



MAR 23 2018

Gregory Stangl
North Fork Community Power
PO Box 29166
San Francisco, CA 94129-5700

RE: Notice of Final Action - Authority to Construct
Facility Number: C-8980
Project Number: C-1160156

Dear Mr. Stangl:

The Air Pollution Control Officer has issued the Authority to Construct permits to North Fork Community Power for the installation of a 2.0 MW electrical generation facility based on forest waste biomass gasification process consisting of synthesis gas (syngas) conditioning equipment, two 1,572 bhp syngas-fired lean-burn IC engines with Selective Catalyst Reduction (SCR) system each powering an electrical generator, associated equipment, and a 14 MMBtu/hr syngas-fired backup flare, located at 59700 Road 225 in North Fork, CA. Enclosed are the Authority to Construct permits and a copy of the notice of final action to be published approximately three days from the date of this letter.

Notice of the District's preliminary decision to issue the Authority to Construct permits was published on February 16, 2018. The District's analysis of the proposal was also sent to CARB on February 9, 2018. 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. Errol Villegas at (559) 230-6000.

Sincerely,

Arnaud Marjollet
Director of Permit Services

AM:sa

Enclosures

cc: Tung Le, CARB (w/enclosure) via email

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

Facility # C-8980
NORTH FORK COMMUNITY POWER
PO BOX 29166
SAN FRANCISCO, CA 94129-5700

AUTHORITY TO CONSTRUCT (ATC)

QUICK START GUIDE

1. **Pay Invoice:** Please pay enclosed invoice before due date.
2. **Fully Understand ATC:** Make sure you understand ALL conditions in the ATC prior to construction, modification and/or operation.
3. **Follow ATC:** You must construct, modify and/or operate your equipment as specified on the ATC. Any unspecified changes may require a new ATC.
4. **Notify District:** You must notify the District's Compliance Department, at the telephone numbers below, upon start-up and/or operation under the ATC. Please record the date construction or modification commenced and the date the equipment began operation under the ATC. You may NOT operate your equipment until you have notified the District's Compliance Department. A startup inspection may be required prior to receiving your Permit to Operate.
5. **Source Test:** Schedule and perform any required source testing. See http://www.valleyair.org/busind/comply/source_testing.htm for source testing resources.
6. **Maintain Records:** Maintain all records required by ATC. Records are reviewed during every inspection (or upon request) and must be retained for at least 5 years. Sample record keeping forms can be found at http://www.valleyair.org/busind/comply/compliance_forms.htm.

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

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

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

AUTHORITY TO CONSTRUCT

PERMIT NO: C-8980-1-0

ISSUANCE DATE: 03/20/2018

LEGAL OWNER OR OPERATOR: NORTH FORK COMMUNITY POWER

MAILING ADDRESS: PO BOX 29166
SAN FRANCISCO, CA 94129-5700

LOCATION: 59700 ROAD 225
NORTH FORK, CA 93643

EQUIPMENT DESCRIPTION:

1.0 MW ELECTRICAL POWER GENERATION OPERATION (#1) UTILIZING BIOMASS GASIFICATION (PYROLYSIS) PROCESS CONSISTING OF THE FOLLOWING: A WOOD CHIPS GASIFIER; SYNTHETIC GAS (SYNGAS) CONDITIONING SYSTEM INCLUDING A CYCLONE, WET SCRUBBERS, A FILTER, AND CONDENSATE TRAPS; A 1,572 BHP GE JENBACHER SYNGAS-FIRED LEAN-BURN IC ENGINE (#1) WITH A STEULER SELECTIVE CATALYTIC REDUCTION (SCR) AND AN OXIDATION CATALYST POWERING AN ELECTRICAL GENERATOR; AND ONE PERMIT EXEMPT COOLING TOWER (LESS THAN 10,000 GALLONS PER MINUTE)

CONDITIONS

1. All equipment shall be maintained in good operating condition and shall be operated in a manner consistent with good air pollution control practice to minimize emissions of air contaminants. [District Rule 2201]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
5. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702]
7. This engine shall be operated within the ranges that the source testing has shown result in pollution concentrations within the emissions limits as specified on this permit. [District Rule 4702]

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO



for *Arnaud Marjollet*

Arnaud Marjollet, Director of Permit Services
C-8980-1-0 Mar 22 2018 11:53AM - REFUERZJ (Print Inspection Required with GARCIAJ)

8. This engine shall be fired on synthetic gas (syngas) fuel only, except for up to 200 hours per year for maintenance and testing purposes and up to 200 hours during commissioning period during which the engine could be fired on PUC-quality natural gas or propane. [District Rule 2201]
9. This engine shall only use syngas as fuel that has been treated in the syngas conditioning system. [District Rule 2201]
10. When fired on PUC-quality natural gas or propane, Selective Catalytic Reduction (SCR) system and the oxidation catalyst shall be in operation. [District Rules 2201 and 4102]
11. Engines under permit units C-8980-1 or -2 shall not be fired at the same time on PUC-quality natural gas or propane for maintenance and testing purposes. [District Rule 4102]
12. 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]
13. The syngas fuel for this engine shall be generated in the gasifier from the following list of biomass feed stocks: (1) Agricultural crop residues; (2) Bark, lawn, yard, and garden clippings; (3) Leaves, silvicultural residue, and tree and brush pruning; (4) Wood, wood chips, and wood waste. Wood waste is defined as solid waste consisting of wood pieces or particles which are generated from the manufacturing or production of wood products, harvesting, processing or storage of raw wood materials, or construction and demolition activities. Biomass feed stocks used in the gasifier shall not have been treated with or contaminated by chemicals containing or contributing to the formation of hazardous air pollutants. [District Rules 2201 and 4102; California Public Resources Code 40106(a) and Title 14 California Code of Regulations Section 18720(84)]
14. The sulfur content of the syngas used as fuel in this engine shall not exceed 5 ppmv as H₂S. The applicant may utilize an averaging period of up to 24 hours in length for demonstration of compliance with the fuel sulfur content limit. [District Rules 2201, 4102, 4702, and 4801]
15. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rules 2201 and 4702]
16. The owner/operator shall minimize the emissions from the engine to the maximum extent possible during the commissioning period. [District Rule 2201]
17. 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]
18. Commissioning period shall commence when all mechanical, electrical, and control systems are installed and individual system startup has been completed, or when the engine is first fired, whichever occurs first. The total duration of the commissioning period for this engine shall not exceed 500 hours of operation of the engine. [District Rules 2201 and 4102]
19. Commissioning period ends when either of the following two events occurs first: 1) 500 hours of operation of the engine as allowed during the commissioning period, or 2) the electrical generator associated with this engine has successfully demonstrated to generate a minimum of 800 kw of electric power for 72 continuous hours and the Selective Catalytic Reduction (SCR) system and the oxidation catalyst have completed the breaking-in period, as recommended by the manufacturer. The permittee shall submit any relevant data to the District to demonstrate the end of the commissioning period no later than 14 days after such demonstration is completed. [District Rule 2201]
20. The total number of firing hours of this unit without abatement of emissions by the SCR system and oxidation catalyst shall not exceed 500 hours during the commissioning period. Such operation of this unit without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR system or oxidation catalyst. Upon completion of these activities, the permittee shall provide written notice to the District and the unused balance of the 500 firing hours without abatement shall expire. [District Rule 2201]
21. At the earliest feasible opportunity, in accordance with the recommendations of the equipment supplier and the construction contractor, the engine shall be tuned to minimize emissions. [District Rule 2201]

22. At the earliest feasible opportunity, in accordance with the recommendations of the equipment supplier and the construction contractor, the SCR system and oxidation catalyst shall be installed, adjusted, and operated to minimize emissions from this unit. [District Rule 2201]
23. The permittee shall submit a summary of activities to be performed during the commissioning period to the District at least two weeks prior to the first firing of this engine. The summary shall include a list of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described shall include, but are not limited to, the tuning of the engine, the installation and operation of the SCR system, the installation, calibration, and testing of emissions monitors, and any activities requiring the firing of this unit without abatement by the SCR system. [District Rule 2201]
24. Emission rates from this engine unit during the commissioning period shall not exceed any of the following limits: 1.0 g-NOx/bhp-hr, 0.03 g-PM10/bhp-hr, 14.5 g-CO/bhp-hr, 0.43 g-VOC/bhp-hr. [District Rule 2201]
25. After the commissioning period, emissions from this IC engine shall not exceed any of the following limits: 9 ppmvd NOx @ 15% O2 (NOx referenced as NO2) (equivalent to 0.11 g/bhp-hr); 0.03 g-PM10/bhp-hr; 100 ppmvd CO @ 15% O2 (equivalent to 0.77 g/bhp-hr); or 25 ppmvd VOC @ 15% O2 (VOC referenced as CH4) (equivalent to 0.11 g/bhp-hr). [District Rules 2201 and 4702]
26. When fired on PUC-quality natural gas or propane, emissions from this unit shall not exceed any of the following limits: 0.11 g-NOx/bhp-hr, 0.012 g-SOx/bhp-hr, 0.175 g-PM10/bhp-hr, 0.77 g-CO/bhp-hr, or 0.11 g-VOC/bhp-hr. [District Rule 2201]
27. The SCR catalyst shall be maintained and replaced in accordance with the recommendations of the catalyst manufacturer or emission control supplier. Records of catalyst maintenance and replacement shall be maintained. [District Rules 2201 and 4702]
28. 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]
29. Ammonia (NH3) emissions from this engine shall not exceed 10 ppmvd @ 15% O2. [District Rules 2201 and 4102]
30. Source testing to measure NOx, CO, VOC, PM10, and ammonia (NH3) emissions from this unit when fired on syngas shall be conducted within 60 days upon end of the commissioning period. [District Rules 1081, 2201, and 4702]
31. Source testing to measure NOx, CO, VOC, and ammonia (NH3) emissions from this unit when fired on syngas shall be conducted at least once every 24 months. [District Rules 1081, 2201, and 4702]
32. Fuel sulfur content analysis shall be performed within 60 days of the end of the commissioning period and at least annually thereafter, using ASTM D 1072, D 3031, D 4084, D 3246 or double GC for H2S and mercaptans, or Draeger tubes for H2S, or an equivalent method approved by the District. Records of the fuel sulfur analysis shall be maintained and provided to the District upon request. [District Rules 2201 and 4702]
33. 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]
34. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. 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 methane. NOx, CO, VOC, and NH3 concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rules 2201 and 4702]
35. The following methods shall be used for source testing when fired on syngas: NOx (ppmv) - EPA Method 7E or ARB Method 100; CO (ppmv) - EPA Method 10 or ARB Method 100; VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100; stack gas oxygen - EPA Method 3 or 3A or ARB Method 100; stack gas velocity - EPA Method 2 or EPA Method 19; stack gas moisture content - EPA Method 4; PM10 (filterable and condensable) - EPA Method 201 and 202, EPA Method 201a and 202, or ARB Method 5 in combination with Method 501; NH3 - BAAQMD ST-1B or SCAQMD Method 207-1. Alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081 and 4702]
36. The Higher Heating Value (HHV) of the fuel gas shall be determined using ASTM D1826, ASTM 1945 in conjunction with ASTM D3588, or an alternative method approved by the District. [District Rules 2201 and 4702]

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 within 60 days after completion of the source test. [District Rule 1081]
39. 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]
40. 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. After twelve consecutive months in which no deviations are observed, permittee may conduct monitoring once every calendar quarter rather than once every month. Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rules 2201 and 4702]
41. The permittee shall monitor and record the stack concentration of NH₃ at least once every calendar quarter in which a source test is not performed. NH₃ monitoring shall be conducted utilizing District approved gas-detection tubes or a District approved equivalent method. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last quarter. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rules 2201 and 4102]
42. If the NO_x, CO, or NH₃ concentrations corrected to 15% O₂, as measured by the portable analyzer or the District-approved ammonia monitoring equipment, exceed the respective permitted emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours of operation after detection. If the portable analyzer or ammonia monitoring equipment readings continue to exceed the permitted emissions concentration after 8 hours of operation after detection, 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 the performing the notification and testing required by this condition. [District Rules 2201 and 4702]
43. 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]
44. The permittee shall maintain records of: (1) the date and time of NO_x, CO, O₂, and NH₃ measurements, (2) the O₂ concentration in percent and the measured NO_x, CO, and NH₃ concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, (5) the method of determining the NH₃ emission concentration, and (6) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201 and 4702]
45. The permittee shall monitor and record the SCR system reagent injection rate and the engine operating load at least once per month. [District Rule 4702]

46. During initial performance testing, the SCR system reagent injection rate shall be monitored concurrently with each testing run to establish acceptable values and ranges that provide a reasonable assurance of ongoing compliance with the emissions limitations stated in this permit. Acceptable values and ranges shall be established for each load that the engine is expected to operate at, in a minimum of 10% increments (e.g. 70%, 80%, and 90%). The acceptable SCR system reagent injection rate(s) demonstrated during the initial performance test that result in compliance with the NOx emission limits shall be imposed as a condition in the final Permit to Operate. [District Rule 4702]
47. If the SCR system reagent injection rate is outside of the established acceptable range, the permittee shall return the SCR system reagent injection rate to within the established acceptable range as soon as possible, but no longer than 8 hours after detection. If the SCR system reagent injection rate is not returned to within acceptable range within 8 hours, the permittee shall notify the District within the following 1 hour and begin monitoring and recording the stack concentration of NOx and O2 at least once every month. Monthly monitoring of the stack concentration of NOx and O2 shall continue until the operator can show that the SCR system reagent injection rate is returned to operating within the acceptable ranges specified within this permit. [District Rule 4702]
48. During initial performance testing, the inlet temperature to the catalyst control system and the back pressure of the exhaust upstream of the catalyst control system shall be monitored concurrently with each testing run to establish acceptable values and ranges that provide a reasonable assurance of ongoing compliance with the emissions limitations stated in this permit. Acceptable values and ranges shall be established for each load that the engine is expected to operate at, in a minimum of 10% increments (e.g. 70%, 80%, and 90%). The acceptable inlet temperature and back pressure demonstrated during the initial compliance test that result in compliance with the CO and VOC emission limits shall be imposed as a condition in the final Permit to Operate. [District Rule 4702]
49. The permittee shall monitor and record the inlet temperature to the SCR system, the back pressure of the exhaust upstream of the catalyst control system, and the engine operating load at least once per month. [District Rule 4702]
50. If the inlet temperature to the catalyst control system and/or the back pressure of the exhaust upstream of the catalyst control system is outside of the established acceptable ranges established during the initial compliance test, the permittee shall return the inlet temperature to the catalyst control system and the back pressure of the exhaust upstream of the catalyst control system back to the acceptable range as soon as possible, but no longer than 8 hours after detection. If the inlet temperature to the catalyst control system and the back pressure of the exhaust upstream of the catalyst control system are not returned to within acceptable range within 8 hours, the permittee shall notify the District within the following 1 hour and begin monitoring and recording the stack concentration of CO and O2 at least once every month. Monthly monitoring of the stack concentration of CO and O2 shall continue until the operator can show that the inlet temperature to the catalyst control system and the back pressure of the exhaust upstream of the catalyst control system are returned to operating within the acceptable ranges specified within this permit. [District Rule 4702]
51. 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]
52. The permittee shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: the total hours of operation, the type and quantity of fuel used during commissioning period(s), the type and quantity of fuel used during normal operation, maintenance and modifications performed, monitoring data, compliance source test results, and any other information necessary to demonstrate compliance. Quantity of fuel used shall be recorded in standard cubic feet using a non-resettable, totalizing mass or volumetric fuel flow meter or other APCO approved-device. [District Rules 2201 and 4702]
53. The permittee shall record total operating time of the engine in hours during the commissioning period. [District Rule 2201]
54. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. All records may be maintained and submitted in an electronic format approved by the District. [District Rules 2201 and 4702]

AUTHORITY TO CONSTRUCT

PERMIT NO: C-8980-2-0

ISSUANCE DATE: 03/20/2018

LEGAL OWNER OR OPERATOR: NORTH FORK COMMUNITY POWER
MAILING ADDRESS: PO BOX 29166
SAN FRANCISCO, CA 94129-5700

LOCATION: 59700 ROAD 225
NORTH FORK, CA 93643

EQUIPMENT DESCRIPTION:

1.0 MW ELECTRICAL POWER GENERATION OPERATION (#2) UTILIZING BIOMASS GASIFICATION (PYROLYSIS) PROCESS CONSISTING OF THE FOLLOWING: A WOOD CHIPS GASIFIER; SYNTHETIC GAS (SYNGAS) CONDITIONING SYSTEM INCLUDING A CYCLONE, WET SCRUBBERS, A FILTER, AND CONDENSATE TRAPS; A 1,572 BHP GE JENBACHER SYNGAS-FIRED LEAN-BURN IC ENGINE (#2) WITH A STEULER SELECTIVE CATALYTIC REDUCTION (SCR) AND AN OXIDATION CATALYST POWERING AN ELECTRICAL GENERATOR; AND ONE PERMIT EXEMPT COOLING TOWER (LESS THAN 10,000 GALLONS PER MINUTE)

CONDITIONS

1. All equipment shall be maintained in good operating condition and shall be operated in a manner consistent with good air pollution control practice to minimize emissions of air contaminants. [District Rule 2201]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
5. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702]
7. This engine shall be operated within the ranges that the source testing has shown result in pollution concentrations within the emissions limits as specified on this permit. [District Rule 4702]

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO



Arnaud Marjollet, Director of Permit Services

C-8980-2-0 Mar 22 2018 11:53AM - REFUERZJ Joint Inspection Required with GARCIAJ

8. This engine shall be fired on synthetic gas (syngas) fuel only, except for up to 200 hours per year for maintenance and testing purposes and up to 200 hours during commissioning period during which the engine could be fired on PUC-quality natural gas or propane. [District Rule 2201]
9. This engine shall only use syngas as fuel that has been treated in the syngas conditioning system. [District Rule 2201]
10. When fired on PUC-quality natural gas or propane, Selective Catalytic Reduction (SCR) system and the oxidation catalyst shall be in operation. [District Rules 2201 and 4102]
11. Engines under permit units C-8980-1 or -2 shall not be fired at the same time on PUC-quality natural gas or propane for maintenance and testing purposes. [District Rule 4102]
12. 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]
13. The syngas fuel for this engine shall be generated in the gasifier from the following list of biomass feed stocks: (1) Agricultural crop residues; (2) Bark, lawn, yard, and garden clippings; (3) Leaves, silvicultural residue, and tree and brush pruning; (4) Wood, wood chips, and wood waste. Wood waste is defined as solid waste consisting of wood pieces or particles which are generated from the manufacturing or production of wood products, harvesting, processing or storage of raw wood materials, or construction and demolition activities. Biomass feed stocks used in the gasifier shall not have been treated with or contaminated by chemicals containing or contributing to the formation of hazardous air pollutants. [District Rules 2201 and 4102; California Public Resources Code 40106(a) and Title 14 California Code of Regulations Section 18720(84)]
14. The sulfur content of the syngas used as fuel in this engine shall not exceed 5 ppmv as H₂S. The applicant may utilize an averaging period of up to 24 hours in length for demonstration of compliance with the fuel sulfur content limit. [District Rules 2201, 4102, 4702, and 4801]
15. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rules 2201 and 4702]
16. The owner/operator shall minimize the emissions from the engine to the maximum extent possible during the commissioning period. [District Rule 2201]
17. 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]
18. Commissioning period shall commence when all mechanical, electrical, and control systems are installed and individual system startup has been completed, or when the engine is first fired, whichever occurs first. The total duration of the commissioning period for this engine shall not exceed 500 hours of operation of the engine. [District Rules 2201 and 4102]
19. Commissioning period ends when either of the following two events occurs first: 1) 500 hours of operation of the engine as allowed during the commissioning period, or 2) the electrical generator associated with this engine has successfully demonstrated to generate a minimum of 800 kw of electric power for 72 continuous hours and the Selective Catalytic Reduction (SCR) system and the oxidation catalyst have completed the breaking-in period, as recommended by the manufacturer. The permittee shall submit any relevant data to the District to demonstrate the end of the commissioning period no later than 14 days after such demonstration is completed. [District Rule 2201]
20. The total number of firing hours of this unit without abatement of emissions by the SCR system and oxidation catalyst shall not exceed 500 hours during the commissioning period. Such operation of this unit without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR system or oxidation catalyst. Upon completion of these activities, the permittee shall provide written notice to the District and the unused balance of the 500 firing hours without abatement shall expire. [District Rule 2201]
21. At the earliest feasible opportunity, in accordance with the recommendations of the equipment supplier and the construction contractor, the engine shall be tuned to minimize emissions. [District Rule 2201]

22. At the earliest feasible opportunity, in accordance with the recommendations of the equipment supplier and the construction contractor, the SCR system and oxidation catalyst shall be installed, adjusted, and operated to minimize emissions from this unit. [District Rule 2201]
23. The permittee shall submit a summary of activities to be performed during the commissioning period to the District at least two weeks prior to the first firing of this engine. The summary shall include a list of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described shall include, but are not limited to, the tuning of the engine, the installation and operation of the SCR system, the installation, calibration, and testing of emissions monitors, and any activities requiring the firing of this unit without abatement by the SCR system. [District Rule 2201]
24. Emission rates from this engine unit during the commissioning period shall not exceed any of the following limits: 1.0 g-NO_x/bhp-hr, 0.03 g-PM₁₀/bhp-hr, 14.5 g-CO/bhp-hr, 0.43 g-VOC/bhp-hr. [District Rule 2201]
25. After the commissioning period, emissions from this IC engine shall not exceed any of the following limits: 9 ppmvd NO_x @ 15% O₂ (NO_x referenced as NO₂) (equivalent to 0.11 g/bhp-hr); 0.03 g-PM₁₀/bhp-hr; 100 ppmvd CO @ 15% O₂ (equivalent to 0.77 g/bhp-hr); or 25 ppmvd VOC @ 15% O₂ (VOC referenced as CH₄) (equivalent to 0.11 g/bhp-hr). [District Rules 2201 and 4702]
26. When fired on PUC-quality natural gas or propane, emissions from this unit shall not exceed any of the following limits: 0.11 g-NO_x/bhp-hr, 0.012 g-SO_x/bhp-hr, 0.175 g-PM₁₀/bhp-hr, 0.77 g-CO/bhp-hr, or 0.11 g-VOC/bhp-hr. [District Rule 2201]
27. The SCR catalyst shall be maintained and replaced in accordance with the recommendations of the catalyst manufacturer or emission control supplier. Records of catalyst maintenance and replacement shall be maintained. [District Rules 2201 and 4702]
28. 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]
29. Ammonia (NH₃) emissions from this engine shall not exceed 10 ppmvd @ 15% O₂. [District Rules 2201 and 4102]
30. Source testing to measure NO_x, CO, VOC, PM₁₀, and ammonia (NH₃) emissions from this unit when fired on syngas shall be conducted within 60 days upon end of the commissioning period. [District Rules 1081, 2201, and 4702]
31. Source testing to measure NO_x, CO, VOC, and ammonia (NH₃) emissions from this unit when fired on syngas shall be conducted at least once every 24 months. [District Rules 1081, 2201, and 4702]
32. Fuel sulfur content analysis shall be performed within 60 days of the end of the commissioning period and at least annually thereafter, using ASTM D 1072, D 3031, D 4084, D 3246 or double GC for H₂S and mercaptans, or Draeger tubes for H₂S, or an equivalent method approved by the District. Records of the fuel sulfur analysis shall be maintained and provided to the District upon request. [District Rules 2201 and 4702]
33. 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]
34. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. 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 methane. NO_x, CO, VOC, and NH₃ concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rules 2201 and 4702]
35. The following methods shall be used for source testing when fired on syngas: NO_x (ppmv) - EPA Method 7E or ARB Method 100; CO (ppmv) - EPA Method 10 or ARB Method 100; VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100; stack gas oxygen - EPA Method 3 or 3A or ARB Method 100; stack gas velocity - EPA Method 2 or EPA Method 19; stack gas moisture content - EPA Method 4; PM₁₀ (filterable and condensable) - EPA Method 201 and 202, EPA Method 201a and 202, or ARB Method 5 in combination with Method 501; NH₃ - BAAQMD ST-1B or SCAQMD Method 207-1. Alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081 and 4702]
36. The Higher Heating Value (HHV) of the fuel gas shall be determined using ASTM D1826, ASTM 1945 in conjunction with ASTM D3588, or an alternative method approved by the District. [District Rules 2201 and 4702]

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 within 60 days after completion of the source test. [District Rule 1081]
39. 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]
40. 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. After twelve consecutive months in which no deviations are observed, permittee may conduct monitoring once every calendar quarter rather than once every month. Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rules 2201 and 4702]
41. The permittee shall monitor and record the stack concentration of NH₃ at least once every calendar quarter in which a source test is not performed. NH₃ monitoring shall be conducted utilizing District approved gas-detection tubes or a District approved equivalent method. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last quarter. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rules 2201 and 4102]
42. If the NO_x, CO, or NH₃ concentrations corrected to 15% O₂, as measured by the portable analyzer or the District-approved ammonia monitoring equipment, exceed the respective permitted emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours of operation after detection. If the portable analyzer or ammonia monitoring equipment readings continue to exceed the permitted emissions concentration after 8 hours of operation after detection, 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 the performing the notification and testing required by this condition. [District Rules 2201 and 4702]
43. 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]
44. The permittee shall maintain records of: (1) the date and time of NO_x, CO, O₂, and NH₃ measurements, (2) the O₂ concentration in percent and the measured NO_x, CO, and NH₃ concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, (5) the method of determining the NH₃ emission concentration, and (6) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201 and 4702]
45. The permittee shall monitor and record the SCR system reagent injection rate and the engine operating load at least once per month. [District Rule 4702]

46. During initial performance testing, the SCR system reagent injection rate shall be monitored concurrently with each testing run to establish acceptable values and ranges that provide a reasonable assurance of ongoing compliance with the emissions limitations stated in this permit. Acceptable values and ranges shall be established for each load that the engine is expected to operate at, in a minimum of 10% increments (e.g. 70%, 80%, and 90%). The acceptable SCR system reagent injection rate(s) demonstrated during the initial performance test that result in compliance with the NOx emission limits shall be imposed as a condition in the final Permit to Operate. [District Rule 4702]
47. If the SCR system reagent injection rate is outside of the established acceptable range, the permittee shall return the SCR system reagent injection rate to within the established acceptable range as soon as possible, but no longer than 8 hours after detection. If the SCR system reagent injection rate is not returned to within acceptable range within 8 hours, the permittee shall notify the District within the following 1 hour and begin monitoring and recording the stack concentration of NOx and O2 at least once every month. Monthly monitoring of the stack concentration of NOx and O2 shall continue until the operator can show that the SCR system reagent injection rate is returned to operating within the acceptable ranges specified within this permit. [District Rule 4702]
48. During initial performance testing, the inlet temperature to the catalyst control system and the back pressure of the exhaust upstream of the catalyst control system shall be monitored concurrently with each testing run to establish acceptable values and ranges that provide a reasonable assurance of ongoing compliance with the emissions limitations stated in this permit. Acceptable values and ranges shall be established for each load that the engine is expected to operate at, in a minimum of 10% increments (e.g. 70%, 80%, and 90%). The acceptable inlet temperature and back pressure demonstrated during the initial compliance test that result in compliance with the CO and VOC emission limits shall be imposed as a condition in the final Permit to Operate. [District Rule 4702]
49. The permittee shall monitor and record the inlet temperature to the SCR system, the back pressure of the exhaust upstream of the catalyst control system, and the engine operating load at least once per month. [District Rule 4702]
50. If the inlet temperature to the catalyst control system and/or the back pressure of the exhaust upstream of the catalyst control system is outside of the established acceptable ranges established during the initial compliance test, the permittee shall return the inlet temperature to the catalyst control system and the back pressure of the exhaust upstream of the catalyst control system back to the acceptable range as soon as possible, but no longer than 8 hours after detection. If the inlet temperature to the catalyst control system and the back pressure of the exhaust upstream of the catalyst control system are not returned to within acceptable range within 8 hours, the permittee shall notify the District within the following 1 hour and begin monitoring and recording the stack concentration of CO and O2 at least once every month. Monthly monitoring of the stack concentration of CO and O2 shall continue until the operator can show that the inlet temperature to the catalyst control system and the back pressure of the exhaust upstream of the catalyst control system are returned to operating within the acceptable ranges specified within this permit. [District Rule 4702]
51. 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]
52. The permittee shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: the total hours of operation, the type and quantity of fuel used during commissioning period(s), the type and quantity of fuel used during normal operation, maintenance and modifications performed, monitoring data, compliance source test results, and any other information necessary to demonstrate compliance. Quantity of fuel used shall be recorded in standard cubic feet using a non-resettable, totalizing mass or volumetric fuel flow meter or other APCO approved-device. [District Rules 2201 and 4702]
53. The permittee shall record total operating time of the engine in hours during the commissioning period. [District Rule 2201]
54. All records shall be maintained and retained for a minimum of five (5) years, and shall be made available for District inspection upon request. All records may be maintained and submitted in an electronic format approved by the District. [District Rules 2201 and 4702]

AUTHORITY TO CONSTRUCT

PERMIT NO: C-8980-3-0

ISSUANCE DATE: 03/20/2018

LEGAL OWNER OR OPERATOR: NORTH FORK COMMUNITY POWER

MAILING ADDRESS: PO BOX 29166
SAN FRANCISCO, CA 94129-5700

LOCATION: 59700 ROAD 225
NORTH FORK, CA 93643

EQUIPMENT DESCRIPTION:

14 MMBTU/HR SYNGAS-FIRED BACKUP FLARE FOR DISPOSAL OF SYNGAS PRODUCED FROM PERMIT UNITS C 8980-1 AND '2

CONDITIONS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. 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 1/4 or 5% opacity. [District Rules 2201 and 4101]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. This flare shall only incinerate syngas that has been treated in the wet scrubbing system. [District Rule 2201]
5. This flare shall be equipped with a non-resettable totalizing volumetric fuel meter. [District Rules 2201 and 4311]
6. The total amount of syngas combusted in the flare shall not exceed 105.9 million standard cubic feet (MMscf) per year (equivalent to 1,000 hours of flare operation at full load). [District Rules 2201 and 4311]
7. Emissions from this flare shall not exceed any of the following limits: 0.068 lb-NOx/MMBtu, 0.0065 lb-SOx/MMBtu, 0.008 lb-PM10/MMBtu, 0.31 lb-CO/MMBtu, or 0.063 lb-VOC/MMBtu. [District Rules 2201 and 4801]
8. Operator shall record the fuel meter reading each day the flare operates. Operator shall maintain annual fuel use records, and shall update the running annual total each month in which the flare operates. [District Rules 2201 and 4311]

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO



Arnaud Marjollet, Director of Permit Services

C-8980-3-0 - Mar 20 2018 12:41PM - AH-MADS - Joint Inspection Required with AH-MADS

9. 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 4311]