

**PLACER COUNTY AIR POLLUTION CONTROL DISTRICT
HEARING BOARD ORDER
SHORT TERM VARIANCE NO. 18-05**

IN THE MATTER of the application for a Short Term Variance, a variance of not more than 90 days in duration, by Roseville Energy Park – Roseville Electric Utility, was heard on June 15, 2018. Notice of the hearing was provided on June 5, 2018, in conformance with the requirements of the California Health and Safety Code Sections 40823 and 40825, and District Rules and Regulations. All persons interested in the application having been heard and the matter having been taken under submission for decision by the following member(s) of the Placer County Air Pollution Control District Hearing Board:

- Mr. Donald Gronstal, Chairman
- Ms. Diane Przepiorski
- Mr. D. Stevens Parks
- Mr. Tim Woodall (alternate)
- Mr. Gary Hall
- Dr. Gabriele Windgasse

NOTE

Pursuant to California Health and Safety Code Sections 40824, 40825, and 42351, in districts with a population of less than 750,000, the chairman of the hearing board or any other member designated by the board may hear an application. This provision applies to Placer County Air Pollution Control District for Emergency Variances, Interim Variances, Short Term Variances, and Interim Authorization & Modification of Increments of Progress.

The Board finds:

Roseville Energy Park - Roseville Electric (REP) operates a power plant with two combustion turbines with heat recovery steam generators at 5120 Phillip Road, Roseville, California. An ammonia injection system in conjunction with a reduction catalyst is used to reduce nitrogen oxide (NOx) emissions. An oxidation catalyst is used to reduce carbon monoxide (CO) emissions.

The power plant is undergoing commissioning of a new steam turbine generator, which began on May 11, 2018. During commissioning, REP experienced an upset/breakdown condition characterized by unanticipated turbine and emission control system tuning issues with Combustion Turbine 1 (CT1) and Combustion Turbine 2 (CT2). After determining that the upset/breakdown condition would not be able to be resolved within 48 hours, REP staff promptly submitted a petition for an Emergency Variance, which was subsequently granted. Emergency Variance #18-03 provided REP staff with 15 additional days to correct the upset/breakdown condition.

While the mechanical issues associated with the upset/breakdown condition were identified and corrected within the 15 day period provided by Emergency Variance #18-03, REP staff have determined that additional testing and tuning of the ammonia injection systems associated with CT1 and CT2 is required to ensure ongoing plant stability. The necessary tuning and testing requires the plant and the associated turbines to fire under normal operating loads; therefore, REP has requested that the variance encompass normal operating schedules to the extent that they are needed.

There is a possibility that permitted operating and emission limits may be exceeded during the required tuning and testing. REP has requested this Short Term Variance from Permits to Operate REPR-09-01 and REPR-09-02 for Combustion Turbines 1 and 2, for the following conditions:

- Condition 18. Turbine limits on the duration of startup and shutdowns.
- Condition 49. Turbine emission limits during routine operations (excluding startup and shutdown).
- Condition 50. Turbine NOx emission exemption.
- Condition 51. Turbine emissions limits during startup and shutdown.
- Condition 52. Turbine emission limits during routine operation (excluding startup and shutdown) in pound per hour.
- Condition 53. Facility daily emission limits.
- Condition 54. Turbine daily, hourly, and quarterly emission limits.
- Condition 55. Facility quarterly emission limits.

The variance also covers the Title V Permit REP-001 Conditions 2.1.1, 2.1.2, 2.1.3, 2.1.5, 2.1.6, 2.1.7, 2.1.13, and 2.5.1 which are the conditions in the District permit which reflect these limits.

This Short Term Variance is granted during periods of tuning and testing of the emission control systems, including the ammonia injection valves. The variance is not valid during routine operation that is after the completion of, or not a part of, the tuning and testing of the emission control systems.

Without this variance, the taking of property or closing of the business would be without a corresponding benefit in reducing air contaminants. The replacement of the new steam turbine generator was performed due to the catastrophic failure of the previous generator. The possible exceedances during this continued troubleshooting and tuning period are expected to be outweighed by the benefits of a plant that is more reliable and operates more efficiently.

Curtailing operations is not an option. If called upon, REP's electrical generating equipment must be available to provide power to the citizens of the City of Roseville.

During the period the Short Term Variance is in effect, the applicant will reduce emissions to the maximum extent feasible by monitoring NOx and CO emissions with the continuous monitoring system (CEMS). The company will provide the District with a written report of any excess emissions after the variance is closed.

The granting of a Short Term Variance would not result in a nuisance, a violation of Section 41700 of the California Health and Safety Code, or of Rule 205 of the Rules and Regulations of the Placer County Air Pollution Control District.

Therefore, the Board orders that REP is hereby granted, pursuant to Section 40825 and Sections 40860 et seq. of the California Health and Safety Code, a variance from District Permits to Operate REPR-09-01 and REPR-09-02, Conditions 18, 49, 50, 51, 52, 53, 54, and 55, and Title V Permit

REP-001 Conditions 2.1.1, 2.1.2, 2.1.3, 2.1.5, 2.1.6, 2.1.7, 2.1.13, 2.5.1 which represent the conditions in the District permit.

The Short Term Variance starts beginning June 15, 2018, and shall end no later than September 13, 2018 under the following conditions:

SHORT TERM VARIANCE # 18-05

VARIANCE CONDITIONS

1. This Variance Order does not allow violation of Section 41700 of the California Health and Safety Code, which prohibits discharges to the atmosphere which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property.
2. Once Combustion Unit 1 and Combustion Turbine 2 are called into operation, the required tuning and testing of the emission control systems shall be scheduled to take place as soon as possible.
3. This variance covers District Permits to Operate REPR-09-01 and REPR-09-02, Conditions 18, 49, 50, 51, 52, 53, 54, and 55.
4. This variance is granted during periods of tuning and testing of the emission control systems. The variance is not valid during routine operation that is after the completion of, or not a part of, the tuning and testing of the emission control systems.
5. Roseville Energy Park shall provide written notification to the District whenever tuning and testing of the emission control systems occurs, and provide a monthly status report beginning July 2, 2018.
6. A written final report, including the dates and times of any excess emissions, an estimate of the quantities of pollutants discharged, and the amount of pollutants emitted in excess of permit limitations, shall be submitted to the District by no later than thirty days after the tuning and testing of emission control systems is completed, and no later than October 13, 2018.
7. Roseville Energy Park shall notify the District upon the completion of the required testing and tuning of the emission control systems, at which time the Roseville Energy Park shall be in compliance with all conditions listed in Permits to Operate REPR-09-01 and REPR-09-02.
8. Roseville Energy Park shall be in compliance with all conditions listed in Permits to Operate REPR-09-01 and REPR-09-02 by no later than September 13, 2018.

DATE APPROVED: _____

**CHAIRMAN/VICE CHAIRMAN
OF HEARING BOARD**
(Signature)

SHORT TERM VARIANCE #18-05

MANDATORY FINDINGS

Per Section 42352 of the California Health and Safety Code, no variance shall be granted unless the Hearing Board makes all of the following findings:

- (a) The petitioner for a variance is, or will be, in violation of Section 41701 or of any rule, regulation, or order of the district.
- (b) That, due to conditions beyond the reasonable control of the petitioner, required compliance would result in either (1) an arbitrary or unreasonable taking of property, or (2) the practical closing and elimination of a lawful business.
- (c) That the closing or taking would be without a corresponding benefit in reducing air contaminants.
- (d) That the applicant for the variance has given consideration to curtailing operations of the source in lieu of obtaining a variance.
- (e) During the period the variance is in effect, that the applicant will reduce emissions to the maximum extent feasible.
- (f) 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.

Per Section 42353 of the California Health and Safety Code no variance shall be granted if the operation, under variance, will result in a violation of Section 41700. Section 41700 prohibits the discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

- A. *The petitioner for a variance is, or will be, in violation of Section 41701 or of any rule, regulation, or order of the district.*

The Roseville Energy Park turbines may continue to exceed permit operational and emission limits during troubleshooting and tuning of the emission control systems associated with Combustion Turbine 1 and Combustion Turbine 2.

- B. *That, due to conditions beyond the reasonable control of the petitioner, required compliance would result in either (1) an arbitrary or unreasonable taking of property, or (2) the practical closing and elimination of a lawful business.*

The troubleshooting and tuning of the emission control systems is necessary in order to reduce the risk of long term damage to the units, increase efficiency, and reduce long-term emissions. The possible exceedance of permit operational and emission limits during this tuning and testing is beyond the reasonable control of the petitioner. If compliance was required during the testing and tuning procedures, this would constitute an arbitrary or unreasonable taking of property.

- C. *That the closing or taking would be without a corresponding benefit in reducing air contaminants.*

The closing of the business would be without a corresponding benefit to reducing air contaminants due to the fact that the emissions occurring during the troubleshooting and tuning of the combustion turbines are expected to be minimal. Furthermore, the troubleshooting and tuning is intended to improve the operation, reliability and longevity of the turbines in addition to minimizing the long term emissions from the turbines.

- D. *That the applicant for the variance has given consideration to curtailing operations of the*

source in lieu of obtaining a variance.

Curtailing operations is not an option. Without the troubleshooting and tuning of the emission control systems of the associated combustion turbines, Roseville Energy Park will not be able to operate the units and serve the citizens of the City of Roseville as an electrical utility.

- E. *During the period the variance is in effect, that the applicant will reduce emissions to the maximum extent feasible.*

During the period the variance is in effect, the applicant will monitor emission using the plant's Continuous Emissions Monitoring System (CEMS), and to the maximum extent feasible, mitigate the emissions from the combustion turbines using the existing air pollution control equipment.

- F. *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.*

The applicant will monitor or otherwise quantify NO_x, CO, and ammonia emission levels using the existing CEMS. The company will provide the District with a monthly status report as well as a written final report after the testing is finished, or after the variance is closed.

- G. *Per Section 42353 of the California Health and Safety Code no variance shall be granted if the operation, under variance, will result in a violation of Section 41700.*

A violation of Section 41700 of the California Health and Safety Code is not anticipated.

STAFF REPORT

TO: Placer County Air Pollution Control District Hearing Board

FROM: Emmanuel Orozco, Air Pollution Control Engineer

DATE: June 7, 2018

Petitioner:	Roseville Energy Park – Roseville Electric Utility
Number:	18-05
Petition type:	Short Term Variance (90 Day Variance)
Rule Violation:	District Permit to Operate REPR-09-01 and REPR-09-02, Conditions 18, 49, 50, 51, 52, 53, 54, and 55, and Title V Permit REP-001 Conditions 2.1.1, 2.1.2, 2.1.3, 2.1.5, 2.1.6, 2.1.7, 2.1.13, and 2.5.1
Period of time:	June 15, 2018, through September 13, 2018
Hearing Date:	June 15, 2018

SUMMARY

Roseville Energy Park - Roseville Electric (REP) operates a power plant with two combustion turbines with a heat recovery steam turbine generator at 5120 Phillip Road, Roseville, California. An ammonia injection system in conjunction with a reduction catalyst is used to reduce nitrogen oxide (NOx) emissions. An oxidation catalyst is used to reduce carbon monoxide (CO) emissions.

The power plant is currently undergoing commissioning of a new steam turbine generator, which began on May 11, 2018. During commissioning, REP experienced an upset/breakdown condition characterized by unanticipated turbine and emission control system tuning issues with Combustion Turbine 1 (CT1) and Combustion Turbine 2 (CT2). After determining that the upset/breakdown condition would not be able to be resolved within 48 hours, REP staff promptly submitted a petition for an Emergency Variance, which was subsequently granted. Emergency Variance #18-03 provided REP staff with 15 additional days to correct the upset/breakdown condition.

While the mechanical issues associated with the upset/breakdown condition were identified and corrected within the 15 day period provided by Emergency Variance #18-03, REP staff have determined that additional testing and tuning of the ammonia injection systems associated with CT1 and CT2 is required to ensure ongoing plant stability. The necessary tuning and testing requires the plant and the associated turbines to fire under normal operating loads; therefore, REP has requested that the variance encompass normal operating schedules to the extent that they are needed.

There is a possibility that permitted operating and emission limits may be exceeded during the required tuning and testing. REP has requested this Short Term Variance from Permits to Operate REPR-09-01 and REPR-09-02 for Combustion Turbines 1 and 2, for the following conditions:

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This Short Term Variance is granted during periods of tuning and testing of the emission control systems, including the ammonia injection valves. The variance is not valid during routine operation that is after the completion of, or not a part of, the tuning and testing of the emission control systems.

The District staff recommends approval of this Short Term Variance.

BACKGROUND

During the commissioning of the new steam turbine generator which began on May 11, 2018, REP experienced an upset/breakdown condition characterized by unanticipated turbine and emission control system tuning issues with Combustion Turbine 1 (CT1) and Combustion Turbine 2 (CT2). After determining that the upset/breakdown condition would not be able to be resolved within 48 hours, REP staff promptly submitted a petition for an Emergency Variance, which was subsequently granted. Emergency Variance #18-03 provided REP staff with 15 additional days to correct the upset/breakdown condition.

While the mechanical issues associated with the upset/breakdown condition were identified and corrected within the 15 day period provided by Emergency Variance #18-03, REP staff have determined that additional testing and tuning of the ammonia injection systems associated with CT1 and CT2 is required to ensure ongoing plant stability. The necessary tuning and testing requires the plant and the associated turbines to fire under normal operating loads; therefore, REP has requested that the variance encompass normal operating schedules to the extent that they are needed.

PROBLEM

During commissioning of the new steam turbine, REP experienced an upset/breakdown characterized by unanticipated emission control system tuning issues leading to emission exceedances from CT1 and CT2. While the upset/breakdown condition was identified and corrected,

REP plans to conduct further tuning and testing on the emission control systems of CT1 and CT2. As part of the tuning and testing process, there may be brief permit limit exceedances for NOx, CO, and ammonia emissions.

ESTIMATED EMISSIONS

At this time, it is not possible to quantify the expected emissions from the troubleshooting and testing of the combustion turbines and the associated air pollution control equipment; however, the emission exceedances are expected to be negligible.

DISCUSSION

Without this variance, the taking of property or closing of the business would be without a corresponding benefit in reducing air contaminants. The replacement of the new steam turbine generator was performed due to the catastrophic failure of the previous generator. The possible exceedances during this continued troubleshooting and tuning period are expected to be outweighed by the benefits of a power plant that is more efficient and reliable.

Curtailing operations is not an option. If called upon, REP's electrical generating equipment must be available to provide power to the citizens of the City of Roseville. During the period the Short Term Variance is in effect, the applicant will reduce emissions to the maximum extent feasible by monitoring NOx and CO emissions with the continuous monitoring system (CEMS). The company will provide the District with a written report of any excess emissions after the variance is closed.

The granting of a Short Term Variance will not result in a nuisance, a violation of Section 41700 of the California Health and Safety Code, or of Rule 205 of the Rules and Regulations of the Placer County Air Pollution Control District.

OPTIONS AVAILABLE

1. The hearing board may deny the petition for a Short Term Variance.
2. The hearing board may grant the variance as requested with the appropriate conditions.

STAFF RECOMMENDATION

This variance should only be granted during periods of tuning and testing of the emission control systems, including the ammonia injection valves. The variance should not be valid during routine operation that is after the completion of, or not a part of, the tuning and testing of the emission control systems.

Staff recommends approval of this Short Term Variance beginning June 15, 2018 with full compliance required by no later than September 13, 2018.

Attachment: Proposed Variance Order