

April 5, 2018

American Renewable Power  
Attn: Mr. Jim Turner  
P.O. Box 208  
Loyalton, CA 96118

Dear Mr. Turner:

Enclosed please find the Permits to Operate for the Loyalton Cogeneration Facility. This Permit is valid for one calendar year.

Also attached is a Statement of Charges for the permit and emission fees. In addition, there is a charge for evaluation of emission fees for 2017 calendar year production. *These fees are due and payable within 30 days.*

This permit has been issued, subject to conditions, per District Rule 505: Conditional Approval, which will assure, but not guarantee, the compliance of permitted equipment within the standards of District Rules and Regulations. Additionally, please notify the District if there is any change in ownership of this facility.

As a reminder, a source test will be required within 60 days of start-up. Please contact the District as soon as possible if ARP plans to re-start this facility. Also, before performing the source test, refer to permit condition #33. At the request of EPA Region IX, we have modified this permit condition to include the testing of both condensable and non-condensable particulate matter.

Please feel free to call Joe Fish at (530) 274-9360 if you have any questions or comments.

Sincerely,



Gretchen Bennitt  
Air Pollution Control Officer

**STATEMENT OF CHARGES**

April 5, 2018

American Renewable Power  
Attn: Jim Turner  
P.O. Box 208  
Loyalton, CA 96118

**PROJECT: Loyalton Cogeneration Plant**

**Permits to Operate Fees 2018-2019:**

Base Fees ( \$134.09 x 1)	\$	134.09
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**Emission Fees:**

TSP:	0.00	Tons @ \$ 45.55/Ton	\$	0.00
NOx:	0.00	Tons @ \$ 45.55/Ton	\$	0.00
SO2:	0.00	Tons @ \$ 45.55/Ton	\$	0.00
VOC:	0.00	Tons @ \$ 45.55/Ton	\$	0.00
CO :	0.00	Tons @ \$ 10.69/Ton	\$	0.00

**Evaluation Fees:**

1 Hours X \$120.61/hour	\$	120.61
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**AMOUNT DUE                      \$ 254.70**

**Note: In order to avoid a 50% fee increase, fees are due and payable within 30 days. Total if paid after May 12, 2018: \$ 382.05**

Please make payment to: Northern Sierra AQMD  
200 Litton Dr., Suite 320  
Grass Valley, CA 95945

**THANK YOU**

**PERMIT TO OPERATE**

Issued on: April 5, 2018

Permit No. #88-19-01

Valid: March 5, 2018 through March 5, 2019

By   
Gretchen Bennitt, APCO

GRANTED TO: American Renewable Power

P.O. Box 208

Loyalton, CA 96118

FACILITY LOCATION: Railroad Avenue

Loyalton, CA 96118

Under the provisions of District Regulation V, authorization is hereby granted to operate the following equipment subject to the conditions on the following page(s):

**RILEY BOILER**

CONSISTING OF THE ITEMS ON PAGE 2

**POST IN A CONSPICUOUS PLACE IN THE BOILER CONTROL ROOM**

1. WOODWASTE BOILER AND ASSOCIATED EQUIPMENT
2. WOOD FUEL CONVEYING SYSTEM
3. MULTICLONE AND ELECTROSTATIC PRECIPITATOR DUST COLLECTION SYSTEM
4. ASH COLLECTION, REBURNER, CONVEYING AND STORAGE FACILITIES
5. AMMONIA INJECTION SYSTEM

**THIS PERMIT HAS BEEN ISSUED, SUBJECT TO THE FOLLOWING CONDITIONS. COMMENCING WORK UNDER THIS PERMIT SHALL BE DEEMED ACCEPTANCE OF THE CONDITIONS SO SPECIFIED.**

**GENERAL PERMIT CONDITIONS**  
**APPLICABLE TO ALL PERMITS**

1. This permit, or a readable reproduction, shall be posted in a conspicuous location at the facility where the permitted device is operating.
2. Operating staff at the facility where this permit is posted shall be advised of, and be familiar with, all conditions contained in this permit.
3. Operation under this permit is deemed acceptance of all permit conditions, as specified.
4. The permittee shall maintain compliance at all times with all applicable District, State of California, and Federal laws, rules, regulations, and permit conditions governing air pollution. Whenever there is a conflict of District, State and/or Federal laws, rules, regulations, or permit conditions, the more stringent shall apply. Nothing in these Conditions shall be construed to allow the violation of any law or of any rule or regulation of the Northern Sierra Air Quality Management District, the State of California, or the U.S. Environmental Protection Agency by the permittee.
5. Failure to comply with any condition of this permit constitutes grounds for, and may result in, revocation or suspension of this permit, either by the Air Pollution Control Officer, or the Air Pollution Control Hearing Board.
6. The District reserves the right to amend this permit upon annual renewal, in order to ensure compliance with any District, State, or Federal laws, rules, regulations governing air pollution.
7. If any condition on this permit is found invalid, such finding shall not affect the validity of the remaining conditions.
8. The permittee shall provide access to District personnel for the purpose of inspection during the time the facility is in operation. The "Right of Entry" pursuant to California Health and Safety Code Section 41510 shall apply:
  - A. To enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of this Permit to Operate.
  - B. To inspect and sample emissions from any equipment listed within this Permit to Operate.

9. This permit is not transferable, either from one location to another, from one piece of equipment to another, or from one person to another, except on the written approval of the Air Pollution Control Officer. In the event that control of this facility will be assumed by another person, company, corporation, or other entity, the District shall be notified of such transfer of control by the submittal of a written notification a minimum of thirty (30) days prior to the actual transfer date. In the event of any changes of ownership, or control of facilities herein permitted to be operated, this Permit to Operate shall be binding upon all subsequent owners and operators, pending District action. The operator shall notify the succeeding owner and operator of the existence of this Permit to operate and its conditions by letter, a copy of which shall be forwarded to the District.

10. The operator(s) or owner(s) of this facility shall comply with all applicable requirements pursuant to California Health and Safety Code, Part 6, Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588), Sections 44300 through 44394. The operator will collect and submit all information required for emissions from this source category. Emissions inventory data will be submitted in compliance with State requirements guidance and local prioritization recommendations. This inventory report shall be submitted to the District within one year of the date operations at the facility commence.

11. Any new equipment additions or modifications to the facility beyond normal maintenance and repair must be reported to the Northern Sierra AQMD prior to the installation of the equipment. Such additions/modifications are subject to Authority to Construct requirements. An application for an Authority to Construct shall be filed with the District prior to: a modification as defined by District Rule 102; replacement of equipment (with other than identical) for which a Permit to Operate has been granted; building, erecting, installing, or operating any equipment for which an Authority to Construct is required pursuant to California Health and Safety Code, Section 42300, and District Rule 401.

### **OPERATIONAL PERMIT CONDITIONS**

12. All air pollution control devices required in permits to operate shall be operated at all times that associated emitting devices are in operation.

13. All equipment, facilities and systems installed or used to achieve compliance with the terms and conditions of this Authority to Construct/Permit to Operate shall be maintained in good working order and be operated as efficiently as possible, so as to not exceed air pollutant emissions limits. Manufacturers' recommended maintenance procedures shall be adhered to at all times. THE PERMITTEE shall develop a maintenance program for equipment listed herein to preclude a violation of the California Health and Safety Code and District Rules and Regulations.

14. The operator shall notify the District of any occurrence which constitutes a malfunction or breakdown of equipment resulting in excessive emissions as defined in District Rule 516. Such notification shall be provided by telephone communication within 2 hours of the occurrence during normal business hours, or within the first two hours of the next District business day, if otherwise. In no event shall the permittee allow the equipment to operate in a malfunctioning state for more than 48 hours unless an emergency variance has been granted. The shutdown or non-operable status of permitted control devices, including monitoring and control subsystems, shall be subject to breakdown reporting.

15. Visible emissions from ANY AND ALL emission points shall not meet or exceed 20% opacity (or Ringelmann 1), per District Rule 202, for a period or periods aggregating more than three (3) minutes in any one (1) hour.
16. The operator shall not discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons, or to the public, or which cause to have a natural tendency to cause injury or damage to business or property, per District Rule 205, Nuisance.
17. In the event of any violation of District Rules and Regulations, the permittee shall cease operation of violating equipment or take action to end such violation, pursuant to all the requirements of District Rule 516, Upset and Breakdown Conditions, if applicable.
18. Operation of this equipment must be conducted in compliance with all data and specifications, limited to the maximum rates and schedules of operation, and the specified process materials of approved plans and specifications, submitted with the application under which this permit is issued, unless otherwise prescribed by conditions. Any operation of equipment or discharge of emissions to the atmosphere not identified by application submittals made to the District or exceeding the limits of the operation pursuant to which this permit is granted, shall be deemed a violation.
19. Initial operation of permitted equipment shall not commence without prior notification to the District.
20. Exceeding any emission limit or production rate established by the Authority to Construct/Permit to Operate conditions is prohibited without prior application for, and the subsequent granting of, a permit modification pursuant to District Rule 505 - Conditional Approval, unless specifically allowed by a granted variance, or due to an upset, breakdown, or scheduled maintenance per District Rule 516.

#### **PERMIT CONDITIONS SPECIFIC TO WOODWASTE COGENERATION BOILERS**

21. The following operational parameters shall be monitored and displayed on a central control panel: steam production rate; multiclone pressure drop; multiclone inlet and outlet temperature; ESP field voltage and current; O<sub>2</sub>, CO<sub>2</sub>, CO, and NO<sub>x</sub> stack concentrations; stack volumetric flow rate; and stack opacity.
22. A computer circuit for converting NO<sub>x</sub> and CO concentrations together with stack volumetric flow rates to NO<sub>x</sub> and CO hourly emissions rates in pounds per hour shall be installed and maintained in good operating condition.
23. A computerized data acquisition system for steam production rate, stack O<sub>2</sub> concentration, stack opacity, and average hourly NO<sub>x</sub> and CO emission rates shall be installed and maintained in good operating condition in the central control room.
24. An integrating circuit for steam production shall be installed and maintained in good operating condition as part of the central control panel.

25. Source testing ports, platforms and access ladder conforming to Air Resources Board and Occupational Health and Safety Administration standards shall be installed on the stack. Sampling ports shall be located not less than two stack diameters downstream and not less than one-half stack diameter upstream of any flow disturbance.

26. EMISSION LIMITS: Emissions from the cogeneration boiler shall not exceed the quantities and concentrations for specified pollutants:

- A. **Particulate Matter:** 9.96 pounds per hour (averaged over 3 hours); 43.6 tons per year; 0.015 grains per dry standard cubic foot of exhaust gas corrected to 12% CO<sub>2</sub>.
- B. **Nitrogen Oxides:**
  - 1. Basic Rate: 50.75 pounds per hour (averaged over 8 hours); 80 ppm (parts per million) volume corrected to 12% CO<sub>2</sub> (8 hour average), at 88,597 dscfm exhaust gas.
  - 2. Transient Rate: 65 pounds per hour (averaged over 8 hours) for up to 100 hours per year; 102.4 parts per million volume, corrected to 12% CO<sub>2</sub> at 88,597 dscfm exhaust gas, for up to 100 hours per year.
  - 3. Annual Rate: 222.6 Tons per year.
- C. **Volatile Organic Compounds (Hydrocarbons):** 10.5 pounds per hour (averaged over 3 hours); 29.4 tons per year.
- D. **Carbon Monoxide:**
  - 1. Basic Rate: 550 pounds per hour (averaged over 8 hours); 1,443 parts per million, averaged over 8 hours, corrected to 12% CO<sub>2</sub> at 88,597 dscfm exhaust gas flow rate.
  - 2. Transient Rate: 772.42 pounds per hour, averaged over 8 hours; 1,998 parts per million, averaged over 8 hours, corrected to 12% CO<sub>2</sub>, at 88,597 dscfm exhaust gas flow rate, for up to 100 hours per year.
  - 3. Annual Rate: 2,420.1 Tons per year.
  - 4. If continuous emission monitoring data for any consecutive 6 month period, commencing with the date of issuance of this permit, indicates that CO emissions are exceeding the level specified in Condition 26D.1 & 26D.2 above, and such exceedences are not due to operator error, lack of maintenance, upset/breakdown, or some factor within the control of the operator (as determined by the APCO), and such exceedences have occurred for more than 10% of total operating hours during any consecutive 6 month period, then the Carbon Monoxide emissions shall not exceed the following: 772.42 pounds per hour averaged over 8 hours, 1,998 parts per million volume, averaged over 8 hours, corrected to 12% CO<sub>2</sub> at 88,597 dscfm exhaust gas flow rate; 3,383.2 Tons per year.
- E. **Opacity:** Less than 20% (1.0 on the Ringlemann Scale) except for a period or periods aggregating not more than three minutes in any one hour period, or a period or periods aggregating not more than thirty minutes in any twenty-four hour period during boiler startup or shutdown.



27. Any violation of any emission standard to which the stationary source is required to conform, as indicated by the records of the monitoring devices, shall be reported by the operator of the source to the District within 96 hours after such occurrence.
28. The applicant shall transmit to the AQMD, copies of all reports and correspondence required to be forwarded to EPA Region IX in compliance with the conditions of PSD Permit No. SAC 87-01.
29. No fuel other than non-chemically treated wood free of plastic, non-wood construction materials, and resin binders, shall be charged to the combustion unit. Urban woodwaste (construction, demolition, and landfill-derived woodwaste) is approved as fuel so long as there is less than 1% by weight, of plastic, rubber, and other non-wood combustibles (other than dirt or ash).
30. Only #2 fuel oil shall be fired by the auxiliary burners. The annual #2 fuel oil usage by the auxiliary burners shall be limited to 41,390 gallons. All diesel fuel used shall be purchased from a person subject to California Air Resources Board diesel content regulations for sulfur (.05%) and aromatic content (10%), per section 2281 and 2282 of Title 13, California Code of Regulations. Resulting sulfur emissions shall not exceed 2000 parts per million (0.2%), calculated as sulfur dioxide (SO<sub>2</sub>).
31. Boiler fly ash shall be collected, stored, transported, and disposed of or applied to soil as a soil amendment in such a manner that minimizes dust emissions. Boiler fly ash handling shall follow the procedures described in the Biomass Ash Soil Amendment Management Plan (BASAMP) (Sierra Pacific Industries, November 16, 1998) and the following conditions:
- A. Collected boiler ash shall be sufficiently wetted and/or maintained in enclosed containers so as to prevent any entrainment in the ambient air during storage at the cogeneration facility.
  - B. All trucks hauling ash to the soil application site shall be covered to prevent ash from blowing out of the truck during transport. A water truck or sprinkler system shall be utilized if needed to maintain a sufficient moisture level on unpaved access roads so as to prevent visible dust emissions from haul trucks.
  - C. For any portion of the collected boiler ash that is destined for soil application through a soil amendment program, American Renewable Power shall be responsible for coordinating with the farmer or landowner to ensure that the ash is either incorporated into the soil as it is delivered, covered, or adequate water is applied to prevent the unincorporated ash from becoming airborne.
  - D. For any portion of the collected boiler ash that is destined for soil application through a soil amendment program, American Renewable Power shall be responsible for advising the participating landowner of the guidelines included in the BASAMP and encouraging the participating landowner to use boiler ash application rates that do not exceed the amount necessary to provide the intended benefit and which is consistent with good agronomic practices. American Renewable Power shall advise the participating landowner that they are responsible for preventing windblown fly ash originating from their property from causing a public nuisance which would be a violation of District Rule 205 and may expose them to civil liability.

32. American Renewable Power shall record and maintain records of the amounts of #2 fuel oil and woodwaste fuel fired each calendar quarter, and the plant hours of operation. All information shall be recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements. Additionally, monthly urban woodwaste fuel delivery records shall be maintained. These records shall be made available for District personnel review. Urban woodwaste fuel records shall be kept for a minimum of five (5) years.

33. Source Test Requirements: Within the term of this permit, a source test shall be conducted to assure compliance with the maximum permitted emission limits. The woodwaste fuel type for the test shall be a mixture of forest fuel, agricultural, and urban wood waste with a minimum of 20%, by volume, urban woodwaste. In addition, the following conditions apply:

**A.** The source test shall be conducted per 40 CFR, Part 60, Appendix A, to determine concentrations and mass emissions of condensable and non-condensable particulate, nitrogen oxides, carbon monoxide, volatile organic compounds. Results must provide mass emissions rates in pounds per hour and pounds per million BTU for both minimum and normal. The source test report shall state the woodwaste species fired in the title page and introduction. Performance tests for emissions of PM-10 shall be conducted using EPA Methods 1-4 and Method 5 from Appendix A. Performance tests for emissions of VOC shall be conducted using EPA Method 1-4, 18 and 25A. Methods 18 and 25A may both be used simultaneously to quantify the annual methane emissions (using Method 18) and subtract this amount from the annual total VOC emissions (as determined from Method 25A).

**B.** The source test shall include a CEMS performance evaluation per 40 CFR, §60.13, and Appendix B.

**C.** The test shall be conducted with the boiler operating between 90 and 100% of the maximum allowable steam production rate. An alternative steam production rate for the source test may be approved by the APCO providing that the source requests the alternative rate in writing at least 30 days prior to the source test, as part of the source test protocol. The alternative steam production rate must be at least 90% of the maximum steam production rate that was achieved during the last two years. Documentation of the maximum steam rate must be provided with the written request for the alternative steam production rate. The maximum allowable steam production rate may be modified as a result of the compliance test if the extrapolation of the measured emission rates indicates an emission limit violation may occur at the permitted allowable steam rate.

**D.** Submit a source test plan and protocol to the Air Pollution Control Officer for approval at least 30 days before the source test is to be performed.

**E.** Within 60 days of conducting the source test a copy of the Source Test Report shall be delivered to the District.

**F.** A source test for ammonia slip shall be performed in conjunction with the ESP stack. The results shall be included in the Stack Test Report. The ammonia slip test shall be conducted per Bay Area AQMD Source Test Procedure ST-1B, or South Coast Source Test Method 207.1, or any other method that is approved by the APCO. Conditions 33C, D, and E shall also apply to the ammonia slip test.

34. Record keeping Requirements: The applicant shall maintain records of plant operating hours and number of operating days.

35. Monthly maintenance records shall be maintained showing date of inspections, findings, and repairs made. All of these records shall be maintained for a period of five (5) years, and made available to District inspectors upon request.