DOCKETED	
Docket Number:	01-EP-06C
Project Title:	King City Energy Center Project, King City Cogeneration Project - Compliance
TN #:	262799
Document Title:	ANNUAL COMPLIANCE REPORT- 2024
Description:	ANNUAL COMPLIANCE REPORT- 2024
Filer:	Anwar Ali
Organization:	Calpine King City Cogen Project
Submitter Role:	Commission Staff
Submission Date:	4/25/2025 10:28:01 AM
Docketed Date:	4/25/2025

CALPINE KING CITY COGEN, LLC
(85-AFC-5C)

KING CITY POWER PLANT

CALIFORNIA ENERGY COMMISSION

ANNUAL COMPLIANCE REPORT

Calendar Year 2024

Calpine King City Cogen, LLC
750 Metz Road
King City, CA 93930

California Energy Commission
2022 Annual Compliance Report
January 1, 2023 - December 31, 2023

CURRENT PROJECT STATUS

On April 28, 1999 the terms of the PPA required the facility to adopt a 24 hours per day, 7 days per week operating schedule for the remainder of the term of the agreement (year 2019). The Cogen operated through 2007 according to this schedule when economically viable. During this period the facility was shut down for maintenance outages, economic curtailments and experienced forced outages.

In November 2006, the facility began 5x13 operation running Monday through Friday 08:30 to 21:30. This operating schedule continued through April 2019, at which time the PPA ended. Calpine King City Cogen, LLC (CKCC) has been operating a combustion turbine as a cogeneration electric generation facility supplying energy to Pacific Gas and Electric Company under a Standard Offer No. 4 (SO4) contract and steam to an industrial host under a steam supply contract. These contracts expired on April 28, 2019, and as a result, CKCC was no longer exempt from Acid Rain program requirements under 40 CFR 72.6(b).

CKCC submitted an application the Monterey Bay Air Resources District (MBARD) for a modification of the King City Title V Permit, TV-0000012, in May 2019, requesting to amend their Title V permit to include the Acid Rain permit requirements of 40 CFR Part 72 to the cogeneration facility with the General Electric (GE) Frame 7 gas turbine. Notification was given to EPA, MBARD and CEC in 2019 that the CTG of the CKCC facility commenced commercial operation on June 18, 2019. The Title V Permit TV-00000012A was issued by the MBARD on March 10, 2020, including the Acid Rain permit. The latest renewal and most current Title V Permit (TV-112, Attachment 1), issued by MBARD, became effective 06/27/2023.

The CKCC facility has continued commercial operations through 2024. Operation details for the combustion and steam turbine including Operating, Availability, Outage and Capacity information are included in the 2024 Monthly Performance Reports provided in Attachment 2. The scheduled maintenance outages for Cogen occurred in March 2024 and November 2024. Overall, the facility continued to maintain an excellent record of availability for electrical production.

STATUS OF COMPLIANCE PLAN REQUIREMENTS FOR WHICH ACTION WAS SCHEDULED DURING THIS PERIOD

Cogeneration

Cogen-01 Project Owner shall file with the California Energy Commission during each calendar year an annual report in which monthly average values of the following parameters will be given; 1) monthly fuel use (quantity and Btu value) as evidenced by an invoice from the gas supplier, 2) monthly electrical sales (KWh) as evidenced by invoice from PG&E, 3) monthly steam sales (quantity and Btu value) as evidenced by an invoice to RAVA, 4) feedwater rate (lb/hr) and temperature (F), 5) condensate return rate (lb/hr) and temperature, 6) process steam from auxiliary boilers (lb/hr) and temperature, pressure, enthalpy, auxiliary boilers operating hours.

Status – The facility remained in compliance with this condition in 2024. Refer to 2024 Monthly Performance Reports provided in Attachment 2 (There were no steam sales to RAVA in 2023).

Reliability and Safety

RE-01 Project Owner shall inform the CEC of any design changes made subsequent to certification by the Commission, whether made during final design or construction, which would affect the project's availability or capacity factors.

Status – The facility remained in compliance with this condition in 2024. No design changes were made during 2024 that would affect the projects availability or capacity factors.

RE-03 Project Owner shall prepare an annual report documenting the plant availability and capacity factors achieved, supported by the following information: Combustion turbine/generators, Heat Recovery steam generators, Feedwater pumps, Steam turbine/generators, Condensers, Condensate pumps, Cooling water pumps, Controls. For each forced outage a precise identification of the equipment whose failure resulted in the forced outage and resulting forced outage hours. Identification of equipment or other causes (curtailments) for which planned outage was instituted in any given month. Annual plant availability and capacity factors, per EPRI definitions.

Status – The facility remained in compliance with this condition in 2024. Refer to 2024 Monthly Performance Reports provided in Attachment 2.

Public Health

PH-01 Project Owner shall cause to be established an ambient monitoring system for ozone, TSP, and PM10 in the Salinas Valley, downwind and south of the facility.

Status – The facility remained in compliance with this condition in 2024. Project Owner continues to financially support the operation of the King City Air Monitoring Station. The station commenced operation on March 8, 1998 at the Industrial Road site. In May 2007, the station was relocated when the original site became unsuitable to its current location at the San Lorenzo School on Pearl Street in King City. The station is located in King City. The King City Air Monitoring Station is owned and operated by Monterey Bay Unified Air Pollution Control District effective July 1, 2010. The station is currently monitoring ozone, PM10, PM-2.5, shelter temperature, wind speed, wind direction, ambient temperature and relative humidity. The Air Monitoring Station was maintained and operated in 2024.

PH-02 Project Owner shall limit ammonia emission due to ammonia slip in the NOx reduction process to no greater than 10 parts of ammonia per 1 million parts of flue gas.

Status - The facility remained in compliance with this condition in 2024.

Ammonia Safety

AM-01 Project Owner shall comply with storage and handling requirements of anhydrous ammonia as specified in Title 29, CFR, Sec. 1910.111; Title 8, CAC, Ch. 4, Subchapter 1, Article 6, and ANSI K61.1 – 1981. Verify via Monterey County Department of Health Permit.

Status – The facility remained in compliance with this condition in 2024, and is in compliance with the ammonia storage and handling requirements. The hazardous materials permit is issued by the Monterey County Department of Environmental Health, the local Certified Unified Program Agency (CUPA). The annual hazardous material permit was updated and submitted in July 2024.

AM-03 Project Owner shall contract only with Department of Transportation licensed haulers for the transport of anhydrous ammonia.

Status – The facility remained in compliance with this condition in 2024.

AM-09 Project Owner shall facilitate on-site worker safety inspections conducted by the California Division of Occupational Safety and Health during construction and operation of the facility when an employee complaint has been received.

Status – The facility did not receive any employee complaints in 2024. The facility remained in compliance with this condition in 2024.

Air Quality

AQ-01 Before implementing any major change in the Air Pollution Control (APC) systems identified in Determination of Compliance (DOC) Conditions 8, 15, and 16, the Emissions Monitoring Systems (EMS) identified in DOC Conditions 17 through 24, or if any changes to any Conditions of Certification related to air quality are proposed, the project owner shall submit the proposed change to the Monterey Bay Unified Air Pollution Control District (MBUAPCD or District) and the Energy Commission for approval. Examples of major changes are the use of alternative APC systems, EMS, or equipment, or a major change in the performance criteria specified in the referenced DOC Conditions.

Status – During 2024 the facility did not implement any major changes to the air pollution control system, the emissions monitoring system or make any changes affecting air quality and did not make use of alternative APC systems, EMS, or equipment, or a major change in the performance criteria specified in the referenced DOC Conditions. The facility remained in compliance with this condition in 2024.

AQ-02 The project owner shall report any minor change in the APC systems identified in DOC Conditions 8, 15, and 16, or the EMS identified in DOC Conditions 17 through 22, to the MBUAPCD and CPM CEC staff. Examples of minor changes are modifications made grade during initial startup of the facility to ensure compliance with applicable emission limitations or use of alternative hardware to meet the required performance criteria.

Status – During 2024 the facility did not implement any minor changes to the air pollution control system, the emissions monitoring system or make any changes affecting air quality.

AQ-05 The MBUAPCD shall monitor all activities related to site preparation and construction, and monitor operation of the project to ensure compliance with the Conditions of Certification contained in the Commission Decision relating to Air Quality. The MBUAPCD shall perform all duties and functions normally performed by the MBUAPCD and shall have the authority to issue a Permit to Operate. The conditions of the Permit to Operate will be consistent with the Certification Conditions in the Commission Decision. The project owner shall submit to the CPM a report on the status of compliance for each condition

related to air quality in the Commission Decision on the project. These reports shall be submitted annually.

Status – The facility remained in compliance with this condition in 2024. The facility submits the annual Title V compliance certification report to MBUAPCD by Feb 15th of each year, and is submitted to the CPM under separate submittal. The PTOs for all equipment at the facility remain valid.

AQ-07 The annual emissions of the gas turbine shall not exceed 130 tons per year of NO_x and 82 tons per year of CO.

Status – The facility remained in compliance with this condition in 2024. In 2024, the gas turbine emissions remained below the 130 tons per year of NOx limit and 82 tons per year of CO. Refer to the 2024 Annual Facility Emission Summary (Attachment 4).

AQ-08 The maximum annual NOx emission cap for the combined or individual operation of the gas turbine and/or the boiler(s) shall not exceed 133.40 tons per year.

Status – The facility remained in compliance with this condition in 2024. In 2024, the gas turbine and boilers annual NOx emissions total for the plant remained below 133.4 tons per year, refer to the 2024 Annual Facility Emission Summary (Attachment 4).

AQ-16 Maintain gas turbine cold and hot startup protocols which minimize emissions. Amend protocols based on operating experience.

Status – The facility remained in compliance with this condition in 2024. The gas turbine startup protocol was reviewed and kept current in 2024.

AQ-20 The auxiliary boilers shall be fired on natural gas, except that No.2 fuel oil may be used during training/testing, or periods of natural gas curtailment by the utility, or in the event of natural gas supply malfunction or disruption not within the control of the project owner. In any event, No.2 fuel oil shall not be used for more than 240 hours per year per boiler.

Status – The facility remained in compliance with this condition in 2024. The auxiliary boilers were not fired on No.2 fuel oil for training/testing or natural gas curtailments during 2024.

AQ-23 The sulfur content of any No.2 oil used as fuel in the turbine or auxiliary boilers shall not exceed 0.05 percent by weight. All fuel received must be certified to contain 0.05 percent sulfur, or less, by weight.

Status – The facility remained in compliance with this condition in 2024. The gas turbine or auxiliary boilers did not operate on No.2 fuel oil during 2024. The No.2 fuel oil storage tank remained empty during 2024.

AQ-34: An annual compliance test shall be conducted prior to January 1 of each year in accordance with the MBUAPCD test procedures, and the written results of the compliance test shall be provided to the District within sixty 60 days after testing. A testing protocol shall be submitted to the District 30 days prior to testing and the District shall be notified at least 10 days prior to the actual testing day so that a District observer can be present.

Status – The facility remained in compliance with this condition in 2024. The annual compliance test was conducted in July 2024 for the auxiliary boilers by Montrose Air Quality Services, and for the gas turbine in December 2024 by Blue Sky Environmental. Refer to 2024 Annual Title V Certification Report (Attachment 3).

AQ-36 Conduct gas turbine ammonia slip tests per MBUAPCD approved procedures on an annual basis to determine turbine stack discharge ammonia emissions.

Status – The facility remained in compliance with this condition in 2024. The annual compliance testing including ammonia slip was conducted in December 2024 by Blue Sky Environmental. Ammonia slip test results demonstrate the facility remains below permit limits.

AQ-38 Monitor and record all periods of oil firing in a log maintained on site and shall submit a summary of this data on an annual basis, at the time of permit renewal.

Status – The facility remained in compliance with this condition in 2024. Neither the gas turbine nor the auxiliary boilers were fired on fuel oil during 2024.

AQ-39 Project Owner shall monitor and record all startup, shutdown, and operational profiles in a log maintained on site.

Status – The facility remained in compliance with this condition in 2024. Startup, shutdowns and operating profiles are recorded in the control room electronic J5 logbook.

AQ-41 Submit a statement in the Annual Compliance Report that operations have been conducted in compliance with all data and specifications submitted with the application.

Status – The facility remained in compliance with this condition in 2024. Operations of the King City Cogen Power Plant during 2024 have been

conducted in compliance with all data and specifications submitted with the application.

AQ-42 Submit a statement in the Annual Compliance Report that equipment must be properly maintained and kept in good operating condition.

Status – The facility remained in compliance with this condition in 2024. The equipment has been properly maintained and kept in good operating condition during the 2024 reporting period.

AQ-43 Submit a statement in the Annual Compliance Report equipment must not be operated unless it is vented to air pollution control equipment which is in full use.

Status – The facility remained in compliance with this condition in 2024. The plant equipment was not operated in 2024 unless it was vented to air pollution control equipment, which was in full use.

AQ-44 The project owner shall cause to be operated an ambient monitoring station at a site approved by the Air Pollution Control Officer, for NO_2, PM10, and O_3 and standard meteorological parameters on a continuous basis, in accordance with the EPA requirement contained in 40 CFR 58, and as deemed necessary in accordance with the California Air Resources Board guidelines as deemed necessary. The monitoring station instrumentation shall be compatible with the District's daily data retrieval polling methods.

Status – The facility remained in compliance with this condition in 2024. The ambient air monitoring station is owned and operated by MBUAPCD since July 1, 2010. Parameters being monitored at the King City station are Ozone, PM-10, PM-2.5, Wind Speed, Wind Direction, and Ambient Temperature. The Air Monitoring Station was maintained and operated in 2024.

AQ-45 Allow MBUAPCD and CEC personnel site entry for inspection and access to records described in permits. Submit a statement in the Annual Compliance Report on compliance with this condition.

Status – The facility remained in compliance with this condition in 2024.

AQ-47 The gas turbine and the auxiliary boilers must not be operated simultaneously for more than 6 full load equivalent hours during any 24-hour period.

Status – The facility remained in compliance with this condition in 2024. AQ-08 was amended on 8/22/00 by the CEC to eliminate the restrictive hours of operations placed on the two auxiliary boilers. Quarterly emission caps were applied per MBUAPCD Permit to Operate effective October 6, 2000. Quarterly

and annual NOx emission for the plant remained below permit limit in 2024. Refer to the 2024 Annual Facility Emission Summary (Attachment 3).

AQ-50 Conduct monthly tests to measure total dissolved solids (TDS) in circulating water. Monitoring records shall be available to the MBUAPCD and CPM upon request.

Status – The facility remained in compliance with this condition in 2024. Monthly cooling tower TDS test samples were collected and analyzed in 2024 by FGL a certified laboratory. Copies of the monthly TDS lab reports are available to the MBUAPCD and CPM upon request.

AQ-51 Design and operate the cooling tower so that PM-10 drift emissions do not exceed 20 pounds per day.

Status – The facility remained in compliance with this condition in 2024. Emissions from the cooling tower did not exceeded 20 pounds per day of PM-10 in 2024. PM10 emissions are submitted in the monthly report to the MBUAPCD.

AQ-53 Cumulative emissions, including emissions generated during Start-ups and Shutdown, from all equipment at Project Owner King City Cogen and the Gilroy Energy Center shall not exceed the following quarterly and annual limits:

	NOx (lb.)	CO (lb.)	PM10 (lb.)	VOC (lb.)	SO_2 (lb.)
1st Quarter	72,452	58,445	12,071	4,762	1,748
2nd Quarter	73,178	59,095	12,204	4,815	1,768
3rd Quarter	73,905	59,744	12,339	4,868	1,787
4th Quarter	73,905	59,744	12,339	4,868	1,787
Annual	293,440	237,028	48,953	19,313	7,090

Status – The facility remained in compliance with this condition in 2024. The facility quarterly emissions are submitted quarterly to the MBUAPCD. Refer to the 2024 Annual Facility Emission Summary (Attachment 4) and 2024 Annual Title V Certification Report (Attachment 3).

AQ-54 The emission limits contained in Conditions of Certification AQ-6, AQ-10, AQ-11 and AQ-12 shall not apply during periods of combustor tuning, balancing, or non-Air District regulatory mandated performance testing. These periods shall not exceed 100 hours per year. The project owner shall notify the District prior to initiating any of these activities, and shall monitor and record all periods of these activities in a log maintained on-site and shall submit a summary of this data to the District and CPM as part of the annual report

Status – The facility remained in compliance with this condition in 2024. No Tuning was conducted in 2024.

AQ-55 The emission limits contained in Conditions of Certification AQ-18, AQ-19 and AQ-21 shall not apply during periods of boiler tuning. Boiler tuning shall not exceed 50 hours per year per boiler.

Status - The facility remained in compliance with this condition in 2024. No tuning was conducted in 2024.

Safety

SY-07 Project Owner and the King City Fire Department shall annually re-examine the fire protection program.

Status – The facility remained in compliance with this condition in 2024. The City of King, Fire Marshall conducted a site inspection and reviewed the facility fire protection program on October 24, 2024. There were no issues or findings from this inspection (copy of Inspection Record in Attachment 4).

SY-09 Project Owner shall facilitate on-site worker safety inspections conducted by the California Division of Occupational Safety and Health during construction and operation of the facility when an employee complaint has been received.

Status – The facility remained in compliance with this condition in 2024. The facility did not received any employee complaints in 2024.

SY-12 Project Owner shall contract only with Department of Transportation licensed haulers for the transportation of hazardous materials.

Status – The facility remained in compliance with this condition in 2024. The facility uses DOT licensed haulers to transport hazardous materials.

Transmission Line Safety and Nuisance

TSN-01 Project Owner shall request PG&E to inspect the transmission line annually to ensure compliance with applicable standards, ordinances, and laws.

Status - The facility remained in compliance with this condition in 2024. Project Owner has requested PG&E to inspect the transmissions lines annually.

TSN-06 Project Owner shall request PG&E to keep each transmission line pole site free of waste material, rubbish, and vegetation as required by regulation. Calpine shall submit at least once a year a record of PG&E inspection and clean-up reports of the fire prevention activities around the transmission line poles.

Status - The facility remained in compliance with this condition in 2024. The transmission line poles sites were free of waste material, rubbish and vegetation in 2024.

Transportation

TT-01 Project Owner shall notify the CEC of any overload permits obtained from Caltrans and Monterey County or of the alternative transport of heavy equipment to the site by rail.

Status – The facility remained in compliance with this condition in 2024. No overload permit(s) were obtained from Caltrans and Monterey County in 2024.

TT-02 Project Owner shall notify the CEC upon satisfaction of the encroachment and excavation permit requirements. The site shall also file any required or requested information with the City.

Status – The facility remained in compliance with this condition in 2024. No excavation permits were filed by the facility in 2024.

TT-03 Project Owner shall comply with the King City ordinance regarding use of designated city streets.

Status – The facility remained in compliance with this condition in 2024. Contracted deliveries were in compliance with King City Ordinance in 2024.

TT-04 Project Owner shall enter into the standard contractual agreement with King City to restore to pre-project conditions any areas impacted by project-related related truck traffic.

Status – The facility remained in compliance with this condition in 2024. In 2024 there was no project related truck traffic impacting the city streets.

TT-05 Project Owner shall place under Metz Road any utility extensions or new water lines required, and through traffic will be maintained on Metz Road during such utility placement.

Status - The facility remained in compliance with this condition in 2024. No utility extensions or new water lines were installed in 2024.

TT-06 Project Owner shall comply with applicable transportation safety standards, ordinances, and laws in transporting ammonia to the project site.

Status – The facility remained in compliance with this condition in 2024. All applicable standards, ordinances, and laws regarding ammonia transportation were complied with in 2024.

Visual Resources

VR-01 Project Owner shall paint all structures, stacks and tanks a color that will blend with the bluff north of the site.

Status – The facility remained in compliance with this condition in 2024. No structures, stacks or tanks were painted in 2024.

Waste Management

WM-02 Project Owner shall dispose of periodic operational wastes in a Class I landfill or obtain approval from the Regional Water Quality Control Board (RWQCB) that such waste can be otherwise legally be disposed.

Status – The facility remained in compliance with this condition in 2024. Heritage – Crystal Clean Environmental (formerly Coles Environmental Services), a California licensed TSDF for hazardous waste, was used in 2024 for handling and disposing of facility wastes.

WM-04 If Project Owner stores hazardous waste onsite for more than 90 days, it shall obtain a determination that the requirements for storing hazardous waste at the facility have been satisfied.

Status - The facility remained in compliance with this condition in 2024.

WM-05 Project Owner shall use only licensed hazardous waste haulers for transporting hazardous wastes.

Status – The facility remained in compliance with this condition in 2024. Heritage – Crystal Clean Environmental (formerly Coles Environmental

Services), a contracted California licensed hazardous waste hauler, was used in 2024 for handling and disposing of facility wastes.

Attachments:

1	**Title V Permit TV-112**
2	**Operating, Availability and Capacity Report**
3	**Title V Annual Certification Report**
4	**Annual Facility Emission Summary**
5	**2024 Fire Marshall Inspection Record**

Attachment 1

Title V Permit TV-112

Monterey Bay Air Resources District
Serving Monterey, San Benito, and Santa Cruz Counties

24580 Silver Cloud Court
Monterey, CA 93940
PHONE: (831) 647-9411 • FAX: (831) 647-8501

June 28, 2023

Chuck Spandri
Plant Manager Central Coast Projects
Calpine King City Cogen, LLC & Gilroy Energy Center, LLC for King City
750 Metz Road
King City, CA 93930

SUBJECT: TITLE V PERMIT RENEWAL & MINOR PERMIT MODIFICATION
Title V Permit – TV-112

Dear Chuck Spandri:

The Monterey Bay Air Resources District (MBARD) has completed the review of the renewal and minor modification of the Title V permit for the Calpine King City Power Plants. It was found that the equipment has the capability of complying with all applicable federal requirements. The modifications were for the following:

- Remove the requirements of 40 CFR 68 *Risk Management Plans* for the Gilroy Energy Center, LLC. The facility uses a 19% concentration aqueous ammonia, which is below the threshold concentration of 20% of 40 CFR §68.130.
- Update the listed method for the determination of total dissolved solids (TDS) from the cooling tower.
- Update the recordkeeping condition for the continuous emissions monitoring system (CEMS) to remove redundant requirements.

Accordingly, enclosed is Title V Permit TV-112, the federal Operating Permit for your facility. The permit is effective as of today, June 27, 2023. This permit must be posted or kept readily available at the operating premises.

Please carefully review the conditions which have been included on this permit. These conditions are necessary to ensure that your facility will comply with all applicable federal requirements.

The fee for the issuance of Permit TV-112 is $5,084.00 and is due and payable within thirty (30) days. This fee is based upon Rule 308 Section 3.3, which provides for the collection of the actual costs incurred by the MBARD in processing the application at a rate of $164.00 per hour of staff time expended and time spent of 31 hours.

This permit will be valid for a period of 5 years, or until June 26, 2028, upon payment of the Title V Permit renewal fees as specified in Rule 308. These renewal fees will be assessed annually on the anniversary

renewal fees as specified in Rule 308. These renewal fees will be assessed annually on the anniversary date of the Title V Permit, and will be based upon emissions from the facility. The anniversary date of this permit is December 1.

If you have questions regarding this matter, please contact me at (831) 718-8034.

Sincerely,

Armando Jimenez
Air Quality Engineer

Enclosures: Title V Permit TV-112
Statement Fee Sheet

cc:
Gary Fuller, via email to Gary.Fuller@calpine.com

Monterey Bay Air Resources District
Serving Monterey, San Benito, and Santa Cruz Counties

24580 Silver Cloud Court
Monterey, CA 93940
PHONE: (831) 647-9411 FX: 647-8501

GENERAL APPLICATION - FEE DETERMINATION SHEET

Fees Effective July 1, 2022 through June 30, 2023

Company Name: Calpine King City Cogen, LLC & Gilroy Energy Center, LLC for King City **DBA:**	
Equipment Description: Issuance of Minor Modification and Renewal of Title V Permit TV-112	
Equipment Location: 750 Metz Road & 51 Don Bates Way, King City CA	
☐ **NEW APPLICATION - $1,717.00** • $230.00 Filing Fee (Rule 300) • $1,028.00 General Permit Fee (Rule 301; Schedule 1) • $229.00 Emission Fee (Rule 301; Schedule 5) • $230.00 Toxics Air Contaminants Fee (Rule 301 Schedule 6)	**$**
☐ **MODIFICATION of EXISTING PERMIT (Renewal fees must be current) - $1,488.00** PTO/ATC/GNR Number:_____ • $230.00 Filing Fee (Rule 300) • $1,028.00 General Permit Fee (Rule 301 Schedule 1) • $230.00 Toxics Air Contaminants Fee (Rule 301 Schedule 6)	**$**
☐ **ADMINISTRATIVE AMENDMENT** (e.g. transfer of owner, name change, or change in location) **$563.00** fee covers first two permits, additional fee of $164 per permit up to 10 permits PTO/ATC/GNR Number: _____ • $230.00 Filing Fee (Rule 300) • $333.00 Administrative Amendment Fee (Rule 301, Schedule 2) • An additional fee may be assessed based on the actual costs incurred by the District for processing the amendment based on the hourly staff rate or if public notification is required.	**$**
☐ **PUBLIC NOTIFICATION FEE - $698.00** (Rule 301, Schedule 7)	**$**
AGRICULTURAL ENGINES (Rule 310) ☐ **Initial In-Use or New Engines -** $230.00 first engine ☐ **Additional Engines -** [$164.00 per each additional engine] x [____ # Engine(s)] = $_____ ☐ **Change of Owner/Location/Name -** $230.00 Fee	**$**
OTHER FEES ☐ $1,167.00 Title V Renewal (Rule 308) – $469 Filing Fee + $698 Public Notification Fee ☐ $230.00 Filing Fee (Rule 300) ☒ $164.00 Per Hour - Hourly Staff Rate (Rule 301) 31 hours = $5,084 ☐ Annual Renewal Fee $____ ☐ Other – Describe: _____	**$ 5,084**
TOTAL APPLICATION FEES:	**$ 5,084**
Completed by: Armando Jimenez	**Date:** 6/27/2023

MONTEREY BAY AIR RESOURCES DISTRICT
TITLE V OPERATING PERMIT TV-112

24580 Silver Cloud Court
Monterey, CA 93940
Telephone: (831) 647-9411

ISSUED TO:

Calpine King City Cogen, LLC & Gilroy Energy Center, LLC for King City Power Plant
750 Metz Road
King City, CA 93930

PLANT SITE LOCATION:

750 Metz Road & 51 Don Bates Way
King City, CA 93930

ISSUED BY:

Mary Giraudo, For
Richard Stedman, Air Pollution Control Officer

June 28, 2023
Effective Date

ORIS Code: 10294
Nature of Business: Cogeneration & Power Generation

SIC Codes: 4931 - Electric & Other Services Combined
4911 - Electric Power Generation

RESPONSIBLE OFFICIAL:

Name: Mr. Chuck Spandri
Title: Plant Manager Central Coast Projects
Phone: (408) 337-3429

FACILITY CONTACT PERSON:

Name: Mr. Gary Fuller
Title: EHS Specialist
Phone: (661) 282-4405

ALTERNATIVE RESPONSIBLE OFFICIALS:

Name: Mr. Raymond Abrams
Title: Manager Operations and Maintenance
King City Energy Center
Phone: (831) 385-7947

Name: Mr. Gary Fuller
Title: EHS Specialist
Phone: (661) 282-4405

TABLE OF CONTENTS

FACILITY DESCRIPTION

The facility consists of Calpine King City Cogen, LLC, a combined cycle cogeneration plant and the Gilroy Energy Center, LLC for King City, a simple cycle combustion turbine.

Calpine King City Cogen, LLC produces most of the electricity through the expansion of fuel combusted (natural gas or fuel oil) in a gas turbine that is connected to a generator. Heat in the gas turbine exhaust is used to produce high-pressure steam in a heat recovery steam generator, which is used to produce additional electricity from a steam turbine/generator. In addition, two auxiliary boilers are located at the facility and are used to provide process steam for facility processes and the steam turbine/generator operations and startup when the gas turbine is not operating.

The Gilroy Energy Center, LLC for King City was constructed and is in operation as authorized by the California Energy Commission's Adoption Order for Docket Number 01-EP-6 dated May 2, 2001 and by Monterey Bay Air Resources District (MBARD) Authority to Construct (ATC) 10738 issued on July 30, 2001 and MBARD Permit to Operate (PTO) 10738 issued on October 22, 2002, the quarterly and annual NO_x emission limits were modified by ATC 11435 issued on February 5, 2003 and PTO 11435 issued on March 3, 2003 and PTO 11609 issued on June 25, 2003, the testing frequency was modified by PTO 12304 issued on August 11, 2005, the DAHS was updated under PTO 14085 issued on October 8, 2009, and further refined by PTO 14717 issued on December 1, 2010. This simple cycle combustion turbine is fired exclusively on natural gas.

EQUIPMENT DESCRIPTION

Below is the equipment description for the Combustion Turbine Generator (CTG) or Gas Turbine Generator (GTG) and Unit 2 the Simple Cycle Gas Turbine:

UNIT CTG/GTG – COGENERATION FACILITY CONSISTING OF:

1a. Gas Turbine Generator, General Electric Frame 7, Model EA 7001, Rated At 941.1 Million British Thermal Units Per Hour (MMBtu/Hr) Nominal Heat Input And 85.7 Megawatts (MW) Nominal Electrical Output, Steam Injection For NO_x Control, 5 Lbm H_2O/Lbm Fuel Design Midpoint.

1b. Water Tube Type Heat Recovery Steam Generator, Nooter/Eriksen, High Pressure Steam Capacity: 272,000 Lbs/Hr @ 1475 psia and 930°F, Low Pressure Steam Capacity: 87,900 Lbs/Hr @ 100 PSIA Saturated.

1c. Steam Turbine Generator, Asea-BBC Dual Admission, Dual Extraction, High Pressure Turbine Model HT-16, Low Pressure Turbine Model LT-25, Generator Model Brush BDAX 7-225ERH, 37.6 MW Nominal Electrical Output.

1d. Condenser, Graham Manufacturing Model 79130, Water Cooled Shell And Tube Condenser Rated At 272 MMBtu/Hr.

1e. Cooling Tower, Hamon Cooling Towers, Three Cell Counterflow Cooling Tower Rated At 300 MMBtu/Hr, 24,000 GPM Rating, Drift Loss: 0.002%.

1f. Selective Catalytic Reduction NO_x Control System, Mitsubishi Heavy Industries Titanium Oxide

Grid Honeycomb Type Catalyst, 1846 Cubic Feet Of Catalyst, Consisting Of: Twenty Eight Vertically Stacked Catalyst Modules, Each Holding 200 Ceramic Blocks Containing The Active Catalyst, Each Block Measuring 6" x 6" x 16", With 5 mm Catalyst Pitch.

1g. Ammonia Injection System Consisting Of: Two Ammonia Dilution Blowers, Each 10 Hp, 700 SCFM @ 40" W.G. Static Pressure, Combining Anhydrous Ammonia And Dilution Air; Ammonia Injection Grid With Thirty 2 Inch Distribution Pipes Configured Vertically Across The Duct, Each With Twenty Four Injection Nozzles.

2. Two Nebraska Model NS-F-86 Water Tube Boilers, Each Designed To Produce 121,120 Lbs/Hr Saturated Steam at 170 PSIG, Each With Coen Model 275 Type DAF Multi-Staged Low NOx Burners Designed For A Maximum Heat Input Of 143 MMBtu/Hr And Two Stage Flue Gas Recirculation With A Design Rate Of 15%, And CO Control Provided By An Engelhard Catalytic Carbon Monoxide Converter With 21.24 Cubic Feet Of Ceramic Honeycomb Type Precious Metal Coated Catalyst Consisting Of Twelve Catalyst Modules, Each Measuring 24.5" x 24.5" x 6.4" Located Between The Boiler Flue Gas Outlet And Economizer Inlet On Each Boiler.

UNIT 2 - SIMPLE CYCLE GAS TURBINE CONSISTING OF:

2a. Simple Cycle Natural Gas Fired Gas Turbine Generator, Model LM6000PD, Rated At 500 MMBtu/Hr Maximum Heat Input And 49.6 MW Nominal Electrical Output, Dry Low NOx Combustor To Control NO_x Formation.

2b. Selective Catalytic Reduction NO_x Control System.

2c. Oxidation Catalyst For Carbon Monoxide Control.

2d. CEM System Designed To Continuously Record The Measured Gaseous Concentrations, And Calculate And Continuously Monitor And Record The NOx And CO Concentrations Corrected To Fifteen (15) Percent Oxygen (O_2) On A Dry Basis.

2e. Chiller Cooling Tower With A Design Water Recirculation Rate Of 4,160 Gallons Per Minute.

ANCILLARY EQUIPMENT:

Emergency 170 Bhp Diesel Engine-Fire Pump Set.

Exempt Abrasive Blasting Equipment.

PERMIT SHIELD

Compliance with the conditions contained on this Title V permit shall be deemed compliance with the following applicable requirements as of the date of issuance of this permit based upon the criteria following each applicable requirement:

40 CFR Part 60, Subpart A - New Source Performance Standards, General Provisions

This facility is subject to the requirements of this part because they are subject to 40 CFR Part 60, Subparts Db and GG. In their Title V application, the source has requested that the requirements of Subpart A be subsumed under the NSR permit requirements.

MBARD agrees, and asserts that compliance with the conditions on this Title V Permit shall be deemed compliance with the monitoring, record keeping, and reporting requirements contained in 40 CFR Parts 60.7, 60.8, and 60.13.

40 CFR Part 60, Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

The boilers at the facility are subject to the requirements of this part. In their Title V application, the source has requested that the requirements of Subpart Db be subsumed under the NSR permit requirements. This is an appropriate action, due to the fact that facility has emission limits from their NSR permits which are more stringent than the requirements of this part.

The sulfur dioxide limit from Section 60.42b(a) would be 11.4 lbs/hr (143 MMBtu/Hr * 0.8 lb/MMBtu * 0.1). This 11.4 lbs/hr exceeds the 7.55 lbs/hr allowed for each boiler under the NSR permits.

The particulate matter limit from Section 60.43b(b) would be 14.3 lbs/hr (143 MMBtu/Hr * 0.1 lb/MMBtu). Low sulfur fuel requirement (0.05%) is the conventional technology utilized to reduce SO_x emissions and establishes the appropriate particulate matter emission limit from Section 60.43b. The allowance of 14.3 lbs/hr of particulate matter under subpart Db exceeds the 12.65 lbs/hr allowed for each boiler under the NSR permits.

The NO_x limit from Section 60.44b(a) would be 28.6 lbs/hr (143 MMBtu/Hr * 0.2 lb/MMBtu). The emission factor for high heat release rate is utilized based upon the furnace volume of 1795 ft^3 and a heat input of 143 MMBtu/hr. The heat release rate is 79,666 BTU/hr-ft^3, which under the definition contained in Section 60.41b is considered a "high heat release rate". The allowance of 28.6 lbs/hr of NO_x under subpart Db exceeds the 13.8 lbs/hr allowed for each boiler under the NSR permits.

The testing, monitoring, record keeping and reporting requirements contained in Sections 60.45(b), 60.46(b), 60.47(b), 60.48(b), and 60.49(b) will be subsumed under the testing, monitoring, record keeping and reporting requirements established under the NSR permits and required under the Title V permitting process.

40 CFR Part 60, Subpart GG - Standards of Performance for Stationary Gas Turbines

The gas turbines at this facility are subject to the requirements of this NSPS. In addition to the back-end control using SCR, the turbines utilize steam/water injection or dry low NO_x combustors to control NO_x formation.

The NO_x emission factor from Section 60.332(a)(1) would be 113 ppmvd for the Frame 7 turbine. This 113 ppmvd limit far exceeds the 9 ppmvd limit on natural gas (15 ppmvd on fuel oil) established by MBARD Rule 207. Therefore, the NO_x limit from the NSPS will be subsumed under the NSR permit requirements included on this Title V permit.

The allowable NO_x concentration limit derived from §60.332(a)(1) for the LM6000 turbine would be 75 ppmvd. This 75 ppmvd limit far exceeds the 5 ppmvd limit established by the BACT requirements of

MBARD Rule 207. Therefore, the NO_x limit from the NSPS will be subsumed under the NSR permit requirements that will be included on the permits.

The SO_2 limit from Section 60.333 would be 150 ppmv for both turbines. Compliance with this limit for the Frame 7 turbine is assumed due to the worst case limits contained in the facility NSR permits (firing on fuel oil) of 116.1 lbs/hr and volumetric flow rate of 510,616 DSCFM [(941.1 MMBtu/hr) (hr/60 min) (9,190 DSCF/MMBtu) (20.9/(20.9-15)) = 510,616 DSCFM]. The SO_2 concentration at this permitted emission level would be 22.76 ppmv for the turbine [(116.1 lb SO_2/hr) (hr/60 min) (lbmole/64.1 lb SO_2) (385 ft^3/lbmole) (min/510,616 ft^3) (10^6) = 22.76 ppm]. Compliance with this limit for the LM6000 turbine is assured due to limits established by the BACT requirements of Rule 207 established in the permit at 0.33 lbs/hr and volumetric flow rate of 257,117 DSCFM [(500 MMBtu/hr) (hr/60 min) (8,710 DSCF/MMBtu)(20.9/(20.9-15)) = 257,117 DSCFM]. The SO_2 concentration at this permitted emission level would be 0.13 ppmv for the turbine [(0.33 lb SO_2/hr) (hr/60 min) (lbmole/64.1 lb SO_2) (385 ft^3/lbmole) (min/257,117 ft^3) (10^6) = 0.13 ppm].

These values are well below the 150 ppmv SO_2 allowed for in the NSPS. Therefore, the SO_2 emission standard from this NSPS will be subsumed under the NSR permit requirement that will be included on the permits.

The testing and monitoring requirements contained in Sections 60.334 and 60.335 will be subsumed under the testing and monitoring requirements established under the NSR permits and that is included on this Title V permit. This will include the annual emissions testing requirement and the requirement to monitor operations with the use of continuous emission monitoring systems (CEMs).

FEDERALLY ENFORCEABLE EMISSION LIMITS AND STANDARDS

1. During periods of natural gas firing, the Frame 7 gas turbine pollutant mass emission rates in the exhaust discharged to the atmosphere shall not exceed the following limits [MBARD Rule 207; MBARD Rule 403 limit of 617.9 lbs PM_{10}/hr; MBARD Rule 404 NO_x limit of 140 lbs/hr and SO_2 limit of 2000 ppmv]:

Pollutant	Lbs/Hour	Lbs/Day
Oxides of Nitrogen (NO_x)	30.1	722
Carbon Monoxide (CO)	20.0	480
Ammonia (NH_3)	13.9	334
Particulate Matter <10 microns (PM_{10})	2.5	60
Volatile Organic Compounds (VOC)	1.0	24
Sulfur Dioxide (SO_2)	0.5	12

These limits shall not apply during start-up, which is not to exceed five (5) hours, or shutdown, which is not to exceed two (2) hours, or during periods of oil firing. SCR catalytic controls, steam injection and good engineering practices shall be used to the fullest extent practical during start-up to minimize pollutant emissions.

2. During periods of natural gas firing, the auxiliary boiler pollutant mass emission rates in the exhaust discharged to the atmosphere shall not exceed the following limits from each boiler [MBARD Rule 207; MBARD Rule 403 limit of 30.8 lbs PM_{10}/hr; MBARD Rule 404 NO_x limit of 140 lbs/hr and

SO_2 limit of 2000 ppmv; 40 CFR Part 60, Subpart Db SO_2 limit of 11.4 lbs/hr, PM_{10} limit of 14.3 lbs/hr, and NO_x limit of 28.6 lbs/hr]:

Pollutant	Lbs/Hour
Oxides of Nitrogen (NO_x)	7.25
Carbon Monoxide (CO)	2.65
Particulate Matter <10 microns (PM_{10})	0.60
Volatile Organic Compounds (VOC)	0.20
Sulfur Dioxide (SO_2)	0.085

These limits shall not apply during boiler shutdown, for a period not to exceed 30 minutes, or during cold start-up, for a period not to exceed three (3) hours, or during hot start-up, for a period not to exceed 30 minutes. During boiler shutdown or start-up, and during operations at or below 40 percent load, procedures incorporating good engineering practices shall be utilized to the fullest extent practical to minimize all pollutant emissions.

3. While firing on natural gas the emission concentration of oxides of nitrogen, as NO_2, in the Frame 7 turbine exhaust discharged to the atmosphere shall not exceed 9 ppmvd, calculated as a clock hour average at 15 percent O_2, dry. [MBARD Rule 207; MBARD Rule 404 NO_x limit of 200 ppm; 40 CFR Part 60, Subpart GG NO_x limit of 200 ppm]

   This limit shall not apply during start-up, which is not to exceed five (5) hours, or shutdown, which is not to exceed two (2) hours. SCR catalytic controls, steam injection and good engineering practices shall be used to the fullest extent practical during start-up to minimize pollutant emissions.

4. During periods of natural gas firing, the emission concentration of oxides of nitrogen, as NO_2, in the auxiliary boiler exhaust discharge to the atmosphere shall not exceed 40 ppmvd at boiler loads greater than 40 percent and 100 ppmvd at boiler loads of 40 percent or less, calculated as a clock hour average at 3 percent O_2, dry. [MBARD Rule 207; MBARD Rule 404 NO_x limit of 350 ppm]

   These limits shall not apply during boiler shutdown, for a period not to exceed 30 minutes, or during cold start-up, for a period not to exceed three (3) hours, or during hot start-up, for a period not to exceed 30 minutes. During boiler shutdown or start-up, and during operations at or below 40 percent load, procedures incorporating good engineering practices shall be utilized to the fullest extent practical to minimize all pollutant emissions.

5. The emission concentration of ammonia in the Frame 7 turbine exhaust discharged to the atmosphere shall not exceed 10 ppmvd, calculated as a three hour rolling clock hour average at 15 percent O_2, dry. [MBARD Rule 207]

   This limit shall not apply during start-up, which is not to exceed five (5) hours, or shutdown, which is not to exceed two (2) hours. SCR catalytic controls, steam injection and good engineering practices shall be used to the fullest extent practical during start-up to minimize pollutant emissions.

6. The emission concentration of carbon monoxide in the Frame 7 turbine exhaust discharged to the atmosphere shall not exceed 10 ppmvd, calculated as a three hour rolling clock hour average at 15

percent O_2, dry. [MBARD Rule 207]

This limit shall not apply during start-up, which is not to exceed five (5) hours, or shutdown, which is not to exceed two (2) hours. SCR catalytic controls, steam injection and good engineering practices shall be used to the fullest extent practical during start-up to minimize pollutant emissions.

7. The heat input rate to the LM6000 Turbine shall not exceed 500 MMBtu/hr and the unit shall only be fired on natural gas. [MBARD Rule 207]

8. The maximum daily combined emissions from the LM6000 Turbine, including start-ups and shutdowns, shall not exceed the following limits: [MBARD Rule 207]

Pollutant	Lbs/Day
Oxides of Nitrogen (NO_x)	233.95
Carbon Monoxide (CO)	172.13
Particulate Matter <10 microns (PM_{10})	60.00
Volatile Organic Compounds (VOC)	28.80
Ammonia (NH_3)	150.48
Sulfur Dioxide (SO_2)	7.92

9. The pollutant mass emission rates in the exhaust discharged to the atmosphere from the LM6000 Turbine shall not exceed the following limits: [MBARD Rules 207, 403, & 404]

Pollutant	Lbs/Hour	Lbs/Day
Oxides of Nitrogen (NO_x)	8.65	207.6
Carbon Monoxide (CO)	6.31	151.4
Particulate Matter <10 microns (PM_{10})	2.50	60.0
Volatile Organic Compounds (VOC)	1.20	28.8
Ammonia (NH_3)	6.27	150.5
Sulfur Dioxide (SO_2)	0.33	7.9

These limits shall not apply during start-up, which is not to exceed one (1) hour, or shutdown, which is not to exceed thirty (30) minutes. SCR catalytic controls and good engineering practices shall be used to the fullest extent practical during start-up to minimize pollutant emissions.

10. The pollutant concentrations discharged to the atmosphere from the LM6000 Turbine shall not exceed the following limits, calculated at 15 percent O_2: [MBARD Rule 207]

Pollutant	Concentration (ppm)	Averaging Period
Oxides of Nitrogen (as NO_2)	5.0	1-hour clock hour
Carbon Monoxide (CO)	6.0	3-hour rolling clock hour
Ammonia (NH_3)	10	3-hour rolling clock hour

These limits shall not apply during start-up, which is not to exceed one (1) hour, or shutdown, which is not to exceed thirty (30) minutes. SCR catalytic controls and good engineering practices shall be used to the fullest extent practical during start-up to minimize pollutant emissions.

11. The pollutant emission rates discharged to atmosphere from the LM6000 Turbine during a start-up shall not exceed the following limits. These limits apply to any start-up period which shall not exceed one (1) hour. [MBARD Rule 207]

Pollutant	Lbs/Start-Up
Oxides of Nitrogen (as NO_2)	35.00
Carbon Monoxide (CO)	27.00
Volatile Organic Compounds (as CH_4)	1.20

12. The Frame 7 turbine and auxiliary boilers shall only be fired on natural gas, except that No. 2 fuel oil may be used during training/testing of the auxiliary boilers, as described in Condition 24, or during periods of natural gas curtailment by the utility, or in the events of natural gas supply malfunction or disruption not within the control of Calpine King City Cogen, LLC. In any event, No. 2 fuel oil shall not be used for more than 240 hours per year per piece of equipment. [MBARD Rule 207]

13. During periods of No. 2 fuel oil firing, the Frame 7 turbine pollutant mass emission rates in the exhaust discharged to the atmosphere shall not exceed the following limits [MBARD Rule 207; MBARD Rule 403 limit of 617.9 lbs PM_{10}/hr; MBARD Rule 404 NO_x limit of 140 lbs/hr and SO_2 limit of 2000 ppmv]:

Pollutant	Lbs/Hour	Lbs/Day
Sulfur Dioxide (SO_2)	116.1	2786
Oxides of Nitrogen (NO_x)	47.8	1147
Carbon Monoxide (CO)	22.0	528
Ammonia (NH_3)	13.9	334
Particulate Matter <10 microns (PM_{10})	10.0	240
Volatile Organic Compounds (VOC)	1.0	24

These limits shall not apply during start-up, which is not to exceed five (5) hours, or shutdown, which is not to exceed two (2) hours. SCR catalytic controls, steam injection and good engineering practices shall be used to the fullest extent practical during start-up to minimize pollutant emissions.

14. During periods of No. 2 oil firing, the auxiliary boiler pollutant mass emission rates in the exhaust discharged to the atmosphere shall not exceed the following limits from each boiler [MBARD Rule 207; MBARD Rule 403 limit of 30.8 lbs PM_{10}/hr; MBARD Rule 404 NO_x limit of 140 lbs/hr and SO_2 limit of 2000 ppmv; 40 CFR Part 60, Subpart Db SO_2 limit of 11.4 lbs/hr, PM_{10} limit of 14.3 lbs/hr, and NO_x limit of 28.6 lbs/hr]:

Pollutant	Lbs/Hour
Oxides of Nitrogen (NO_x)	13.8
Particulate Matter <10 microns (PM_{10})	12.65
Sulfur Dioxide (SO_2)	7.55
Carbon Monoxide (CO)	2.85
Volatile Organic Compounds (VOC)	0.25

These limits shall not apply during boiler shutdown, for a period not to exceed 30 minutes, or during cold start-up, for a period not to exceed three (3) hours, or during hot start-up, for a period not to exceed 30 minutes. During boiler shutdown or start-up procedures, incorporating good engineering practices shall be utilized to the fullest extent practical to minimize all pollutant emissions.

15. While firing on No. 2 fuel oil, the emission concentration of oxides of nitrogen, as NO_2, in the Frame 7 turbine exhaust discharged to the atmosphere shall not exceed 15 ppmvd, calculated as a clock hour average at 15 percent O_2, dry. [MBARD Rule 207; MBARD Rule 404 NO_x limit of 200 ppm; 40 CFR Part 60, Subpart GG NO_x limit of 200 ppm]

    This limit shall not apply during start-up, which is not to exceed five (5) hours, or shutdown, which is not to exceed two (2) hours. SCR catalytic controls, steam injection and good engineering practices shall be used to the fullest extent practical during start-up to minimize pollutant emissions.

16. During periods of No. 2 fuel oil firing at boiler loads greater than 40 percent, the emission concentration of oxides of nitrogen, as NO_2, in the auxiliary boiler exhaust discharged to the atmosphere shall not exceed 69 ppmvd, calculated as a clock hour average at 3 % O_2, dry. [MBARD Rule 207]

    This limit shall not apply during boiler shutdown, for a period not to exceed 30 minutes, or during cold start-up, for a period not to exceed three (3) hours, or during hot start-up, for a period not to exceed 30 minutes. During boiler shutdown or start-up, procedures incorporating good engineering practices shall be utilized to the fullest extent practical to minimize all pollutant emissions.

17. The sulfur content on any No. 2 fuel oil used as fuel in the Frame 7 turbine or auxiliary boilers shall not exceed 0.05 percent by weight. All fuel received must be certified to contain 0.05 percent sulfur, or less, by weight. [MBARD Rule 207, MBARD Rule 412 limit of 0.5% by weight sulfur]

18. The sulfur content on any gaseous fuel used at the facility shall not contain sulfur compounds, calculated as hydrogen sulfide at standard conditions, in excess of 50 grains per 100 cubic feet. [MBARD Rule 412]

19. The emission limits contained in conditions 1, 3, 5, 6, 8, 9, 10, and 11 shall not apply during periods of combustor tuning, balancing, or non-MBARD regulatory mandated performance testing. These periods shall not exceed 100 hours per year per turbine. [MBARD Rule 207]

    Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall notify MBARD prior to initiating any of these activities, and shall monitor and record all periods of these activities in a log maintained on-site and shall submit a summary of this data to MBARD on an annual basis.

20. The emission limits contained in conditions 2, 4, and 14 shall not apply during periods of boiler tuning. Boiler tuning shall not exceed 50 hours per year per boiler. [MBARD Rule 207]

Calpine King City Cogen, LLC shall notify MBARD prior to initiating boiler tuning, and shall monitor and record all periods of boiler tuning in a log maintained on-site and shall submit a summary of this data to MBARD on an annual basis.

21. Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall maintain a turbine start-up protocol for both hot and cold start-up, which details the procedures that will be used to minimize the pollutant emissions, and shall amend this protocol based on operating experience. [MBARD Rule 207]

22. Daily NO_x emissions from all combustion equipment at the facility shall not exceed 1,070 pounds per day. During periods of oil firing as allowed for on the permits for the Frame 7 Turbine and the Boilers, the allowable daily NO_x limit is increased by the incremental hourly NO_x limit for oil firing versus the natural gas hourly NO_x limit for all hours the equipment was actually operated on fuel oil. [MBARD Rule 207]

23. Cumulative emissions, including emissions generated during Start-ups and Shutdowns, from all equipment at Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall not exceed the following quarterly and annual limits: [MBARD Rule 207]

Pollutant	Pounds Of Emissions				
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Annual
NO_x (as NO_2)	72,452	73,178	73,905	73,905	293,440
SO_x	1,748	1,768	1,787	1,787	7,090
VOC	4,762	4,815	4,868	4,868	19,313
PM_{10}	12,071	12,204	12,339	12,339	48,953
CO	58,445	59,095	59,744	59,744	237,028

Note: During periods of oil firing as allowed for on the permits for the Frame 7 Turbine and the Boilers, the allowable emissions are increased by the incremental hourly limit for oil firing versus the natural gas hourly limit for all hours the equipment was actually operated on fuel oil.

24. Training/testing of the auxiliary boilers shall be allowed only under the following conditions [MBARD Rule 207]:

a. Only one boiler may be tested in a calendar day,

b. MBARD shall be notified a minimum of 30 calendar days prior to the date of training/testing on No. 2 fuel oil,

c. MBARD has the authority to postpone training/testing of the auxiliary boilers due to adverse ambient air-quality conditions,

d. Each boiler may be used for training/testing on fuel oil a maximum of two (2) times per calendar year, and

e. The training/testing on fuel oil shall not exceed two (2) full-load equivalent hours.

25. Operation must be conducted in compliance with all data and specifications submitted in the applications to the California Energy Commission and MBARD. [MBARD Rule 207]

26. Equipment must be properly maintained and kept in good operating condition. [MBARD Rule 207]

27. Equipment shall not be operated unless the air pollution control equipment is in full use. [MBARD Rule 207]

28. The PM_{10} emissions from the Frame 7 cooling tower shall not exceed 20 pounds per day. [MBARD Rule 207]

29. Water treatment chemicals containing chromium shall not be used in the cooling towers. [MBARD Rule 207, 40 CFR Part 63.400]

30. King City Power Plant shall hold Sulfur Dioxide Allowances not less than the total annual emissions of sulfur dioxide for the previous calendar year from the Frame 7 (unit GTG) and LM6000 (unit 2) Turbines. [MBARD Rule 219 and 40 CFR §72.9(c)]

31. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three (3) minutes in any one (1) hour which is as dark or darker than Ringelmann 1 or equivalent 20% opacity. [MBARD Rule 400]

32. Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City Power Plant shall limit emissions of volatile organic compounds by the use of architectural coatings which comply with the requirements of MBARD Rule 426. [MBARD Rule 426]

33. Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall cause to be operated an ambient air monitoring station at a site approved by MBARD in Southern Monterey County, for PM_{10}, O_3, and standard meteorological parameters on a continuous basis, in accordance with EPA requirements contained in 40 CFR Part 58, and as deemed necessary in accordance with the Air Resources Board guidelines. The air monitoring station instrumentations shall be compatible with MBARD's daily data retrieval polling methods.

The operation of the air monitoring station shall continue for the life of the project or until the Air Pollution Control Officer determines that good cause exists to discontinue monitoring. Good cause includes adequate technical justification submitted by the permitted that successfully proves that the continuation of all or part of the monitoring requirement is no longer necessary. [MBARD Rule 207]

34. Calpine King City Cogen, LLC shall comply with the requirements of 40 CFR Part 68 – Risk Management Plans. Calpine King City Cogen, LLC's Risk Management Plan must be revised and updated as required by 40 CFR §68.190. Calpine King City Cogen, LLC shall certify compliance with these requirements as part of the annual compliance certification required by 40 CFR Part 70 and this permit. [40 CFR Part 68]

35. Should Gilroy Energy Center, LLC become subject to the requirements of 40 CFR Part 68, *Chemical Accident Prevention Provisions*, Gilroy Energy Center, LLC shall meet the requirements of Section §68.215(a). The facility must submit a compliance schedule for meeting the requirements of this part by the date provided in § 68.10(a) or; as part of the compliance certification submitted under 40 CFR 70.6(c)(5), a certification statement that the source is in compliance with all requirements of this part, including the registration and submission of the Risk Management Plan (RMP). Gilroy Energy Center, LLC shall certify compliance with these requirements as part of the annual compliance certification required by 40 CFR Part 70 and this permit. [40 CFR Part 68]

36. Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall comply with the requirements of 40 CFR Part 82 - Protection of Stratospheric Ozone. [40 CFR Part 82]

TESTING REQUIREMENTS AND PROCEDURES

37. An annual performance test of the Frame 7 gas turbine shall be conducted prior to December 31 of each year. Calpine King City Cogen, LLC shall conduct performance tests in accordance with EPA Method 20 for NO_x and O_2, EPA Method 10 for CO, EPA Method 18 for hydrocarbons, the collection method specified in BAAQMD Method 1B and the analysis specified in EPA Method 350.3 for ammonia, or other methods as approved by MBARD and EPA to verify compliance with conditions 1, 3, 5 and 6. Calpine King City Cogen, LLC shall furnish MBARD written results of such performance tests within sixty (60) days of the test completion. A testing protocol shall be submitted to MBARD no later than 30 days prior to testing, and MBARD notification at least 10 days prior to the actual date of testing shall be provided so that a MBARD observer can be present. The compliance test shall include, but not be limited to, the determination of the following parameters [MBARD Rule 207]:

    a. Oxides of Nitrogen, as NO_2: ppm at 15% O_2, dry and lb/hr.

    b. Carbon Monoxide: ppm at 15% O_2, dry and lb/hr.

    c. Ammonia: ppm at 15% O_2, dry and lb/hr.

d. Volatile Organic Compounds (VOC) and TOG: ppm and lb/hr.

and the following process parameters:

e. Natural gas consumption.

f. Electricity generated during the test.

g. Ammonia injected; lb/hr.

38. A performance test of the LM 6000 turbine shall be conducted every 4,000 operating hours, but not less frequent than once every three years nor more frequent than once a year. The Gilroy Energy Center, LLC for King City shall conduct performance tests in accordance with EPA Method 20 for NO_x and O_2, EPA Method 10 for CO, EPA Method 18 for hydrocarbons, the collection method specified in BAAQMD Method 1B and the analysis specified in EPA Method 350.3 for ammonia, or other methods as approved by MBARD and EPA to verify compliance with conditions 9 and 10. The Gilroy Energy Center, LLC for King City shall furnish MBARD written results of such performance tests within sixty (60) days of the test completion. A testing protocol shall be submitted to MBARD no later than 30 days prior to testing, and MBARD notification at least 10 days prior to the actual date of testing shall be provided so that a MBARD observer can be present. The compliance test shall include, but not be limited to, the determination of the following parameters [MBARD Rule 207]:

a. Oxides of Nitrogen, as NO_2: ppm at 15% O_2, dry and lb/hr.

b. Carbon Monoxide: ppm at 15% O_2, dry and lb/hr.

c. Ammonia: ppm at 15% O_2, dry and lb/hr.

d. Volatile Organic Compounds (VOC) and TOG: ppm and lb/hr.

and the following process parameters:

e. Natural gas consumption.

f. Electricity generated during the test.

g. Ammonia injected; lb/hr.

39. An annual performance test of the auxiliary boilers shall be conducted prior to December 31 of each year. Calpine King City Cogen, LLC shall conduct performance tests in accordance with EPA Method 7E for NO_x, EPA Method 10 for CO, EPA Method 3A for O_2, or other methods as approved by MBARD and EPA to verify compliance with conditions 2 and 4. Calpine King City Cogen, LLC shall furnish MBARD written results of such performance tests within sixty (60) days of the test completion. A testing protocol shall be submitted to MBARD no later than 30 days prior to testing, and MBARD notification at least 10 days prior to the actual date of testing shall be provided so that a MBARD observer can be present. The compliance test shall include, but not be

limited to, a test of the exhaust gas in the auxiliary boiler exhaust stacks, for: [MBARD Rule 207]

a. Carbon Monoxide: ppm at 15% O_2, dry and lb/hr;

b. Oxides of Nitrogen, as NO_2: ppm at 15% O_2, dry and lb/hr;

and the following process parameter:

c. Natural gas consumption rate.

40. No testing is specified for the emission limitations contained in conditions 13, 14, 15 and 16 while firing on fuel oil. Fuel oil is for emergency use only, and MBARD has no intention of the facility operating the equipment on fuel oil just to perform compliance testing. [MBARD Rule 207]

41. Testing of all fuel oil delivered to the facility shall be conducted prior to or upon receipt of the fuel oil. Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall conduct testing in accordance with ASTM D1552-83, ASTM D1266-87 or ASTM D2622-87, or other method approved by MBARD and EPA to verify compliance with condition 17. Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall furnish MBARD written results of the test prior to firing the fuel oil, but in no case later than thirty (30) days of completion. [MBARD Rule 207 and MBARD Rule 412]

42. Calpine King City Cogen, LLC shall conduct monthly measurements of the cooling tower water total dissolved solids (TDS) in accordance with EPA Method 160.1, or other method approved by MBARD and EPA to verify compliance with the cooling tower PM_{10} emission limit as specified in condition 28. The PM_{10} emissions shall be calculated as the product of the cooling tower recirculating water flow rate times the total dissolved solids in the cooling water times the cooling tower drift loss times the number of hours of operation, as follows [MBARD Rule 207]:

PM_{10} lb/day = 5.0E-4 * F * TDS * DL * H

Where: F = cooling tower recirculation water flow rate in gpm
TDS = total dissolved solids in the cooling water in ppm
DL = drift loss of 0.002%
H = number of hours of operation

43. Gilroy Energy Center, LLC for King City shall use a certified laboratory to conduct monthly measurements of the cooling tower water total dissolved solids (TDS) in accordance with an EPA approved method. The TDS value from the latest testing shall be used in the following equation to calculate PM_{10} emissions. The PM_{10} emissions from the cooling tower shall be calculated as the product of the cooling tower recirculating water flow rate times the total dissolved solids in the cooling tower water times the cooling tower drift loss times the number of hours of operation, as follows: [MBARD Rule 207]

PM_{10} lbs/day = 5.0E-4 * F * TDS * DL * H

Where: F = cooling tower recirculating water flow rate in gpm
TDS = total dissolved solids in the cooling water in ppm
DL = drift loss of 0.0047%
H = number of hours of operation

44. No testing is specified for the generic (Rule 400) opacity requirement from condition 31 while firing on natural gas. When firing on fuel oil continuously for a period of 120 hours and at intervals of seven (7) days during continuing operation on fuel oil , Calpine King City Cogen, LLC shall conduct testing in accordance with the methodology contained in EPA Method 9 and the averaging/aggregating period contained in MBARD Rule 400 to verify compliance with condition 31. [MBARD Rule 207 and MBARD Rule 400]

MONITORING AND RECORD KEEPING REQUIREMENTS

45. Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall demonstrate compliance by using properly operated and maintained continuous emission monitors on all combustion equipment (during all hours of operation including equipment Start-up and Shutdown periods, except for periods of CEM maintenance performed in accordance with MBARD requirements) for all of the following parameters: [MBARD Rule 207]

a. Firing hours and Fuel Flow Rates.
b. Oxygen (O_2) Concentrations, Nitrogen Oxide (NO_x) Concentrations, and Carbon Monoxide (CO) Concentrations.
c. Ammonia Injection Rates.

Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall summarize all of the above parameters for each clock hour. For each calendar day, Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall calculate and record the total Firing Hours, the average hourly Fuel Flow Rates, and pollutant emission concentrations.

Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall use the parameters measured above and MBARD-approved calculation methods to calculate the following parameters:

d. Heat Input.
e. Corrected NO_x concentrations, NO_x mass emissions (as NO_2), corrected CO concentrations, and CO mass emissions.

As specified below, Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall calculate and record the following data:

f. Total Heat Input Rate for every clock hour.
g. The NO_x mass emissions (as NO_2), and corrected average NO_x emission concentration for every clock hour.
h. The CO mass emissions for every clock hour, and corrected average CO emission concentration for every three-hour rolling clock hour period.
i. For each calendar day, the facility total NO_x mass emission (as NO_2) and the facility total

CO mass emissions.

j. For each calendar quarter, the facility total NO_x mass emission (as NO_2) and the facility total CO mass emissions.

k. For each calendar year, the facility total NO_x mass emission (as NO_2) and the facility total CO mass emissions.

46. Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall calculate and record on a daily basis, the Volatile Organic Compound (VOC) mass emissions, Fine Particulate Matter (PM_{10}) mass emissions, Sulfur Dioxide (SO_2) mass emissions, and Ammonia (NH_3) mass emissions from each combustion source and the cooling tower. Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall use the actual heat input rates, actual Start-up times, actual Shutdown times, and MBARD-approved emission factors to calculate these emissions. The calculated emissions shall be presented as follows: [MBARD Rule 207]

a. For each calendar day, VOC, PM_{10}, SO_2, and NH_3 mass emissions shall be summarized for each source.

b. On a daily basis, the cumulative total VOC, PM_{10}, SO_2 and NH_3 mass emissions shall be summarized for each calendar quarter and for the calendar year.

47. Calpine King City Cogen, LLC shall monitor SO_2 emissions from the Frame 7 Turbine in accordance with 40 CFR Part 72 and 75. [MBARD Rule 219 and 40 CFR Section §75.11(d)]

48. The Gilroy Energy Center, LLC for King City shall monitor SO_2 emissions from the LM6000 Turbine in accordance with 40 CFR Part 72 and 75. [MBARD Rule 219 and 40 CFR Section §75.11(d)]

49. CEMs shall be installed and operated on the Frame 7 Turbine. This system shall be designed to continuously record the measured gaseous concentrations, and calculate and continuously monitor and record the CO, CO_2 or O_2, and NO_x concentrations corrected to fifteen (15) percent oxygen (O_2) on a dry basis. [MBARD Rules 201, 213, 219 and 40 CFR 64]

The equipment installed for the continuous monitoring of CO shall be maintained and operated in accordance with 40 CFR Part 60 Appendix F, and the equipment installed for the continuous monitoring of CO_2 or O_2 and NO_x shall be maintained and operated in accordance with 40 CFR Parts 72 and 75.

50. CEMs shall be installed and operated on the LM6000 Turbine. This system shall be designed to continuously record the measured gaseous concentrations, and calculate and continuously monitor and record the CO, CO_2 or O_2, and NO_x concentrations corrected to fifteen (15) percent oxygen (O_2) on a dry basis. [MBARD Rules 201, 213, 219 and 40 CFR 64]

The equipment installed for the continuous monitoring of CO shall be maintained and operated in accordance with 40 CFR Part 60 Appendix F, and the equipment installed for the continuous monitoring of CO_2 or O_2 and NO_x shall be maintained and operated in accordance with 40 CFR

Parts 72 and 75.

51. A written Quality Assurance program for the Frame 7 Turbine CEM must be established in accordance with 40 CFR Part 75, Appendix B for NO_x and 40 CFR Part 60, Appendix F for CO which includes, but is not limited to: procedures for daily calibration testing, quarterly linearity and leak testing, record keeping and reporting implementation, and relative accuracy testing. [MBARD Rule 219]

52. A written Quality Assurance program for the LM6000 Turbine CEM must be established in accordance with 40 CFR Part 75, Appendix B for NO_x and 40 CFR Part 60, Appendix F for CO which includes, but is not limited to: procedures for daily calibration testing, quarterly linearity and leak testing, record keeping and reporting implementation, and relative accuracy testing. [MBARD Rule 219]

53. The ammonia emissions shall be monitored by the using the following ammonia slip calculation: [MBARD Rule 207]

NH_3 slip (ppmvd @ 15% O_2) = ((NH_3 fed ppm - (NO_x in ppm - NO_x out ppm))*(20.9-15)/(20.9-O2)))*b

Where:

NH_3 fed in ppm = ((NH_3 injection rate, lb/hr*a)/(Q*Fd*4.4096E-8))((20.9 - O_2%)/20.9)
4.4096E-8 = (K-factor constant) corrects for the molecular weight of ammonia
a = Ammonia Concentration (in % by weight/100)
b = Correction Factor based on source test data
Q = Fuel Flow mmbtu/hr
Fd = 8710 scf/mmbtu

54. A continuous monitoring system must be operated to monitor and record the fuel consumption of the Frame 7 Turbine. This system must be accurate to within ± 5 percent. [MBARD Rule 207; 40 CFR Part 60, Subpart GG]

55. Continuous emission monitoring systems must be calibrated and operated to measure each auxiliary boiler exhaust for NO_x, CO and O_2. The system shall continuously record the NO_x and CO concentrations corrected to a value of 3 percent O_2, dry, and the NO_x and CO mass emission rates in pounds per hour. The system shall meet all the requirements of MBARD Rule 213, which requires the CEMS to be operated and maintained in good working order and meet the standards of 40 CFR Parts 72 and 75. [MBARD Rule 207; MBARD Rule 213 and 40 CFR 64]

56. Continuous emission monitoring system must be calibrated and operated to measure the combined cycle cogeneration facility's exhaust for NO_x, CO, and O_2. The system shall continuously record the NO_x and CO concentrations corrected to a value of 15% O_2, dry, and the NO_x and CO mass emission rates in pounds per hour. The system shall meet all requirements of MBARD Rule 213,

which requires the CEMS to be operated and maintained in good working order and meet the standards of 40 CFR Parts 72 and 75. [MBARD Rule 207, MBARD Rule 213 and 40 CFR 64]

57. Instrumentation must be operated to measure the SCR catalysts inlet temperature and pressure differential across the SCR catalysts. [MBARD Rule 207]

58. Instrumentation must be operated to measure the auxiliary boiler oxidation catalyst inlet temperature and pressure differential across the oxidation catalyst. [MBARD Rule 207]

59. Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall monitor and record all start-up, shutdown, and operational profiles in a log maintained on site. [MBARD Rules 207 and 218]

60. Calpine King City Cogen, LLC shall monitor and record all periods of oil firing in a log maintained on site and shall submit a summary of this data on an annual basis, at renewal time of MBARD (non Title V) Permit to Operate. [MBARD Rule 207]

61. Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall submit to MBARD upon request at the time of annual MBARD (non Title V) Permit to Operate renewal, the annual natural gas fuel consumption, annual electricity generated, and annual emissions of NO_x, CO, TOG, and ammonia from this equipment for the preceding calendar year. [MBARD Rule 207]

62. As applicable Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall maintain the following general records of required monitoring information [MBARD Rule 218]:

A) the date and time of sampling or measurements;
B) the date(s) analyses were performed;
C) the company or entity that performed the analyses;
D) the analytical techniques or methods used;
E) the results of such analyses;
F) the operating conditions existing at the time of sampling or measurement; and
G) the records of quality assurance for continuous monitoring systems (including, but not limited to quality control activities, audits, and calibration drift checks) and source testing methods.

63. Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring, sample collection, measurement, report, and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. [MBARD Rule 218]

REPORTING REQUIREMENTS

64. Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall report breakdowns which results in the inability to comply with any emission standard or requirement contained on this permit to the Air Pollution Control Officer (APCO) within one hour of the occurrence, this one hour period may be extended up to six hours for good cause by the APCO. The APCO may elect to take no enforcement action if Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City demonstrate to the APCO's satisfaction that a breakdown condition exists.

The estimated time for repair of the breakdown shall be supplied to the APCO within twenty-four (24) hours of the occurrence and a written report shall be supplied to the APCO within five (5) days after the occurrence has been corrected. This report shall include at a minimum [MBARD Rule 214]:

A) a statement that the condition or failure has been corrected and the date of correction; and

B) a description of the reason(s) for the occurrence; and

C) a description of the corrective measures undertaken and/or to be undertaken to avoid such an occurrence in the future; and

D) an estimate of the emissions caused by the condition or failure.

65. Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall submit monthly reports to MBARD, in a MBARD approved format, within 45 days from the end of the month and these shall include [MBARD Rules 207, 213 & 218]:

A) the time intervals, date and magnitude of excess emissions, nature and cause of the excess (if known), corrective actions and preventative measures adopted; and

B) the averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard for the pollutant in question; and

C) time and date of each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of system repairs and adjustments; and

D) all information pertaining to any monitoring as required by the permit (conditions 46 – 50, 53 – 55, and 59 – 61); and

E) a negative declaration specifying when no excess emissions occurred; and

F) a summary of actual monthly emissions from the CEM for all equipment which operated.

66. Calpine King City Cogen, LLC shall submit quarterly Electronic Data Reports (EDR) to EPA for the Frame 7 Turbine. These reports must be submitted within 30 days following the end of each calendar quarter and shall include all information required in §75.64. [40 CFR Part 75]

67. The Gilroy Energy Center, LLC for King City shall submit quarterly Electronic Data Reports (EDR) to EPA for the LM6000 Turbine. These reports must be submitted within 30 days following the end of each calendar quarter and shall include all information required in §75.64. [40 CFR Part 75]

68. Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall submit the total quarterly emissions, to verify compliance with Condition 23, to MBARD within 45 days from the end of each calendar quarter. [MBARD Rule 207]

The total quarterly emissions for NO_x and CO shall be reported based upon the actual recorded CEM data as specified in Condition 45. Quarterly emissions of SO_x (as SO_2), PM_{10}, and VOC shall be reported as specified in Condition 46.

69. Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall submit an annual compliance certification report to MBARD and U.S. EPA, in a MBARD approved format, no later than February 15 for the period of January 1 through December 31 of the preceding year. [MBARD Rule 218]

This report shall include a written statement from the responsible official which certifies the truth, accuracy, and completeness of the report and shall include at a minimum:

A) identification of each term or condition of the permit that is the basis of the certification; and

B) the compliance status; and

C) whether compliance was continuous or intermittent; and

D) the method(s) used for determining the compliance status of the source, currently and over the reporting period.

GENERAL CONDITIONS

70. Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall comply with all conditions of this federal operating permit. Any noncompliance with a permit condition constitutes a violation of the Federal Clean Air Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. [MBARD Rule 218]

71. In an enforcement action, the fact that Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City would have to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit is not a defense. [MBARD Rule 218]

72. This permit may be modified, revoked, reopened and reissued, or terminated for cause as determined by MBARD. The filing of a request by Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [MBARD Rule 218]

73. This permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. [MBARD Rule 218]

74. Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall furnish to MBARD, within a reasonable time, any information that MBARD may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall also furnish to MBARD copies of records required to be retained by this permit. [MBARD Rule 218]

75. For applicable requirements that will become effective during the permit term, Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall meet such requirements on a timely basis unless a more detailed schedule is expressly required by the applicable requirement. [MBARD Rule 218]

76. Any document submitted to MBARD pursuant to this permit shall contain certification by the responsible official of truth, accuracy and completeness. All certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall promptly, upon discovery, report to MBARD a material error or omission in these records, reports, plans, or other documents. [MBARD Rule 218]

77. Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall report any violation of any emission standard, as indicated by the records of the monitoring device, to MBARD within 96 hours after such occurrence. The violation report shall include the time intervals, date and magnitude of excess emissions; nature and cause of the excess (if known), corrective actions and preventive measures adopted. [MBARD Rule 218]

78. Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall report any deviation from permit requirements to MBARD within 96 hours after of occurrence. The report shall include deviations attributable to upset conditions (as defined in the permit), the probable cause of any deviation, and any corrective actions or preventive measure taken. [MBARD Rule

218]

79. Upon any administrative or judicial challenge, all the emission limits, specific and general conditions, monitoring, record keeping, and reporting requirements of this permit, except those being challenged, remain valid and must be complied with. [MBARD Rule 218]

80. For this federal operating permit to remain valid through the permit term of five years from the date of issuance, Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall pay an annual emission fee based upon the requirements of MBARD Rule 308. [MBARD Rule 218]

81. Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall have available at the facility at all times a copy of this federal operating permit. [MBARD Rule 218]

82. For protection from enforcement action based upon an emergency, as defined in MBARD Rule 218, the responsible official for Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall submit to MBARD relevant evidence which demonstrates [MBARD Rule 218]:

A) an emergency occurred; and

B) that Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City can identify the cause(s) of the emergency; and

C) that the facility was being properly operated at the time of the emergency; and

D) that all steps were taken to minimize the emissions resulting from the emergency; and

E) within two working days of the emergency event, Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City provided MBARD with a description of the emergency and any mitigating or corrective actions taken.

83. Upon presentation of credentials, Calpine King City Cogen, LLC and the Gilroy Energy Center, LLC for King City shall allow MBARD, the ARB, the EPA, or an authorized representative, to perform the following [MBARD Rule 218]:

A) enter upon the premises where the federal operating permit source is located or in which any records are required to be kept under the terms and conditions of this federal operating permit;

B) to have access to and copy any records required to be kept under the terms and conditions of this federal operating permit;

C) to inspect any equipment, operation, or process described or required in this federal operating permit; and,

D) to sample emissions from the source.

84. The renewal application for this permit shall be submitted at least 6 months but no greater than 18 months prior to permit expiration. [MBARD Rule 218]

****

MONTEREY BAY AIR RESOURCES DISTRICT
TITLE IV ACID RAIN PERMIT

24580 Silver Cloud Court
Monterey, CA 93940
Telephone: (831) 647-9411

Effective June 28, 2023 through June 28, 2028

ISSUED TO:

Calpine King City Cogen, LLC & Gilroy Energy Center, LLC for King City Power Plant
750 Metz Road
King City, CA 93930

PLANT SITE LOCATION:

750 Metz Road & 51 Don Bates Way
King City, CA 93930

ISSUED BY:

Mary Giraudo, For
Richard Stedman, Air Pollution Control Officer

June 28, 2023
Effective Date

ORIS Code: 10294

Nature of Business: Electric Power Generation

SIC Code: 4911 - Electric Power Generation

DESIGNATED REPRESENTATIVE:

Name: Mr. Chuck Spandri
Title: Plant Manager Central Coast Projects
Phone: (408) 337-3429

ALTERNATIVE DESIGNATED REPRESENTATIVES:

Name: Mr. Raymond Abrams
Title: Manager Operations and Maintenance
King City Energy Center
Phone: (831) 385-7947

Name: Mr. Gary Fuller
Title: EHS Specialist
Phone: (661) 282-4405

ACID RAIN PERMIT CONTENTS

1) Statement of Basis

2) The applicable SO_2 and NO_x emissions limitations.

3) Comments, notes and justifications regarding permit decisions and changes made to the permit application forms during the review process, and any additional requirements or conditions.

4) The permit application submitted for this source. The owners and operators of the source must comply with the standard requirements and special provisions set forth in the application.

1) STATEMENT OF BASIS

Statutory and Regulatory Authorities: In accordance with MBARD Rules 218 and 219 and Titles IV and V of the Clean Air Act, the Monterey Bay Air Resources District issues this permit pursuant MBARD Rules 218 and 219.

2) SO_2 AND NO_x EMISSIONS LIMITATIONS

	Pollutant	Requirement
UNIT CTG	SO_2 Emissions Limitation	King City Power Plant shall hold Sulfur Dioxide Allowances not less than the total annual emissions of sulfur dioxide for the previous calendar year from the Frame 7 (unit GTG) and LM6000 (unit 2) Turbines.
	NO_x Emissions Limitation	This unit is not subject to the NO_x requirements from 40 CFR Part 76 as this unit is not capable of firing on coal.

	Pollutant	Requirement
UNIT 2	SO_2 Emissions Limitation	King City Power Plant shall hold Sulfur Dioxide Allowances not less than the total annual emissions of sulfur dioxide for the previous calendar year from the Frame 7 (unit GTG) and LM6000 (unit 2) Turbines.
	NO_x Emissions Limitation	This unit is not subject to the NO_x requirements from 40 CFR Part 76 as this unit is not capable of firing on coal.

3) COMMENTS, NOTES AND JUSTIFICATIONS

None

4) PERMIT APPLICATION

Attached

Attachment 2

2024 Monthly Operating, Availability and Capacity Summary Reports

CALPINE NERC GADS DATABASE
GADS ANALYSIS & REPORTING

Operating Data Summary

January 2024 Through December 2024

MONTH	GENERATION MWh		STARTS		SERVICE HOURS	OUTAGE HOURS	PRIMARY FUEL QUANTITY BURNED	SECONDARY FUEL QUANTITY BURNED	HEAT RATE Btu/kWh	
	GROSS	NET	ATT	ACT					GROSS	NET
KING CITY ALL UNITS										
2024										
Jan 2024	1,585	1,524	12	12	37.10	0.00			9,455	9,833
Feb 2024	1,001	972	6	6	22.00	158.12			9,189	9,463
Mar 2024	526	508	3	3	12.04	1,119.62			9,757	10,103
Apr 2024	4,567	4,413	15	15	100.73	0.00			9,311	9,636
May 2024	154	147	3	3	4.27	0.00			9,936	10,410
Jun 2024	465	447	6	6	11.55	0.00			9,742	10,143
Jul 2024	10,448	10,121	47	47	234.41	12.00			9,061	9,354
Aug 2024	7,258	7,001	21	21	160.91	136.44			8,926	9,254
Sep 2024	6,248	6,028	18	18	140.44	347.83			8,971	9,299
Oct 2024	13,399	12,943	27	27	285.97	48.15			8,664	8,970
Nov 2024	3,342	3,213	30	30	83.66	1,296.22			9,927	10,326
Dec 2024	2,703	2,612	13	13	55.38	630.25			8,880	9,187
2024	51,696	49,929	201	201	1,148.46	3,748.63			9,027	9,347

CALPINE NERC GADS DATABASE
GADS ANALYSIS & REPORTING

Operating Data Summary

January 2024 Through December 2024

MONTH	GENERATION MWh		STARTS		SERVICE HOURS	OUTAGE HOURS	PRIMARY FUEL QUANTITY BURNED	SECONDARY FUEL QUANTITY BURNED	HEAT RATE Btu/kWh	
	GROSS	NET	ATT	ACT					GROSS	NET
KING CITY ALL UNITS										
Totals for all specified time periods										
TOTALS	51,696	49,929	201	201	1,148.46	3,748.63			9,027	9,347

CALPINE NERC GADS DATABASE
GADS ANALYSIS & REPORTING

Operating Data Summary

January 2024 Through December 2024

MONTH	GENERATION MWh GROSS	GENERATION MWh NET	STARTS ATT	STARTS ACT	SERVICE HOURS	OUTAGE HOURS	PRIMARY FUEL QUANTITY BURNED	SECONDARY FUEL QUANTITY BURNED	HEAT RATE Btu/kWh GROSS	HEAT RATE Btu/kWh NET
KING CITY CT1										
2024										
Jan 2024	342	330	1	1	6.05	0.00	4.340 MMcf GG	0.000	13,299	13,782
Feb 2024	654	637	1	1	10.05	0.00	7.940 MMcf GG	0.000	12,658	12,988
Mar 2024	373	360	2	2	7.28	557.72	4.920 MMcf GG	0.000	13,704	14,199
Apr 2024	3,093	2,987	6	6	52.08	0.00	39.820 MMcf GG	0.000	13,311	13,784
May 2024	0	0	0	0	0.00	0.00	0.000 MMcf GG	0.000		
Jun 2024	0	0	0	0	0.00	0.00	0.000 MMcf GG	0.000		
Jul 2024	5,714	5,698	14	14	97.00	6.00	71.230 MMcf GG	0.000	12,978	13,012
Aug 2024	4,247	4,100	8	8	70.93	67.72	52.070 MMcf GG	0.000	12,775	13,233
Sep 2024	4,121	3,973	8	8	71.70	0.00	51.600 MMcf GG	0.000	13,009	13,494
Oct 2024	7,043	6,816	5	5	108.07	15.50	84.160 MMcf GG	0.000	12,308	12,717
Nov 2024	0	0	0	0	0.00	648.00	0.000 MMcf GG	0.000		
Dec 2024	1,491	1,443	2	2	21.98	257.00	17.980 MMcf GG	0.000	12,383	12,796
2024	27,077	26,344	47	47	445.14	1,551.94			12,788	13,144

CALPINE NERC GADS DATABASE
GADS ANALYSIS & REPORTING

Operating Data Summary

January 2024 Through December 2024

MONTH	GENERATION MWh GROSS	GENERATION MWh NET	STARTS ATT	STARTS ACT	SERVICE HOURS	OUTAGE HOURS	PRIMARY FUEL QUANTITY BURNED	SECONDARY FUEL QUANTITY BURNED	HEAT RATE Btu/kWh GROSS	HEAT RATE Btu/kWh NET
KING CITY CT1										
Totals for all specified time periods										
TOTALS	27,077	26,344	47	47	445.14	1,551.94			12,788	13,144

CALPINE NERC GADS DATABASE
GADS ANALYSIS & REPORTING

Operating Data Summary

January 2024 Through December 2024

MONTH	GENERATION MWh GROSS	GENERATION MWh NET	STARTS ATT	STARTS ACT	SERVICE HOURS	OUTAGE HOURS	PRIMARY FUEL QUANTITY BURNED	SECONDARY FUEL QUANTITY BURNED	HEAT RATE Btu/kWh GROSS	HEAT RATE Btu/kWh NET
KING CITY ST1										
2024										
Jan 2024	149	143	1	1	4.80	0.00	0.000 WH	0.000	0	0
Feb 2024	282	273	1	1	8.62	0.00	0.000 WH	0.000	0	0
Mar 2024	153	148	1	1	4.76	560.27	0.000 WH	0.000	0	0
Apr 2024	1,340	1,297	6	6	44.98	0.00	0.000 WH	0.000	0	0
May 2024	0	0	0	0	0.00	0.00	0.000 WH	0.000		
Jun 2024	0	0	0	0	0.00	0.00	0.000 WH	0.000		
Jul 2024	2,604	2,384	14	14	83.28	6.00	0.000 WH	0.000	0	0
Aug 2024	1,917	1,855	8	8	63.21	67.72	0.000 WH	0.000	0	0
Sep 2024	1,881	1,819	8	8	62.60	0.00	0.000 WH	0.000	0	0
Oct 2024	3,268	3,165	5	5	103.80	15.50	0.000 WH	0.000	0	0
Nov 2024	0	0	0	0	0.00	648.00	0.000 WH	0.000		
Dec 2024	655	635	2	2	18.78	258.77	0.000 WH	0.000	0	0
2024	12,249	11,720	46	46	394.83	1,556.26			0	0

CALPINE NERC GADS DATABASE
GADS ANALYSIS & REPORTING

Operating Data Summary

January 2024 Through December 2024

MONTH	GENERATION MWh GROSS	GENERATION MWh NET	STARTS ATT	STARTS ACT	SERVICE HOURS	OUTAGE HOURS	PRIMARY FUEL QUANTITY BURNED	SECONDARY FUEL QUANTITY BURNED	HEAT RATE Btu/kWh GROSS	HEAT RATE Btu/kWh NET
KING CITY ST1										
Totals for all specified time periods										
TOTALS	12,249	11,720	46	46	394.83	1,556.26			0	0

CALPINE NERC GADS DATABASE
GADS ANALYSIS & REPORTING

Operating Data Summary

January 2024 Through December 2024

MONTH	GENERATION MWh GROSS	GENERATION MWh NET	STARTS ATT	STARTS ACT	SERVICE HOURS	OUTAGE HOURS	PRIMARY FUEL QUANTITY BURNED	SECONDARY FUEL QUANTITY BURNED	HEAT RATE Btu/kWh GROSS	HEAT RATE Btu/kWh NET
KING CITY PEAKER JT1										
2024										
Jan 2024	1,094	1,051	10	10	26.25	0.00	9.960 MMcf GG	0.000	9,541	9,931
Feb 2024	66	62	4	4	3.33	158.12	0.890 MMcf GG	0.000	14,126	14,977
Mar 2024	0	0	0	0	0.00	1.63	0.020 MMcf GG	0.000		
Apr 2024	134	129	3	3	3.67	0.00	1.310 MMcf GG	0.000	10,088	10,480
May 2024	154	147	3	3	4.27	0.00	1.470 MMcf GG	0.000	9,936	10,410
Jun 2024	465	447	6	6	11.55	0.00	4.340 MMcf GG	0.000	9,742	10,143
Jul 2024	2,130	2,038	19	19	54.13	0.00	19.710 MMcf GG	0.000	9,632	10,067
Aug 2024	1,094	1,046	5	5	26.77	1.00	10.110 MMcf GG	0.000	9,627	10,067
Sep 2024	246	236	2	2	6.14	347.83	2.350 MMcf GG	0.000	9,934	10,355
Oct 2024	3,089	2,962	17	17	74.10	17.15	28.560 MMcf GG	0.000	9,524	9,932
Nov 2024	3,342	3,213	30	30	83.66	0.22	32.150 MMcf GG	0.000	9,927	10,326
Dec 2024	557	534	9	9	14.62	114.48	5.390 MMcf GG	0.000	9,940	10,364
2024	12,370	11,865	108	108	308.49	640.43			9,735	10,150

CALPINE NERC GADS DATABASE
GADS ANALYSIS & REPORTING

Operating Data Summary

January 2024 Through December 2024

MONTH	GENERATION MWh GROSS	GENERATION MWh NET	STARTS ATT	STARTS ACT	SERVICE HOURS	OUTAGE HOURS	PRIMARY FUEL QUANTITY BURNED	SECONDARY FUEL QUANTITY BURNED	HEAT RATE Btu/kWh GROSS	HEAT RATE Btu/kWh NET
KING CITY PEAKER JT1										
Totals for all specified time periods										
TOTALS	12,370	11,865	108	108	308.49	640.43			9,735	10,150

CALPINE NERC GADS DATABASE
GADS ANALYSIS & REPORTING

Operating Data Summary

January 2024 Through December 2024

MONTH	GENERATION MWh		STARTS		SERVICE HOURS	OUTAGE HOURS	PRIMARY FUEL QUANTITY BURNED	SECONDARY FUEL QUANTITY BURNED	HEAT RATE Btu/kWh	
	GROSS	NET	ATT	ACT					GROSS	NET

January 2024 Through December 2024

The following Group was selected
KING CITY ALL UNITS

Attachment 3

2024 Title V Annual Certification Report

Provided Under Separate Submittal

CERTIFICATION REPORT
(FORM 218-K1)

DISTRICT:	< DISTRICT USE ONLY =
MBUAPCD	DISTRICT ID:
COMPANY NAME: Calpine King City Cogeneration, LLC; and Gilroy Energy Center, LLC For King City	FACILITY NAME: Calpine King City Cogeneration, LLC; and Gilroy Energy Center, LLC For King City

I. FACILITY INFORMATION

1. Company Name: Calpine King City Cogeneration, LLC and Gilroy Energy Center, LLC for King City
2. Facility Name (if different than Company Name): Calpine King City Cogeneration, LLC & Gilroy Energy Center, LLC for King City
3. Mailing Address: 750 Metz Road, King City, CA 93930
4. Street Address or Source Location: 750 Metz Road, King City, CA and 51 Don Bates Way, King City, CA 93930
5. Facility Permit Number: TV-0000012C and TV-112 Effective 6/27/2023

II. GENERAL INFORMATION

1. Reporting period (specify dates): 1/1/2024 – 12/31/2024
2. Due date for submittal of report: 2/15/2025

3. Type of submittal: [X] Monitoring Report (complete Section III below)
   [X] Compliance Schedule Progress Report (complete Section IV of Form 218-K2)
   [X] Compliance Certification (complete Section V of Form 218-K2)

III. MONITORING REPORT INFORMATION

1. Were deviations from monitoring requirements encountered during the reporting period?
   [ ] No [X] Yes

2. Were deviations from permit conditions discovered during the required monitoring?
   [ ] No [X] Yes (If Yes, complete Form 218-L or a summary of previously reported deviations)

CERTIFICATION REPORT
(FORM 218-K2)

DISTRICT:	< DISTRICT USE ONLY =
MBUAPCD	DISTRICT ID:
COMPANY NAME: Calpine King City Cogeneration, LLC; and Gilroy Energy Center, LLC For King City	FACILITY NAME: Calpine King City Cogeneration, LLC; and Gilroy Energy Center, LLC For King City

IV. COMPLIANCE SCHEDULE PROGRESS INFORMATION

1. Dates the activities, milestones, or compliance required by schedule of compliance was achieved/will be achieved:

- ***The Calpine King City Cogen Auxiliary Boiler 2 CEM Sample Pump breakdown, which occurred at 9:52am on July 11, 2024. The sample pump was removed and replaced by the IC&E Technician with a spare sample pump from inventory. The Auxiliary Boiler 2 CEMS was place back into service on July 11, 2024at approximately 10:49 am. The Auxiliary Boiler CEMS was then placed into on online calibration at approximately 11:17 am and passed all parameters with no further issues to report. (See Attachment 2 – Breakdown/Deviation Reporting Form)***

2. Provide explanation of why any dates in schedule of compliance were not/will not be met:

- ***All dates of compliance were met in 2024.***

3. Describe in chronological order preventive or corrective action taken:

- ***Refer to Attachments 2 for a description of the preventative and corrective actions taken.***

V. COMPLIANCE CERTIFICATION

1. Was source in compliance during the reporting period specified in Section II of Form 218-K1?

[ ] Yes [X] No (If no, document period(s) of noncompliance or resubmit Forms 218-I and J) See form 218-L ***(Refer to Attachment 1, Compliance Certification Report)***

2. Is source currently in compliance with all applicable federal requirements and permit conditions?

[X] Yes [ ] No

I certify based on information and belief formed after reasonable inquiry, the statement and information in this document and supplements are true, accurate, and complete.

Signature of Responsible Official Signed by: Chuck Spandri F836CADA2C534E1... Date: **February 11, 2025**

Print Name of Responsible Official: **Chuck Spandri**

Title of Responsible Official and Company Name: **Plant Manager, Central Coast Projects, Calpine Corp.**

Telephone Number of Responsible Official: **(408) 337-3429**

DEVIATION REPORT
(FORM 218-L)

DISTRICT:	< DISTRICT USE ONLY =
MBUAPCD	DISTRICT ID:
COMPANY NAME: Calpine King City Cogeneration, LLC; and Gilroy Energy Center, LLC For King City	FACILITY NAME: Calpine King City Cogeneration, LLC; and Gilroy Energy Center, LLC

I. DEVIATION INFORMATION

1. Permit number(s) of emission unit or control unit affected:

- ***Refer to Attachment 2 for the permit numbers associated with affected units.***

2. Description of deviation:

- ***Refer to Attachment 2 for a description of the deviation.***

3. Description and identification of permit condition(s) deviated:

- ***Refer to Attachment 2 for a description and identification of permit conditions deviated.***

4. Associated equipment and equipment operation (if any):

- ***Refer to Attachment 2 for a description of associated equipment and equipment operation.***

5. Date and time and duration of deviation:

- ***Refer to Attachment 2 for the date and time of the deviation was discovered.***

6. Date, time when deviation was discovered:

- ***Refer to Attachment 2 for when deviation was discovered.***

7. Probable cause of deviation:

- ***Refer to Attachment 2 for the probable cause of the deviation.***

8. Preventive or corrective action taken:

- ***Refer to Attachment 2 for the preventive and corrective actions taken.***

Attachment 1

Calpine King City Cogen and
Gilroy Energy Center for King City
Title V Compliance Certification Report for 2024

ATTACHMENT 1

COMPLIANCE CERTIFICATION REPORT 2024

CALPINE KING CITY COGEN AND GILROY ENERGY CENTER

Reporting Period: January 1, 2024 to December 31, 2024

Title V Permit TV-0000012C and TV-112 Effective 6/27/2023

CONDITION	DESCRIPTION	COMPLIANCE STATUS (Continuous or Intermittent)	METHOD USED TO DETERMINE COMPLIANCE STATUS
1	Cogen turbine hourly & daily limits*	Continuous Compliance	CEM and Annual Compliance Tests
2	Boiler hourly limits*	Continuous Compliance	CEM and Annual Compliance Tests
3	Cogen turbine hourly limit 9.0ppm*	Continuous Compliance	CEM and Annual Compliance Tests
4	Boiler NOx limits 40ppm & 100ppm*	Continuous Compliance	CEM and Annual Compliance Tests
5	Cogen turbine ammonia 10ppm limit 3Hr rolling average*	Continuous Compliance	CEM and Annual Compliance Tests
6	Cogen turbine 3-HR CO 10 ppm limit*	Continuous Compliance	CEM and Annual Compliance Tests
7	Peaker turbine max heat rate 500 MMBtu/hour	Continuous Compliance	CEM & Plant data
8	Peaker turbine daily Limits	Continuous Compliance	CEM & Annual compliance test.
9	Peaker turbine hourly & daily Limits*	Continuous Compliance	CEM & Annual compliance test
10	Peaker turbine NOx, CO & NH3 ppm limits (3hr)	Continuous Compliance	CEM & Annual compliance test.
11	Peaker turbine Startup Limits	Continuous Compliance	CEM
12	Cogen limits on fuel oil	Continuous Compliance	No fuel oil fired
13	Cogen limits on fuel oil	Continuous Compliance	No fuel oil fired
14	Cogen limits on fuel oil	Continuous Compliance	No fuel oil fired
15	Cogen limits on fuel oil	Continuous Compliance	No fuel oil fired
16	Cogen limits on fuel oil	Continuous Compliance	No fuel oil fired
17	Cogen limits on fuel oil	Continuous Compliance	No fuel oil fired
18	Cogen turbine tuning limits (100 hr/year)	Continuous Compliance	Logbook and MBUAPCD notification. No tuning was performed in 2024
19	Cogen boiler tuning limits (50 hr/year per boiler)	Continuous Compliance	Logbook and MBUAPCD notification. No tuning was performed in 2024
20	Maintain Startup Protocols	Continuous Compliance	Protocol on site and reviewed

ATTACHMENT 1

COMPLIANCE CERTIFICATION REPORT 2024

CALPINE KING CITY COGEN AND GILROY ENERGY CENTER

Reporting Period: January 1, 2024 to December 31, 2024

Title V Permit TV-0000012C and TV-112 Effective 6/27/2023

CONDITION	DESCRIPTION	COMPLIANCE STATUS (Continuous or Intermittent)	METHOD USED TO DETERMINE COMPLIANCE STATUS
21	Cogen Facility Daily NOx Limit (1,070 Lbs)	Continuous Compliance	CEM and Plant data
22	Cogen & Peaker Faciliies quarterly & annual limits	Continuous Compliance	CEM and Plant data
23	Boiler training and testing requirements	Continuous Compliance	Logbook and plant records
24	Operation in compliance with applications to District and CEC	Continuous Compliance	Compliance Reports to MBARB & CEC
25	Equipment must be properly maintained & operated	Continuous Compliance	Logbook and plant records
26	Air pollution control equipment must be in full use	Continuous Compliance	Logbook and plant records
27	Cooling tower PM 10 not to exceed 20 lbs/day	Continuous Compliance	Operational records, calculations & CEM
28	No chemical with chromium to be used in cooling tower	Continuous Compliance	No chromium in water treatment chemicals, MSDS
29	SOx allowances for GEC account	Continuous Compliance	SO2 Allowance account established and necessary deposits made.
30	No air contaminent above 20% opacity	Continuous Compliance	Air Monitoring station operated
31	Operate and air monitoring station	Continuous Compliance	Air Monitoring station operated
32	Cogen and Peaker comply with 40 CFR part 68 -RMP	Continuous Compliance	All requirements met
33	Comply with 40 CFR part 82 -Ozone	Continuous Compliance	Refrigeration Contractors EPA Certified
34	Annual compliance testing of Cogen gas turbine	Continuous Compliance	All requirements met
35	Peaker compliance test every 4,000 hours or <3years	Continuous Compliance	All requirements met

ATTACHMENT 1

COMPLIANCE CERTIFICATION REPORT 2024

CALPINE KING CITY COGEN AND GILROY ENERGY CENTER

Reporting Period: January 1, 2024 to December 31, 2024

Title V Permit TV-0000012C and TV-112 Effective 6/27/2023

CONDITION	DESCRIPTION	COMPLIANCE STATUS (Continuous or Intermittent)	METHOD USED TO DETERMINE COMPLIANCE STATUS
36	Annual compliance testing of Cogen boilers	Continuous Compliance	All requirements met
37	No testing required for fuel oil firing	Continuous Compliance	No fuel oil delivered for turbine or boilers
38	Fuel oil tested for sulfur content upon receipt.	Continuous Compliance	No fuel oil delivered for turbine or boilers
39	Conduct cogen monthly measurement of cooling tower TDS	Continuous Compliance	Lab tests for TDS, monthly reports
40	Conduct Peaker monthly measurement of cooling tower TDS	Continuous Compliance	Lab tests for TDS, monthly reports
41	Opacity testing required when firing on fuel oil	Continuous Compliance	Records maintained, no fuel oil purchased or used in 2024
42	Cogen & Peaker Record in CEMS all required paramenters, except during maintenance	Continuous Compliance	CEM Records and Plant Records
43	Cogen and Peaker to record daily VOC, PM10, SOx, NH3	Continuous Compliance	CEM Records; Operational Records
44	Cogen monitor SOx emissions acid rain program	Continuous Compliance	All requirements met
45	Peaker monitor SOx emissions acid rain program	Continuous Compliance	All requirements met
46	Install at Cogen a CEMS to continuously record CO, O2 and NOx	Continuous Compliance	CEM Records; Operational Records
47	Install at Peaker a CEMS to continuously record CO, O2 and NOx	Continuous Compliance	CEM Records; Operational Records
48	Cogen to have a written quality assurance plan per 40 CFR 75 Appendix B for NOx and 40 CFR 60 Appendix F for CO	Continuos Compliance	QA/QC Plan, Operational Records

ATTACHMENT 1

COMPLIANCE CERTIFICATION REPORT 2024

CALPINE KING CITY COGEN AND GILROY ENERGY CENTER

Reporting Period: January 1, 2024 to December 31, 2024

Title V Permit TV-0000012C and TV-112 Effective 6/27/2023

CONDITION	DESCRIPTION	COMPLIANCE STATUS (Continuous or Intermittent)	METHOD USED TO DETERMINE COMPLIANCE STATUS
49	Peaker to have a written quality assurance plan per 40 CFR 75 Appendix B for NOx and 40 CFR 60 Appendix F for CO	Continuous Compliance	QA/QC Plan, Operational Records
50	Ammonia slip calc to monitor ammonia emissions	Continuous Compliance	CEMS records and Plant DCS
51	Cogen continuously monitor fuel consumption for gas turbine	Continuous Compliance	Plant DCS and Plant Records
52	Boiler CEMS calibrated daily and measure CO, NOx & O2.	Continuous Compliance	Records maintained
53	Cogen coninuously monitor NOx, CO and O2 emissions	Continuous Compliance	Records maintained
54	Cogen measure SCR temp and dp	Continuous Compliance	Records maintained
55	Boiler catalyst temperature and dp	Intermittent	Plant DCS and Plant Records; See attached Deviation/Breakdown Report for Boiler 2 CEMS Sample Pump Breakdown on July 11, 2024
56	Cogen & Peaker record startup and shutdown profiles in logbook	Intermittent	Plant DCS and Plant Records; See attached Deviation/Breakdown Report for Boiler 2 CEMS Sample Pump Breakdown on July 11, 2024
57	Cogen record fuel oil firing in logbook	Continuous Compliance	Records maintained, no fuel oil purchased or used in 2024
58	Cogen & Peaker submit annual emission inventories for preceding calendar year	Continuous Compliance	Reports submitted on time, as required
59	Cogen & Peaker maintain general records of required monitoring information	Continuous Compliance	Records maintained
60	Cogen & Peaker maintain records for 5 years	Continuous Compliance	Records maintained

ATTACHMENT 1

COMPLIANCE CERTIFICATION REPORT 2024

CALPINE KING CITY COGEN AND GILROY ENERGY CENTER

Reporting Period: January 1, 2024 to December 31, 2024

Title V Permit TV-0000012C and TV-112 Effective 6/27/2023

CONDITION	DESCRIPTION	COMPLIANCE STATUS (Continuous or Intermittent)	METHOD USED TO DETERMINE COMPLIANCE STATUS
61	Breakdown reporting requiremetns	Continuous Compliance	Reports submitted on time, as required
62	Submit Monthly reports to District within 45 days from end of month	Continuous Compliance	Reports submitted on time, as required
63	Cogen to submit qtrly EDR to EPA	Continuous Compliance	Reports submitted on time, as required
64	Peaker to submit qtrly EDR to EPA	Continuos Compliance	Reports submitted on time, as required
65	Submit Qtrly emissions reports to District within 45 days from end of month	Continuous Compliance	Reports submittedon time, as required
66	Submit compliance report to District and EPA by Feb 15th.	Continuous Compliance	Reports submitted on time, as required
67	Comply with all conditions of federal operating permit	Continuous Compliance	All requirements met
68	Halt operation to compy with permit conditions is not a defense	Continuous Compliance	All requirements met
69	This permit may be revoked, reissued by District	Continuous Compliance	No cause for action determined by District
70	No property rights are conveyed by this permit	Continuous Compliance	No rights conveyed by permit
71	Provide data requested by District	Continuous Compliance	All requirements met
72	Meet permit requirements on a timely basis	Continuous Compliance	All requirements met
73	Responsible official to certify documents	Continuous Compliance	All requirements met
74	Report violation, deviation within 96 hours of occurance	Continuous Compliance	No deviations noted on reporting with 96 hours

ATTACHMENT 1

COMPLIANCE CERTIFICATION REPORT 2024

CALPINE KING CITY COGEN AND GILROY ENERGY CENTER

Reporting Period: January 1, 2024 to December 31, 2024

Title V Permit TV-0000012C and TV-112 Effective 6/27/2023

CONDITION	DESCRIPTION	COMPLIANCE STATUS (Continuous or Intermittent)	METHOD USED TO DETERMINE COMPLIANCE STATUS
75	Report deviations within 96 hours of occurance	Continuous Compliance	No deviations noted on reporting with 96 hours
76	Emission limits remain valid unless challenged judicially	Continuous Compliance	No admistrative or judicial challenges
77	Permit valid for 5 years from issuance	Continuous Compliance	Title V Permit TV-112 Issued on June 27, 2023 and is valid for five years, or until June 26, 2028.
78	Federal permit shall be available on site	Continuous Compliance	Title V Permit TV- 112 on file and posted at facility
79	Protection from enforcement during emergency event	Continuous Compliance	No emergency, as defined in District Rule 218
80	Allow District, EPA, the ARB access to plant and records	Continuous Compliance	Access to faiclity granted to authorized personnel
81	Submit renewal application within 18,	Continuous Compliance	Title V Permit TV-112 Issued on June 27, 2023 and is valid for five years, or until June 26, 2028.

Attachment 2

Calpine King City Cogen Auxiliary Boiler 2

CEMS Sample Pump Breakdown Report

MONTEREY BAY
Unified Air Pollution Control District
serving Monterey, San Benito, and Santa Cruz counties

AIR POLLUTION CONTROL OFFICER
Richard Stedman

24580 Silver Cloud Court • Monterey, California 93940 • 831/647-9411 • FAX 831/647-8501

BREAKDOWN/DEVIATION REPORTING FORM
TITLE V FACILITY

Reporting:
✓ **Applicable box(es)**

☑ **BREAKDOWN** - Exceeding Permitted Emission Limits or Rule Requirements due to an unforeseeable Equipment Breakdown.

District Permit to Operate Number: PTO 14744 Condition No.: 11

- ☑ Notify MBUAPCD within 1 Hour @ (831) 647-9411 after occurrence (after-hrs press #7)
- ☑ The Equipment is to operate only until the end of run or 24 hours, whichever is sooner (except for CEM equipment, for which the period shall be 96 hours) at which time it shall be shutdown for repairs. If breakdown will last longer than 24 hours, contact MBUAPCD to file for a variance.
- ☑ Notify MBUAPCD of estimated time for repair within 24 hours of occurrence.
- ☑ Submit Completed Form to Compliance Division of the MBUAPCD within five (5) days after the occurrence has been corrected.

☑ **DEVIATION** - A violation of a requirement contained in the Title V permit.

Title V Permit No.: TV-112 Condition No.: 55 & 56

- ☑ Submit Completed Form (bolded sections) within 96 hours of occurrence to Compliance Division of the MBUAPCD.
- ☑ I certify based on information and belief formed after reasonable inquiry, the statement and information in this document and supplements are true, accurate, and complete.

Signature of Responsible Official: Charles D. Spandri Date: 7/11/2024

Print Name of Responsible Official: Chuck Spandri Title: Plant Manager

Company Name: Calpine King City Cogen	**Phone No.: (831) 970-1015**
Address: 750 Metz Rd., King City, CA 93930	
Person Discovering Incident: Control Room Operator (T.D.)	Date/Time of Discovery: 07/11/2024 09:42 am
Person Reporting Incident: Gary Fuller	Phone No.: (661) 332-2046
Date/Time Breakdown Reported : 07/11/2024 10:10 am	Person Contacted: MBARD Message – (831) 647-9411
Date/Time When Release/Breakdown/Deviation Began: 07-11-2024/09:43 am	
Date/Time When Release/Breakdown/Deviation Stopped:07-11-2024/10:49 am Process shut down No	
Date/Time Breakdown Repair Reported:07/11/2024/ 11:45 PM	Person Contacted: Tyler Patel
Description of equipment and reasons for the occurrence/release/deviation:	
On 7/11/2024, at approximately 9:52 am, the Control Room Operator received CEMs Sample Pump failure on Auxiliary Boiler #2. The IC&E Technician investigated and determined the CEMS sample pump had failed. Steps were then taken to remedy the situation.	
Detail actions(s) taken to reduce or correct incident/deviation:	
The Auxiliary Boiler CEMS sample pump was removed and replaced by the IC&E Technician with a spare sample pump from inventory. The Auxiliary Boiler CEMS was place back into service on 07/11/2024 at approximately 10:49 am. The Auxiliary Boiler CEMS was then placed into on online calibration at approximately 11:17 am and passed all parameters with no further issues to report.	
Detail action(s) to be taken to avoid future reoccurrence (include schedule):	
(1) Investigate and review cause of sample pump failure to determine if further steps are needed to aid in preventing future reoccurrence. (2) Update inventory with new or repaired sample pump.	
Indicate kind and total amount in pounds of release:	
There were no excess emissions related to this breakdown or deviation from permit conditions.	

Attachment 4

2024 Annual Facility Emission Summary

Gilroy Energy Center 2024	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
NOx Emissions	193.78	123	472	964	1,752.38
CO Emissions	20.67	23	107	273	423.90
PM-10 Emissions	59.03	39	174	347	618.74
VOC Emissions	6.33	4	19	38	67.00
SOx Emissions	7.68	5	23	45	80.78
NH3 Emissions	50.24	33	141	307	531.44

King City Cogen 2024	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
NOx Emissions	815.69	1,911	8,637	4,050	15,413.92
CO Emissions	712.26	1,165	4,449	1,308	7,634.46
PM-10 Emissions	44.88	92	422	261	820.16
VOC Emissions	7.32	13	60	33	113.38
SOx Emissions	2.71	0	28	16	46.64
NH3 Emissions	46.96	80	338	181	646.40

Total King City 2024	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
NOx Limit (lbs)	72,452	73,178	73,905	73,905	293,440
NOx Emissions	1,009	2,034	9,109	5,014	17,166
CO Limit (lbs)	58,445	59,095	59,744	59,744	237,028
CO Emissions	733	1,188	4,557	1,581	8,058
PM-10 Limit (lbs)	12,071	12,204	12,339	12,339	48,953
PM-10 Emissions	104	131	596	608	1,439
VOC Limit (lbs)	4,762	4,815	4,868	4,868	19,313
VOC Emissions	14	17	79	71	180
SOx Limit (lbs)	1,748	1,768	1,787	1,787	7,090
SOx Emissions	10	5	51	61	127
NH3 Emissions	97	113	479	489	1,178

Attachment 5

2024 Fire Marshall Inspection Record

CARMEL FIRE PROTECTION
Inspection Record

Jurisdiction:

I) ADMINISTRATIVE INFORMATION

Business Name CAL PINE
Address/Location 750 Metz
Telephone/Contact Number Vehicle
Owner/First Contact

II) FIRE PROTECTION SYSTEMS

Fire Extinguishers Service Date	Service Company	Delinquent OK
Automatic Fire Sprinklers Last Inspection	Service Company	Delinquent OK
Fire Alarm/Detection System Last Inspection	Service Company	Delinquent OK
Fixed Fire Protection System Inspection Date	Service Company	Delinquent
Steam Cleaning (Restaurants) Service Date	Service Company	Delinquent
Other Fire Protection System(s) Service Date	Service Company	Delinquent

III) SPECIFIC OCCUPANCY NOTES

_____Haz Mat over MAQ – Provide Docs

R-1: _____# Units _____ Emergency Placards

Restaurants & A Occ: Occupant Load_____

IV) NOTICES AND ORDERS

Please make all corrections by_____

Failure to do so may result in a fee charged for each additional inspection, a citation into municipal court, or both.

Inspection Date 10/24/24

Inspector Name ABLACK

V) OCCUPANT ACKOWLEDGEMENT

I acknowledge that I have received a copy of this inspection report and that the required corrections shown below and reinspection date have been explained to me.

Signature X

Print Name Raymond Abrams

VI) INSPECTION FINDINGS

X	NO FIRE HAZARDS FOUND! Thank you for keeping our community firesafe!
	Repair holes in ceilings/walls to maintain fire resistance.
	Remove combustible materials within 30" of gas fueled appliances.
	Maintain storage clearances from ceilings or sprinklers (18" minimum)
	Remove electrical extension cords and multi-tap adapters.
	Remove obstructions from exits, aisles, corridors and stairways.
	Service fire protection systems as indicated

VII) NOTES