

DISTRICT HEADQUARTERS

200 Litton Drive, Suite 320
Grass Valley, CA 95945
(530) 274-9360 / FAX: (530) 274-7546
office@myairdistrict.com
www.myairdistrict.com

NORTHERN FIELD OFFICE

257 E. Sierra, Unit E
Portola, CA 96122
Mailing Address: PO Box 2227
(530) 832-0102 / FAX (530) 832-0101
julie@myairdistrict.com

STAFF REPORT FOR VARIANCE #190228-REG

DATE PETITION FILED: February 28, 2019
HEARING DATE: April 9, 2019
VARIANCE TYPE: Regular
FACILITY: American Renewable Power (ARP)
LOCATION: 100 Railroad Ave., Loyalton, CA
VIOLATIONS: Permit #88-19-01, Condition 33

SOURCE BACKGROUND & PROCESS DESCRIPTION

American Renewable Power (ARP) is a 20-MW biomass-fired power plant in Loyalton, CA that began operating in April 2018. It is located in the former Sierra Pacific Industries facility that operated from 1987 to 2010, and contains much of the same equipment that Sierra Pacific used at the site.

ARP burns woody biomass in a 335.7 MMbtu Riley brand boiler, producing up to approximately 200,000 pounds of steam to run a condensing turbine coupled with a 20-megawatt generator.

The biomass is largely from fire risk reduction projects, with some urban green waste, agricultural waste and crushed pallets mixed in.

Emissions are controlled by a multiclone, electrostatic precipitator, ash collection/reburner and ammonia injection system. The facility has a continuous monitoring system for hourly average opacity, O₂, CO₂, CO, NO_x and stack gas flow rate by volume.

See ARP's website (www.amerpower.com) for additional information.

DETAILS OF CURRENT VIOLATIONS

According to the permit, the source is required to conduct a source test at least annually in order to verify compliance with the permitted emission limits. ARP submitted a Source Test Plan to the NSAQMD on September 17, 2018 with planned test dates in October 2018, but the source test has not been performed. ARP is petitioning for a

variance until December 1, 2019 from Permit #88-19-01, Condition 33, which includes the source test requirements and reads as follows:

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.

The entire permit #88-19-01 is included with this Staff Report.

NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS), CALIFORNIA AMBIENT AIR QUALITY STANDARDS (CAAQS) and the STATE IMPLEMENTATION PLAN (SIP) Sierra County is federally designated as “unclassified/attainment” for the particulate matter NAAQS, and therefore has no SIP in place. However, like most of California, Sierra County is classified as a State non-attainment area for particulate matter (PM10 CAAQS). In general, the particulate matter burden is greatest during the winter months, when many wood stoves are in use.

The nearest particulate matter monitors that are approved by EPA for determining compliance with air quality standards are in Portola and Truckee, which are far enough away from Loyalton that no impact on attainment of air quality standards is expected.

EXCESS EMISSIONS ALLOWED UNDER PROPOSED VARIANCE

Since ARP has never had a source test, there is no way to know if they are in compliance with their permitted emissions limits, and therefore no way to know if they will have excess emissions. ARP does have a Continuous Emissions Monitoring System (CEMS) that monitors hourly average opacity, O₂, CO₂, CO, NO_x and stack gas flow rate by volume.

POTENTIAL HEALTH EFFECTS

It is not expected that delaying the source test will result in health effects.

HISTORY OF PREVIOUS VARIANCES

None.

HISTORY OF NOTICES OF VIOLATION

None.

HISTORY OF COMPLAINTS

In the fall of 2018 the NSAQMD received some complaints from the public alleging that ARP’s operations were resulting in ash particles and droplets of what appeared to be oily soot being deposited on objects in Loyalton.

NSAQMD Staff have investigated the complaints. It has not been established that the ash and soot are from ARP’s operations. Also, the ash particles and droplets are too large to be inhaled, and therefore not likely to result in health effects, regardless of their origin. Further, there is no permit condition or rule addressing large particles of these types. For these reasons, no enforcement action has been taken.

According to NSAQMD records there have been no complaints alleging negative health impacts from ARP’s operations.

COST-BENEFIT ANALYSIS FOR BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATIONS

Not applicable.

DISTRICT RECOMMENDATIONS ON FINDINGS, RESTRICTIONS AND REQUIREMENTS

The NSAQMD recommends that the Hearing Board consider the following questions during the course of the hearing to support the findings required for granting a variance:

- 1) Why is “sufficient representative biomass” to perform the source test not available?
- 2) What constitutes “representative biomass”?
- 3) What type fuel is being burned instead of representative biomass?
- 4) Why was the source test not performed during the permit period of March 5, 2018 through March 5, 2019?
- 5) What is the plan for obtaining representative biomass prior to December 1, 2019.

INCREMENTS OF PROGRESS

No increments of progress were specified in the variance petition. The Hearing Board may prescribe increments of progress (such as 80% of the required fuel secured by a certain date), which may enable it to make the “six findings.” The District shall perform inspections as needed to ensure that any increments of progress are met, and to confirm final compliance.

EFFECTIVE DATE AND FINAL COMPLIANCE DATE

If the Hearing Board decides to grant this pending variance, it becomes effective immediately. The petition specifies that final compliance is expected by December 1, 2019. The Hearing Board may modify that final compliance date based on the substance of the hearing.

THE SIX FINDINGS

The “6 findings” in Section 42352 of the HSC are central to the granting of a variance. Here are the findings and basic requirements for making them as set forth in the California Health and Safety Code:

42352.

- (a) No variance shall be granted unless the hearing board makes all of the following findings:
- (1) That the petitioner for a variance is, or will be, in violation of Section 41701 or of any rule, regulation, or order of the district.
 - (2) That, due to conditions beyond the reasonable control of the petitioner, requiring compliance would result in either (A) an arbitrary or unreasonable taking of property, or (B) the practical closing and elimination of a lawful business.
 - (3) That the closing or taking would be without a corresponding benefit in reducing air contaminants.
 - (4) That the applicant for the variance has given consideration to curtailing operations of the source in lieu of obtaining a variance.
 - (5) During the period the variance is in effect, that the applicant will reduce excess emissions to the maximum extent feasible.

(6) During the period the variance is in effect, that the applicant will monitor or otherwise quantify emission levels from the source, if requested to do so by the district, and report these emission levels to the district pursuant to a schedule established by the district.

42352.5.

(a) The hearing board, in determining whether or not the petitioner has presented evidence sufficient to make the finding specified in paragraph (2) of subdivision (a) of Section 42352 or paragraph (2) of subdivision (a) of Section 42368, shall consider, in addition to any other relevant factors, both of the following:

(1) In determining whether or not conditions exist which are beyond the reasonable control of the petitioner, the hearing board shall consider the extent to which the petitioner took actions to comply or seek a variance, which were timely and reasonable under the circumstances. In so doing, the hearing board shall consider actions taken by the petitioner since the adoption of the rule, regulation, or order from which the variance is sought.

(2) In determining whether or not requiring compliance would result in either an arbitrary or unreasonable taking of property or the practical closing and elimination of a lawful business, the hearing board shall consider whether or not an unreasonable burden would be imposed upon the petitioner if immediate compliance is required.

(b) (1) As used in this subdivision, "small business" has the same meaning as defined by the Small Business Administration, except that no stationary source which is a major source, as defined by applicable provisions of the federal Clean Air Act (42 U.S.C. Sec. 7661(2)), is a small business.

(2) If the petitioner is a small business and emits 10 tons or less per year of air contaminants, the hearing board shall consider the factors specified in subdivision (a) in the following manner:

(A) In determining the extent to which the petitioner took timely actions to comply or seek a variance, the hearing board shall make specific inquiries into, and shall take into account, the reasons for any claimed ignorance of the requirement from which a variance is sought.

(B) In determining the extent to which the petitioner took reasonable actions to comply, the hearing board shall make specific inquiries into, and shall take into account, the petitioner's financial and other capabilities to comply.

(C) In determining whether or not the burden of requiring immediate compliance would be unreasonable, the hearing board shall make specific inquiries into, and shall consider, the impact on the petitioner's business and the benefit to the environment which would result if the petitioner is required to immediately comply.

If a variance is issued, the Hearing Board must document that these findings have been made, and must explain the reasoning behind each determination.