 4702]
28. The District has preliminarily determined that an emission limit of 0.15 g-NO_x/bhp-hr constitutes BACT for NO_x emissions from this engine. The permittee shall perform actions necessary to comply with this NO_x limit to the extent feasible. If NO_x emissions from the engine continue to exceed 0.15 g/bhp-hr after 12 months of operation, the permittee may submit a report to the District requesting a revised BACT determination for NO_x emissions from this engine. The report shall contain all monitoring and source test information and shall include an explanation of the steps taken to operate and maintain the engine in a manner as to minimize NO_x emissions and a detailed analysis of all factors that prevent compliance with the NO_x emissions limit. In the report, the permittee may also propose a revised BACT emission limit for NO_x for inclusion in this permit. If the permittee does not submit a report requesting a revised BACT determination within 18 months of initial startup of this engine, the 0.15 g-NO_x/bhp-hr emission limit shall be confirmed. [District Rule 2201]
29. If required, within 60 days of receipt of the report from the permittee, the District shall confirm or revise the BACT limit for NO_x, including establishment of any applicable averaging periods. The revised BACT limit shall be determined to the satisfaction of the Air Pollution Control Officer in accordance with District Rule 2201 and the District's BACT policy, after at least 12 months of operating history and a source test. Within 30 days of receipt of the District's determination of a revised BACT limit, the permittee shall submit an Authority to Construct application to incorporate the revised emissions limit(s). In no case shall the revised BACT emission limit be greater than 0.60 g-NO_x/bhp-hr (equivalent to 44 ppmvd NO_x @ 15% O₂). If NO_x emissions do not exceed 0.60 g-NO_x/bhp-hr, the engine may continue to operate until the Authority to Construct permit that includes the revised NO_x emission limit has been issued. [District Rule 2201]
30. Until the BACT limit for NO_x from this engine is confirmed or an Authority to Construct permit that includes a revised NO_x emission limit established by the District has been issued, NO_x emissions (as NO₂) from this engine in excess of 0.15 g/bhp-hr but not exceeding 0.60 g/bhp-hr shall not constitute a violation of this permit provided that NO_x emissions are limited to the lowest achievable emission rate to satisfy BACT and the permittee complies with all other emission limitations and operational and design conditions contained in this permit. [District Rule 2201]
31. The temperature of the SCR catalyst shall be maintained within the range for the highest efficiency for NO_x reduction as specified by the catalyst manufacturer or emission control supplier. [District Rule 2201 and 4702]
32. The inlet temperature of the SCR catalyst and the reagent injection rate shall be monitored and recorded during times in which NO_x emissions are being source tested or monitored with a portable analyzer. [District Rule 2201 and 4702]
33. 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]
34. Ammonia (NH₃) emissions from this engine shall not exceed 10 ppmvd @ 15% O₂. [District Rules 2201 and 4102]
35. 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]

CONDITIONS CONTINUE ON NEXT PAGE

36. Source testing to measure NO_x, CO, VOC, PM₁₀, and ammonia (NH₃) emissions from this unit shall be conducted within 120 days of initial start-up. [District Rules 1081, 2201, and 4702 and 40 CFR 60, Subpart JJJJ]
37. Source testing to measure NO_x, CO, VOC, and ammonia (NH₃) emissions from this unit shall be conducted at least once every 8,760 hours of operation or 24 months, whichever comes first. [District Rules 1081, 2201, and 4702 and 40 CFR 60, Subpart JJJJ]
38. 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]
39. 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. NO_x, CO, VOC, and NH₃ concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60, Subpart JJJJ]
40. The following methods shall be used for source testing: NO_x (ppmv) - EPA Method 7E; CO (ppmv) - EPA Method 10; VOC (ppmv) - EPA Method 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, or ARB Method 5 in combination with 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 and 40 CFR 60, Subpart JJJJ]
41. 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]
42. The results of each source test shall be submitted to the District and EPA within 60 days after completion of the source test. [District Rule 1081 and 40 CFR 60, Subpart JJJJ]
43. Fuel sulfur content analysis shall be performed at least annually using EPA Method 11 or EPA Method 15, as appropriate. Records of the fuel sulfur analysis shall be maintained and provided it to the District upon request. [District Rules 2201 and 4702]
44. The sulfur content of the digester gas used to fuel the engine shall be monitored and recorded at least once every calendar quarter in which a fuel sulfur analysis is not performed. If quarterly monitoring shows a violation of the fuel sulfur content limit of this permit, monthly monitoring will be required until six consecutive months of monitoring show compliance with the fuel sulfur content limit. Once compliance with the fuel sulfur content limit is shown for six consecutive months, then the monitoring frequency may return to quarterly. Monitoring of the sulfur content of the digester gas fuel shall not be required if the engine does not operate during that period. Records of the results of monitoring of the digester gas fuel sulfur content shall be maintained. [District Rule 2201]
45. Monitoring of the digester 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 digester 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]
46. 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 NO_x, 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]

47. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. [In-stack emission monitors may be allowed if they satisfy the standards required for portable analyzers as specified in District policies and are approved in writing by the APCO.] 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. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. After the BACT limit for NO_x is confirmed or an Authority to Construct permit has been issued for this engine that includes an approved NO_x emission limit, the permittee may submit a written request to the APCO to reduce the frequency of required portable analyzer stack concentration monitoring from monthly to quarterly. The request shall include details of operating parameters that ensure reasonable compliance with the applicable NO_x and CO emission limits that will be monitored at least monthly. Prior to reducing the frequency of stack concentration monitoring from monthly to quarterly, the request must be approved by the APCO and a permit must be issued including conditions for the APCO-approved operating parameters that shall be monitored at least monthly. [District Rules 2201 and 4702]
48. The permittee shall monitor and record the stack concentration of NH₃ at least once every calendar quarter in which a source test is not performed. NH₃ monitoring shall be conducted utilizing District approved gas-detection tubes or a District approved equivalent method. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last quarter. [District Rules 2201 and 4102]
49. If the NO_x, CO, or NH₃ concentrations, as measured by the portable analyzer or the District approved ammonia monitoring equipment, 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. Until the BACT limit for NO_x from this engine is confirmed or an Authority to Construct permit that includes a revised NO_x emission limit established by the District has been issued, NO_x emissions not exceeding 0.60 g-NO_x/bhp-hr (equivalent to 44 ppmvd NO_x @ 15% O₂) are not subject to the requirements contained in this condition to source test or stipulate that an emissions violation has occurred. [District Rules 2201 and 4702]
50. 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]
51. The permittee shall maintain records of: (1) the date and time of NO_x, CO, O₂, and NH₃ measurements, (2) the O₂ concentration in percent and the measured NO_x, CO, and NH₃ concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, (5) the method of determining the NH₃ emission concentration, and (6) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201 and 4702]
52. 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 during commissioning period(s), the type and quantity of fuel used during normal operation, 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 and 40 CFR 60, Subpart JJJJ]

CONDITIONS CONTINUE ON NEXT PAGE

53. 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]
54. The total combined NO_x (as NO₂) emissions from permit units S-7767-14, S-7767-15, and S-7767-16 (digester gas-fired IC engines) shall not exceed 19,999 lb during any consecutive 12-month rolling period. To demonstrate compliance with the 12-month rolling combined NO_x emission limit, monthly emissions for each engine shall be calculated by multiplying the heat input (MMBtu) (based on the HHV of the fuel) of the engine during commissioning periods and normal operation during that month by the applicable emissions factors given in this permit or approved by the District, or by multiplying the maximum power rating of each engine by the run time of the engine during commissioning periods and normal operation during that month and the applicable emissions factors given in this permit or approved by the District. The heat input-based emission factor used for during commissioning shall be: 0.286 lb-NO_x/MMBtu. The following heat input-based emission factors shall be used for during normal operation: 0.045 lb-NO_x/MMBtu if the engine demonstrates compliance with the 0.15 g-NO_x/bhp-hr emission limit, otherwise 0.173 lb-NO_x/MMBtu. The District may approve use of alternate emission factor(s) to calculate NO_x emissions during normal operation based on the most recently completed fuel analysis and monitoring or source test results to determine NO_x emissions provided that the alternate emission factor is at least as great as the emission factor determined by the source test or monthly monitoring for the period for which the alternate emission factor will be used to demonstrate compliance with the limit. The minimum alternate emission factor used shall be calculated as follows or using another method approved by the District: (lb-NO_x/MMBtu) = (measured ppmv @15% O₂) x (Fuel F-Factor dry) x (4.294E-7). The permittee shall obtain written approval from the District prior to use of alternative emission factor(s). The District will respond to a permittee request for use of an alternate emission factor based on supporting source test data within 30 days following the receipt of the request from the permittee. [District Rule 2201]
55. The permittee shall compile and maintain the following records for permit units S-7767-14, S-7767-15, and S-7767-16 (digester gas-fired IC engines): 1) the total operating time for each unit each month, 2) the total operating time for each unit during the previous 12-month rolling period, 3) the total amount of gas (scf) used in each unit each month, 4) the total amount of gas (scf) used in each of the units during the previous 12-month rolling period, 5) the calculated total heat input (MMBtu) for each unit each month, 6) the calculated total heat input (MMBtu) for each unit during the previous 12-month rolling period, 7) the calculated total NO_x emissions (in lbs) for each unit each month, and 8) the calculated total NO_x emissions for all the units during the previous 12-month rolling period. This condition may be deleted at the request of the applicant after the BACT limit for NO_x is confirmed or Authority to Construct permits have been issued that include approved NO_x emission limit(s) that ensure compliance with the total combined NO_x emission limit in this permit for permit units S-7767-14, S-7767-15, and S-7767-16. [District Rule 2201]
56. The methane content of the digester gas used to fuel the engines shall be measured and the heating value of the digester gas shall be determined at least once every calendar quarter. Records of the measured methane content and heating value of the digester gas shall be maintained. [District Rule 2201]
57. The Higher Heating Value (HHV) of the fuel gas shall be determined using ASTM D1826, ASTM 1945 in conjunction with ASTM D3588, or an alternative method approved by the District. [District Rules 2201 and 4702]
58. Records of any analyzer(s) installed or utilized to monitor methane, oxygen, and hydrogen sulfide shall be maintained and shall be made available for District inspection upon request. [District Rule 2201]
59. During the first 18 months after initial startup, when requested by the District, the permittee shall perform and submit a fuel analysis of the digester gas. [District Rule 2201]
60. 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 and 40 CFR 60, Subpart JJJJ]

CONDITIONS CONTINUE ON NEXT PAGE

61. Notification of the date construction of this engine commenced shall be submitted to the District and EPA and shall be postmarked no later than 30 days after such date as construction commenced. The notification shall contain the following information: 1) Name and address of the owner or operator; 2) The address of the affected source; 3) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement; 4) Emission control equipment; and 5) Fuel used. Notification of construction and copies of source test results shall be submitted to EPA at the following address: Director, Air Division, U.S. Environmental Protection Agency, 75 Hawthorne Street, San Francisco, CA 94105. [40 CFR 60, Subpart JJJJ]
62. 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]
63. 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]
64. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
65. 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 firing rate may be authorized for any alternate equipment. [District Rule 2201]



AUTHORITY TO CONSTRUCT

PERMIT NO: S-7767-16-0

ISSUANCE DATE: 08/14/2013

LEGAL OWNER OR OPERATOR: ABEC BIDART-OLD RIVER LLC
MAILING ADDRESS: C/O CALIFORNIA BIOENERGY LLC
2828 ROUTH STREET SUITE 500
DALLAS, TX 75201-1438

LOCATION: 20400 OLD RIVER ROAD
BAKERSFIELD, CA

EQUIPMENT DESCRIPTION:
1,412 BHP CATERPILLAR MODEL G3516A+ (OR DISTRICT APPROVED EQUIVALENT) DIGESTER GAS-FIRED LEAN-BURN IC ENGINE WITH A JOHNSON MATTHEY SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM, AND AN IRON SPONGE H2S SCRUBBER (OR EQUIVALENT H2S REMOVAL SYSTEM) POWERING AN ELECTRICAL GENERATOR

CONDITIONS

1. 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 and 40 CFR 60, Subpart JJJJ]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. 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]
5. 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]
6. The minimum exhaust stack height shall be at least 30 feet above the ground. [District Rules 2201 and 4102]
7. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified in the Inspection and Monitoring (I&M) plan. [District Rule 4702]
8. This engine shall be operated within the ranges that the source testing has shown result in pollution concentrations within the emissions limits as specified on this permit. [District Rule 4702]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 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.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

9. This engine shall be fired only on digester gas as fuel except in the case that insufficient digester gas is available for the engine at the time that the required utility interconnect testing is scheduled the engine *will be permitted to fire* sufficient natural gas fuel to complete the required utility interconnect testing. [District Rule 2201]
10. During times this engine is fueled with natural gas for required utility interconnect testing, the engine shall continue to comply with all emission standards and limitations contained in this permit. [District Rule 2201]
11. The total amount of electrical energy produced by this engine while fueled on natural gas for required utility interconnect testing shall not exceed 96,000 kW-hrs. The following records shall be maintained: 1) date(s) and time(s) that this engine is fueled with natural gas for utility testing, 2) the total amount of electrical energy (kW-hr) produced by this engine when fueled with natural gas for utility testing, and 3) the total number of hours that this engine is fueled with natural gas. [District Rule 2201]
12. The sulfur content of the digester gas used as fuel in this engine shall not exceed 40 ppmv as H₂S. The District may approve an averaging period of up to one calendar day in length for demonstration of compliance with the fuel sulfur content limit. [District Rules 2201, 4702, and 4801]
13. This engine shall be equipped with an operational non-resettable elapsed time meter. [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. The owner/operator shall minimize the emissions from the engine to the maximum extent possible during the commissioning period. Conditions #16 through #26 shall apply only during the commissioning period as defined below. Unless otherwise indicated, conditions #27 through #51 shall apply after the commissioning period has ended. [District Rule 2201]
16. 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]
17. 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. The total duration of the commissioning period for this engine shall not exceed 120 hours of operation of the engine. [District Rule 2201]
18. No more than two of the digester gas-fired IC engines at this facility (Permit Units S-7767-14, S-7767-15, and S-7767-16) shall be operated for commissioning purposes at any one time without the Selective Catalytic Reduction (SCR) systems in place and operating. [District Rule 2201]
19. 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]
20. At the earliest feasible opportunity, in accordance with the recommendations of the equipment supplier and the construction contractor, the Selective Catalytic Reduction (SCR) system shall be installed, adjusted, and operated to minimize emissions from this unit. [District Rule 2201]
21. The permittee shall submit a plan to the District at least two weeks prior to the first firing of this engine unit, 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 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]
22. Emission rates from this engine unit during the commissioning period shall not exceed any of the following limits: 1.0 g-NO_x/bhp-hr, 0.031 g-PM₁₀/bhp-hr, 4.85 g-CO/bhp-hr, 1.0 g-VOC/bhp-hr. [District Rule 2201]
23. The permittee shall record total operating time of the engine in hours and total amount of gas (scf) used by the engine during the commissioning period. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

24. The total number of firing hours of this unit without abatement of emissions by the SCR system shall not exceed 120 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 system. Upon completion of these activities, the permittee shall provide written notice to the District and the unused balance of the 120 firing hours without abatement shall expire. [District Rule 2201]
25. The total heat input of the engine during the commissioning period and total mass emissions of NO_x that are emitted during the commissioning period shall accrue towards the consecutive twelve month limits specified in condition #54. [District Rule 2201]
26. Coincident with the end of the commissioning period, emissions from this unit shall comply with the emission limits specified in conditions #27 and #30 below. [District Rule 2201]
27. Emissions from this IC engine shall not exceed any of the following limits: 0.15 g-NO_x/bhp-hr (equivalent to 11.0 ppmvd NO_x @ 15% O₂), NO_x referenced as NO₂; 0.031 g-PM₁₀/bhp-hr; 1.75 g-CO/bhp-hr (equivalent to 210 ppmvd CO @ 15% O₂); 0.10 g-VOC/bhp-hr (equivalent to 20 ppmvd VOC @ 15% O₂), VOC referenced as methane. [District Rules 2201 and 4702]
28. The District has preliminarily determined that an emission limit of 0.15 g-NO_x/bhp-hr constitutes BACT for NO_x emissions from this engine. The permittee shall perform actions necessary to comply with this NO_x limit to the extent feasible. If NO_x emissions from the engine continue to exceed 0.15 g/bhp-hr after 12 months of operation, the permittee may submit a report to the District requesting a revised BACT determination for NO_x emissions from this engine. The report shall contain all monitoring and source test information and shall include an explanation of the steps taken to operate and maintain the engine in a manner as to minimize NO_x emissions and a detailed analysis of all factors that prevent compliance with the NO_x emissions limit. In the report, the permittee may also propose a revised BACT emission limit for NO_x for inclusion in this permit. If the permittee does not submit a report requesting a revised BACT determination within 18 months of initial startup of this engine, the 0.15 g-NO_x/bhp-hr emission limit shall be confirmed. [District Rule 2201]
29. If required, within 60 days of receipt of the report from the permittee, the District shall confirm or revise the BACT limit for NO_x, including establishment of any applicable averaging periods. The revised BACT limit shall be determined to the satisfaction of the Air Pollution Control Officer in accordance with District Rule 2201 and the District's BACT policy, after at least 12 months of operating history and a source test. Within 30 days of receipt of the District's determination of a revised BACT limit, the permittee shall submit an Authority to Construct application to incorporate the revised emissions limit(s). In no case shall the revised BACT emission limit be greater than 0.60 g-NO_x/bhp-hr (equivalent to 44 ppmvd NO_x @ 15% O₂). If NO_x emissions do not exceed 0.60 g-NO_x/bhp-hr, the engine may continue to operate until the Authority to Construct permit that includes the revised NO_x emission limit has been issued. [District Rule 2201]
30. Until the BACT limit for NO_x from this engine is confirmed or an Authority to Construct permit that includes a revised NO_x emission limit established by the District has been issued, NO_x emissions (as NO₂) from this engine in excess of 0.15 g/bhp-hr but not exceeding 0.60 g/bhp-hr shall not constitute a violation of this permit provided that NO_x emissions are limited to the lowest achievable emission rate to satisfy BACT and the permittee complies with all other emission limitations and operational and design conditions contained in this permit. [District Rule 2201]
31. The temperature of the SCR catalyst shall be maintained within the range for the highest efficiency for NO_x reduction as specified by the catalyst manufacturer or emission control supplier. [District Rule 2201 and 4702]
32. The inlet temperature of the SCR catalyst and the reagent injection rate shall be monitored and recorded during times in which NO_x emissions are being source tested or monitored with a portable analyzer. [District Rule 2201 and 4702]
33. 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]
34. Ammonia (NH₃) emissions from this engine shall not exceed 10 ppmvd @ 15% O₂. [District Rules 2201 and 4102]
35. 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]

CONDITIONS CONTINUE ON NEXT PAGE

36. Source testing to measure NO_x, CO, VOC, PM₁₀, and ammonia (NH₃) emissions from this unit shall be conducted within 120 days of initial start-up. [District Rules 1081, 2201, and 4702 and 40 CFR 60, Subpart JJJJ]
37. Source testing to measure NO_x, CO, VOC, and ammonia (NH₃) emissions from this unit shall be conducted at least once every 8,760 hours of operation or 24 months, whichever comes first. [District Rules 1081, 2201, and 4702 and 40 CFR 60, Subpart JJJJ]
38. 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]
39. 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. NO_x, CO, VOC, and NH₃ concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60, Subpart JJJJ]
40. The following methods shall be used for source testing: NO_x (ppmv) - EPA Method 7E; CO (ppmv) - EPA Method 10; VOC (ppmv) - EPA Method 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, or ARB Method 5 in combination with 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 and 40 CFR 60, Subpart JJJJ]
41. 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]
42. The results of each source test shall be submitted to the District and EPA within 60 days after completion of the source test. [District Rule 1081 and 40 CFR 60, Subpart JJJJ]
43. Fuel sulfur content analysis shall be performed at least annually using EPA Method 11 or EPA Method 15, as appropriate. Records of the fuel sulfur analysis shall be maintained and provided it to the District upon request. [District Rules 2201 and 4702]
44. The sulfur content of the digester gas used to fuel the engine shall be monitored and recorded at least once every calendar quarter in which a fuel sulfur analysis is not performed. If quarterly monitoring shows a violation of the fuel sulfur content limit of this permit, monthly monitoring will be required until six consecutive months of monitoring show compliance with the fuel sulfur content limit. Once compliance with the fuel sulfur content limit is shown for six consecutive months, then the monitoring frequency may return to quarterly. Monitoring of the sulfur content of the digester gas fuel shall not be required if the engine does not operate during that period. Records of the results of monitoring of the digester gas fuel sulfur content shall be maintained. [District Rule 2201]
45. Monitoring of the digester 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 digester 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]
46. 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 NO_x, 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]

CONDITIONS CONTINUE ON NEXT PAGE

47. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. [In-stack emission monitors may be allowed if they satisfy the standards required for portable analyzers as specified in District policies and are approved in writing by the APCO.] 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. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. After the BACT limit for NO_x is confirmed or an Authority to Construct permit has been issued for this engine that includes an approved NO_x emission limit, the permittee may submit a written request to the APCO to reduce the frequency of required portable analyzer stack concentration monitoring from monthly to quarterly. The request shall include details of operating parameters that ensure reasonable compliance with the applicable NO_x and CO emission limits that will be monitored at least monthly. Prior to reducing the frequency of stack concentration monitoring from monthly to quarterly, the request must be approved by the APCO and a permit must be issued including conditions for the APCO-approved operating parameters that shall be monitored at least monthly. [District Rules 2201 and 4702]
48. The permittee shall monitor and record the stack concentration of NH₃ at least once every calendar quarter in which a source test is not performed. NH₃ monitoring shall be conducted utilizing District approved gas-detection tubes or a District approved equivalent method. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last quarter. [District Rules 2201 and 4102]
49. If the NO_x, CO, or NH₃ concentrations, as measured by the portable analyzer or the District approved ammonia monitoring equipment, 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. Until the BACT limit for NO_x from this engine is confirmed or an Authority to Construct permit that includes a revised NO_x emission limit established by the District has been issued, NO_x emissions not exceeding 0.60 g-NO_x/bhp-hr (equivalent to 44 ppmvd NO_x @ 15% O₂) are not subject to the requirements contained in this condition to source test or stipulate that an emissions violation has occurred. [District Rules 2201 and 4702]
50. 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]
51. The permittee shall maintain records of: (1) the date and time of NO_x, CO, O₂, and NH₃ measurements, (2) the O₂ concentration in percent and the measured NO_x, CO, and NH₃ concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, (5) the method of determining the NH₃ emission concentration, and (6) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201 and 4702]
52. 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 during commissioning period(s), the type and quantity of fuel used during normal operation, 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 and 40 CFR 60, Subpart JJJJ]

CONDITIONS CONTINUE ON NEXT PAGE

53. 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]
54. The total combined NO_x (as NO₂) emissions from permit units S-7767-14, S-7767-15, and S-7767-16 (digester gas-fired IC engines) shall not exceed 19,999 lb during any consecutive 12-month rolling period. To demonstrate compliance with the 12-month rolling combined NO_x emission limit, monthly emissions for each engine shall be calculated by multiplying the heat input (MMBtu) (based on the HHV of the fuel) of the engine during commissioning periods and normal operation during that month by the applicable emissions factors given in this permit or approved by the District, or by multiplying the maximum power rating of each engine by the run time of the engine during commissioning periods and normal operation during that month and the applicable emissions factors given in this permit or approved by the District. The heat input-based emission factor used for during commissioning shall be: 0.286 lb-NO_x/MMBtu. The following heat input-based emission factors shall be used for during normal operation: 0.045 lb-NO_x/MMBtu if the engine demonstrates compliance with the 0.15 g-NO_x/bhp-hr emission limit, otherwise 0.173 lb-NO_x/MMBtu. The District may approve use of alternate emission factor(s) to calculate NO_x emissions during normal operation based on the most recently completed fuel analysis and monitoring or source test results to determine NO_x emissions provided that the alternate emission factor is at least as great as the emission factor determined by the source test or monthly monitoring for the period for which the alternate emission factor will be used to demonstrate compliance with the limit. The minimum alternate emission factor used shall be calculated as follows or using another method approved by the District: (lb-NO_x/MMBtu) = (measured ppmv @15% O₂) x (Fuel F-Factor dry) x (4.294E-7). The permittee shall obtain written approval from the District prior to use of alternative emission factor(s). The District will respond to a permittee request for use of an alternate emission factor based on supporting source test data within 30 days following the receipt of the request from the permittee. [District Rule 2201]
55. The permittee shall compile and maintain the following records for permit units S-7767-14, S-7767-15, and S-7767-16 (digester gas-fired IC engines): 1) the total operating time for each unit each month, 2) the total operating time for each unit during the previous 12-month rolling period, 3) the total amount of gas (scf) used in each unit each month, 4) the total amount of gas (scf) used in each of the units during the previous 12-month rolling period, 5) the calculated total heat input (MMBtu) for each unit each month, 6) the calculated total heat input (MMBtu) for each unit during the previous 12-month rolling period, 7) the calculated total NO_x emissions (in lbs) for each unit each month, and 8) the calculated total NO_x emissions for all the units during the previous 12-month rolling period. This condition may be deleted at the request of the applicant after the BACT limit for NO_x is confirmed or Authority to Construct permits have been issued that include approved NO_x emission limit(s) that ensure compliance with the total combined NO_x emission limit in this permit for permit units S-7767-14, S-7767-15, and S-7767-16. [District Rule 2201]
56. The methane content of the digester gas used to fuel the engines shall be measured and the heating value of the digester gas shall be determined at least once every calendar quarter. Records of the measured methane content and heating value of the digester gas shall be maintained. [District Rule 2201]
57. The Higher Heating Value (HHV) of the fuel gas shall be determined using ASTM D1826, ASTM 1945 in conjunction with ASTM D3588, or an alternative method approved by the District. [District Rules 2201 and 4702]
58. Records of any analyzer(s) installed or utilized to monitor methane, oxygen, and hydrogen sulfide shall be maintained and shall be made available for District inspection upon request. [District Rule 2201]
59. During the first 18 months after initial startup, when requested by the District, the permittee shall perform and submit a fuel analysis of the digester gas. [District Rule 2201]
60. 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 and 40 CFR 60, Subpart JJJJ]

CONDITIONS CONTINUE ON NEXT PAGE

61. Notification of the date construction of this engine commenced shall be submitted to the District and EPA and shall be postmarked no later than 30 days after such date as construction commenced. The notification shall contain the following information: 1) Name and address of the owner or operator; 2) The address of the affected source; 3) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement; 4) Emission control equipment; and 5) Fuel used. Notification of construction and copies of source test results shall be submitted to EPA at the following address: Director, Air Division, U.S. Environmental Protection Agency, 75 Hawthorne Street, San Francisco, CA 94105. [40 CFR 60, Subpart JJJJ]
62. 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]
63. 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]
64. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
65. 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 firing rate may be authorized for any alternate equipment. [District Rule 2201]