



OCT 1 2 2010

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
Project Number: S-1100455

Dear Mr. Buckenham:

The Air Pollution Control Officer has issued Authority to Construct permits to ABEC Bidart-Old River LLC for installation of 12 841 bhp rich burn digester gas-fired IC engines with Greenguard NSCR catalyst systems and an H₂S removal system, at the existing Bidart Dairy facility located at 20400 Old River Road in Bakersfield, CA.

Enclosed are copies of 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 this Authority to Construct was published on August 10, 2010. The District's analysis of the proposal was also sent to CARB on August 4, 2010. 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.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Jim Swaney at (559) 230-5900.

Sincerely,

David Warner
Director of Permit Services

DW:rn

Enclosures

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



OCT 12 2010

Mike Tollstrup, Chief
Project Assessment Branch
Stationary Source Division
California Air Resources Board
PO Box 2815
Sacramento, CA 95812-2815

RE: Notice of Final Action - Authority to Construct
Project Number: S-1100455

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Bakersfield Californian

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

NOTICE IS HEREBY GIVEN that the Air Pollution Control Officer has issued Authority to Construct permits to ABEC Bidart-Old River LLC for installation of 12 841 bhp rich burn digester gas-fired IC engines with Greenguard NSCR catalyst systems and an H₂S removal system, at the existing Bidart Dairy facility located at 20400 Old River Road in Bakersfield, CA.

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

The application review for Project #S-1100455 is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the **SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 1990 EAST GETTYSBURG AVENUE, FRESNO, CA 93726.**



AUTHORITY TO CONSTRUCT

PERMIT NO: S-7767-1-0

ISSUANCE DATE: 10/05/2010

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:

841 BHP PMSI MODEL GREENGUARD DIGESTER GAS-FIRED RICH-BURN IC ENGINE WITH EXHAUST GAS RECIRCULATION (EGR), AN ATTAINMENT TECHNOLOGIES NON-SELECTIVE CATALYTIC REDUCTION (NSCR) SYSTEM, AND AN IRON SPONGE H₂S SCRUBBER (OR EQUIVALENT H₂S REMOVAL SYSTEM) POWERING A 600 KW ELECTRICAL GENERATOR


CONDITIONS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
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 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]
5. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702]
6. 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]
7. This engine shall be fired only on digester gas. [District Rule 2201]
8. The sulfur content of the digester gas used as fuel in this engine shall not exceed 50 ppmv as H₂S. [District Rules 2201 and 4801]

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-7767-1-0 : Oct 5 2010 4:36PM - NORMANR : Joint Inspection Required with NORMANR

9. This engine shall be equipped with an operational non-resettable elapsed time meter. [District Rules 2201 and 4702]
10. 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]
11. The owner/operator shall minimize the emissions from the engine to the maximum extent possible during the commissioning period. Conditions #12 through #22 shall apply only during the commissioning period as defined below. Unless otherwise indicated, conditions #23 through #45 shall apply after the commissioning period has ended. [District Rule 2201]
12. 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]
13. 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 duration of the commissioning period shall not exceed 30 days and shall consist of no more than 200 hours of engine operation without the catalyst installed. [District Rule 2201]
14. No more than four of the digester gas-fired IC engines at this facility (Permit Units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12) shall be operated for commissioning purposes at the same time. [District Rule 2201]
15. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the engine shall be tuned to minimize emissions. [District Rule 2201]
16. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the Non-Selective Catalytic Reduction (NSCR) system shall be installed, adjusted, and operated to minimize emissions from this unit. [District Rule 2201]
17. 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 NSCR system, the installation, calibration, and testing of emissions monitors, and any activities requiring the firing of this unit without abatement by the NSCR system. [District Rule 2201]
18. Emission rates from this engine unit during the commissioning period shall not exceed any of the following limits: 8.0 g-NOx/bhp-hr, 0.07 g-PM10/bhp-hr, 8.0 g-CO/bhp-hr, 0.41 g-VOC/bhp-hr. [District Rule 2201]
19. 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]
20. The total number of firing hours of this unit without abatement of emissions by the NSCR system shall not exceed 200 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 NSCR system. Upon completion of these activities, the permittee shall provide written notice to the District and the unused balance of the 200 firing hours without abatement shall expire. [District Rule 2201]
21. The total heat input of the engine during the commissioning period and total mass emissions of NOx that are emitted during the commissioning period shall accrue towards the consecutive twelve month limits specified in conditions #48 and #49. [District Rule 2201]
22. Coincident with the end of the commissioning period, emissions from this unit shall comply with the emission limits specified in conditions #23 and #24 below. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

23. Emissions from this IC engine shall not exceed any of the following limits: 0.15 g-NO_x/bhp-hr (= 11 ppmvd NO_x @ 15% O₂; NO_x referenced as NO₂), 1.75 g-CO/bhp-hr (= 212 ppmvd CO @ 15% O₂), 0.15 g-VOC/bhp-hr (= 32 ppmvd VOC as methane @ 15% O₂), 0.07 g-PM₁₀/bhp-hr. [District Rules 2201 and 4702]
24. NO_x emissions (as NO₂) from the 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. BACT for NO_x from this engine shall consist of all other emission limitations and operational and design conditions contained in this permit. The final BACT level for NO_x 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 six months of operating history and a successful compliance source test. After receipt of a written request from the applicant, the BACT determination period may be extended to up to 24 months after initial startup. [District Rule 2201]
25. If NO_x emissions from the engine continue to exceed 0.15 g/bhp-hr after the BACT determination period, the permittee shall have 60 days to submit a report containing all monitoring and source test information to the District. The report shall also include an explanation of the steps taken to operate and maintain the engine in such a manner as to minimize NO_x emissions and a detailed analysis of all factors that prohibit compliance with the NO_x emissions limit. In the report, the permittee may also propose a final BACT emission limit for NO_x for inclusion in this permit. The monitoring data and source test information gathered in accordance with this permit may be shared with other technical experts so their input can be considered when determining the final BACT limit for NO_x that can be consistently achieved. [District Rule 2201]
26. The District shall establish the final BACT limit for NO_x, including any applicable averaging periods, and revise the applicable limit contained in the permit within 60 days of the successful completion of the BACT determination period or receipt of the report from the permittee. Within 30 days of receipt of the District's determination, the permittee shall submit an Authority to Construct application to incorporate the revised emissions limit(s). In no case shall the final BACT NO_x emission limitation be higher than 0.60 g-NO_x/bhp-hr (= 44 ppmvd NO_x @ 15% O₂). If NO_x emissions do not exceed 0.60 g-NO_x/bhp-hr, the engine shall be allowed to continue to operate after the BACT evaluation period has ended and before the new Authority to Construct permit has been issued. [District Rule 2201]
27. If the engine demonstrates reasonably reliable compliance with the 0.15 g/bhp-hr NO_x emissions limit during the BACT evaluation period, this limit shall be deemed BACT for the installation. [District Rule 2201]
28. The temperature of the NSCR 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]
29. The outlet temperature of the NSCR catalyst 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]
30. The NSCR 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]
31. 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]
32. For monitoring purposes, source testing to measure NO_x and CO emissions from this unit shall be conducted within 90 days of initial start-up using methods and procedures approved by the District. Official source testing to demonstrate compliance with NO_x, CO, and VOC emissions limits from this unit shall be conducted within 365 days of initial start-up. [District Rules 1081, 2201, and 4702 and 40 CFR 60, Subpart JJJJ]
33. Source testing to measure NO_x, CO, and VOC 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]
34. 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]

CONDITIONS CONTINUE ON NEXT PAGE

35. For official 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 as propane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60, Subpart JJJJ]
36. The following methods shall be used for official 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. Alternative test methods as approved by EPA, ARB, 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]
37. 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]
38. 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]
39. The sulfur content of the digester gas used to fuel the engine shall be monitored and recorded monthly. Monitoring of the sulfur content of the digester gas shall be scheduled for days in which NO_x emissions are being measured or monitored. After six (6) consecutive monthly tests show compliance, the fuel sulfur content monitoring frequency may be reduced to once every calendar quarter. If quarterly monitoring shows a violation of the fuel sulfur content limit of this permit, then monthly monitoring shall resume and continue 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. During the BACT determination period for NO_x emissions, monitoring of the fuel sulfur content shall also be conducted on days when NO_x emissions are found to exceed 0.15 g/bhp-hr. Records of the results of monitoring of the digester gas fuel sulfur content shall be maintained. [District Rule 2201]
40. Monitoring of the digester gas sulfur content shall be performed using a Testo 350 XL portable emission monitor; District-approved in-line H₂S monitors; gas detection tubes calibrated for H₂S; District-approved source test methods, including EPA Method 15, ASTM Method D1072, D4084, and D5504; 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]
41. 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]
42. 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. [District Rules 2201 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

43. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. During the BACT determination period for NO_x, NO_x emissions not exceeding 0.60 g-NO_x/bhp-hr (= 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]
44. 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]
45. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201 and 4702]
46. 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, quantity of fuel used (scf) and calculated heat input (MMBtu) during commissioning period(s), the quantity of fuel used (scf) and calculated heat input (MMBtu) 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]
47. 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]
48. The total combined heat input for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines) shall not exceed 185,000 MMBtu based on the higher heating value (HHV) of the fuel during any consecutive 12-month rolling period. [District Rule 2201]
49. The total combined NO_x (as NO₂) emissions from permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (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 following emissions factors, as applicable: during commissioning: 2.287 lb-NO_x/MMBtu; during normal operation: 0.171 lb-NO_x/MMBtu. The District may approve use of an alternate emission factor to calculate NO_x emissions during normal operation based on the most recently completed source test to measure NO_x emissions provided that the alternate emission factor is at least as great as the emission factor determined by the source test and monthly monitoring for the period for which the emission factor will be used demonstrates compliance with the limit. 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]

CONDITIONS CONTINUE ON NEXT PAGE

50. For each of the following permit units: S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines), the permittee shall maintain records of the calculated NOx emissions (in lbs) from the engine for the previous month. [District Rule 2201]
51. The permittee shall compile and maintain the following records for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines): 1) the total amount of gas (scf) used in the units each month, 2) the total amount of gas (scf) used in the units during the previous 12-month rolling period, 3) the calculated total heat input (MMBtu) for the units each month, 4) the calculated total heat input (MMBtu) for the units during the previous 12-month rolling period, 5) the calculated total NOx emissions for the units each month, and 6) the calculated total NOx emissions for the units during the previous 12-month rolling period. [District Rule 2201]
52. 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 of the digester gas and calculated gas heating value shall be maintained. [District Rule 2201]
53. Records of biogas 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]
54. During the BACT determination period, when requested by the District, the permittee shall perform and submit a fuel analysis of the digester gas. [District Rule 2201]
55. 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]
56. 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]
57. 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]
58. 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]
59. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
60. 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-7767-2-0

ISSUANCE DATE: 10/05/2010

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:

841 BHP PMSI MODEL GREENGUARD DIGESTER GAS-FIRED RICH-BURN IC ENGINE WITH EXHAUST GAS RECIRCULATION (EGR), AN ATTAINMENT TECHNOLOGIES NON-SELECTIVE CATALYTIC REDUCTION (NSCR) SYSTEM, AND AN IRON SPONGE H₂S SCRUBBER (OR EQUIVALENT H₂S REMOVAL SYSTEM) POWERING A 600 KW ELECTRICAL GENERATOR

CONDITIONS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
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 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]
5. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702]
6. 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]
7. This engine shall be fired only on digester gas. [District Rule 2201]
8. The sulfur content of the digester gas used as fuel in this engine shall not exceed 50 ppmv as H₂S. [District Rules 2201 and 4801]

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-7767-2-0: Oct 5 2010 4:36PM - NORMANR : Joint Inspection Required with NORMANR

9. This engine shall be equipped with an operational non-resettable elapsed time meter. [District Rules 2201 and 4702]
10. 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]
11. The owner/operator shall minimize the emissions from the engine to the maximum extent possible during the commissioning period. Conditions #12 through #22 shall apply only during the commissioning period as defined below. Unless otherwise indicated, conditions #23 through #45 shall apply after the commissioning period has ended. [District Rule 2201]
12. 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]
13. 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 duration of the commissioning period shall not exceed 30 days and shall consist of no more than 200 hours of engine operation without the catalyst installed. [District Rule 2201]
14. No more than four of the digester gas-fired IC engines at this facility (Permit Units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12) shall be operated for commissioning purposes at the same time. [District Rule 2201]
15. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the engine shall be tuned to minimize emissions. [District Rule 2201]
16. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the Non-Selective Catalytic Reduction (NSCR) system shall be installed, adjusted, and operated to minimize emissions from this unit. [District Rule 2201]
17. 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 NSCR system, the installation, calibration, and testing of emissions monitors, and any activities requiring the firing of this unit without abatement by the NSCR system. [District Rule 2201]
18. Emission rates from this engine unit during the commissioning period shall not exceed any of the following limits: 8.0 g-NOx/bhp-hr, 0.07 g-PM10/bhp-hr, 8.0 g-CO/bhp-hr, 0.41 g-VOC/bhp-hr. [District Rule 2201]
19. 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]
20. The total number of firing hours of this unit without abatement of emissions by the NSCR system shall not exceed 200 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 NSCR system. Upon completion of these activities, the permittee shall provide written notice to the District and the unused balance of the 200 firing hours without abatement shall expire. [District Rule 2201]
21. The total heat input of the engine during the commissioning period and total mass emissions of NOx that are emitted during the commissioning period shall accrue towards the consecutive twelve month limits specified in conditions #48 and #49. [District Rule 2201]
22. Coincident with the end of the commissioning period, emissions from this unit shall comply with the emission limits specified in conditions #23 and #24 below. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

23. Emissions from this IC engine shall not exceed any of the following limits: 0.15 g-NO_x/bhp-hr (= 11 ppmvd NO_x @ 15% O₂; NO_x referenced as NO₂), 1.75 g-CO/bhp-hr (= 212 ppmvd CO @ 15% O₂), 0.15 g-VOC/bhp-hr (= 32 ppmvd VOC as methane @ 15% O₂), 0.07 g-PM₁₀/bhp-hr. [District Rules 2201 and 4702]
24. NO_x emissions (as NO₂) from the 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. BACT for NO_x from this engine shall consist of all other emission limitations and operational and design conditions contained in this permit. The final BACT level for NO_x 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 six months of operating history and a successful compliance source test. After receipt of a written request from the applicant, the BACT determination period may be extended to up to 24 months after initial startup. [District Rule 2201]
25. If NO_x emissions from the engine continue to exceed 0.15 g/bhp-hr after the BACT determination period, the permittee shall have 60 days to submit a report containing all monitoring and source test information to the District. The report shall also include an explanation of the steps taken to operate and maintain the engine in such a manner as to minimize NO_x emissions and a detailed analysis of all factors that prohibit compliance with the NO_x emissions limit. In the report, the permittee may also propose a final BACT emission limit for NO_x for inclusion in this permit. The monitoring data and source test information gathered in accordance with this permit may be shared with other technical experts so their input can be considered when determining the final BACT limit for NO_x that can be consistently achieved. [District Rule 2201]
26. The District shall establish the final BACT limit for NO_x, including any applicable averaging periods, and revise the applicable limit contained in the permit within 60 days of the successful completion of the BACT determination period or receipt of the report from the permittee. Within 30 days of receipt of the District's determination, the permittee shall submit an Authority to Construct application to incorporate the revised emissions limit(s). In no case shall the final BACT NO_x emission limitation be higher than 0.60 g-NO_x/bhp-hr (= 44 ppmvd NO_x @ 15% O₂). If NO_x emissions do not exceed 0.60 g-NO_x/bhp-hr, the engine shall be allowed to continue to operate after the BACT evaluation period has ended and before the new Authority to Construct permit has been issued. [District Rule 2201]
27. If the engine demonstrates reasonably reliable compliance with the 0.15 g/bhp-hr NO_x emissions limit during the BACT evaluation period, this limit shall be deemed BACT for the installation. [District Rule 2201]
28. The temperature of the NSCR 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]
29. The outlet temperature of the NSCR catalyst 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]
30. The NSCR 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]
31. 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]
32. For monitoring purposes, source testing to measure NO_x and CO emissions from this unit shall be conducted within 90 days of initial start-up using methods and procedures approved by the District. Official source testing to demonstrate compliance with NO_x, CO, and VOC emissions limits from this unit shall be conducted within 365 days of initial start-up. [District Rules 1081, 2201, and 4702 and 40 CFR 60, Subpart JJJJ]
33. Source testing to measure NO_x, CO, and VOC 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]
34. 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]

CONDITIONS CONTINUE ON NEXT PAGE

35. For official 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 as propane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60, Subpart JJJJ]
36. The following methods shall be used for official 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. Alternative test methods as approved by EPA, ARB, 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]
37. 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]
38. 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]
39. The sulfur content of the digester gas used to fuel the engine shall be monitored and recorded monthly. Monitoring of the sulfur content of the digester gas shall be scheduled for days in which NO_x emissions are being measured or monitored. After six (6) consecutive monthly tests show compliance, the fuel sulfur content monitoring frequency may be reduced to once every calendar quarter. If quarterly monitoring shows a violation of the fuel sulfur content limit of this permit, then monthly monitoring shall resume and continue 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. During the BACT determination period for NO_x emissions, monitoring of the fuel sulfur content shall also be conducted on days when NO_x emissions are found to exceed 0.15 g/bhp-hr. Records of the results of monitoring of the digester gas fuel sulfur content shall be maintained. [District Rule 2201]
40. Monitoring of the digester gas sulfur content shall be performed using a Testo 350 XL portable emission monitor; District-approved in-line H₂S monitors; gas detection tubes calibrated for H₂S; District-approved source test methods, including EPA Method 15, ASTM Method D1072, D4084, and D5504; 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]
41. 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]
42. 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. [District Rules 2201 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

43. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. During the BACT determination period for NO_x, NO_x emissions not exceeding 0.60 g-NO_x/bhp-hr (= 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]
44. 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]
45. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201 and 4702]
46. 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, quantity of fuel used (scf) and calculated heat input (MMBtu) during commissioning period(s), the quantity of fuel used (scf) and calculated heat input (MMBtu) 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]
47. 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]
48. The total combined heat input for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines) shall not exceed 185,000 MMBtu based on the higher heating value (HHV) of the fuel during any consecutive 12-month rolling period. [District Rule 2201]
49. The total combined NO_x (as NO₂) emissions from permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (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 following emissions factors, as applicable: during commissioning: 2.287 lb-NO_x/MMBtu; during normal operation: 0.171 lb-NO_x/MMBtu. The District may approve use of an alternate emission factor to calculate NO_x emissions during normal operation based on the most recently completed source test to measure NO_x emissions provided that the alternate emission factor is at least as great as the emission factor determined by the source test and monthly monitoring for the period for which the emission factor will be used demonstrates compliance with the limit. 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]

CONDITIONS CONTINUE ON NEXT PAGE

50. For each of the following permit units: S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines), the permittee shall maintain records of the calculated NOx emissions (in lbs) from the engine for the previous month. [District Rule 2201]
51. The permittee shall compile and maintain the following records for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines): 1) the total amount of gas (scf) used in the units each month, 2) the total amount of gas (scf) used in the units during the previous 12-month rolling period, 3) the calculated total heat input (MMBtu) for the units each month, 4) the calculated total heat input (MMBtu) for the units during the previous 12-month rolling period, 5) the calculated total NOx emissions for the units each month, and 6) the calculated total NOx emissions for the units during the previous 12-month rolling period. [District Rule 2201]
52. 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 of the digester gas and calculated gas heating value shall be maintained. [District Rule 2201]
53. Records of biogas 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]
54. During the BACT determination period, when requested by the District, the permittee shall perform and submit a fuel analysis of the digester gas. [District Rule 2201]
55. 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]
56. 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]
57. 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]
58. 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]
59. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
60. 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-7767-3-0

ISSUANCE DATE: 10/05/2010

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:

841 BHP PMSI MODEL GREENGUARD DIGESTER GAS-FIRED RICH-BURN IC ENGINE WITH EXHAUST GAS RECIRCULATION (EGR), AN ATTAINMENT TECHNOLOGIES NON-SELECTIVE CATALYTIC REDUCTION (NSCR) SYSTEM, AND AN IRON SPONGE H₂S SCRUBBER (OR EQUIVALENT H₂S REMOVAL SYSTEM) POWERING A 600 KW ELECTRICAL GENERATOR

CONDITIONS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
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 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]
5. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702]
6. 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]
7. This engine shall be fired only on digester gas. [District Rule 2201]
8. The sulfur content of the digester gas used as fuel in this engine shall not exceed 50 ppmv as H₂S. [District Rules 2201 and 4801]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO


DAVID WARNER, Director of Permit Services
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9. This engine shall be equipped with an operational non-resettable elapsed time meter. [District Rules 2201 and 4702]
10. 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]
11. The owner/operator shall minimize the emissions from the engine to the maximum extent possible during the commissioning period. Conditions #12 through #22 shall apply only during the commissioning period as defined below. Unless otherwise indicated, conditions #23 through #45 shall apply after the commissioning period has ended. [District Rule 2201]
12. 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]
13. 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 duration of the commissioning period shall not exceed 30 days and shall consist of no more than 200 hours of engine operation without the catalyst installed. [District Rule 2201]
14. No more than four of the digester gas-fired IC engines at this facility (Permit Units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12) shall be operated for commissioning purposes at the same time. [District Rule 2201]
15. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the engine shall be tuned to minimize emissions. [District Rule 2201]
16. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the Non-Selective Catalytic Reduction (NSCR) system shall be installed, adjusted, and operated to minimize emissions from this unit. [District Rule 2201]
17. 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 NSCR system, the installation, calibration, and testing of emissions monitors, and any activities requiring the firing of this unit without abatement by the NSCR system. [District Rule 2201]
18. Emission rates from this engine unit during the commissioning period shall not exceed any of the following limits: 8.0 g-NO_x/bhp-hr, 0.07 g-PM₁₀/bhp-hr, 8.0 g-CO/bhp-hr, 0.41 g-VOC/bhp-hr. [District Rule 2201]
19. 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]
20. The total number of firing hours of this unit without abatement of emissions by the NSCR system shall not exceed 200 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 NSCR system. Upon completion of these activities, the permittee shall provide written notice to the District and the unused balance of the 200 firing hours without abatement shall expire. [District Rule 2201]
21. 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 conditions #48 and #49. [District Rule 2201]
22. Coincident with the end of the commissioning period, emissions from this unit shall comply with the emission limits specified in conditions #23 and #24 below. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

23. Emissions from this IC engine shall not exceed any of the following limits: 0.15 g-NO_x/bhp-hr (= 11 ppmvd NO_x @ 15% O₂; NO_x referenced as NO₂), 1.75 g-CO/bhp-hr (= 212 ppmvd CO @ 15% O₂), 0.15 g-VOC/bhp-hr (= 32 ppmvd VOC as methane @ 15% O₂), 0.07 g-PM₁₀/bhp-hr. [District Rules 2201 and 4702]
24. NO_x emissions (as NO₂) from the 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. BACT for NO_x from this engine shall consist of all other emission limitations and operational and design conditions contained in this permit. The final BACT level for NO_x 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 six months of operating history and a successful compliance source test. After receipt of a written request from the applicant, the BACT determination period may be extended to up to 24 months after initial startup. [District Rule 2201]
25. If NO_x emissions from the engine continue to exceed 0.15 g/bhp-hr after the BACT determination period, the permittee shall have 60 days to submit a report containing all monitoring and source test information to the District. The report shall also include an explanation of the steps taken to operate and maintain the engine in such a manner as to minimize NO_x emissions and a detailed analysis of all factors that prohibit compliance with the NO_x emissions limit. In the report, the permittee may also propose a final BACT emission limit for NO_x for inclusion in this permit. The monitoring data and source test information gathered in accordance with this permit may be shared with other technical experts so their input can be considered when determining the final BACT limit for NO_x that can be consistently achieved. [District Rule 2201]
26. The District shall establish the final BACT limit for NO_x, including any applicable averaging periods, and revise the applicable limit contained in the permit within 60 days of the successful completion of the BACT determination period or receipt of the report from the permittee. Within 30 days of receipt of the District's determination, the permittee shall submit an Authority to Construct application to incorporate the revised emissions limit(s). In no case shall the final BACT NO_x emission limitation be higher than 0.60 g-NO_x/bhp-hr (= 44 ppmvd NO_x @ 15% O₂). If NO_x emissions do not exceed 0.60 g-NO_x/bhp-hr, the engine shall be allowed to continue to operate after the BACT evaluation period has ended and before the new Authority to Construct permit has been issued. [District Rule 2201]
27. If the engine demonstrates reasonably reliable compliance with the 0.15 g/bhp-hr NO_x emissions limit during the BACT evaluation period, this limit shall be deemed BACT for the installation. [District Rule 2201]
28. The temperature of the NSCR 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]
29. The outlet temperature of the NSCR catalyst 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]
30. The NSCR 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]
31. 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]
32. For monitoring purposes, source testing to measure NO_x and CO emissions from this unit shall be conducted within 90 days of initial start-up using methods and procedures approved by the District. Official source testing to demonstrate compliance with NO_x, CO, and VOC emissions limits from this unit shall be conducted within 365 days of initial start-up. [District Rules 1081, 2201, and 4702 and 40 CFR 60, Subpart JJJJ]
33. Source testing to measure NO_x, CO, and VOC 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]
34. 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]

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35. For official 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 as propane. VOC, NOx, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60, Subpart JJJJ]
36. The following methods shall be used for official source testing: NOx (ppmv) - EPA Method 7E, CO (ppmv) - EPA Method 10, VOC (ppmv) - EPA Method 25A or 25B, stack gas oxygen - EPA Method 3 or 3A. Alternative test methods as approved by EPA, ARB, 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]
37. 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]
38. 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]
39. The sulfur content of the digester gas used to fuel the engine shall be monitored and recorded monthly. Monitoring of the sulfur content of the digester gas shall be scheduled for days in which NOx emissions are being measured or monitored. After six (6) consecutive monthly tests show compliance, the fuel sulfur content monitoring frequency may be reduced to once every calendar quarter. If quarterly monitoring shows a violation of the fuel sulfur content limit of this permit, then monthly monitoring shall resume and continue 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. During the BACT determination period for NOx emissions, monitoring of the fuel sulfur content shall also be conducted on days when NOx emissions are found to exceed 0.15 g/bhp-hr. Records of the results of monitoring of the digester gas fuel sulfur content shall be maintained. [District Rule 2201]
40. Monitoring of the digester gas sulfur content shall be performed using a Testo 350 XL portable emission monitor; District-approved in-line H2S monitors; gas detection tubes calibrated for H2S; District-approved source test methods, including EPA Method 15, ASTM Method D1072, D4084, and D5504; 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]
41. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx, CO, and O2 analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Emission Monitoring and Testing. [District Rule 1081]
42. The permittee shall monitor and record the stack concentration of NOx, 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. [District Rules 2201 and 4702]

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43. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. During the BACT determination period for NO_x, NO_x emissions not exceeding 0.60 g-NO_x/bhp-hr (= 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]
44. 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]
45. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201 and 4702]
46. 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, quantity of fuel used (scf) and calculated heat input (MMBtu) during commissioning period(s), the quantity of fuel used (scf) and calculated heat input (MMBtu) 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]
47. 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]
48. The total combined heat input for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines) shall not exceed 185,000 MMBtu based on the higher heating value (HHV) of the fuel during any consecutive 12-month rolling period. [District Rule 2201]
49. The total combined NO_x (as NO₂) emissions from permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (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 following emissions factors, as applicable: during commissioning: 2.287 lb-NO_x/MMBtu; during normal operation: 0.171 lb-NO_x/MMBtu. The District may approve use of an alternate emission factor to calculate NO_x emissions during normal operation based on the most recently completed source test to measure NO_x emissions provided that the alternate emission factor is at least as great as the emission factor determined by the source test and monthly monitoring for the period for which the emission factor will be used demonstrates compliance with the limit. 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]

CONDITIONS CONTINUE ON NEXT PAGE

50. For each of the following permit units: S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines), the permittee shall maintain records of the calculated NOx emissions (in lbs) from the engine for the previous month. [District Rule 2201]
51. The permittee shall compile and maintain the following records for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines): 1) the total amount of gas (scf) used in the units each month, 2) the total amount of gas (scf) used in the units during the previous 12-month rolling period, 3) the calculated total heat input (MMBtu) for the units each month, 4) the calculated total heat input (MMBtu) for the units during the previous 12-month rolling period, 5) the calculated total NOx emissions for the units each month, and 6) the calculated total NOx emissions for the units during the previous 12-month rolling period. [District Rule 2201]
52. 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 of the digester gas and calculated gas heating value shall be maintained. [District Rule 2201]
53. Records of biogas 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]
54. During the BACT determination period, when requested by the District, the permittee shall perform and submit a fuel analysis of the digester gas. [District Rule 2201]
55. 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]
56. 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]
57. 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]
58. 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]
59. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
60. 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-7767-4-0

ISSUANCE DATE: 10/05/2010

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:

841 BHP PMSI MODEL GREENGUARD DIGESTER GAS-FIRED RICH-BURN IC ENGINE WITH EXHAUST GAS RECIRCULATION (EGR), AN ATTAINMENT TECHNOLOGIES NON-SELECTIVE CATALYTIC REDUCTION (NSCR) SYSTEM, AND AN IRON SPONGE H₂S SCRUBBER (OR EQUIVALENT H₂S REMOVAL SYSTEM) POWERING A 600 KW ELECTRICAL GENERATOR


CONDITIONS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
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 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]
5. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702]
6. 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]
7. This engine shall be fired only on digester gas. [District Rule 2201]
8. The sulfur content of the digester gas used as fuel in this engine shall not exceed 50 ppmv as H₂S. [District Rules 2201 and 4801]

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-7767-4-0: Oct 5 2010 4:36PM -- NORMANR : Joint Inspection Required with NORMANR

9. This engine shall be equipped with an operational non-resettable elapsed time meter. [District Rules 2201 and 4702]
10. 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]
11. The owner/operator shall minimize the emissions from the engine to the maximum extent possible during the commissioning period. Conditions #12 through #22 shall apply only during the commissioning period as defined below. Unless otherwise indicated, conditions #23 through #45 shall apply after the commissioning period has ended. [District Rule 2201]
12. 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]
13. 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 duration of the commissioning period shall not exceed 30 days and shall consist of no more than 200 hours of engine operation without the catalyst installed. [District Rule 2201]
14. No more than four of the digester gas-fired IC engines at this facility (Permit Units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12) shall be operated for commissioning purposes at the same time. [District Rule 2201]
15. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the engine shall be tuned to minimize emissions. [District Rule 2201]
16. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the Non-Selective Catalytic Reduction (NSCR) system shall be installed, adjusted, and operated to minimize emissions from this unit. [District Rule 2201]
17. 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 NSCR system, the installation, calibration, and testing of emissions monitors, and any activities requiring the firing of this unit without abatement by the NSCR system. [District Rule 2201]
18. Emission rates from this engine unit during the commissioning period shall not exceed any of the following limits: 8.0 g-NOx/bhp-hr, 0.07 g-PM10/bhp-hr, 8.0 g-CO/bhp-hr, 0.41 g-VOC/bhp-hr. [District Rule 2201]
19. 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]
20. The total number of firing hours of this unit without abatement of emissions by the NSCR system shall not exceed 200 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 NSCR system. Upon completion of these activities, the permittee shall provide written notice to the District and the unused balance of the 200 firing hours without abatement shall expire. [District Rule 2201]
21. The total heat input of the engine during the commissioning period and total mass emissions of NOx that are emitted during the commissioning period shall accrue towards the consecutive twelve month limits specified in conditions #48 and #49. [District Rule 2201]
22. Coincident with the end of the commissioning period, emissions from this unit shall comply with the emission limits specified in conditions #23 and #24 below. [District Rule 2201]

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23. Emissions from this IC engine shall not exceed any of the following limits: 0.15 g-NO_x/bhp-hr (= 11 ppmvd NO_x @ 15% O₂; NO_x referenced as NO₂), 1.75 g-CO/bhp-hr (= 212 ppmvd CO @ 15% O₂), 0.15 g-VOC/bhp-hr (= 32 ppmvd VOC as methane @ 15% O₂), 0.07 g-PM₁₀/bhp-hr. [District Rules 2201 and 4702]
24. NO_x emissions (as NO₂) from the 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. BACT for NO_x from this engine shall consist of all other emission limitations and operational and design conditions contained in this permit. The final BACT level for NO_x 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 six months of operating history and a successful compliance source test. After receipt of a written request from the applicant, the BACT determination period may be extended to up to 24 months after initial startup. [District Rule 2201]
25. If NO_x emissions from the engine continue to exceed 0.15 g/bhp-hr after the BACT determination period, the permittee shall have 60 days to submit a report containing all monitoring and source test information to the District. The report shall also include an explanation of the steps taken to operate and maintain the engine in such a manner as to minimize NO_x emissions and a detailed analysis of all factors that prohibit compliance with the NO_x emissions limit. In the report, the permittee may also propose a final BACT emission limit for NO_x for inclusion in this permit. The monitoring data and source test information gathered in accordance with this permit may be shared with other technical experts so their input can be considered when determining the final BACT limit for NO_x that can be consistently achieved. [District Rule 2201]
26. The District shall establish the final BACT limit for NO_x, including any applicable averaging periods, and revise the applicable limit contained in the permit within 60 days of the successful completion of the BACT determination period or receipt of the report from the permittee. Within 30 days of receipt of the District's determination, the permittee shall submit an Authority to Construct application to incorporate the revised emissions limit(s). In no case shall the final BACT NO_x emission limitation be higher than 0.60 g-NO_x/bhp-hr (= 44 ppmvd NO_x @ 15% O₂). If NO_x emissions do not exceed 0.60 g-NO_x/bhp-hr, the engine shall be allowed to continue to operate after the BACT evaluation period has ended and before the new Authority to Construct permit has been issued. [District Rule 2201]
27. If the engine demonstrates reasonably reliable compliance with the 0.15 g/bhp-hr NO_x emissions limit during the BACT evaluation period, this limit shall be deemed BACT for the installation. [District Rule 2201]
28. The temperature of the NSCR 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]
29. The outlet temperature of the NSCR catalyst 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]
30. The NSCR 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]
31. 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]
32. For monitoring purposes, source testing to measure NO_x and CO emissions from this unit shall be conducted within 90 days of initial start-up using methods and procedures approved by the District. Official source testing to demonstrate compliance with NO_x, CO, and VOC emissions limits from this unit shall be conducted within 365 days of initial start-up. [District Rules 1081, 2201, and 4702 and 40 CFR 60, Subpart JJJJ]
33. Source testing to measure NO_x, CO, and VOC 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]
34. 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]

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35. For official 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 as propane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60, Subpart JJJJ]
36. The following methods shall be used for official 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. Alternative test methods as approved by EPA, ARB, 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]
37. 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]
38. 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]
39. The sulfur content of the digester gas used to fuel the engine shall be monitored and recorded monthly. Monitoring of the sulfur content of the digester gas shall be scheduled for days in which NO_x emissions are being measured or monitored. After six (6) consecutive monthly tests show compliance, the fuel sulfur content monitoring frequency may be reduced to once every calendar quarter. If quarterly monitoring shows a violation of the fuel sulfur content limit of this permit, then monthly monitoring shall resume and continue 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. During the BACT determination period for NO_x emissions, monitoring of the fuel sulfur content shall also be conducted on days when NO_x emissions are found to exceed 0.15 g/bhp-hr. Records of the results of monitoring of the digester gas fuel sulfur content shall be maintained. [District Rule 2201]
40. Monitoring of the digester gas sulfur content shall be performed using a Testo 350 XL portable emission monitor; District-approved in-line H₂S monitors; gas detection tubes calibrated for H₂S; District-approved source test methods, including EPA Method 15, ASTM Method D1072, D4084, and D5504; 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]
41. 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]
42. 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. [District Rules 2201 and 4702]

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43. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. During the BACT determination period for NO_x, NO_x emissions not exceeding 0.60 g-NO_x/bhp-hr (= 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]
44. 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]
45. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201 and 4702]
46. 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, quantity of fuel used (scf) and calculated heat input (MMBtu) during commissioning period(s), the quantity of fuel used (scf) and calculated heat input (MMBtu) 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]
47. 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]
48. The total combined heat input for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines) shall not exceed 185,000 MMBtu based on the higher heating value (HHV) of the fuel during any consecutive 12-month rolling period. [District Rule 2201]
49. The total combined NO_x (as NO₂) emissions from permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (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 following emissions factors, as applicable: during commissioning: 2.287 lb-NO_x/MMBtu; during normal operation: 0.171 lb-NO_x/MMBtu. The District may approve use of an alternate emission factor to calculate NO_x emissions during normal operation based on the most recently completed source test to measure NO_x emissions provided that the alternate emission factor is at least as great as the emission factor determined by the source test and monthly monitoring for the period for which the emission factor will be used demonstrates compliance with the limit. 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]

CONDITIONS CONTINUE ON NEXT PAGE

50. For each of the following permit units: S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines), the permittee shall maintain records of the calculated NOx emissions (in lbs) from the engine for the previous month. [District Rule 2201]
51. The permittee shall compile and maintain the following records for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines): 1) the total amount of gas (scf) used in the units each month, 2) the total amount of gas (scf) used in the units during the previous 12-month rolling period, 3) the calculated total heat input (MMBtu) for the units each month, 4) the calculated total heat input (MMBtu) for the units during the previous 12-month rolling period, 5) the calculated total NOx emissions for the units each month, and 6) the calculated total NOx emissions for the units during the previous 12-month rolling period. [District Rule 2201]
52. 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 of the digester gas and calculated gas heating value shall be maintained. [District Rule 2201]
53. Records of biogas 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]
54. During the BACT determination period, when requested by the District, the permittee shall perform and submit a fuel analysis of the digester gas. [District Rule 2201]
55. 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]
56. 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]
57. 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]
58. 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]
59. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
60. 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-7767-5-0

ISSUANCE DATE: 10/05/2010

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:

841 BHP PMSI MODEL GREENGUARD DIGESTER GAS-FIRED RICH-BURN IC ENGINE WITH EXHAUST GAS RECIRCULATION (EGR), AN ATTAINMENT TECHNOLOGIES NON-SELECTIVE CATALYTIC REDUCTION (NSCR) SYSTEM, AND AN IRON SPONGE H₂S SCRUBBER (OR EQUIVALENT H₂S REMOVAL SYSTEM) POWERING A 600 KW ELECTRICAL GENERATOR

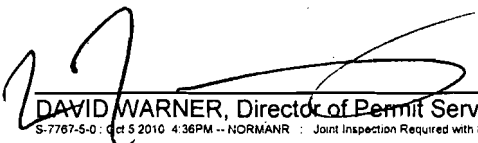
CONDITIONS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
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 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]
5. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702]
6. 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]
7. This engine shall be fired only on digester gas. [District Rule 2201]
8. The sulfur content of the digester gas used as fuel in this engine shall not exceed 50 ppmv as H₂S. [District Rules 2201 and 4801]

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-7767-5-0 : Oct 5 2010 4:36PM -- NORMANR : Joint Inspection Required with NORMANR

9. This engine shall be equipped with an operational non-resettable elapsed time meter. [District Rules 2201 and 4702]
10. 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]
11. The owner/operator shall minimize the emissions from the engine to the maximum extent possible during the commissioning period. Conditions #12 through #22 shall apply only during the commissioning period as defined below. Unless otherwise indicated, conditions #23 through #45 shall apply after the commissioning period has ended. [District Rule 2201]
12. 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]
13. 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 duration of the commissioning period shall not exceed 30 days and shall consist of no more than 200 hours of engine operation without the catalyst installed. [District Rule 2201]
14. No more than four of the digester gas-fired IC engines at this facility (Permit Units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12) shall be operated for commissioning purposes at the same time. [District Rule 2201]
15. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the engine shall be tuned to minimize emissions. [District Rule 2201]
16. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the Non-Selective Catalytic Reduction (NSCR) system shall be installed, adjusted, and operated to minimize emissions from this unit. [District Rule 2201]
17. 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 NSCR system, the installation, calibration, and testing of emissions monitors, and any activities requiring the firing of this unit without abatement by the NSCR system. [District Rule 2201]
18. Emission rates from this engine unit during the commissioning period shall not exceed any of the following limits: 8.0 g-NOx/bhp-hr, 0.07 g-PM10/bhp-hr, 8.0 g-CO/bhp-hr, 0.41 g-VOC/bhp-hr. [District Rule 2201]
19. 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]
20. The total number of firing hours of this unit without abatement of emissions by the NSCR system shall not exceed 200 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 NSCR system. Upon completion of these activities, the permittee shall provide written notice to the District and the unused balance of the 200 firing hours without abatement shall expire. [District Rule 2201]
21. The total heat input of the engine during the commissioning period and total mass emissions of NOx that are emitted during the commissioning period shall accrue towards the consecutive twelve month limits specified in conditions #48 and #49. [District Rule 2201]
22. Coincident with the end of the commissioning period, emissions from this unit shall comply with the emission limits specified in conditions #23 and #24 below. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

23. Emissions from this IC engine shall not exceed any of the following limits: 0.15 g-NO_x/bhp-hr (= 11 ppmvd NO_x @ 15% O₂; NO_x referenced as NO₂), 1.75 g-CO/bhp-hr (= 212 ppmvd CO @ 15% O₂), 0.15 g-VOC/bhp-hr (= 32 ppmvd VOC as methane @ 15% O₂), 0.07 g-PM₁₀/bhp-hr. [District Rules 2201 and 4702]
24. NO_x emissions (as NO₂) from the 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. BACT for NO_x from this engine shall consist of all other emission limitations and operational and design conditions contained in this permit. The final BACT level for NO_x 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 six months of operating history and a successful compliance source test. After receipt of a written request from the applicant, the BACT determination period may be extended to up to 24 months after initial startup. [District Rule 2201]
25. If NO_x emissions from the engine continue to exceed 0.15 g/bhp-hr after the BACT determination period, the permittee shall have 60 days to submit a report containing all monitoring and source test information to the District. The report shall also include an explanation of the steps taken to operate and maintain the engine in such a manner as to minimize NO_x emissions and a detailed analysis of all factors that prohibit compliance with the NO_x emissions limit. In the report, the permittee may also propose a final BACT emission limit for NO_x for inclusion in this permit. The monitoring data and source test information gathered in accordance with this permit may be shared with other technical experts so their input can be considered when determining the final BACT limit for NO_x that can be consistently achieved. [District Rule 2201]
26. The District shall establish the final BACT limit for NO_x, including any applicable averaging periods, and revise the applicable limit contained in the permit within 60 days of the successful completion of the BACT determination period or receipt of the report from the permittee. Within 30 days of receipt of the District's determination, the permittee shall submit an Authority to Construct application to incorporate the revised emissions limit(s). In no case shall the final BACT NO_x emission limitation be higher than 0.60 g-NO_x/bhp-hr (= 44 ppmvd NO_x @ 15% O₂). If NO_x emissions do not exceed 0.60 g-NO_x/bhp-hr, the engine shall be allowed to continue to operate after the BACT evaluation period has ended and before the new Authority to Construct permit has been issued. [District Rule 2201]
27. If the engine demonstrates reasonably reliable compliance with the 0.15 g/bhp-hr NO_x emissions limit during the BACT evaluation period, this limit shall be deemed BACT for the installation. [District Rule 2201]
28. The temperature of the NSCR 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]
29. The outlet temperature of the NSCR catalyst 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]
30. The NSCR 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]
31. 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]
32. For monitoring purposes, source testing to measure NO_x and CO emissions from this unit shall be conducted within 90 days of initial start-up using methods and procedures approved by the District. Official source testing to demonstrate compliance with NO_x, CO, and VOC emissions limits from this unit shall be conducted within 365 days of initial start-up. [District Rules 1081, 2201, and 4702 and 40 CFR 60, Subpart JJJJ]
33. Source testing to measure NO_x, CO, and VOC 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]
34. 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]

CONDITIONS CONTINUE ON NEXT PAGE

35. For official 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 as propane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60, Subpart JJJJ]
36. The following methods shall be used for official 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. Alternative test methods as approved by EPA, ARB, 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]
37. 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]
38. 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]
39. The sulfur content of the digester gas used to fuel the engine shall be monitored and recorded monthly. Monitoring of the sulfur content of the digester gas shall be scheduled for days in which NO_x emissions are being measured or monitored. After six (6) consecutive monthly tests show compliance, the fuel sulfur content monitoring frequency may be reduced to once every calendar quarter. If quarterly monitoring shows a violation of the fuel sulfur content limit of this permit, then monthly monitoring shall resume and continue 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. During the BACT determination period for NO_x emissions, monitoring of the fuel sulfur content shall also be conducted on days when NO_x emissions are found to exceed 0.15 g/bhp-hr. Records of the results of monitoring of the digester gas fuel sulfur content shall be maintained. [District Rule 2201]
40. Monitoring of the digester gas sulfur content shall be performed using a Testo 350 XL portable emission monitor; District-approved in-line H₂S monitors; gas detection tubes calibrated for H₂S; District-approved source test methods, including EPA Method 15, ASTM Method D1072, D4084, and D5504; 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]
41. 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]
42. 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. [District Rules 2201 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

43. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. During the BACT determination period for NO_x, NO_x emissions not exceeding 0.60 g-NO_x/bhp-hr (= 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]
44. 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]
45. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201 and 4702]
46. 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, quantity of fuel used (scf) and calculated heat input (MMBtu) during commissioning period(s), the quantity of fuel used (scf) and calculated heat input (MMBtu) 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]
47. 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]
48. The total combined heat input for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines) shall not exceed 185,000 MMBtu based on the higher heating value (HHV) of the fuel during any consecutive 12-month rolling period. [District Rule 2201]
49. The total combined NO_x (as NO₂) emissions from permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (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 following emissions factors, as applicable: during commissioning: 2.287 lb-NO_x/MMBtu; during normal operation: 0.171 lb-NO_x/MMBtu. The District may approve use of an alternate emission factor to calculate NO_x emissions during normal operation based on the most recently completed source test to measure NO_x emissions provided that the alternate emission factor is at least as great as the emission factor determined by the source test and monthly monitoring for the period for which the emission factor will be used demonstrates compliance with the limit. 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]

CONDITIONS CONTINUE ON NEXT PAGE

50. For each of the following permit units: S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines), the permittee shall maintain records of the calculated NOx emissions (in lbs) from the engine for the previous month. [District Rule 2201]
51. The permittee shall compile and maintain the following records for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines): 1) the total amount of gas (scf) used in the units each month, 2) the total amount of gas (scf) used in the units during the previous 12-month rolling period, 3) the calculated total heat input (MMBtu) for the units each month, 4) the calculated total heat input (MMBtu) for the units during the previous 12-month rolling period, 5) the calculated total NOx emissions for the units each month, and 6) the calculated total NOx emissions for the units during the previous 12-month rolling period. [District Rule 2201]
52. 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 of the digester gas and calculated gas heating value shall be maintained. [District Rule 2201]
53. Records of biogas 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]
54. During the BACT determination period, when requested by the District, the permittee shall perform and submit a fuel analysis of the digester gas. [District Rule 2201]
55. 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]
56. 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]
57. 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]
58. 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]
59. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
60. 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-7767-6-0

ISSUANCE DATE: 10/05/2010

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:

841 BHP PMSI MODEL GREENGUARD DIGESTER GAS-FIRED RICH-BURN IC ENGINE WITH EXHAUST GAS RECIRCULATION (EGR), AN ATTAINMENT TECHNOLOGIES NON-SELECTIVE CATALYTIC REDUCTION (NSCR) SYSTEM, AND AN IRON SPONGE H₂S SCRUBBER (OR EQUIVALENT H₂S REMOVAL SYSTEM) POWERING A 600 KW ELECTRICAL GENERATOR


CONDITIONS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
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 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]
5. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702]
6. 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]
7. This engine shall be fired only on digester gas. [District Rule 2201]
8. The sulfur content of the digester gas used as fuel in this engine shall not exceed 50 ppmv as H₂S. [District Rules 2201 and 4801]

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-7767-6-0 - Oct 6 2010 4:37PM - NORMANR : Joint Inspection Required with NORMANR

9. This engine shall be equipped with an operational non-resettable elapsed time meter. [District Rules 2201 and 4702]
10. 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]
11. The owner/operator shall minimize the emissions from the engine to the maximum extent possible during the commissioning period. Conditions #12 through #22 shall apply only during the commissioning period as defined below. Unless otherwise indicated, conditions #23 through #45 shall apply after the commissioning period has ended. [District Rule 2201]
12. 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]
13. 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 duration of the commissioning period shall not exceed 30 days and shall consist of no more than 200 hours of engine operation without the catalyst installed. [District Rule 2201]
14. No more than four of the digester gas-fired IC engines at this facility (Permit Units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12) shall be operated for commissioning purposes at the same time. [District Rule 2201]
15. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the engine shall be tuned to minimize emissions. [District Rule 2201]
16. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the Non-Selective Catalytic Reduction (NSCR) system shall be installed, adjusted, and operated to minimize emissions from this unit. [District Rule 2201]
17. 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 NSCR system, the installation, calibration, and testing of emissions monitors, and any activities requiring the firing of this unit without abatement by the NSCR system. [District Rule 2201]
18. Emission rates from this engine unit during the commissioning period shall not exceed any of the following limits: 8.0 g-NOx/bhp-hr, 0.07 g-PM10/bhp-hr, 8.0 g-CO/bhp-hr, 0.41 g-VOC/bhp-hr. [District Rule 2201]
19. 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]
20. The total number of firing hours of this unit without abatement of emissions by the NSCR system shall not exceed 200 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 NSCR system. Upon completion of these activities, the permittee shall provide written notice to the District and the unused balance of the 200 firing hours without abatement shall expire. [District Rule 2201]
21. The total heat input of the engine during the commissioning period and total mass emissions of NOx that are emitted during the commissioning period shall accrue towards the consecutive twelve month limits specified in conditions #48 and #49. [District Rule 2201]
22. Coincident with the end of the commissioning period, emissions from this unit shall comply with the emission limits specified in conditions #23 and #24 below. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

23. Emissions from this IC engine shall not exceed any of the following limits: 0.15 g-NO_x/bhp-hr (= 11 ppmvd NO_x @ 15% O₂; NO_x referenced as NO₂), 1.75 g-CO/bhp-hr (= 212 ppmvd CO @ 15% O₂), 0.15 g-VOC/bhp-hr (= 32 ppmvd VOC as methane @ 15% O₂), 0.07 g-PM₁₀/bhp-hr. [District Rules 2201 and 4702]
24. NO_x emissions (as NO₂) from the 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. BACT for NO_x from this engine shall consist of all other emission limitations and operational and design conditions contained in this permit. The final BACT level for NO_x 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 six months of operating history and a successful compliance source test. After receipt of a written request from the applicant, the BACT determination period may be extended to up to 24 months after initial startup. [District Rule 2201]
25. If NO_x emissions from the engine continue to exceed 0.15 g/bhp-hr after the BACT determination period, the permittee shall have 60 days to submit a report containing all monitoring and source test information to the District. The report shall also include an explanation of the steps taken to operate and maintain the engine in such a manner as to minimize NO_x emissions and a detailed analysis of all factors that prohibit compliance with the NO_x emissions limit. In the report, the permittee may also propose a final BACT emission limit for NO_x for inclusion in this permit. The monitoring data and source test information gathered in accordance with this permit may be shared with other technical experts so their input can be considered when determining the final BACT limit for NO_x that can be consistently achieved. [District Rule 2201]
26. The District shall establish the final BACT limit for NO_x, including any applicable averaging periods, and revise the applicable limit contained in the permit within 60 days of the successful completion of the BACT determination period or receipt of the report from the permittee. Within 30 days of receipt of the District's determination, the permittee shall submit an Authority to Construct application to incorporate the revised emissions limit(s). In no case shall the final BACT NO_x emission limitation be higher than 0.60 g-NO_x/bhp-hr (= 44 ppmvd NO_x @ 15% O₂). If NO_x emissions do not exceed 0.60 g-NO_x/bhp-hr, the engine shall be allowed to continue to operate after the BACT evaluation period has ended and before the new Authority to Construct permit has been issued. [District Rule 2201]
27. If the engine demonstrates reasonably reliable compliance with the 0.15 g/bhp-hr NO_x emissions limit during the BACT evaluation period, this limit shall be deemed BACT for the installation. [District Rule 2201]
28. The temperature of the NSCR 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]
29. The outlet temperature of the NSCR catalyst 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]
30. The NSCR 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]
31. 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]
32. For monitoring purposes, source testing to measure NO_x and CO emissions from this unit shall be conducted within 90 days of initial start-up using methods and procedures approved by the District. Official source testing to demonstrate compliance with NO_x, CO, and VOC emissions limits from this unit shall be conducted within 365 days of initial start-up. [District Rules 1081, 2201, and 4702 and 40 CFR 60, Subpart JJJJ]
33. Source testing to measure NO_x, CO, and VOC 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]
34. 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]

CONDITIONS CONTINUE ON NEXT PAGE

35. For official 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 as propane. VOC, NOx, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60, Subpart JJJJ]
36. The following methods shall be used for official source testing: NOx (ppmv) - EPA Method 7E, CO (ppmv) - EPA Method 10, VOC (ppmv) - EPA Method 25A or 25B, stack gas oxygen - EPA Method 3 or 3A. Alternative test methods as approved by EPA, ARB, 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]
37. 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]
38. 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]
39. The sulfur content of the digester gas used to fuel the engine shall be monitored and recorded monthly. Monitoring of the sulfur content of the digester gas shall be scheduled for days in which NOx emissions are being measured or monitored. After six (6) consecutive monthly tests show compliance, the fuel sulfur content monitoring frequency may be reduced to once every calendar quarter. If quarterly monitoring shows a violation of the fuel sulfur content limit of this permit, then monthly monitoring shall resume and continue 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. During the BACT determination period for NOx emissions, monitoring of the fuel sulfur content shall also be conducted on days when NOx emissions are found to exceed 0.15 g/bhp-hr. Records of the results of monitoring of the digester gas fuel sulfur content shall be maintained. [District Rule 2201]
40. Monitoring of the digester gas sulfur content shall be performed using a Testo 350 XL portable emission monitor; District-approved in-line H2S monitors; gas detection tubes calibrated for H2S; District-approved source test methods, including EPA Method 15, ASTM Method D1072, D4084, and D5504; 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]
41. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx, CO, and O2 analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Emission Monitoring and Testing. [District Rule 1081]
42. The permittee shall monitor and record the stack concentration of NOx, 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. [District Rules 2201 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

43. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. During the BACT determination period for NO_x, NO_x emissions not exceeding 0.60 g-NO_x/bhp-hr (= 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]
44. 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]
45. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201 and 4702]
46. 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, quantity of fuel used (scf) and calculated heat input (MMBtu) during commissioning period(s), the quantity of fuel used (scf) and calculated heat input (MMBtu) 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]
47. 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]
48. The total combined heat input for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines) shall not exceed 185,000 MMBtu based on the higher heating value (HHV) of the fuel during any consecutive 12-month rolling period. [District Rule 2201]
49. The total combined NO_x (as NO₂) emissions from permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (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 following emissions factors, as applicable: during commissioning: 2.287 lb-NO_x/MMBtu; during normal operation: 0.171 lb-NO_x/MMBtu. The District may approve use of an alternate emission factor to calculate NO_x emissions during normal operation based on the most recently completed source test to measure NO_x emissions provided that the alternate emission factor is at least as great as the emission factor determined by the source test and monthly monitoring for the period for which the emission factor will be used demonstrates compliance with the limit. 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]

CONDITIONS CONTINUE ON NEXT PAGE

50. For each of the following permit units: S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines), the permittee shall maintain records of the calculated NOx emissions (in lbs) from the engine for the previous month. [District Rule 2201]
51. The permittee shall compile and maintain the following records for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines): 1) the total amount of gas (scf) used in the units each month, 2) the total amount of gas (scf) used in the units during the previous 12-month rolling period, 3) the calculated total heat input (MMBtu) for the units each month, 4) the calculated total heat input (MMBtu) for the units during the previous 12-month rolling period, 5) the calculated total NOx emissions for the units each month, and 6) the calculated total NOx emissions for the units during the previous 12-month rolling period. [District Rule 2201]
52. 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 of the digester gas and calculated gas heating value shall be maintained. [District Rule 2201]
53. Records of biogas 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]
54. During the BACT determination period, when requested by the District, the permittee shall perform and submit a fuel analysis of the digester gas. [District Rule 2201]
55. 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]
56. 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]
57. 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]
58. 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]
59. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
60. 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-7767-7-0

ISSUANCE DATE: 10/05/2010

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:

841 BHP PMSI MODEL GREENGUARD DIGESTER GAS-FIRED RICH-BURN IC ENGINE WITH EXHAUST GAS RECIRCULATION (EGR), AN ATTAINMENT TECHNOLOGIES NON-SELECTIVE CATALYTIC REDUCTION (NSCR) SYSTEM, AND AN IRON SPONGE H₂S SCRUBBER (OR EQUIVALENT H₂S REMOVAL SYSTEM) POWERING A 600 KW ELECTRICAL GENERATOR

CONDITIONS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
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 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]
5. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702]
6. 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]
7. This engine shall be fired only on digester gas. [District Rule 2201]
8. The sulfur content of the digester gas used as fuel in this engine shall not exceed 50 ppmv as H₂S. [District Rules 2201 and 4801]

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-7767-7-0 Oct 5 2010 4:37PM - NORMANR Joint Inspection Required with NORMANR

9. This engine shall be equipped with an operational non-resettable elapsed time meter. [District Rules 2201 and 4702]
10. 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]
11. The owner/operator shall minimize the emissions from the engine to the maximum extent possible during the commissioning period. Conditions #12 through #22 shall apply only during the commissioning period as defined below. Unless otherwise indicated, conditions #23 through #45 shall apply after the commissioning period has ended. [District Rule 2201]
12. 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]
13. 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 duration of the commissioning period shall not exceed 30 days and shall consist of no more than 200 hours of engine operation without the catalyst installed. [District Rule 2201]
14. No more than four of the digester gas-fired IC engines at this facility (Permit Units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12) shall be operated for commissioning purposes at the same time. [District Rule 2201]
15. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the engine shall be tuned to minimize emissions. [District Rule 2201]
16. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the Non-Selective Catalytic Reduction (NSCR) system shall be installed, adjusted, and operated to minimize emissions from this unit. [District Rule 2201]
17. 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 NSCR system, the installation, calibration, and testing of emissions monitors, and any activities requiring the firing of this unit without abatement by the NSCR system. [District Rule 2201]
18. Emission rates from this engine unit during the commissioning period shall not exceed any of the following limits: 8.0 g-NOx/bhp-hr, 0.07 g-PM10/bhp-hr, 8.0 g-CO/bhp-hr, 0.41 g-VOC/bhp-hr. [District Rule 2201]
19. 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]
20. The total number of firing hours of this unit without abatement of emissions by the NSCR system shall not exceed 200 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 NSCR system. Upon completion of these activities, the permittee shall provide written notice to the District and the unused balance of the 200 firing hours without abatement shall expire. [District Rule 2201]
21. The total heat input of the engine during the commissioning period and total mass emissions of NOx that are emitted during the commissioning period shall accrue towards the consecutive twelve month limits specified in conditions #48 and #49. [District Rule 2201]
22. Coincident with the end of the commissioning period, emissions from this unit shall comply with the emission limits specified in conditions #23 and #24 below. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

23. Emissions from this IC engine shall not exceed any of the following limits: 0.15 g-NO_x/bhp-hr (= 11 ppmvd NO_x @ 15% O₂; NO_x referenced as NO₂), 1.75 g-CO/bhp-hr (= 212 ppmvd CO @ 15% O₂), 0.15 g-VOC/bhp-hr (= 32 ppmvd VOC as methane @ 15% O₂), 0.07 g-PM₁₀/bhp-hr. [District Rules 2201 and 4702]
24. NO_x emissions (as NO₂) from the 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. BACT for NO_x from this engine shall consist of all other emission limitations and operational and design conditions contained in this permit. The final BACT level for NO_x 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 six months of operating history and a successful compliance source test. After receipt of a written request from the applicant, the BACT determination period may be extended to up to 24 months after initial startup. [District Rule 2201]
25. If NO_x emissions from the engine continue to exceed 0.15 g/bhp-hr after the BACT determination period, the permittee shall have 60 days to submit a report containing all monitoring and source test information to the District. The report shall also include an explanation of the steps taken to operate and maintain the engine in such a manner as to minimize NO_x emissions and a detailed analysis of all factors that prohibit compliance with the NO_x emissions limit. In the report, the permittee may also propose a final BACT emission limit for NO_x for inclusion in this permit. The monitoring data and source test information gathered in accordance with this permit may be shared with other technical experts so their input can be considered when determining the final BACT limit for NO_x that can be consistently achieved. [District Rule 2201]
26. The District shall establish the final BACT limit for NO_x, including any applicable averaging periods, and revise the applicable limit contained in the permit within 60 days of the successful completion of the BACT determination period or receipt of the report from the permittee. Within 30 days of receipt of the District's determination, the permittee shall submit an Authority to Construct application to incorporate the revised emissions limit(s). In no case shall the final BACT NO_x emission limitation be higher than 0.60 g-NO_x/bhp-hr (= 44 ppmvd NO_x @ 15% O₂). If NO_x emissions do not exceed 0.60 g-NO_x/bhp-hr, the engine shall be allowed to continue to operate after the BACT evaluation period has ended and before the new Authority to Construct permit has been issued. [District Rule 2201]
27. If the engine demonstrates reasonably reliable compliance with the 0.15 g/bhp-hr NO_x emissions limit during the BACT evaluation period, this limit shall be deemed BACT for the installation. [District Rule 2201]
28. The temperature of the NSCR 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]
29. The outlet temperature of the NSCR catalyst 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]
30. The NSCR 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]
31. 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]
32. For monitoring purposes, source testing to measure NO_x and CO emissions from this unit shall be conducted within 90 days of initial start-up using methods and procedures approved by the District. Official source testing to demonstrate compliance with NO_x, CO, and VOC emissions limits from this unit shall be conducted within 365 days of initial start-up. [District Rules 1081, 2201, and 4702 and 40 CFR 60, Subpart JJJJ]
33. Source testing to measure NO_x, CO, and VOC 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]
34. 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]

CONDITIONS CONTINUE ON NEXT PAGE

35. For official 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 as propane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60, Subpart JJJJ]
36. The following methods shall be used for official 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. Alternative test methods as approved by EPA, ARB, 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]
37. 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]
38. 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]
39. The sulfur content of the digester gas used to fuel the engine shall be monitored and recorded monthly. Monitoring of the sulfur content of the digester gas shall be scheduled for days in which NO_x emissions are being measured or monitored. After six (6) consecutive monthly tests show compliance, the fuel sulfur content monitoring frequency may be reduced to once every calendar quarter. If quarterly monitoring shows a violation of the fuel sulfur content limit of this permit, then monthly monitoring shall resume and continue 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. During the BACT determination period for NO_x emissions, monitoring of the fuel sulfur content shall also be conducted on days when NO_x emissions are found to exceed 0.15 g/bhp-hr. Records of the results of monitoring of the digester gas fuel sulfur content shall be maintained. [District Rule 2201]
40. Monitoring of the digester gas sulfur content shall be performed using a Testo 350 XL portable emission monitor; District-approved in-line H₂S monitors; gas detection tubes calibrated for H₂S; District-approved source test methods, including EPA Method 15, ASTM Method D1072, D4084, and D5504; 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]
41. 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]
42. 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. [District Rules 2201 and 4702]

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43. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. During the BACT determination period for NO_x, NO_x emissions not exceeding 0.60 g-NO_x/bhp-hr (= 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]
44. 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]
45. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201 and 4702]
46. 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, quantity of fuel used (scf) and calculated heat input (MMBtu) during commissioning period(s), the quantity of fuel used (scf) and calculated heat input (MMBtu) 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]
47. 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]
48. The total combined heat input for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines) shall not exceed 185,000 MMBtu based on the higher heating value (HHV) of the fuel during any consecutive 12-month rolling period. [District Rule 2201]
49. The total combined NO_x (as NO₂) emissions from permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (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 following emissions factors, as applicable: during commissioning: 2.287 lb-NO_x/MMBtu; during normal operation: 0.171 lb-NO_x/MMBtu. The District may approve use of an alternate emission factor to calculate NO_x emissions during normal operation based on the most recently completed source test to measure NO_x emissions provided that the alternate emission factor is at least as great as the emission factor determined by the source test and monthly monitoring for the period for which the emission factor will be used demonstrates compliance with the limit. 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]

CONDITIONS CONTINUE ON NEXT PAGE

50. For each of the following permit units: S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines), the permittee shall maintain records of the calculated NOx emissions (in lbs) from the engine for the previous month. [District Rule 2201]
51. The permittee shall compile and maintain the following records for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines): 1) the total amount of gas (scf) used in the units each month, 2) the total amount of gas (scf) used in the units during the previous 12-month rolling period, 3) the calculated total heat input (MMBtu) for the units each month, 4) the calculated total heat input (MMBtu) for the units during the previous 12-month rolling period, 5) the calculated total NOx emissions for the units each month, and 6) the calculated total NOx emissions for the units during the previous 12-month rolling period. [District Rule 2201]
52. 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 of the digester gas and calculated gas heating value shall be maintained. [District Rule 2201]
53. Records of biogas 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]
54. During the BACT determination period, when requested by the District, the permittee shall perform and submit a fuel analysis of the digester gas. [District Rule 2201]
55. 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]
56. 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]
57. 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]
58. 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]
59. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
60. 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-7767-8-0

ISSUANCE DATE: 10/05/2010

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:

841 BHP PMSI MODEL GREENGUARD DIGESTER GAS-FIRED RICH-BURN IC ENGINE WITH EXHAUST GAS RECIRCULATION (EGR), AN ATTAINMENT TECHNOLOGIES NON-SELECTIVE CATALYTIC REDUCTION (NSCR) SYSTEM, AND AN IRON SPONGE H₂S SCRUBBER (OR EQUIVALENT H₂S REMOVAL SYSTEM) POWERING A 600 KW ELECTRICAL GENERATOR

CONDITIONS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
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 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]
5. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702]
6. 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]
7. This engine shall be fired only on digester gas. [District Rule 2201]
8. The sulfur content of the digester gas used as fuel in this engine shall not exceed 50 ppmv as H₂S. [District Rules 2201 and 4801]

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-7767-8-0: Oct 2010 4:37PM - NORMANR : Joint Inspection Required with NORMANR

9. This engine shall be equipped with an operational non-resettable elapsed time meter. [District Rules 2201 and 4702]
10. 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]
11. The owner/operator shall minimize the emissions from the engine to the maximum extent possible during the commissioning period. Conditions #12 through #22 shall apply only during the commissioning period as defined below. Unless otherwise indicated, conditions #23 through #45 shall apply after the commissioning period has ended. [District Rule 2201]
12. 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]
13. 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 duration of the commissioning period shall not exceed 30 days and shall consist of no more than 200 hours of engine operation without the catalyst installed. [District Rule 2201]
14. No more than four of the digester gas-fired IC engines at this facility (Permit Units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12) shall be operated for commissioning purposes at the same time. [District Rule 2201]
15. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the engine shall be tuned to minimize emissions. [District Rule 2201]
16. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the Non-Selective Catalytic Reduction (NSCR) system shall be installed, adjusted, and operated to minimize emissions from this unit. [District Rule 2201]
17. 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 NSCR system, the installation, calibration, and testing of emissions monitors, and any activities requiring the firing of this unit without abatement by the NSCR system. [District Rule 2201]
18. Emission rates from this engine unit during the commissioning period shall not exceed any of the following limits: 8.0 g-NO_x/bhp-hr, 0.07 g-PM₁₀/bhp-hr, 8.0 g-CO/bhp-hr, 0.41 g-VOC/bhp-hr. [District Rule 2201]
19. 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]
20. The total number of firing hours of this unit without abatement of emissions by the NSCR system shall not exceed 200 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 NSCR system. Upon completion of these activities, the permittee shall provide written notice to the District and the unused balance of the 200 firing hours without abatement shall expire. [District Rule 2201]
21. 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 conditions #48 and #49. [District Rule 2201]
22. Coincident with the end of the commissioning period, emissions from this unit shall comply with the emission limits specified in conditions #23 and #24 below. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

23. Emissions from this IC engine shall not exceed any of the following limits: 0.15 g-NO_x/bhp-hr (= 11 ppmvd NO_x @ 15% O₂; NO_x referenced as NO₂), 1.75 g-CO/bhp-hr (= 212 ppmvd CO @ 15% O₂), 0.15 g-VOC/bhp-hr (= 32 ppmvd VOC as methane @ 15% O₂), 0.07 g-PM₁₀/bhp-hr. [District Rules 2201 and 4702]
24. NO_x emissions (as NO₂) from the 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. BACT for NO_x from this engine shall consist of all other emission limitations and operational and design conditions contained in this permit. The final BACT level for NO_x 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 six months of operating history and a successful compliance source test. After receipt of a written request from the applicant, the BACT determination period may be extended to up to 24 months after initial startup. [District Rule 2201]
25. If NO_x emissions from the engine continue to exceed 0.15 g/bhp-hr after the BACT determination period, the permittee shall have 60 days to submit a report containing all monitoring and source test information to the District. The report shall also include an explanation of the steps taken to operate and maintain the engine in such a manner as to minimize NO_x emissions and a detailed analysis of all factors that prohibit compliance with the NO_x emissions limit. In the report, the permittee may also propose a final BACT emission limit for NO_x for inclusion in this permit. The monitoring data and source test information gathered in accordance with this permit may be shared with other technical experts so their input can be considered when determining the final BACT limit for NO_x that can be consistently achieved. [District Rule 2201]
26. The District shall establish the final BACT limit for NO_x, including any applicable averaging periods, and revise the applicable limit contained in the permit within 60 days of the successful completion of the BACT determination period or receipt of the report from the permittee. Within 30 days of receipt of the District's determination, the permittee shall submit an Authority to Construct application to incorporate the revised emissions limit(s). In no case shall the final BACT NO_x emission limitation be higher than 0.60 g-NO_x/bhp-hr (= 44 ppmvd NO_x @ 15% O₂). If NO_x emissions do not exceed 0.60 g-NO_x/bhp-hr, the engine shall be allowed to continue to operate after the BACT evaluation period has ended and before the new Authority to Construct permit has been issued. [District Rule 2201]
27. If the engine demonstrates reasonably reliable compliance with the 0.15 g/bhp-hr NO_x emissions limit during the BACT evaluation period, this limit shall be deemed BACT for the installation. [District Rule 2201]
28. The temperature of the NSCR 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]
29. The outlet temperature of the NSCR catalyst 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]
30. The NSCR 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]
31. 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]
32. For monitoring purposes, source testing to measure NO_x and CO emissions from this unit shall be conducted within 90 days of initial start-up using methods and procedures approved by the District. Official source testing to demonstrate compliance with NO_x, CO, and VOC emissions limits from this unit shall be conducted within 365 days of initial start-up. [District Rules 1081, 2201, and 4702 and 40 CFR 60, Subpart JJJJ]
33. Source testing to measure NO_x, CO, and VOC 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]
34. 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]

CONDITIONS CONTINUE ON NEXT PAGE

35. For official 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 as propane. VOC, NOx, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60, Subpart JJJJ]
36. The following methods shall be used for official source testing: NOx (ppmv) - EPA Method 7E, CO (ppmv) - EPA Method 10, VOC (ppmv) - EPA Method 25A or 25B, stack gas oxygen - EPA Method 3 or 3A. Alternative test methods as approved by EPA, ARB, 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]
37. 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]
38. 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]
39. The sulfur content of the digester gas used to fuel the engine shall be monitored and recorded monthly. Monitoring of the sulfur content of the digester gas shall be scheduled for days in which NOx emissions are being measured or monitored. After six (6) consecutive monthly tests show compliance, the fuel sulfur content monitoring frequency may be reduced to once every calendar quarter. If quarterly monitoring shows a violation of the fuel sulfur content limit of this permit, then monthly monitoring shall resume and continue 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. During the BACT determination period for NOx emissions, monitoring of the fuel sulfur content shall also be conducted on days when NOx emissions are found to exceed 0.15 g/bhp-hr. Records of the results of monitoring of the digester gas fuel sulfur content shall be maintained. [District Rule 2201]
40. Monitoring of the digester gas sulfur content shall be performed using a Testo 350 XL portable emission monitor; District-approved in-line H2S monitors; gas detection tubes calibrated for H2S; District-approved source test methods, including EPA Method 15, ASTM Method D1072, D4084, and D5504; 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]
41. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx, CO, and O2 analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Emission Monitoring and Testing. [District Rule 1081]
42. The permittee shall monitor and record the stack concentration of NOx, 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. [District Rules 2201 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

43. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. During the BACT determination period for NO_x, NO_x emissions not exceeding 0.60 g-NO_x/bhp-hr (= 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]
44. 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]
45. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201 and 4702]
46. 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, quantity of fuel used (scf) and calculated heat input (MMBtu) during commissioning period(s), the quantity of fuel used (scf) and calculated heat input (MMBtu) 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]
47. 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]
48. The total combined heat input for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines) shall not exceed 185,000 MMBtu based on the higher heating value (HHV) of the fuel during any consecutive 12-month rolling period. [District Rule 2201]
49. The total combined NO_x (as NO₂) emissions from permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (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 following emissions factors, as applicable: during commissioning: 2.287 lb-NO_x/MMBtu; during normal operation: 0.171 lb-NO_x/MMBtu. The District may approve use of an alternate emission factor to calculate NO_x emissions during normal operation based on the most recently completed source test to measure NO_x emissions provided that the alternate emission factor is at least as great as the emission factor determined by the source test and monthly monitoring for the period for which the emission factor will be used demonstrates compliance with the limit. 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]

CONDITIONS CONTINUE ON NEXT PAGE

50. For each of the following permit units: S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines), the permittee shall maintain records of the calculated NO_x emissions (in lbs) from the engine for the previous month. [District Rule 2201]
51. The permittee shall compile and maintain the following records for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines): 1) the total amount of gas (scf) used in the units each month, 2) the total amount of gas (scf) used in the units during the previous 12-month rolling period, 3) the calculated total heat input (MMBtu) for the units each month, 4) the calculated total heat input (MMBtu) for the units during the previous 12-month rolling period, 5) the calculated total NO_x emissions for the units each month, and 6) the calculated total NO_x emissions for the units during the previous 12-month rolling period. [District Rule 2201]
52. 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 of the digester gas and calculated gas heating value shall be maintained. [District Rule 2201]
53. Records of biogas 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]
54. During the BACT determination period, when requested by the District, the permittee shall perform and submit a fuel analysis of the digester gas. [District Rule 2201]
55. 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]
56. 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]
57. 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]
58. 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]
59. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
60. 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-7767-9-0

ISSUANCE DATE: 10/05/2010

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:

841 BHP PMSI MODEL GREENGUARD DIGESTER GAS-FIRED RICH-BURN IC ENGINE WITH EXHAUST GAS RECIRCULATION (EGR), AN ATTAINMENT TECHNOLOGIES NON-SELECTIVE CATALYTIC REDUCTION (NSCR) SYSTEM, AND AN IRON SPONGE H₂S SCRUBBER (OR EQUIVALENT H₂S REMOVAL SYSTEM) POWERING A 600 KW ELECTRICAL GENERATOR

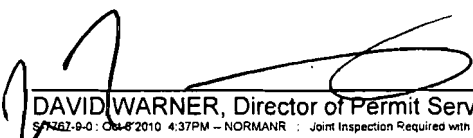
CONDITIONS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
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 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]
5. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702]
6. 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]
7. This engine shall be fired only on digester gas. [District Rule 2201]
8. The sulfur content of the digester gas used as fuel in this engine shall not exceed 50 ppmv as H₂S. [District Rules 2201 and 480!]

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-7767-9-0: Oct 6 2010 4:37PM - NORMANR : Joint Inspection Required with NORMANR

9. This engine shall be equipped with an operational non-resettable elapsed time meter. [District Rules 2201 and 4702]
10. 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]
11. The owner/operator shall minimize the emissions from the engine to the maximum extent possible during the commissioning period. Conditions #12 through #22 shall apply only during the commissioning period as defined below. Unless otherwise indicated, conditions #23 through #45 shall apply after the commissioning period has ended. [District Rule 2201]
12. 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]
13. 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 duration of the commissioning period shall not exceed 30 days and shall consist of no more than 200 hours of engine operation without the catalyst installed. [District Rule 2201]
14. No more than four of the digester gas-fired IC engines at this facility (Permit Units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12) shall be operated for commissioning purposes at the same time. [District Rule 2201]
15. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the engine shall be tuned to minimize emissions. [District Rule 2201]
16. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the Non-Selective Catalytic Reduction (NSCR) system shall be installed, adjusted, and operated to minimize emissions from this unit. [District Rule 2201]
17. 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 NSCR system, the installation, calibration, and testing of emissions monitors, and any activities requiring the firing of this unit without abatement by the NSCR system. [District Rule 2201]
18. Emission rates from this engine unit during the commissioning period shall not exceed any of the following limits: 8.0 g-NOx/bhp-hr, 0.07 g-PM10/bhp-hr, 8.0 g-CO/bhp-hr, 0.41 g-VOC/bhp-hr. [District Rule 2201]
19. 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]
20. The total number of firing hours of this unit without abatement of emissions by the NSCR system shall not exceed 200 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 NSCR system. Upon completion of these activities, the permittee shall provide written notice to the District and the unused balance of the 200 firing hours without abatement shall expire. [District Rule 2201]
21. The total heat input of the engine during the commissioning period and total mass emissions of NOx that are emitted during the commissioning period shall accrue towards the consecutive twelve month limits specified in conditions #48 and #49. [District Rule 2201]
22. Coincident with the end of the commissioning period, emissions from this unit shall comply with the emission limits specified in conditions #23 and #24 below. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

23. Emissions from this IC engine shall not exceed any of the following limits: 0.15 g-NOx/bhp-hr (= 11 ppmvd NOx @ 15% O₂; NOx referenced as NO₂), 1.75 g-CO/bhp-hr (= 212 ppmvd CO @ 15% O₂), 0.15 g-VOC/bhp-hr (= 32 ppmvd VOC as methane @ 15% O₂), 0.07 g-PM₁₀/bhp-hr. [District Rules 2201 and 4702]
24. NOx emissions (as NO₂) from the 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 NOx emissions are limited to the lowest achievable emission rate to satisfy BACT. BACT for NOx from this engine shall consist of all other emission limitations and operational and design conditions contained in this permit. The final BACT level for NOx 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 six months of operating history and a successful compliance source test. After receipt of a written request from the applicant, the BACT determination period may be extended to up to 24 months after initial startup. [District Rule 2201]
25. If NOx emissions from the engine continue to exceed 0.15 g/bhp-hr after the BACT determination period, the permittee shall have 60 days to submit a report containing all monitoring and source test information to the District. The report shall also include an explanation of the steps taken to operate and maintain the engine in such a manner as to minimize NOx emissions and a detailed analysis of all factors that prohibit compliance with the NOx emissions limit. In the report, the permittee may also propose a final BACT emission limit for NOx for inclusion in this permit. The monitoring data and source test information gathered in accordance with this permit may be shared with other technical experts so their input can be considered when determining the final BACT limit for NOx that can be consistently achieved. [District Rule 2201]
26. The District shall establish the final BACT limit for NOx, including any applicable averaging periods, and revise the applicable limit contained in the permit within 60 days of the successful completion of the BACT determination period or receipt of the report from the permittee. Within 30 days of receipt of the District's determination, the permittee shall submit an Authority to Construct application to incorporate the revised emissions limit(s). In no case shall the final BACT NOx emission limitation be higher than 0.60 g-NOx/bhp-hr (= 44 ppmvd NOx @ 15% O₂). If NOx emissions do not exceed 0.60 g-NOx/bhp-hr, the engine shall be allowed to continue to operate after the BACT evaluation period has ended and before the new Authority to Construct permit has been issued. [District Rule 2201]
27. If the engine demonstrates reasonably reliable compliance with the 0.15 g/bhp-hr NOx emissions limit during the BACT evaluation period, this limit shall be deemed BACT for the installation. [District Rule 2201]
28. The temperature of the NSCR catalyst shall be maintained within the range for the highest efficiency for NOx reduction as specified by the catalyst manufacturer or emission control supplier. [District Rule 2201 and 4702]
29. The outlet temperature of the NSCR catalyst shall be monitored and recorded during times in which NOx emissions are being source tested or monitored with a portable analyzer. [District Rule 2201 and 4702]
30. The NSCR 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]
31. 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]
32. For monitoring purposes, source testing to measure NOx and CO emissions from this unit shall be conducted within 90 days of initial start-up using methods and procedures approved by the District. Official source testing to demonstrate compliance with NOx, CO, and VOC emissions limits from this unit shall be conducted within 365 days of initial start-up. [District Rules 1081, 2201, and 4702 and 40 CFR 60, Subpart JJJJ]
33. Source testing to measure NOx, CO, and VOC 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]
34. 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]

CONDITIONS CONTINUE ON NEXT PAGE

35. For official 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 as propane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60, Subpart JJJJ]
36. The following methods shall be used for official 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. Alternative test methods as approved by EPA, ARB, 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]
37. 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]
38. 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]
39. The sulfur content of the digester gas used to fuel the engine shall be monitored and recorded monthly. Monitoring of the sulfur content of the digester gas shall be scheduled for days in which NO_x emissions are being measured or monitored. After six (6) consecutive monthly tests show compliance, the fuel sulfur content monitoring frequency may be reduced to once every calendar quarter. If quarterly monitoring shows a violation of the fuel sulfur content limit of this permit, then monthly monitoring shall resume and continue 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. During the BACT determination period for NO_x emissions, monitoring of the fuel sulfur content shall also be conducted on days when NO_x emissions are found to exceed 0.15 g/bhp-hr. Records of the results of monitoring of the digester gas fuel sulfur content shall be maintained. [District Rule 2201]
40. Monitoring of the digester gas sulfur content shall be performed using a Testo 350 XL portable emission monitor; District-approved in-line H₂S monitors; gas detection tubes calibrated for H₂S; District-approved source test methods, including EPA Method 15, ASTM Method D1072, D4084, and D5504; 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]
41. 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]
42. 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. [District Rules 2201 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

43. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. During the BACT determination period for NO_x, NO_x emissions not exceeding 0.60 g-NO_x/bhp-hr (= 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]
44. 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]
45. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201 and 4702]
46. 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, quantity of fuel used (scf) and calculated heat input (MMBtu) during commissioning period(s), the quantity of fuel used (scf) and calculated heat input (MMBtu) 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]
47. 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]
48. The total combined heat input for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines) shall not exceed 185,000 MMBtu based on the higher heating value (HHV) of the fuel during any consecutive 12-month rolling period. [District Rule 2201]
49. The total combined NO_x (as NO₂) emissions from permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (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 following emissions factors, as applicable: during commissioning: 2.287 lb-NO_x/MMBtu; during normal operation: 0.171 lb-NO_x/MMBtu. The District may approve use of an alternate emission factor to calculate NO_x emissions during normal operation based on the most recently completed source test to measure NO_x emissions provided that the alternate emission factor is at least as great as the emission factor determined by the source test and monthly monitoring for the period for which the emission factor will be used demonstrates compliance with the limit. 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]

CONDITIONS CONTINUE ON NEXT PAGE

50. For each of the following permit units: S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines), the permittee shall maintain records of the calculated NOx emissions (in lbs) from the engine for the previous month. [District Rule 2201]
51. The permittee shall compile and maintain the following records for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines): 1) the total amount of gas (scf) used in the units each month, 2) the total amount of gas (scf) used in the units during the previous 12-month rolling period, 3) the calculated total heat input (MMBtu) for the units each month, 4) the calculated total heat input (MMBtu) for the units during the previous 12-month rolling period, 5) the calculated total NOx emissions for the units each month, and 6) the calculated total NOx emissions for the units during the previous 12-month rolling period. [District Rule 2201]
52. 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 of the digester gas and calculated gas heating value shall be maintained. [District Rule 2201]
53. Records of biogas 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]
54. During the BACT determination period, when requested by the District, the permittee shall perform and submit a fuel analysis of the digester gas. [District Rule 2201]
55. 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]
56. 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]
57. 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]
58. 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]
59. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
60. 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-7767-10-0

ISSUANCE DATE: 10/05/2010

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:

841 BHP PMSI MODEL GREENGUARD DIGESTER GAS-FIRED RICH-BURN IC ENGINE WITH EXHAUST GAS RECIRCULATION (EGR), AN ATTAINMENT TECHNOLOGIES NON-SELECTIVE CATALYTIC REDUCTION (NSCR) SYSTEM, AND AN IRON SPONGE H₂S SCRUBBER (OR EQUIVALENT H₂S REMOVAL SYSTEM) POWERING A 600 KW ELECTRICAL GENERATOR

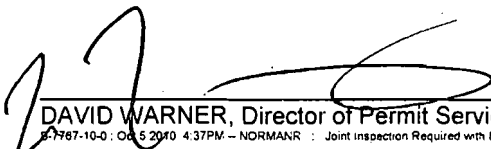
CONDITIONS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
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 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]
5. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702]
6. 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]
7. This engine shall be fired only on digester gas. [District Rule 2201]
8. The sulfur content of the digester gas used as fuel in this engine shall not exceed 50 ppmv as H₂S. [District Rules 2201 and 4801]

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-7767-10-0 : Oct 5 2010 4:37PM - NORMANR : Joint Inspection Required with NORMANR

9. This engine shall be equipped with an operational non-resettable elapsed time meter. [District Rules 2201 and 4702]
10. 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]
11. The owner/operator shall minimize the emissions from the engine to the maximum extent possible during the commissioning period. Conditions #12 through #22 shall apply only during the commissioning period as defined below. Unless otherwise indicated, conditions #23 through #45 shall apply after the commissioning period has ended. [District Rule 2201]
12. 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]
13. 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 duration of the commissioning period shall not exceed 30 days and shall consist of no more than 200 hours of engine operation without the catalyst installed. [District Rule 2201]
14. No more than four of the digester gas-fired IC engines at this facility (Permit Units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12) shall be operated for commissioning purposes at the same time. [District Rule 2201]
15. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the engine shall be tuned to minimize emissions. [District Rule 2201]
16. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the Non-Selective Catalytic Reduction (NSCR) system shall be installed, adjusted, and operated to minimize emissions from this unit. [District Rule 2201]
17. 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 NSCR system, the installation, calibration, and testing of emissions monitors, and any activities requiring the firing of this unit without abatement by the NSCR system. [District Rule 2201]
18. Emission rates from this engine unit during the commissioning period shall not exceed any of the following limits: 8.0 g-NOx/bhp-hr, 0.07 g-PM10/bhp-hr, 8.0 g-CO/bhp-hr, 0.41 g-VOC/bhp-hr. [District Rule 2201]
19. 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]
20. The total number of firing hours of this unit without abatement of emissions by the NSCR system shall not exceed 200 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 NSCR system. Upon completion of these activities, the permittee shall provide written notice to the District and the unused balance of the 200 firing hours without abatement shall expire. [District Rule 2201]
21. The total heat input of the engine during the commissioning period and total mass emissions of NOx that are emitted during the commissioning period shall accrue towards the consecutive twelve month limits specified in conditions #48 and #49. [District Rule 2201]
22. Coincident with the end of the commissioning period, emissions from this unit shall comply with the emission limits specified in conditions #23 and #24 below. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

23. Emissions from this IC engine shall not exceed any of the following limits: 0.15 g-NOx/bhp-hr (= 11 ppmvd NOx @ 15% O₂; NOx referenced as NO₂), 1.75 g-CO/bhp-hr (= 212 ppmvd CO @ 15% O₂), 0.15 g-VOC/bhp-hr (= 32 ppmvd VOC as methane @ 15% O₂), 0.07 g-PM₁₀/bhp-hr. [District Rules 2201 and 4702]
24. NOx emissions (as NO₂) from the 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 NOx emissions are limited to the lowest achievable emission rate to satisfy BACT. BACT for NOx from this engine shall consist of all other emission limitations and operational and design conditions contained in this permit. The final BACT level for NOx 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 six months of operating history and a successful compliance source test. After receipt of a written request from the applicant, the BACT determination period may be extended to up to 24 months after initial startup. [District Rule 2201]
25. If NOx emissions from the engine continue to exceed 0.15 g/bhp-hr after the BACT determination period, the permittee shall have 60 days to submit a report containing all monitoring and source test information to the District. The report shall also include an explanation of the steps taken to operate and maintain the engine in such a manner as to minimize NOx emissions and a detailed analysis of all factors that prohibit compliance with the NOx emissions limit. In the report, the permittee may also propose a final BACT emission limit for NOx for inclusion in this permit. The monitoring data and source test information gathered in accordance with this permit may be shared with other technical experts so their input can be considered when determining the final BACT limit for NOx that can be consistently achieved. [District Rule 2201]
26. The District shall establish the final BACT limit for NOx, including any applicable averaging periods, and revise the applicable limit contained in the permit within 60 days of the successful completion of the BACT determination period or receipt of the report from the permittee. Within 30 days of receipt of the District's determination, the permittee shall submit an Authority to Construct application to incorporate the revised emissions limit(s). In no case shall the final BACT NOx emission limitation be higher than 0.60 g-NOx/bhp-hr (= 44 ppmvd NOx @ 15% O₂). If NOx emissions do not exceed 0.60 g-NOx/bhp-hr, the engine shall be allowed to continue to operate after the BACT evaluation period has ended and before the new Authority to Construct permit has been issued. [District Rule 2201]
27. If the engine demonstrates reasonably reliable compliance with the 0.15 g/bhp-hr NOx emissions limit during the BACT evaluation period, this limit shall be deemed BACT for the installation. [District Rule 2201]
28. The temperature of the NSCR catalyst shall be maintained within the range for the highest efficiency for NOx reduction as specified by the catalyst manufacturer or emission control supplier. [District Rule 2201 and 4702]
29. The outlet temperature of the NSCR catalyst shall be monitored and recorded during times in which NOx emissions are being source tested or monitored with a portable analyzer. [District Rule 2201 and 4702]
30. The NSCR 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]
31. 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]
32. For monitoring purposes, source testing to measure NOx and CO emissions from this unit shall be conducted within 90 days of initial start-up using methods and procedures approved by the District. Official source testing to demonstrate compliance with NOx, CO, and VOC emissions limits from this unit shall be conducted within 365 days of initial start-up. [District Rules 1081, 2201, and 4702 and 40 CFR 60, Subpart JJJJ]
33. Source testing to measure NOx, CO, and VOC 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]
34. 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]

CONDITIONS CONTINUE ON NEXT PAGE

35. For official 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 as propane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60, Subpart JJJJ]
36. The following methods shall be used for official 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. Alternative test methods as approved by EPA, ARB, 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]
37. 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]
38. 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]
39. The sulfur content of the digester gas used to fuel the engine shall be monitored and recorded monthly. Monitoring of the sulfur content of the digester gas shall be scheduled for days in which NO_x emissions are being measured or monitored. After six (6) consecutive monthly tests show compliance, the fuel sulfur content monitoring frequency may be reduced to once every calendar quarter. If quarterly monitoring shows a violation of the fuel sulfur content limit of this permit, then monthly monitoring shall resume and continue 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. During the BACT determination period for NO_x emissions, monitoring of the fuel sulfur content shall also be conducted on days when NO_x emissions are found to exceed 0.15 g/bhp-hr. Records of the results of monitoring of the digester gas fuel sulfur content shall be maintained. [District Rule 2201]
40. Monitoring of the digester gas sulfur content shall be performed using a Testo 350 XL portable emission monitor; District-approved in-line H₂S monitors; gas detection tubes calibrated for H₂S; District-approved source test methods, including EPA Method 15, ASTM Method D1072, D4084, and D5504; 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]
41. 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]
42. 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. [District Rules 2201 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

43. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. During the BACT determination period for NO_x, NO_x emissions not exceeding 0.60 g-NO_x/bhp-hr (= 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]
44. 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]
45. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201 and 4702]
46. 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, quantity of fuel used (scf) and calculated heat input (MMBtu) during commissioning period(s), the quantity of fuel used (scf) and calculated heat input (MMBtu) 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]
47. 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]
48. The total combined heat input for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines) shall not exceed 185,000 MMBtu based on the higher heating value (HHV) of the fuel during any consecutive 12-month rolling period. [District Rule 2201]
49. The total combined NO_x (as NO₂) emissions from permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (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 following emissions factors, as applicable: during commissioning: 2.287 lb-NO_x/MMBtu; during normal operation: 0.171 lb-NO_x/MMBtu. The District may approve use of an alternate emission factor to calculate NO_x emissions during normal operation based on the most recently completed source test to measure NO_x emissions provided that the alternate emission factor is at least as great as the emission factor determined by the source test and monthly monitoring for the period for which the emission factor will be used demonstrates compliance with the limit. 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]

CONDITIONS CONTINUE ON NEXT PAGE

50. For each of the following permit units: S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines), the permittee shall maintain records of the calculated NOx emissions (in lbs) from the engine for the previous month. [District Rule 2201]
51. The permittee shall compile and maintain the following records for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines): 1) the total amount of gas (scf) used in the units each month, 2) the total amount of gas (scf) used in the units during the previous 12-month rolling period, 3) the calculated total heat input (MMBtu) for the units each month, 4) the calculated total heat input (MMBtu) for the units during the previous 12-month rolling period, 5) the calculated total NOx emissions for the units each month, and 6) the calculated total NOx emissions for the units during the previous 12-month rolling period. [District Rule 2201]
52. 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 of the digester gas and calculated gas heating value shall be maintained. [District Rule 2201]
53. Records of biogas 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]
54. During the BACT determination period, when requested by the District, the permittee shall perform and submit a fuel analysis of the digester gas. [District Rule 2201]
55. 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]
56. 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]
57. 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]
58. 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]
59. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
60. 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-7767-11-0

ISSUANCE DATE: 10/05/2010

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:

841 BHP PMSI MODEL GREENGUARD DIGESTER GAS-FIRED RICH-BURN IC ENGINE WITH EXHAUST GAS RECIRCULATION (EGR), AN ATTAINMENT TECHNOLOGIES NON-SELECTIVE CATALYTIC REDUCTION (NSCR) SYSTEM, AND AN IRON SPONGE H2S SCRUBBER (OR EQUIVALENT H2S REMOVAL SYSTEM) POWERING A 600 KW ELECTRICAL GENERATOR

CONDITIONS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
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 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]
5. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702]
6. 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]
7. This engine shall be fired only on digester gas. [District Rule 2201]
8. The sulfur content of the digester gas used as fuel in this engine shall not exceed 50 ppmv as H2S. [District Rules 2201 and 4801]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO


DAVID WARNER, Director of Permit Services
S-7767-11-0 Oct 5 2010 4:37PM -- NORMANR : Joint Inspection Required with NORMANR

9. This engine shall be equipped with an operational non-resettable elapsed time meter. [District Rules 2201 and 4702]
10. 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]
11. The owner/operator shall minimize the emissions from the engine to the maximum extent possible during the commissioning period. Conditions #12 through #22 shall apply only during the commissioning period as defined below. Unless otherwise indicated, conditions #23 through #45 shall apply after the commissioning period has ended. [District Rule 2201]
12. 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]
13. 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 duration of the commissioning period shall not exceed 30 days and shall consist of no more than 200 hours of engine operation without the catalyst installed. [District Rule 2201]
14. No more than four of the digester gas-fired IC engines at this facility (Permit Units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12) shall be operated for commissioning purposes at the same time. [District Rule 2201]
15. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the engine shall be tuned to minimize emissions. [District Rule 2201]
16. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the Non-Selective Catalytic Reduction (NSCR) system shall be installed, adjusted, and operated to minimize emissions from this unit. [District Rule 2201]
17. 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 NSCR system, the installation, calibration, and testing of emissions monitors, and any activities requiring the firing of this unit without abatement by the NSCR system. [District Rule 2201]
18. Emission rates from this engine unit during the commissioning period shall not exceed any of the following limits: 8.0 g-NOx/bhp-hr, 0.07 g-PM10/bhp-hr, 8.0 g-CO/bhp-hr, 0.41 g-VOC/bhp-hr. [District Rule 2201]
19. 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]
20. The total number of firing hours of this unit without abatement of emissions by the NSCR system shall not exceed 200 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 NSCR system. Upon completion of these activities, the permittee shall provide written notice to the District and the unused balance of the 200 firing hours without abatement shall expire. [District Rule 2201]
21. The total heat input of the engine during the commissioning period and total mass emissions of NOx that are emitted during the commissioning period shall accrue towards the consecutive twelve month limits specified in conditions #48 and #49. [District Rule 2201]
22. Coincident with the end of the commissioning period, emissions from this unit shall comply with the emission limits specified in conditions #23 and #24 below. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

23. Emissions from this IC engine shall not exceed any of the following limits: 0.15 g-NO_x/bhp-hr (= 11 ppmvd NO_x @ 15% O₂; NO_x referenced as NO₂), 1.75 g-CO/bhp-hr (= 212 ppmvd CO @ 15% O₂), 0.15 g-VOC/bhp-hr (= 32 ppmvd VOC as methane @ 15% O₂), 0.07 g-PM₁₀/bhp-hr. [District Rules 2201 and 4702]
24. NO_x emissions (as NO₂) from the 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. BACT for NO_x from this engine shall consist of all other emission limitations and operational and design conditions contained in this permit. The final BACT level for NO_x 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 six months of operating history and a successful compliance source test. After receipt of a written request from the applicant, the BACT determination period may be extended to up to 24 months after initial startup. [District Rule 2201]
25. If NO_x emissions from the engine continue to exceed 0.15 g/bhp-hr after the BACT determination period, the permittee shall have 60 days to submit a report containing all monitoring and source test information to the District. The report shall also include an explanation of the steps taken to operate and maintain the engine in such a manner as to minimize NO_x emissions and a detailed analysis of all factors that prohibit compliance with the NO_x emissions limit. In the report, the permittee may also propose a final BACT emission limit for NO_x for inclusion in this permit. The monitoring data and source test information gathered in accordance with this permit may be shared with other technical experts so their input can be considered when determining the final BACT limit for NO_x that can be consistently achieved. [District Rule 2201]
26. The District shall establish the final BACT limit for NO_x, including any applicable averaging periods, and revise the applicable limit contained in the permit within 60 days of the successful completion of the BACT determination period or receipt of the report from the permittee. Within 30 days of receipt of the District's determination, the permittee shall submit an Authority to Construct application to incorporate the revised emissions limit(s). In no case shall the final BACT NO_x emission limitation be higher than 0.60 g-NO_x/bhp-hr (= 44 ppmvd NO_x @ 15% O₂). If NO_x emissions do not exceed 0.60 g-NO_x/bhp-hr, the engine shall be allowed to continue to operate after the BACT evaluation period has ended and before the new Authority to Construct permit has been issued. [District Rule 2201]
27. If the engine demonstrates reasonably reliable compliance with the 0.15 g/bhp-hr NO_x emissions limit during the BACT evaluation period, this limit shall be deemed BACT for the installation. [District Rule 2201]
28. The temperature of the NSCR 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]
29. The outlet temperature of the NSCR catalyst 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]
30. The NSCR 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]
31. 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]
32. For monitoring purposes, source testing to measure NO_x and CO emissions from this unit shall be conducted within 90 days of initial start-up using methods and procedures approved by the District. Official source testing to demonstrate compliance with NO_x, CO, and VOC emissions limits from this unit shall be conducted within 365 days of initial start-up. [District Rules 1081, 2201, and 4702 and 40 CFR 60, Subpart JJJJ]
33. Source testing to measure NO_x, CO, and VOC 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]
34. 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]

CONDITIONS CONTINUE ON NEXT PAGE

35. For official 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 as propane. VOC, NOx, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60, Subpart JJJJ]
36. The following methods shall be used for official source testing: NOx (ppmv) - EPA Method 7E, CO (ppmv) - EPA Method 10, VOC (ppmv) - EPA Method 25A or 25B, stack gas oxygen - EPA Method 3 or 3A. Alternative test methods as approved by EPA, ARB, 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]
37. 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]
38. 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]
39. The sulfur content of the digester gas used to fuel the engine shall be monitored and recorded monthly. Monitoring of the sulfur content of the digester gas shall be scheduled for days in which NOx emissions are being measured or monitored. After six (6) consecutive monthly tests show compliance, the fuel sulfur content monitoring frequency may be reduced to once every calendar quarter. If quarterly monitoring shows a violation of the fuel sulfur content limit of this permit, then monthly monitoring shall resume and continue 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. During the BACT determination period for NOx emissions, monitoring of the fuel sulfur content shall also be conducted on days when NOx emissions are found to exceed 0.15 g/bhp-hr. Records of the results of monitoring of the digester gas fuel sulfur content shall be maintained. [District Rule 2201]
40. Monitoring of the digester gas sulfur content shall be performed using a Testo 350 XL portable emission monitor; District-approved in-line H2S monitors; gas detection tubes calibrated for H2S; District-approved source test methods, including EPA Method 15, ASTM Method D1072, D4084, and D5504; 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]
41. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx, CO, and O2 analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Emission Monitoring and Testing. [District Rule 1081]
42. The permittee shall monitor and record the stack concentration of NOx, 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. [District Rules 2201 and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

43. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. During the BACT determination period for NO_x, NO_x emissions not exceeding 0.60 g-NO_x/bhp-hr (= 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]
44. 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]
45. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201 and 4702]
46. 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, quantity of fuel used (scf) and calculated heat input (MMBtu) during commissioning period(s), the quantity of fuel used (scf) and calculated heat input (MMBtu) 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]
47. 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]
48. The total combined heat input for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines) shall not exceed 185,000 MMBtu based on the higher heating value (HHV) of the fuel during any consecutive 12-month rolling period. [District Rule 2201]
49. The total combined NO_x (as NO₂) emissions from permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (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 following emissions factors, as applicable: during commissioning: 2.287 lb-NO_x/MMBtu; during normal operation: 0.171 lb-NO_x/MMBtu. The District may approve use of an alternate emission factor to calculate NO_x emissions during normal operation based on the most recently completed source test to measure NO_x emissions provided that the alternate emission factor is at least as great as the emission factor determined by the source test and monthly monitoring for the period for which the emission factor will be used demonstrates compliance with the limit. 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]

CONDITIONS CONTINUE ON NEXT PAGE

50. For each of the following permit units: S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines), the permittee shall maintain records of the calculated NOx emissions (in lbs) from the engine for the previous month. [District Rule 2201]
51. The permittee shall compile and maintain the following records for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines): 1) the total amount of gas (scf) used in the units each month, 2) the total amount of gas (scf) used in the units during the previous 12-month rolling period, 3) the calculated total heat input (MMBtu) for the units each month, 4) the calculated total heat input (MMBtu) for the units during the previous 12-month rolling period, 5) the calculated total NOx emissions for the units each month, and 6) the calculated total NOx emissions for the units during the previous 12-month rolling period. [District Rule 2201]
52. 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 of the digester gas and calculated gas heating value shall be maintained. [District Rule 2201]
53. Records of biogas 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]
54. During the BACT determination period, when requested by the District, the permittee shall perform and submit a fuel analysis of the digester gas. [District Rule 2201]
55. 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]
56. 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]
57. 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]
58. 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]
59. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
60. 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-7767-12-0

ISSUANCE DATE: 10/05/2010

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:

841 BHP PMSI MODEL GREENGUARD DIGESTER GAS-FIRED RICH-BURN IC ENGINE WITH EXHAUST GAS RECIRCULATION (EGR), AN ATTAINMENT TECHNOLOGIES NON-SELECTIVE CATALYTIC REDUCTION (NSCR) SYSTEM, AND AN IRON SPONGE H₂S SCRUBBER (OR EQUIVALENT H₂S REMOVAL SYSTEM) POWERING A 600 KW ELECTRICAL GENERATOR


CONDITIONS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
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 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]
5. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702]
6. 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]
7. This engine shall be fired only on digester gas. [District Rule 2201]
8. The sulfur content of the digester gas used as fuel in this engine shall not exceed 50 ppmv as H₂S. [District Rules 2201 and 4801]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO


DAVID WARNER, Director of Permit Services

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9. This engine shall be equipped with an operational non-resettable elapsed time meter. [District Rules 2201 and 4702]
10. 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]
11. The owner/operator shall minimize the emissions from the engine to the maximum extent possible during the commissioning period. Conditions #12 through #22 shall apply only during the commissioning period as defined below. Unless otherwise indicated, conditions #23 through #45 shall apply after the commissioning period has ended. [District Rule 2201]
12. 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]
13. 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 duration of the commissioning period shall not exceed 30 days and shall consist of no more than 200 hours of engine operation without the catalyst installed. [District Rule 2201]
14. No more than four of the digester gas-fired IC engines at this facility (Permit Units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12) shall be operated for commissioning purposes at the same time. [District Rule 2201]
15. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the engine shall be tuned to minimize emissions. [District Rule 2201]
16. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the Non-Selective Catalytic Reduction (NSCR) system shall be installed, adjusted, and operated to minimize emissions from this unit. [District Rule 2201]
17. 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 NSCR system, the installation, calibration, and testing of emissions monitors, and any activities requiring the firing of this unit without abatement by the NSCR system. [District Rule 2201]
18. Emission rates from this engine unit during the commissioning period shall not exceed any of the following limits: 8.0 g-NOx/bhp-hr, 0.07 g-PM10/bhp-hr, 8.0 g-CO/bhp-hr, 0.41 g-VOC/bhp-hr. [District Rule 2201]
19. 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]
20. The total number of firing hours of this unit without abatement of emissions by the NSCR system shall not exceed 200 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 NSCR system. Upon completion of these activities, the permittee shall provide written notice to the District and the unused balance of the 200 firing hours without abatement shall expire. [District Rule 2201]
21. The total heat input of the engine during the commissioning period and total mass emissions of NOx that are emitted during the commissioning period shall accrue towards the consecutive twelve month limits specified in conditions #48 and #49. [District Rule 2201]
22. Coincident with the end of the commissioning period, emissions from this unit shall comply with the emission limits specified in conditions #23 and #24 below. [District Rule 2201]

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23. Emissions from this IC engine shall not exceed any of the following limits: 0.15 g-NO_x/bhp-hr (= 11 ppmvd NO_x @ 15% O₂; NO_x referenced as NO₂), 1.75 g-CO/bhp-hr (= 212 ppmvd CO @ 15% O₂), 0.15 g-VOC/bhp-hr (= 32 ppmvd VOC as methane @ 15% O₂), 0.07 g-PM₁₀/bhp-hr. [District Rules 2201 and 4702]
24. NO_x emissions (as NO₂) from the 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. BACT for NO_x from this engine shall consist of all other emission limitations and operational and design conditions contained in this permit. The final BACT level for NO_x 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 six months of operating history and a successful compliance source test. After receipt of a written request from the applicant, the BACT determination period may be extended to up to 24 months after initial startup. [District Rule 2201]
25. If NO_x emissions from the engine continue to exceed 0.15 g/bhp-hr after the BACT determination period, the permittee shall have 60 days to submit a report containing all monitoring and source test information to the District. The report shall also include an explanation of the steps taken to operate and maintain the engine in such a manner as to minimize NO_x emissions and a detailed analysis of all factors that prohibit compliance with the NO_x emissions limit. In the report, the permittee may also propose a final BACT emission limit for NO_x for inclusion in this permit. The monitoring data and source test information gathered in accordance with this permit may be shared with other technical experts so their input can be considered when determining the final BACT limit for NO_x that can be consistently achieved. [District Rule 2201]
26. The District shall establish the final BACT limit for NO_x, including any applicable averaging periods, and revise the applicable limit contained in the permit within 60 days of the successful completion of the BACT determination period or receipt of the report from the permittee. Within 30 days of receipt of the District's determination, the permittee shall submit an Authority to Construct application to incorporate the revised emissions limit(s). In no case shall the final BACT NO_x emission limitation be higher than 0.60 g-NO_x/bhp-hr (= 44 ppmvd NO_x @ 15% O₂). If NO_x emissions do not exceed 0.60 g-NO_x/bhp-hr, the engine shall be allowed to continue to operate after the BACT evaluation period has ended and before the new Authority to Construct permit has been issued. [District Rule 2201]
27. If the engine demonstrates reasonably reliable compliance with the 0.15 g/bhp-hr NO_x emissions limit during the BACT evaluation period, this limit shall be deemed BACT for the installation. [District Rule 2201]
28. The temperature of the NSCR 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]
29. The outlet temperature of the NSCR catalyst 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]
30. The NSCR 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]
31. 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]
32. For monitoring purposes, source testing to measure NO_x and CO emissions from this unit shall be conducted within 90 days of initial start-up using methods and procedures approved by the District. Official source testing to demonstrate compliance with NO_x, CO, and VOC emissions limits from this unit shall be conducted within 365 days of initial start-up. [District Rules 1081, 2201, and 4702 and 40 CFR 60, Subpart JJJJ]
33. Source testing to measure NO_x, CO, and VOC 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]
34. 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]

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35. For official 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 as propane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60, Subpart JJJJ]
36. The following methods shall be used for official 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. Alternative test methods as approved by EPA, ARB, 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]
37. 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]
38. 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]
39. The sulfur content of the digester gas used to fuel the engine shall be monitored and recorded monthly. Monitoring of the sulfur content of the digester gas shall be scheduled for days in which NO_x emissions are being measured or monitored. After six (6) consecutive monthly tests show compliance, the fuel sulfur content monitoring frequency may be reduced to once every calendar quarter. If quarterly monitoring shows a violation of the fuel sulfur content limit of this permit, then monthly monitoring shall resume and continue 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. During the BACT determination period for NO_x emissions, monitoring of the fuel sulfur content shall also be conducted on days when NO_x emissions are found to exceed 0.15 g/bhp-hr. Records of the results of monitoring of the digester gas fuel sulfur content shall be maintained. [District Rule 2201]
40. Monitoring of the digester gas sulfur content shall be performed using a Testo 350 XL portable emission monitor; District-approved in-line H₂S monitors; gas detection tubes calibrated for H₂S; District-approved source test methods, including EPA Method 15, ASTM Method D1072, D4084, and D5504; 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]
41. 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]
42. 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. [District Rules 2201 and 4702]

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43. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. During the BACT determination period for NO_x, NO_x emissions not exceeding 0.60 g-NO_x/bhp-hr (= 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]
44. 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]
45. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201 and 4702]
46. 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, quantity of fuel used (scf) and calculated heat input (MMBtu) during commissioning period(s), the quantity of fuel used (scf) and calculated heat input (MMBtu) 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 JJJ]
47. 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]
48. The total combined heat input for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines) shall not exceed 185,000 MMBtu based on the higher heating value (HHV) of the fuel during any consecutive 12-month rolling period. [District Rule 2201]
49. The total combined NO_x (as NO₂) emissions from permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (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 following emissions factors, as applicable: during commissioning: 2.287 lb-NO_x/MMBtu; during normal operation: 0.171 lb-NO_x/MMBtu. The District may approve use of an alternate emission factor to calculate NO_x emissions during normal operation based on the most recently completed source test to measure NO_x emissions provided that the alternate emission factor is at least as great as the emission factor determined by the source test and monthly monitoring for the period for which the emission factor will be used demonstrates compliance with the limit. 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]

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50. For each of the following permit units: S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines), the permittee shall maintain records of the calculated NOx emissions (in lbs) from the engine for the previous month. [District Rule 2201]
51. The permittee shall compile and maintain the following records for permit units S-7767-1, S-7767-2, S-7767-3, S-7767-4, S-7767-5, S-7767-6, S-7767-7, S-7767-8, S-7767-9, S-7767-10, S-7767-11, and S-7767-12 (digester gas-fired IC engines): 1) the total amount of gas (scf) used in the units each month, 2) the total amount of gas (scf) used in the units during the previous 12-month rolling period, 3) the calculated total heat input (MMBtu) for the units each month, 4) the calculated total heat input (MMBtu) for the units during the previous 12-month rolling period, 5) the calculated total NOx emissions for the units each month, and 6) the calculated total NOx emissions for the units during the previous 12-month rolling period. [District Rule 2201]
52. 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 of the digester gas and calculated gas heating value shall be maintained. [District Rule 2201]
53. Records of biogas 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]
54. During the BACT determination period, when requested by the District, the permittee shall perform and submit a fuel analysis of the digester gas. [District Rule 2201]
55. 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]
56. 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]
57. 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]
58. 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]
59. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
60. 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]