

**Bay Area Air Quality Management District**

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**Permit Evaluation  
and  
Statement of Basis  
for  
RENEWAL  
of the**

**MAJOR FACILITY REVIEW PERMIT**

**for  
Gilroy Energy Center, LLC for the Riverview Energy Center  
Facility # B4512**

**Facility Address:**  
795 Minaker Road  
Antioch, CA 94509

**Mailing Address:**  
2425 Cordelia Road  
Fairfield, CA 94534

November 2017

**Application and Site Engineer:** Krishnan Balakrishnan

**Application:** 27726

## TABLE OF CONTENTS

A.	Background .....	3
B.	Facility Description .....	4
C.	Permit Content.....	5
I.	Standard Conditions .....	5
II.	Equipment .....	5
III.	Generally Applicable Requirements .....	6
IV.	Source-Specific Applicable Requirements.....	6
V.	Schedule of Compliance.....	15
VI.	Permit Conditions.....	15
VII.	Applicable Limits and Compliance Monitoring Requirements .....	16
VIII.	Test Methods .....	21
IX.	Permit Shield: .....	22
D.	Alternate Operating Scenarios.....	23
E.	Compliance Status .....	23
F.	Differences between the Application and the Proposed Permit .....	23
	APPENDIX A GLOSSARY .....	24

## Title V Statement of Basis

### A. Background

The Bay Area Air Quality Management District (BAAQMD or District) is proposing to renew the Title V Major Facility Review Permit for the Gilroy Energy Center, LLC for Riverview Energy Center (hereafter referred to as Riverview or REC), a natural gas-fired, simple-cycle power plant located in Contra Costa County, California. The plant is a “peaker” plant, meaning it operates only during periods of high power demand. It has been operating since 2003. (More details regarding the facility’s location, operation and permit history are provided below.) For easier identification, the District assigns each facility in the Bay Area a facility number that consists of a letter and a 4-digit number. This number is also used to identify this Title V permit. The facility number for the REC is **B4512**.

The Title V operating permit program arose out of Title V of the 1990 federal Clean Air Act Amendments (CAAA), which required the United States Environmental Protection Agency (EPA) to establish a national, federally enforceable operating program for certain significant stationary sources of pollution. Pursuant to the CAAA, the EPA adopted Title 40, Chapter 1, Part 70 of the Code of Federal Regulations (40 CFR Part 70), which required each state and local permitting authority, including the BAAQMD, to develop and submit for EPA approval a federally enforceable permit program. The District’s Title V permit program, which is set forth in District Regulation 2, Rule 6 (Major Facility Review), satisfies the requirements of 40 CFR Part 70 and has been approved by the EPA.

A major goal of the Title V permit program is to consolidate all of the permitted facility’s “applicable requirements” into one document to ensure that the facility understands all of its air quality obligations under District regulations, state law and the federal Clean Air Act. (The term “applicable requirements” is defined in BAAQMD Rule 2-6-202.) The Title V permit also serves the important purposes of informing the public about the emissions, monitoring, recordkeeping, and reporting requirements imposed on sources and allowing public participation in the permitting process.

The Riverview Energy Center is required to have a Title V permit because it is a Phase II Acid Rain facility as defined by BAAQMD Regulation 2-6-217. It is an Acid Rain facility because it burns fossil fuel, serves a generator with a capacity over 25 MW that is used to generate electricity for sale, and was built after November 15, 1990. It is not a “major facility” as defined by BAAQMD Regulation 2-6-212.

In addition to the requirements of Title V, Phase II Acid Rain facilities must meet the requirements of Title IV of the federal Clean Air Act (Acid Rain), and the corresponding Acid Rain regulations in Parts 72 through 78 of Volume 40 of the Code of Federal Regulations. These regulations were adopted by the District and incorporated by reference into BAAQMD Regulation 2, Rule 7 (Acid Rain). The main provisions of the regulations that apply to facilities such as REC are the requirement to obtain one SO<sub>2</sub> allowance for each ton of SO<sub>2</sub> that is emitted, stringent monitoring requirements for NO<sub>x</sub>, CO, CO<sub>2</sub> or O<sub>2</sub>, and SO<sub>2</sub>, and stringent recordkeeping and reporting requirements.

## Title V Permitting History

(Table II-A, Table II-B and Section VI of the renewed permit contain the sources, abatement devices and permit conditions referenced in the following discussion.)

### *Initial Title V Permit (2003):*

The District issued the initial Title V permit to REC on July 22, 2003, for source, S-1, and abatement devices, A-1 and A-2.

### *Significant Revision and Administrative Amendments (2006):*

On August 10, 2006, the District issued a significant revision and an administrative amendment to the permit per Application #10569, to change permit condition #20010: (1) to allow for a source test every 8,000 hours of turbine operation or every 3 years, whichever occurs first; (2) to allow for ammonia slip calculation and correction factor to be determined by source test; and (3) to increase the daily NO<sub>x</sub> and CO mass emission limits. The administrative changes were: (1) to change the facility name from “Riverview Energy Center, LLC” to “Gilroy Energy Center, LLC for Riverview Energy Center”; (2) to modify the definition of “hour” to reflect the facility’s operation of continuous emissions monitors by clock hours; and (3) to delete Parts 1 through 10 of condition ID# 20010, which applied to the commissioning period of the gas turbine, since the commissioning period had passed.

### *Application for Title V Permit Renewal (2007):*

Gilroy Energy Center, LLC submitted an application 17184 on December 28, 2007 for renewal of their Title V permit. On July 22, 2011, the District issued the Title V permit renewal.

### *Application for Title V Permit Renewal (2016):*

Gilroy Energy Center, LLC submitted an application 27726 on January 20, 2016 for renewal of their Title V permit. Although the current permit expired on July 22, 2016, it continues in force until the District takes final action on the permit renewal.

## **B. Facility Description**

REC is a peaking power plant located in Antioch, California. The facility consists of one simple-cycle gas-fired combustion turbine, which provides power, and transmission and distribution support to the electric grid during periods of high electricity demand.

Emissions from the facility are primarily combustion emissions (NO<sub>x</sub>, CO, PM<sub>10</sub>, SO<sub>2</sub>, VOC, and an insignificant amount of Hazardous Air Pollutants [HAPs]). There has been no significant change in emissions since the issuance of the last Title V permit renewal.

Following is a description of the sources at the facility:

- S-1 Combustion Gas Turbine with Water Injection, General Electric LM6000 PC Sprint, natural gas fired, 49.9 MW net simple-cycle, 500 MMBtu/hr maximum heat**

**input rating; abated by A-1 Oxidation Catalyst, and A-2 Selective Catalytic Reduction System.**

**S-2 Cooling Tower, Marley, Model NC8312HL2, 4,160 GPM (Exempt)**

**C. Permit Content**

The legal and factual basis for the permit follows. The permit sections are described in the order that they are presented in the permit. Changes to the standard permit text will be made since the last Title V Permit renewal for this site was issued. These changes are reflected in the new proposed permit in strikeout/underline format.

**I. Standard Conditions**

Section I of the Title V permit contains administrative requirements and conditions that apply to all facilities. This section also contains standard conditions I.L and I.K since this facility must comply with the Title IV (Acid Rain) requirements of 40 CFR Part 72 and the accidental release requirements of 40 CFR Part 68, respectively. Many of these conditions derive from 40 CFR § 70.6, Permit Content, which dictates certain standard conditions that must be placed in the permit. The language that the District has developed for many of these requirements has been adopted into the BAAQMD Manual of Procedures, Volume II, Part 3, Section 4, and therefore must appear in the permit.

The standard conditions also contain references to BAAQMD Regulation 1 and Regulation 2. These are the District's General Provisions and Permitting rules.

Standard conditions will be updated to reflect current regulation adoption dates and new regulations that have been adopted since the original Title V permit was issued.

Changes to permit:

- The dates of adoption have been updated to reflect current regulation adoption dates.
- The compliance certification period dates have been changed at the request of the facility for consistency between permits issued by the District to Gilroy – Wolfskill Energy Center and Lambie Energy Center.

**II. Equipment**

Section II of the Title V permit lists all permitted or significant sources and all abatement (control) devices that control emissions from permitted or significant sources. This section is considered to be part of the facility description. It contains information that is necessary for applicability determinations, such as fuel types and contents or sizes of tanks. This information forms part of the factual basis of the Title V permit.

Permitted sources are those sources that require a BAAQMD operating permit pursuant to BAAQMD Rule 2-1-302, whereas significant sources are sources that are exempt from District permit requirements but have the potential to emit significant sources of pollution (more than

2 tons per year of a “regulated air pollutant,” as defined in BAAQMD Rule 2-6-222, or 400 pounds per year of a “hazardous air pollutant,” as defined in BAAQMD Rule 2-6-210). Each source is identified by an S and a number (e.g., S-1). The Riverview Energy Center consists of one permitted source (S-1, Natural Gas Fired Combustion Gas Turbine) and one unpermitted but significant source (S-2, Cooling Tower). The permitted source is listed in Table II A. By definition, it has previously been issued a District permit to operate pursuant to the requirements of BAAQMD Regulation 2 (Permits). District permits to operate are issued in accordance with state law and the District’s regulations. The capacity listed in Table II A is the maximum allowable capacities for each source, pursuant to Standard Condition I.J and BAAQMD Regulation 2-1-403.

Abatement devices are devices that control emissions from a source. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A-24). An abatement device may also be a source (such as a thermal oxidizer that burns fuel) of secondary emissions. If the primary function of a device is to control emissions, it is considered an abatement (or “A”) device. If the primary function of a device is a non-control function, the device is considered to be a source (or “S”). REC has two abatement devices (A-1, Oxidation Catalyst and A-2, Selective Catalytic Reduction) that control emissions from the facility’s gas turbine (S-1). The abatement devices are listed in Table II B.

There are no differences between the equipment list in the permit and the equipment list in the last Title V permit renewal application.

Changes to permit:

- The phrase “or dry low NOx combustors” was deleted from the source description for S-1 in Table II A because the gas turbine is equipped with water injection

### **III. Generally Applicable Requirements**

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District permit.

This table will be updated to reflect current regulation adoption dates and new regulations that have been adopted since the last Title V permit renewal was issued.

Changes to Permit:

- Table III has been updated to reflect current regulation adoption dates.
- For consistency between permits issued by the District to Gilroy – Wolfskill Energy Center and Lambie Energy Center, a standard language paragraph was added regarding unpermitted sources and for portable equipment covered by ARB registration.

### **IV. Source-Specific Applicable Requirements**

Section IV of the Title V permit contains tables (Tables IV-A and -B) that identify the bases of all of the applicable requirements that apply to this facility’s permitted (S-1) and unpermitted but significant (S-2) sources. These applicable requirements are imposed on the facility by District,

state and federal regulations and/or specific permit conditions. Applicable requirements include monitoring requirements (monitoring is discussed in further detail in Section C.VII of this permit evaluation and statement of basis).

Tables IV-A through IV-C provide only citations to rules, regulations and permit conditions. Where the applicable requirement derives from a District or federal regulation, the full text of the regulation can be found on the District or EPA websites. Alternatively, if the applicable requirement derives from a permit condition, all of the permit conditions that apply to this facility are reproduced in full in Section VI of the Title V permit.

In the tables, the citations are listed in the following order:

- District Rules
- SIP Rules (if any) are listed following the corresponding District rules. SIP rules are District rules that will be approved by EPA for inclusion in the California State Implementation Plan. SIP rules are “federally enforceable” and a “Y” (yes) indication will appear in the “Federally Enforceable” column. If the SIP rule is the current District rule, separate citation of the SIP rule is not necessary and the “Federally Enforceable” column will have a “Y” for “yes”. If the SIP rule is not the current District rule, the SIP rule or the necessary portion of the SIP rule is cited separately after the District rule. The SIP portion will be federally enforceable; the non-SIP version will not be federally enforceable, unless EPA has approved it through another program.
- Other District requirements, such as the Manual of Procedures, as appropriate.
- Federal requirements (other than SIP provisions)
- BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.
- Federal permit conditions. The text of Federal permit conditions, if any, is found in Section VI of the permit.

Section IV of the permit contains citations to all the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District’s or EPA’s websites, or in the permit conditions, which are found in Section VI of the permit. All monitoring requirements are cited in Section IV. Section VII is a cross-reference between the limits and monitoring requirements. A discussion of monitoring is included in Section C.VII of this permit evaluation/statement of basis.

Changes to permit:

- Table IV-A was updated to reflect current regulation adoption dates.
- Subpart GG 60.333(a) and (b) (Standard for Sulfur Dioxide) have been added to Table IV-A.
- Deleted parts of BAAQMD Condition #20010 have been listed.

***Complex Applicability Determinations***

**New Source Performance Standards (NSPS):**

Source S-1, the gas turbine, is subject to the “General Provisions” requirements in 40 CFR 60, Subpart A, which provides the general regulatory framework for NSPS regulations. The gas turbine is also subject to the NO<sub>x</sub> and SO<sub>2</sub> requirements contained in 40 CFR 60, Subpart GG

“Standards of Performance for Stationary Gas Turbines”, because the turbine was constructed after October 3, 1977 and the heat input at peak load of the turbine is greater than 10 MMBTU/hr.

**National Emission Standards for Hazardous Air Pollutants (NESHAPs):**

The REC facility does not emit nor has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAPs at a rate of 25 tons (22.68 megagrams) or more per year. Therefore, the facility is not subject to the 40 CFR 63 Maximum Achievable Control Technology (MACT) standards for combustion turbines, which were promulgated on March 5, 2004. Please refer to Table A for HAP emissions from REC’s gas turbine, S-1.

**Table A**  
HAP Emissions from REC Gas Turbine S-1

Pollutant	Emission Factor (lb/MMBTU)	Annual Emissions (lb/year)	Annual Emissions (TPY)
1,3-Butadiene	4.30E-07	1.88E+00	9.0E-04
Acetaldehyde	4.00E-05	1.75E+02	8.75E-02
Acrolein	6.40E-06	2.80E+01	1.4E-02
Benzene	1.20E-05	5.25E+01	2.63E-02
Ethylbenzene	3.20E-05	1.40E+02	7.0E-02
Formaldehyde	7.10E-04	3.13E+03	1.57E+00
Napthalene	1.30E-06	5.69E+00	2.8E-03
PAH	2.20E-06	9.64E+00	4.8E-03
Propylene Oxide	2.90E-05	1.27E+02	6.35E-02
Toluene	1.30E-04	5.69E+02	2.85E-01
Xylenes	6.40E-05	2.80E+02	1.4E-01
<b>Total</b>			<b>2.265</b>

Note: Emission factors taken from AP-42, Table 3.1.3, Version 2000

**Acid Rain:**

The REC facility meets the criteria for a Phase II<sup>1</sup> Acid Rain Facility per the definition in Section 217 of District Regulation 2-6, “Major Facility Review”. Specifically, REC is a peaking unit that exclusively combusts natural gas, was installed after November 15, 1990, and is used to generate electricity for sale. The peaking unit at the facility is subject to the requirements of Title IV of the federal Clean Air Act outlined in 40 CFR Part 72 “Acid Rain Program” and 40 CFR Part 75 “Continuous Emission Monitoring”. District Regulation 2, Rule 7, “Acid Rain,” incorporates by reference the provisions of 40 CFR Part 72 and the District administers the Acid Rain program through its Title V Operating Permit program.

<sup>1</sup> Acid Rain Program period beginning January 1, 2000, and continuing into the future thereafter.

The facility continues to meet 72.9 Standard Requirements which requires the submission of a complete acid rain permit application, the possession of a valid acid rain permit, meeting the monitoring requirements of part 75, and holding sufficient allowances, and comply with the acid rain SO<sub>2</sub> limit. The facility must hold sufficient SO<sub>2</sub> allowances by March 1 (February 29 of a leap year) of every year to offset each ton of SO<sub>2</sub> emitted for the previous calendar year. The facility is expected to comply with the excess emissions, recordkeeping and reporting requirements in 72.9(e) and 72.9(f).

Part 72, Subpart C, contains requirements for acid rain permit applications and compliance plans. The facility is expected to continue to meet these requirements.

Part 72, Subpart E, contains the requirements for the acid rain permit which must include all elements of a complete acid rain application.

### **40 CFR Part 75, Continuous Emission Monitoring**

Part 75, Subpart A, contains the applicability criteria, compliance dates, and prohibitions. The emissions units at the facility are subject to Part 72 and are therefore subject to Part 75. The NO<sub>x</sub> monitoring is subject to part 75 per 75.2(c). The facility is expected to continue to meet the compliance dates and prohibitions contained in part 75 Subpart A.

Part 75, Subpart B, contains specific monitoring provisions for each pollutant subject to part 75. The emissions units at this facility are required to meet the SO<sub>2</sub>, NO<sub>x</sub>, CO<sub>2</sub> monitoring requirements contained in 75.10(a)(1), 75.10(a)(2), 75.10(a)(3). Opacity monitoring under 75.10(a)(4) is not required for gas fired units in accordance with 75.14(c). 75.10(b) requires each CEM to meet equipment, installation, and performance specification in part 75 Appendix A and quality assurance/quality control in Appendix B. 75.10(c) requires heat input rate monitoring to meet requirements contained in part 75 Appendix F. The facility is expected to continue to comply with the requirements contained in 75.10(b) and (c).

75.10(d) contains primary equipment hourly operating requirements that require the CEM to monitor emissions when the emissions unit combusts fuel except as specified in 75.11(e) and during periods of calibration, quality assurance, or preventive maintenance, performed pursuant to §75.21 and appendix B of this part, periods of repair, periods of backups of data from the data acquisition and handling system, or recertification performed pursuant to §75.20. This section also contains requirements for calculating hourly averages from four 15-minute periods and validity of data and data substitution. Emission concentrations for a given hour are not considered valid unless it is based on four valid measurements. The data substitution requirements are contained in Subpart D. The facility is expected to continue to comply with the requirements contained in 75.10(d). 75.10(f) specifies minimum measurement capability requirement for CEMs and 75.10(g) contains the minimum recordkeeping and reporting requirements. The facility is expected to continue to meet 75.10(f) and (g).

75.11 contains specific provisions for SO<sub>2</sub> monitoring. 75.11(d)(2) allows the use of Appendix D to monitor SO<sub>2</sub> emissions from gas fired units. The facility monitors sulfur content of the natural gas to meet Part 75 SO<sub>2</sub> monitoring requirements.

75.12 contains specific provisions for NO<sub>x</sub> emission rates. The facility uses a NO<sub>x</sub> CEM and an O<sub>2</sub> monitor to meet this requirement.

75.13 contains CO<sub>2</sub> monitoring requirements. The facility monitors CO<sub>2</sub> in accordance with this section using the procedures in part 75 Appendix G.

75.14 contains opacity monitoring requirements. The facility is exempt from opacity monitoring under part 75 per 75.14(c).

Part 75 Subpart C contains operation and maintenance requirements including certification and recertification of the CEMs, quality assurance/quality control requirements, reference test methods, and out-of-control periods and adjustment for system bias. The facility is expected to continue to meet these requirements.

Part 75, Subpart D (75.30 through 75.36) contains Missing Data Substitution Procedures for SO<sub>2</sub>, NO<sub>x</sub>, flowrate, CO<sub>2</sub>, and heat input procedures. The facility is expected to continue to meet these requirements.

Part 75, Subpart F contains the recordkeeping requirements including the contents of a part 75 monitoring plan. This subpart requires the facility to record the operating time, heat input rate, and load for each emissions unit. Additionally, the facility must record emissions data for SO<sub>2</sub>, NO<sub>x</sub>, CO<sub>2</sub>, and O<sub>2</sub> along with quality assurance/quality control information.

Part 75, Subpart G contains the reporting requirements for affected facilities subject to part 75. The facility is expected to continue to meet these requirements.

#### **40 CFR Part 98, Mandatory Greenhouse Gas Reporting**

The facility is expected to meet the federal greenhouse gas reporting requirements.

#### **Title 17 California Code of Regulations, Subchapter 10, Article 2**

The facility is expected to meet the state greenhouse gas reporting requirements.

#### **Protection of Stratospheric Ozone:**

The Thermal Energy Storage System at the facility uses a refrigeration unit to make ice in the off-peak hours when electric prices are low. During peak price hours, the ice is used, via a chilled water loop, to cool the inlet air. The requirements of 40 CFR 82 “Protection of Stratospheric Ozone” apply to the refrigerants used in cooling systems, and will be incorporated in Table III of the Title V (“Generally Applicable Requirements”).

#### **40 CFR Part 64 Compliance Assurance Monitoring (CAM):**

A pollutant-specific emissions unit (unit) at a major source that is required to obtain a part 70 (state operating permit) or part 71 (federal operating permit) is subject to CAM if it satisfies all of the following criteria outlined in 40 CFR 64 (a)(1) through (a)(3):

- The unit is subject to an emission limit/standard for the applicable regulated air pollutant; and
- The unit uses a control device to achieve compliance with any such emission limitation or standard; and
- The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100% of the amount, in tons per year, required for a source to be classified as a major source.

The gas turbine, S-1, is subject to the Acid Rain Program requirements for NO<sub>x</sub>, and therefore is exempt from CAM with respect to NO<sub>x</sub> per 40 CFR 64.2(b)(1)(iii)

CO emissions from the gas turbine, S-1, are abated by an oxidation catalyst, A-1. The CO emissions from the turbine are continuously monitored through CO CEMS to demonstrate compliance with the federally enforceable limit specified in permit condition #20010, part 18.c. The CO emissions from the gas turbine exceed 100 tons per year, prior to abatement by A-1. Per 40 CFR 64.2(a), an emission unit is subject to 40 CFR 64, Compliance Assurance Monitoring, if the unit is subject to a federally enforceable requirement for a pollutant, the pollutant is controlled by an abatement device, and the emissions of the pollutant before abatement are more than 100% of the major source thresholds. The CO emissions from the gas turbine are therefore subject to CAM requirements.

The CO CEM meets the requirement of 40 CFR 64.3(a)(1) to obtain data by directly measuring CO concentrations instead of an indicator of emissions. The monitoring meets 64.3(a)(2) which requires the owner/operator to establish an appropriate range to provide a reasonable assurance of ongoing compliance. The CO CEMs are registered with the District and are subject to Volume V of the District Manual of Procedures. The District source test section reviewed the installation of the CO CEMs including the range of the monitor. The CO CEMs meet the requirements of 64.3(a)(3)(i) by measuring the pollutant directly and not relying on an indicator.

The CO CEM meets the requirement of Section 64.3(b)(1) to obtain representative data because the CO CEM is registered with the District and is subject to Volume V of the District Manual of Procedures. The District source test section has reviewed the installation of the CO CEM to ensure that the CO concentration data is representative of actual CO emissions.

The CO CEM meets 64.3(b)(2) since the District source test section approved the initial installation of the monitors and because the facility follows the District's verification procedures in the District Manual of Procedures. The facility meets the quality assurance requirements in 64.3(b)(3) by meeting Title V of the District Manual of Procedures and by having the District source test section review the CO CEM data on a monthly basis.

The CO CEM meets 64.3(b)(4) by measuring the CO concentration at the exhaust stack at least once every fifteen minutes (excluding normal calibration periods) as required by Condition No. 20100, part 23. The CO concentration measurements are averaged over any rolling 3-hour period (part 18). This frequency agrees with the 64.3(b)(4)(ii) requirement that the owner/operator collect four or more values equally spaced over each hour. The CO monitoring frequency of measuring once every fifteen minutes is adequate to characterize any variability due to the oxidation catalyst. The facility uses a computerized data acquisition system to record the CO concentration data.

The CO CEM measures the CO concentration at the exhaust stack directly and meet the requirement of 64.3(c). The CO CEM monitoring accounts for process and control device operational variability and documents the actual CO emissions relative to the permit limit.

64.3(d)(1) requires the owner/operator to use a CEM required by the Act, state or local law to satisfy the requirements of part 64. 64.3(d)(2)(vi) states that a CEM that satisfies monitoring requirements and specifications established by the permitting authority shall be deemed to satisfy the general design criteria specified in 64.3(a) and (b).

64.3(d)(3)(i) requires the owner/operator to design the monitoring system subject to 64.3(d) to report exceedances consistent with any period in an underlying requirement. The data acquisition and handling for the CO CEM allows the owner/operator to meet 64.3(d)(3)(i).

64.4(a) requires the owner/operator to submit to the permitting authority monitoring that satisfies the design requirements of 64.3. The CO CEM meets 64.4(a)(1) through (4) since the units directly measure CO concentration, are registered with the District, and are subject to Volume V of the District Manual of Procedures. The District source test section reviewed the installation of the CO CEM to ensure that the CO concentration data is representative. The review included CO monitor ranges. The monitors meet the performance criteria in 64.3(b) since these monitors meet 64.3(d)(2)(vi) which allows the permitting authority to establish monitoring requirements and specifications.

64.4(b) requires the owner/operator to submit a justification for the proposed elements of the monitoring. If the owner/operator relies on a presumptively acceptable monitoring no further justification for the appropriateness of the monitoring should be necessary other than an explanation of the applicability of such monitoring to the unit in question. The use of a CEM is considered presumptively acceptable in accordance with 64.4(b)(2).

64.4(c)(1) requires the owner/operator to collect process and control device data during compliance or performance testing when the facility is justifying or establishing the use of an indicator of emission subject to part 64. 64.4(c)(2) requires the owner/operator must document that no changes to the emissions unit and control device that could result in a significant change in control system performance or the selected ranges or designated conditions for the indicators to be monitored since the performance or compliance tests were conducted. The CO CEM measure emissions directly and meet the requirements contained in 64.4(c)(1) and (2). Any changes to the emissions unit or control device and the associated impact on CO emissions is quantified on a continuous basis.

64.5(a) requires the owner/operator to submit information required under 64.4 with the initial Title V permit application (submitted on May 11, 2001). The facility has not submitted a document specifically addressing the information under 64.4, but the CO CEM monitoring information meeting 64.4 was submitted to the District source test section. The installation and operation of the CO CEM has been approved by the District source test section. The use of a CEM is considered presumptively acceptable in accordance with 64.4(b)(2).

64.6(c) requires the permitting authority to establish permit terms and conditions that specify the required monitoring in accordance with 70.6(a)(3)(i) of this chapter. According to 64.6(c)(1) at a

minimum, the permit shall specify: the approved monitoring approach, indicators to be monitored, means or device used to measure the indicators, the performance requirements established by 64.3(b) or (d) as applicable.

Condition No. 20010 specifies that the CO emissions are monitored with continuous monitors in Part 23(c). Part 23(c) also specifies that the CEM must comply with the requirements of 40 CFR Part 60, Appendices B and F, and 40 CFR Part 75. This condition satisfies the requirements of 64.6(c)(1).

64.6(c)(2) specifies the means by which the owner/operator will define an exceedance or excursion for the purposes of reporting exceedances or excursions under 64.7 and 64.8. The permit shall specify the level at which an exceedance or excursion will be deemed to occur, including the appropriate averaging period. Condition 20010, part 18(c), specifies an emission limit for CO in ppm corrected to 15% oxygen averaged over any rolling 3-hour period. Condition 20010, part 21 specifies a mass emission limit for CO in pounds per day and tons per year. Compliance with these limits is demonstrated with the CO CEM, O<sub>2</sub> monitor, and fuel usage monitoring required by part 23. Part 31 requires the owner/operator to submit written quarterly reports to the Compliance and Enforcement Division detailing emission excesses, corrective actions taken, and CEM downtime.

64.6(c)(3) requires the owner/operator to conduct monitoring and other obligations as required in 64.7 and 64.9. The facility is required to monitor CO concentrations from the affected emission units by Condition No. 20010, part 23. The facility has measured CO emissions using District approved CEMs from the two affected emissions units since the start of commercial operation (2003). The facility continues to submit monthly CEM summary reports to the District's source test section. The facility continues to operate the CO CEMs in accordance with District requirements and meets District recordkeeping and reporting requirements.

64.6(c)(4) discusses minimum data availability for an given averaging period or for averaging periods for a specific reporting period. Volume V of the District's Manual of Procedures requires the facility to notify the District if one of the CO CEMs is down for over 24 hours and to report any malfunctions on a monthly basis. Downtime in excess of 15 consecutive days may be deemed a failure to monitor unless if adequate proof of expeditious repair is not furnished to the APCO.

64.7(a) requires the owner/operator to conduct monitoring required by part 64 upon issuance of the part 70 or 71 operating permit or by such later date specified in the permit pursuant to 64.6(d). According to 64.6(d) the part 70 permit shall include an enforceable schedule with appropriate milestones for completing such installation, testing, of final verification. The District permit condition 20010, which is part of the part 70 permit, required initial monitoring for CO with a CEM during the commissioning period prior to completing the commissioning period the monitors were required to be certified in accordance with Volume V of the District Manual of Procedures. The facility has operated the CO CEMs in accordance with the Manual of Procedures since that time.

64.7(b) requires the owner/operator to maintain the monitoring equipment at all times. Volume V of the District's Manual of Procedures requires that all monitoring systems shall be maintained

in a good state of repair. At the discretion of the APCO, either complete performance specification tests or field accuracy tests may be required after repairs have been made.

64.7(c) requires the owner/operator to conduct monitoring at all times that the emissions unit is operating excluding monitoring malfunctions, associated repairs, and required quality assurance or control activities. Volume V of the District's Manual of Procedures requires the facility to notify the District if one of the CO CEM is down for over 24 hours and to report any malfunctions on a monthly basis. Downtime in excess of 15 consecutive days may be deemed a failure to monitor unless if adequate proof of expeditious repair is not furnished to the APCO.

64.7(d) requires the owner/operator to restore operation of the specific emissions unit including the control device to its normal manner of operation as expeditiously as practicable to minimize emissions. The facility is required to promptly report deviations from Title V permit requirements and identify the appropriate corrective action.

64.7(e) requires the owner/operator to notify the permitting authority and if necessary submit a proposed modification to the monitoring program if a failure to achieve compliance with an emission limitation or standard is identified while providing valid data for an indicator. The facility measures CO concentration from the affected emissions units directly and it is unlikely that the owner/operator would need to document a need for improved monitoring.

64.8 allows the Administrator or permitting authority to require a facility subject to part 64 to develop and implement a Quality Improvement Plan. The facility continues to comply with Volume V of the District's Manual of Procedures for CEMs and this document contains sufficient quality assurance and quality control requirements.

64.9 describes the recordkeeping and reporting requirements required to meet part 64. The facility submits monthly CEM summaries to the District source test section. The facility is required to submit semiannual compliance certifications in accordance with the Title V permit. The facility is required to promptly report deviations from Title V permit requirements and identify the appropriate corrective action.

64.10 states that compliance with part 64 does not excuse the owner/operator from complying with other applicable requirements, prevent the permitting authority from imposing additional monitoring requirements, and/or restrict the Administrator or permitting authority from taking enforcement action. The facility is subject to this requirement and no additional permit conditions are required.

**Risk Management Plan (RMP):**

REC's Selective Catalytic Reduction (SCR) system, A-2, abates emissions from the gas turbine, S-1. The SCR process works by injecting a 19% aqueous ammonia solution (concentration of aqueous ammonia solution is the value used by the facility and was assumed in the calculations under Application No. 6964) into the turbine exhaust gas, in the presence of a catalyst. The ammonia reacts with the NOx emissions in the turbine exhaust gas to form nitrogen and water.

The storage and transport of ammonia used in the SCR is subject to 40 CFR 68 "Chemical Accident Prevention Provisions", Subpart G "Risk Management Plan". 40 CFR 68, Subpart G

and standard condition I.K. “Accidental Release” in the Title V permit require facilities such as Riverview to maintain and implement a RMP to prevent accidental releases. The RMP provides information on the hazards of the substance handled at the facility and the programs in place to prevent and respond to accidental releases. Although ammonia is toxic if swallowed or inhaled and can irritate or burn the skin, eyes, nose, or throat, it is a commonly used material that is typically handled safely and without incident. The accident prevention and emergency response requirements reflect existing safety regulations and sound industry safety codes and standards.

Changes to permit:

- No changes will be made to this part of the permit.

**V. Schedule of Compliance**

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10 which provides that a major facility review permit shall contain the following information and provisions:

“409.10 A schedule of compliance containing the following elements:

- 10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;
- 10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and
- 10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.”

Since the District has not determined that the facility is out of compliance with any applicable requirement, the schedule of compliance for this permit contains only sections 2-6-409.10.1 and 2-6-409.10.2.

Changes to permit:

- No changes will be made to this part of the permit.

**VI. Permit Conditions**

During the Title V permit development, the District has reviewed the existing permit conditions, deleted the obsolete conditions, and, as appropriate, revised the conditions for clarity and enforceability. Each permit condition is identified with a unique numerical identifier, up to five digits.

When necessary to meet Title V requirements, additional monitoring, recordkeeping, or reporting has been added to the permit.

All changes to existing permit conditions are clearly shown in “strike-out/underline” format in the proposed permit. When the permit is issued, all “strike-out” language will be deleted and all “underline” language will be retained, subject to consideration of comments received.

The existing permit conditions are derived from previously issued District Authorities to Construct (A/C) or Permits to Operate (P/O). Permit conditions may also be imposed or revised as part of the annual review of the facility by the District pursuant to California Health and Safety Code (H&SC) § 42301(e), through a variance pursuant to H&SC § 42350 *et seq.*, an order of abatement pursuant to H&SC § 42450 *et seq.*, or as an administrative revision initiated by District staff. After issuance of the Title V permit, permit conditions will be revised using the procedures in Regulation 2, Rule 6, Major Facility Review.

Conditions have also been deleted due to the following:

- The event has already occurred (i.e. initial or start-up source tests).

The regulatory basis is listed following each condition. The regulatory basis may be a rule or regulation. The District is also using the following terms for regulatory basis:

- **BACT:** This term is used for a condition imposed by the Air Pollution Control Officer (APCO) to ensure compliance with the Best Available Control Technology in Regulation 2-2-301.
- **Cumulative Increase:** This term is used for a condition imposed by the APCO which limits a source’s operation to the operation described in the permit application pursuant to BAAQMD Regulation 2-1-403.
- **Offsets:** This term is used for a condition imposed by the APCO to ensure compliance with the use of offsets for the permitting of a source or with the banking of emissions from a source pursuant to Regulation 2, Rules 2 and 4.
- **PSD:** This term is used for a condition imposed by the APCO to ensure compliance with a Prevention of Significant Deterioration permit issued pursuant to Regulation 2, Rule 2.
- **TRMP:** This term is used for a condition imposed by the APCO to ensure compliance with limits that arise from the District’s Toxic Risk Management Policy.

Changes to permit:

- Added “Annual” definition to permit condition for consistency between permits issued by the District to Gilroy – Wolfskill Energy Center and Lambie Energy Center.
- Clarified the definition of “Clock Hour” at the facility’s request.
- Annual mass emission limits (in tons/year) in Part 21 of BAAQMD Condition #20010 updated based on the Significant Revision of the Title V Permit (Application No. 10569) issued on August 10, 2006.
- The language in Part 21 of BAAQMD Condition #20010 was modified at the request of the facility for consistency between permits issued by the District to Gilroy – Wolfskill Energy Center and Lambie Energy Center.

## **VII. Applicable Limits and Compliance Monitoring Requirements**

Section VII of the Title V permit is a summary of numerical limits and related monitoring requirements for each source. The summary includes a citation to each applicable monitoring

requirement, the frequency of monitoring required, and type of monitoring required. All applicable requirements for monitoring are also listed in Sections IV (Source-Specific Applicable Requirements) and VI (Permit Conditions) of the Title V permit.

As part of the development process for the proposed renewal permit, the District has reviewed all existing monitoring requirements and has determined that the existing requirements imposed on this facility are adequate to provide a reasonable assurance of compliance. Included in this review was a review of emissions limits that apply to this facility but that have no explicit monitoring requirements associated with them. The District has listed these emissions limits in the tables below and has provided an explanation following each table of the District's reasoning in concluding that adding monitoring is unnecessary. Where the District's decision rested on the size of a source, the District has provided calculations for the source's potential to emit.

Monitoring decisions are typically the result of a balancing of several different factors including: 1) the likelihood of a violation given the characteristics of normal operation, 2) degree of variability in the operation and in the control device, if there is one, 3) the potential severity of the impact of an undetected violation, 4) the technical feasibility and probative value of indicator monitoring, 5) the economic feasibility of indicator monitoring, and 6) whether there is some other factor, such as a different regulatory restriction applicable to the same operation, that also provides some assurance of compliance with the limit in question.

Although Title V calls for a re-examination of all monitoring prior to the issuance of any Title V permit (including renewals), there is a presumption that these factors were appropriately balanced and incorporated in the District's prior rule development and/or permit issuance. It is possible that, where a rule or permit requirement has historically had no monitoring associated with it, no monitoring may still be appropriate in the Title V permit if, for instance, there is little likelihood of a violation. Compliance behavior and associated costs of compliance are determined in part by the frequency and nature of associated monitoring requirements. As a result, the District generally will revise the nature or frequency of monitoring only when it can support a conclusion that existing monitoring is inadequate for the purpose of determining compliance with the applicable requirement.

### SO<sub>2</sub> Sources

<b>S# &amp; Description</b>	<b>Emission Limit Citation</b>	<b>Federally Enforceable Emission Limit</b>	<b>Monitoring</b>
Simple Cycle Turbine: S-1	BAAQMD Regulation 9-1-301 and SIP Regulation 9-1-301	GLC <sup>1</sup> of 0.5 ppm for 3 min or 0.25 ppm for 60 min or 0.05 ppm for 24 hours	None
	BAAQMD Regulation 9-1-302 and SIP Regulation 9-1-302	300 ppm (dry)	Fuel sulfur analysis
	NSPS 40 CFR Subpart GG 60.333(a)	0.015% (vol.) @15% O <sub>2</sub> (dry)	Fuel sulfur analysis, calculations

<sup>1</sup> Ground level concentration

**SO2 Discussion:**

**Compliance with Regulation 9-1-301:**

(For source S-1)

BAAQMD Regulation 9-1-301 sets forth limitations on ground level concentrations of SO<sub>2</sub>. It provides, in pertinent part, that “[a] person shall not emit from sources other than ships, sulfur dioxide in quantities which result in [off-site] ground level concentrations in excess of 0.5 ppm continuously for 3 consecutive minutes or 0.25 ppm averaged over 60 consecutive minutes, or 0.05 ppm averaged over 24 hours.”

Per BAAQMD Regulation 9-1-501, area monitoring to demonstrate compliance with Regulation 9-1-301 is at the discretion of the APCO. As shown by the calculations below, the District has determined that this facility does not emit large quantities of SO<sub>2</sub>. Therefore, the facility will not be required by the APCO to have ground level monitoring.

SO<sub>2</sub> emissions from this facility are limited to the gas turbine, S-1. The maximum individual heat input rate of S-1 is 500 MMBTU/hr. The SO<sub>2</sub> emission rate in US EPA AP-42, Table 3.1-2a “Emission Factors for Criteria Pollutants and Greenhouse Gases From Stationary Gas Turbines”, April 2000, is 0.94\*S lb/MMBTU, where “S” is the percent sulfur in the fuel. US EPA AP-42 guidance recommends an emission factor of 3.4E-3 lb/MMBTU, when “S” is not available.

Based on a conservative assumption of a sulfur concentration of 1 grain/100 scf, sulfur dioxide emission factor of natural gas input is as follows:

$$\begin{aligned} &= (1 \text{ gr}/100 \text{ scf}) \times (\text{scf}/1050 \text{ BTU}) \times (1\text{E}6 \text{ BTU/MMBTU}) \times (1 \text{ lb}/7000 \text{ gr}) \times (64 \text{ lbs SO}_2/32 \text{ lbs S}) \\ &= 2.72\text{E-}3 \text{ lb/MMBTU} \end{aligned}$$

The SO<sub>2</sub> Emission Rate from S-1 is therefore the following:

$$\begin{aligned} &= (2.72\text{E-}3 \text{ lb/MMBTU})(500 \text{ MMBTU/hr}) \\ &= 1.36 \text{ lb/hr} \\ &= 32.64 \text{ lb/day} \\ &= 5.96 \text{ tons/year} \end{aligned}$$

**Compliance with Regulation 9-1-302:**

(For source S-1)

BAAQMD Regulation 9-1-302 contains a general emission limitation that prohibits gas streams containing more than 300 ppm SO<sub>2</sub>. In EPA’s June 24, 1999 agreement with CAPCOA and ARB entitled, “Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP”, EPA agreed that natural-gas-fired combustion sources such as S-1 do not need additional monitoring to verify compliance with Regulation 9, Rule 1, since the sulfur content of natural gas is very low. Therefore, no monitoring is necessary at S-1 to demonstrate compliance with the 300 ppm SO<sub>2</sub> limit in Regulation 9-1-302.

**Compliance with 40 CFR 60.333(a) in NSPS GG:**

(For source S-1)

Section 60.333(a) requires an owner/operator of stationary turbines to demonstrate compliance with either one of the following two conditions:

- Discharge SO<sub>2</sub> at less than or equal to 0.015% by volume at 15% oxygen on a dry basis  
or

- Combust fuel with sulfur content less than or equal to 0.8% by weight (8000 ppmw).

As previously discussed under the “Compliance with Regulation 9-1-301” section above, the sulfur concentration of the PUC-quality natural gas combusted in S-1 is unlikely to exceed 0.25 grains/100 scf. By conservatively assuming a sulfur concentration of 1 grain/100 scf, the resulting SO<sub>2</sub> concentration can be compared to the above-referenced conditions in Section 60.333(a) as follows:

Convert the sulfur emission factor i.e. 2.72E-3 lb/MMBTU, previously derived in the preceding “Compliance with Regulation 9-1-301” paragraph to obtain an SO<sub>2</sub> emission concentration as follows:

$$= (2.72E-3 \text{ lb/MMBTU}) \times (385.3 \text{ dscf/1 lbmol}) \times (1 \text{ lb-mol/64.06 lb SO}_2) (\text{MMBTU/8535 dscf})$$

$$= 1.92 \text{ ppmvd SO}_2 \text{ @ } 0\% \text{ O}_2$$

The above concentration is equivalent to:

$$(1.92 \text{ ppmvd}) (20.95-15/20.95-0) = 0.55 \text{ ppmv SO}_2, \text{ dry @ } 15\% \text{ O}_2$$

$$= 0.000055\% \text{ by volume at } 15\% \text{ O}_2 \text{ on a dry basis}$$

Accordingly, the fuel combusted at the stationary turbine complies with the first condition of NSPS GG. In addition, permit condition #20010 requires monitoring of the natural gas sulfur content. Therefore, no additional monitoring is necessary at the above source to demonstrate compliance with Section 60.333(a) in NSPS GG.

### PM Sources

<b>S# &amp; Description</b>	<b>Emission Limit Citation</b>	<b>Federally Enforceable Emission Limit</b>	<b>Monitoring</b>
Simple Cycle Turbine: S-1			
	SIP Regulation 6-301	≥ Ringelmann No. 1 for no more than 3 minutes in any hour	None
	BAAQMD condition #20010, part 18	≥ Ringelmann No. 1 for no more than 3 minutes in any hour or equivalent 20% opacity	None
	SIP Regulation 6-310	0.15 gr/dscf	None
Cooling Tower: S-2			
	SIP Regulation 6-301	≥ Ringelmann No. 1 for no more than 3 minutes in any hour	None
	SIP Regulation 6-310	0.15 gr/dscf	None

**PM Discussion:**

**Compliance with Regulation 6-1-301  
and Permit condition # 20010, Part 17**

(For source S-1)

BAAQMD Regulation 6-1-301 limits visible emissions to no darker than 1.0 on the Ringelmann Chart for periods or aggregate periods of more than 3 minutes in any hour. Visible emissions are normally not associated with combustion of gaseous fuels, such as natural gas. Source S-1 combusts natural gas exclusively. Therefore, per the EPA's June 24, 1999 agreement with CAPCOA and ARB entitled, "Summary of Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP", no monitoring is required to assure compliance with Regulation 6-1-301 for sources-1.

Similarly, no additional monitoring is required to demonstrate compliance with part 17 of permit condition #20010, which contains a Ringelmann 1.0 or equivalent 20% opacity limit for S-1 emissions.

**Compliance with Regulation 6-310:**

(For source S-1)

BAAQMD Regulation 6-1-310 limits filterable particulate (FP) emissions from any source to 0.15 grains per dry standard cubic foot (gr/dscf) of exhaust volume. Section 310.3 limits filterable particulate emissions from "heat transfer operations" to 0.15 gr/dscf @ 6% O<sub>2</sub>. This is a "grain loading" standard.

Exceedances of the grain loading standards are normally not associated with combustion of gaseous fuels, such as natural gas. Source S-1 exclusively combusts natural gas. Therefore, per the EPA's July 2001 agreement with CAPCOA and ARB entitled, "CAPCOA/CARB/EPA Region IX Recommended Periodic Monitoring for Generally Applicable Grain Loading Standards in the SIP: Combustion Sources: Summary of Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP", no monitoring is required to assure compliance with this limit for the above source.

**Compliance with Regulation 6 standards:**

(For S-2)

As discussed in the preceding paragraphs, BAAQMD Regulation 6-301 limits visible emissions to no darker than 1.0 on the Ringelmann Chart for periods or aggregate periods of more than 3 minutes in any hour. Particulate emissions from cooling towers come from dissolved solids in the cooling tower water and are therefore expected to be fairly constant and not subject to operational control.

BAAQMD Regulation 6-310 limits filterable particulate (FP) emissions from any source to 0.15 grains per dry standard cubic foot (gr/dscf) of exhaust volume. The worst-case grain loading from S-2 is calculated, per information provided in the cooling tower vendor data sheet, as follows:

Cooling water circulation rate	4,160 gpm
Drift rate	0.005%
Maximum total dissolved solids	10,000 ppm
Exhaust gas flow rate:	372,330 dscfm

Cooling tower drift:

$$(4,160 \text{ gal/min})(60 \text{ min/hr})(8.34 \text{ lb/gal})(0.00005) = 104.08 \text{ lb/hr}$$

$$\begin{aligned} \text{Max. PM}_{10} \text{ emission rate} &= (104.08 \text{ lb/hr})(10,000 \text{ ppm})/10^6 \\ &= 1.04 \text{ lb/hr} \end{aligned}$$

$$\begin{aligned} \text{Grain loading} &= (1.04 \text{ lb/hr})(\text{hr}/60 \text{ min})(7000 \text{ gr/lb})/(372,330 \text{ dscfm}) \\ &= 0.00032 \text{ gr/dscf} \end{aligned}$$

As demonstrated above, the worst-case grain loading rate from S-2 (0.00032 gr/dscf) is much lower than Regulation 6-310 limit of 0.15 gr/dscf. Since the grain loading is so low, the cooling tower is not expected to have visible emissions. Accordingly, the District has determined that periodic monitoring requirements to assure compliance with Regulations 6-301 and 6-310 for S-2 are not necessary.

**Changes to permit:**

- Where applicable, the monitoring frequency for NO<sub>x</sub>, CO, SO<sub>2</sub>, PM<sub>10</sub>, POC, NH<sub>3</sub>, heat input, exhaust gas temperature, stack gas flow rate, NH<sub>3</sub> injection rate, and MW limits were added to/updated in Table VII-A.
- The NO<sub>x</sub> limit based on NSPS, 40 CFR 60.332(a)(1) was corrected in Table VII-A.
- The language for monitoring type used for the NH<sub>3</sub> limit in BAAQMD Condition #20010, Part 18(b) was updated in Table VII-A.
- The monitoring requirement citation for the heat input limit in BAAQMD Condition #20010, part 22 was corrected in Table VII-A.
- The fuel sulfur content limit in 40 CFR 60.333(b) was added in Table VII-A.
- The particulate weight limits in SIP Regulation 6-311 and BAAQMD Regulation 6-1-311 were added to Table VII-B.

## **VIII. Test Methods**

This section of the permit lists test methods that are associated with standards in District or other rules. It is included only for reference. In most cases, the test methods in the rules are source test methods that can be used to determine compliance but are not required on an ongoing basis. They are not applicable requirements.

If a rule or permit condition requires ongoing testing, the requirement will also appear in Section IV of the permit.

### Changes to permit:

- The test methods for BAAQMD Regulations 6-311 and 9-9-301.2 were added.
- The test method for the POC limit in BAAQMD Condition #20010, part 18(d) was corrected.
- A statement was added in the first paragraph at the request of the facility for better clarification of the test methods that need to be used.

## **IX. Permit Shield**

The District rules allow two types of permit shields. The permit shield types are defined as follows: (1) A provision in a major facility review permit explaining that specific federally enforceable regulations and standards do not apply to a source or group of sources, or (2) A provision in a major facility review permit explaining that specific federally enforceable applicable requirements for monitoring, recordkeeping and/or reporting are subsumed because other applicable requirements for monitoring, recordkeeping, and reporting in the permit will assure compliance with all emission limits.

The second type of permit shield is allowed by EPA's White Paper 2 for Improved Implementation of the Part 70 Operating Permits Program. The District uses the second type of permit shield for all streamlining of monitoring, recordkeeping, and reporting requirements in Title V permits. The District's program does not allow other types of streamlining in Title V permits.

The initial Title V permit for REC contained both types of permit shields. First, Table X A-1 set out the federally enforceable regulations and standards that do not apply to certain sources. Here, BAAQMD Regulation 4 and SIP Regulation 4 do not apply to S-1, because the regulations apply only to facilities with a potential to emit more than 100 tons per year of any pollutant whereas REC's permit conditions limit the facility's potential to emit any pollutant to less than that level. This permit shield will remain intact in the proposed renewal permit.

Further, Table X B-1 in the initial permit contained the "Permit Shield for Subsumed Requirements" applicable to S-1. However, this permit shield was deleted from the last renewal permit. Previously, NSPS GG, 40 CFR 60.334(a), which required REC to monitor and record the fuel consumption and the ratio of water to fuel fired in S-1, were subsumed by BAAQMD permit condition #20010, part 24, which required REC to directly monitor NO<sub>x</sub> emissions with a CEM. In 2006, however, NSPS GG was amended to allow the use of a CEM to monitor NO<sub>x</sub> directly per 40 CFR 60.334(b), as an alternative to monitoring fuel use and water to fuel ratio as

a surrogate for NOx emissions. Therefore, the permit shield for 40 CFR 60.334(a) is no longer necessary and was deleted from the permit during the last renewal.

Changes to permit:

- No changes will be made to this part of the permit.

**D. Alternate Operating Scenarios**

No alternate operating scenario has been requested for this facility.

**E. Compliance Status**

The responsible official for Gilroy Energy Center, LLC for the Riverview Energy Center submitted a signed Certification Statement form dated July 31, 2017. On this form, the responsible official certified that the following four statements are true:

Based on information and belief formed after reasonable inquiry, the sources identified in the Applicable Requirements and Compliance Summary form that are in compliance will continue to comply with the applicable requirements;

Based on information and belief formed after reasonable inquiry, the sources identified in the Applicable Requirements and Compliance Summary form will comply with future-effective applicable requirements, on a timely basis;

Based on information and belief formed after reasonable inquiry, information on application forms, all accompanying reports, and other required certifications is true, accurate, and complete;

All fees required by Regulation 3, including Schedule P have been paid.

**F. Differences between the Application and the Proposed Permit**

The renewal Title V permit application was submitted by Gilroy Energy Center, LLC, on behalf of REC on January 22, 2016. That application is the basis for constructing the proposed Title V renewal permit. There are no significant differences between Gilroy's renewal application and the proposed permit.

**APPENDIX A**

**GLOSSARY**

**ACT**

Federal Clean Air Act

**APCO**

Air Pollution Control Officer

**API**

American Petroleum Institute

**ARB**

Air Resources Board

**BAAQMD**

Bay Area Air Quality Management District

**BACT**

Best Available Control Technology

**BARCT**

Best Available Retrofit Control Technology

**C5**

An Organic chemical compound with five carbon atoms

**C6**

An Organic chemical compound with six carbon atoms

**CAA**

The federal Clean Air Act

**CAAQS**

California Ambient Air Quality Standards

**CAPCOA**

California Air Pollution Control Officers Association

**CEC**

California Energy Commission

**CEQA**

California Environmental Quality Act

**CEM**

A "continuous emission monitor" is a monitoring device that provides a continuous direct measurement of some pollutant (e.g. NO<sub>x</sub> concentration) in an exhaust stream.

**CFR**

The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

**CO**

Carbon Monoxide

**CO2**

Carbon Dioxide

**Cumulative Increase**

The sum of permitted emissions from each new or modified source since a specified date pursuant to BAAQMD Rule 2-1-403, Permit Conditions (as amended by the District Board on 7/17/91) and SIP Rule 2-1-403, Permit Conditions (as approved by EPA on 6/23/95). Cumulative increase is used to determine whether threshold-based requirements are triggered

**District**

The Bay Area Air Quality Management District

**dscf**

Dry Standard Cubic Feet

**dscm**

Dry Standard Cubic Meter

**E 6, E 9, E 12**

Very large or very small number values are commonly expressed in a form called scientific notation, which consists of a decimal part multiplied by 10 raised to some power. For example, 4.53 E 6 equals  $(4.53) \times (10^6) = (4.53) \times (10 \times 10 \times 10 \times 10 \times 10 \times 10) = 4,530,000$ . Scientific notation is used to express large or small numbers without writing out long strings of zeros.

**EGT**

Exhaust Gas Temperature

**EPA**

The federal Environmental Protection Agency.

**Excluded**

Not subject to any District Regulations.

**Federally Enforceable, FE**

All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, subpart I (NSR), Part 52.21 (PSD), Part 60, (NSPS), Part 61, (NESHAPS), Part 63 (HAP), and Part 72 (Permits Regulation, Acid Rain), and also including limitations and conditions contained in operating permits issued under an EPA-approved program that has been incorporated into the SIP.

**FP**

Filterable Particulate as measured by BAAQMD Method ST-15, Particulate.

**FR**

Federal Register

**GDF**

Gasoline Dispensing Facility

**GLC**

Ground level concentration.

**GLM**

Ground Level Monitor

**grains**

1/7000 of a pound

**HAP**

Hazardous Air Pollutant. Any pollutant listed pursuant to Section 112(b) of the Act. Also refers to the program mandated by Title I, Section 112, of the Act and implemented by both 40 CFR Part 63, and District Regulation 2, Rule 5.

**H<sub>2</sub>S**

Hydrogen Sulfide

**HHV**

Higher Heating Value. The quantity of heat evolved as determined by a calorimeter where the combustion products are cooled to 60F and all water vapor is condensed to liquid.

**LHV**

Lower Heating Value. Similar to the higher heating value (see HHV) except that the water produced by the combustion is not condensed but retained as vapor at 60F.

**Major Facility**

A facility with potential emissions of regulated air pollutants greater than 100 tons per year, greater than or equal to 10 tons per year of any single hazardous air pollutant, and/or greater than or equal to 25 tons per year of any combination of hazardous air pollutants, or such lesser quantity as determined by the EPA administrator.

**MFR**

Major Facility Review. The District's term for the federal operating permit program mandated by Title V of the Act and implemented by District Regulation 2, Rule 6.

**MOP**

The District's Manual of Procedures.

**MSDS**

Material Safety Data Sheet

**MW**

Megawatts

**NA**

Not Applicable

**NAAQS**

National Ambient Air Quality Standards

**NESHAPS**

National Emission Standards for Hazardous Air Pollutants. Contained in 40 CFR Part 61.

**NMHC**

Non-methane Hydrocarbons

**NMOC**

Non-methane Organic Compounds (Same as NMHC)

**NO<sub>x</sub>**

Oxides of nitrogen.

**NSPS**

Standards of Performance for New Stationary Sources. Federal standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the Act, and implemented by both 40 CFR Part 60 and District Regulation 10.

**NSR**

New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the Federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

**O<sub>2</sub>**

The chemical name for naturally-occurring oxygen gas.

**Offset Requirement**

A New Source Review requirement to provide federally enforceable emission offsets at a specified ratio for the emissions from a new or modified source and any pre-existing cumulative increase minus any onsite contemporaneous emission reduction credits. Applies to emissions of POC, NO<sub>x</sub>, PM<sub>10</sub>, and SO<sub>2</sub>.

**Phase II Acid Rain Facility**

A facility that generates electricity for sale through fossil-fuel combustion and by virtue of certain other characteristics (defined in Regulation 2, Rule 6) is subject to Titles IV and V of the Clean Air Act.

**POC**

Precursor Organic Compounds

**PM**

Total Particulate Matter

**PM<sub>10</sub>**

Particulate matter with aerodynamic equivalent diameter of less than 10 microns

**PSD**

Prevention of Significant Deterioration. A federal program for permitting new and modified sources of air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

**SCR**

A "selective catalytic reduction" unit is an abatement device that reduces NO<sub>x</sub> concentrations in the exhaust stream of a combustion device. SCRs utilize a catalyst, which operates at a specific temperature range, and injected ammonia to promote the conversion of NO<sub>x</sub> compounds to nitrogen gas.

**SIP**

State Implementation Plan. State and District programs and regulations approved by EPA and developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the Act.

**SO<sub>2</sub>**

Sulfur dioxide

**SO<sub>2</sub> Bubble**

An SO<sub>2</sub> bubble is an overall cap on the SO<sub>2</sub> emissions from a defined group of sources, or from an entire facility. SO<sub>2</sub> bubbles are sometimes used at refineries because combustion sources are typically fired entirely or in part by "refinery fuel gas" (RFG), a waste gas product from refining operations. Thus, total SO<sub>2</sub> emissions may be conveniently quantified by monitoring the total amount of RFG that is consumed, and the concentration of H<sub>2</sub>S and other sulfur compounds in the RFG.

**SO<sub>3</sub>**

Sulfur trioxide

**THC**

Total Hydrocarbons (NMHC + Methane)

**therm**

100,000 British Thermal Unit

**Title V**

Title V of the federal Clean Air Act. Requires a federally enforceable operating permit program for major and certain other facilities.

**TOC**

Total Organic Compounds (NMOC + Methane, Same as THC)

**TRMP**

Toxic Risk Management Plan

**TSP**

Total Suspended Particulate

**TVP**

True Vapor Pressure

**VOC**

Volatile Organic Compounds

**Units of Measure:**

bhp	=	brake-horsepower
Btu	=	British Thermal Unit
g	=	grams
gal	=	gallon
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inches
max	=	maximum
m <sup>2</sup>	=	square meter
min	=	minute
MM	=	million
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scfm	=	standard cubic feet per minute
yr	=	year

**Symbols:**

<	=	less than
>	=	greater than
≤	=	less than or equal to
≥	=	greater than or equal to