

DOCKETED

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

**KING CITY POWER PLANT
CALIFORNIA ENERGY COMMISSION
ANNUAL COMPLIANCE REPORT**

Calendar Year 2019

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

**California Energy Commission
2019 Annual Compliance Report
January 1, 2019 - December 31, 2019**

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. The MBARD deemed the application complete and assigned application number TV-0000023 for the Title V permit modification. 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 2019 scheduled outages happened in May to June and in November of 2019. The combustion and steam turbine were each down approximately 1,500 hours to conduct annual maintenance in these outages. Operation details are provided in the Operating, Availability and Capacity Report (Attachment 1).

During all of the above outages, Rava Business Park was supplied steam on as needed basis by the cogeneration plant auxiliary boilers, during the contract term (January 1 to April 28, 2019).

Overall, the facility continued to maintain an excellent record of availability for electrical production, with no interruptions of steam supply.

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 – Refer to 2019 Operating, Availability and Capacity Report (Attachment 1)

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 – No design changes were made during 2019 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 – Refer to 2019 Operating, Availability and Capacity Report (Attachment 1)

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 – 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 2019.

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 2019.

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 2019, 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 renewed and remains valid until June 30, 2020.

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 2019.

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 2019. The facility remained in compliance with this condition in 2019.

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 2019 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 conditions of certification. The facility remained in compliance with this condition in 2019.

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 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 2019 the facility did not implement or make any minor changes to the air pollution control system or the emissions monitoring system. The facility remained in compliance with this condition in 2019.

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 2019. The facility submits the annual Title V compliance certification report to MBUAPCD by Feb 15th of each year. Refer to the 2019 Title V Annual Certification Report (Attachment 2). The MBUAPCD renews the Permits to Operate annually in May. 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 2019. In 2019, the gas turbine emissions remained below the 130 tons per year of NO_x limit and 82 tons per year of CO. Refer to the 2019 Annual Facility Emission Report (Attachment 3).

AQ-08 The maximum annual NO_x 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 2019. In 2019, the gas turbine and boilers annual NO_x emissions total for the plant remained below 133.4 tons per year. Refer to the 2019 Annual Facility Emission Report (Attachment 3).

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 2019. The auxiliary boilers were not fired on No.2 fuel oil for training/testing or natural gas curtailments during 2019.

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 2019. The gas turbine or auxiliary boilers did not operate on No.2 fuel oil during 2019. The No.2 fuel oil storage tank remained empty during 2019.

AQ-16 Submit 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 2019. The gas turbine startup protocol was reviewed and kept current in 2019.

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 2019. The annual compliance test was conducted in June 2019 by Montrose Air Quality Services.

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 2019. The annual compliance testing including ammonia slip was conducted in June 2019 by Montrose Air Quality Services. 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 2019. Neither the gas turbine nor the auxiliary boilers were fired on fuel oil during 2019.

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 2019. 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 2019. Operations of the King City Cogen Power Plant during 2019 have been conducted in compliance with all data and specifications submitted with the application. Also included is the 2019 Title V Annual Certification Report (Attachment 2).

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 2019. The equipment has been properly maintained and kept in good operating condition during the 2019 reporting period. Also included is the 2019 Title V Annual Certification Report (Attachment 2).

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 2019. The plant equipment was not operated in 2019 unless it was vented to air pollution control equipment, which was in full use. Also included is the 2019 Title V Annual Certification Report (Attachment 2).

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 NO₂, PM₁₀, and O₃ 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 2019. 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 2019.

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 2019.

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 2019. 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 2019. Refer to the 2019 Annual Facility Emission Report (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 2019. Monthly cooling tower TDS test samples were collected and analyzed in 2019 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 2019. Emissions from the cooling tower did not exceed 20 pounds per day of PM-10 in 2019. 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 2019. The facility quarterly emissions are submitted quarterly to the MBUAPCD. Refer to the 2019 Annual Facility Emission 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 2019. No Tuning was conducted in 2019.

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 2018. No Tuning was conducted in 2019.

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 2019. The City of King, Fire Marshall conducted a site inspection and reviewed the facility fire protection program on December 13, 2019. 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 2019. The facility has not received any employee complaints in 2019.

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 2019. 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 2019. 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 2019. The transmission line poles site were free of waste material, rubbish and vegetation in 2019.

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 2019. No overload permit(s) were obtained from Caltrans and Monterey County in 2019.
- 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 2019. No encroachment and excavation permit(s) were obtained from the City in 2019.
- 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 2019. Contracted deliveries were in compliance with King City Ordinance in 2019.
- 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 2019. In 2019 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 2019. No utility extensions or new water lines were installed in 2019.

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 2019. All applicable standards, ordinances, and laws regarding ammonia transportation were complied with in 2019.

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 2019. No structures, stacks or tanks were painted in 2019.

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 2019.

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 2019.

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 2019. Coles Environmental Services, a contracted California licensed hazardous waste hauler, was used in 2019 for handling and disposing of facility wastes.

Attachments:

- 1 Operating, Availability and Capacity Report
- 2 Title V Annual Certification Report
- 3 Annual Facility Emission Report
- 4 2019 Fire Marshall Inspection Record

Attachment 1

2019 Operating, Availability and Capacity Report

CALPINE NERC GADS DATABASE
GADS ANALYSIS & REPORTING

Operating Data Summary
January 2019 Through December 2019

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
<u>KING CITY COMBINED CYCLE - COGEN</u>										
Jan 2019	34,969	33,849	44	42	598.37	66.07			8,521	8,803
Feb 2019	32,255	31,253	38	38	551.16	0.00			8,049	8,308
Mar 2019	33,496	32,420	46	44	575.13	39.98			7,967	8,232
Apr 2019	32,091	31,058	45	45	555.86	127.85			8,021	8,288
May 2019	0	0	0	0	0.00	1,488.00				
Jun 2019	1,284	1,233	4	4	25.32	852.68			8,744	9,108
Jul 2019	8,184	7,911	30	30	186.40	10.30			8,804	9,108
Aug 2019	7,212	6,982	37	36	172.51	6.99			9,266	9,572
Sep 2019	11,047	10,700	30	30	238.21	20.34			8,732	9,015
Oct 2019	4,203	4,065	18	18	100.10	9.80			9,039	9,347
Nov 2019	2,040	1,978	10	10	51.67	372.76			9,524	9,823
Dec 2019	0	0	0	0	0.00	42.94				
TOTALS	166,781	161,448	302	297	3,054.73	3,037.71			8,310	8,584

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GADS ANALYSIS & REPORTING

Operating Data Summary
January 2019 Through December 2019

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	
<u>KING CITY CT1</u>											
Jan 2019	24,431	23,486	23	21	308.48	31.89	288.202 MMcf GG	0.000	12,197	12,688	
Feb 2019	22,659	21,823	19	19	283.98	0.00	255.313 MMcf GG	0.000	11,459	11,898	
Mar 2019	23,437	22,529	24	22	296.50	18.68	261.149 MMcf GG	0.000	11,387	11,846	
Apr 2019	22,395	21,532	22	22	286.76	61.62	251.622 MMcf GG	0.000	11,494	11,954	
May 2019	0	0	0	0	0.00	744.00	0.000 MMcf GG	0.000			
Jun 2019	873	830	2	2	13.85	425.75	10.921 MMcf GG	0.000	12,855	13,521	
Jul 2019	5,632	5,409	15	15	100.23	5.15	70.161 MMcf GG	0.000	12,793	13,320	
Aug 2019	5,015	4,887	19	18	95.80	2.27	64.889 MMcf GG	0.000	13,326	13,675	
Sep 2019	7,559	7,330	15	15	126.10	10.17	93.568 MMcf GG	0.000	12,762	13,161	
Oct 2019	2,912	2,845	9	9	54.12	4.90	36.744 MMcf GG	0.000	13,045	13,353	
Nov 2019	1,447	1,404	5	5	28.77	186.38	18.700 MMcf GG	0.000	13,431	13,835	
Dec 2019	0	0	0	0	0.00	21.47	0.000 MMcf GG	0.000			
TOTALS	116,360	112,075	153	148	1,594.59	1,512.28			11,911	12,366	

CALPINE NERC GADS DATABASE
GADS ANALYSIS & REPORTING

Operating Data Summary

January 2019 Through December 2019

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 ST1										
Jan 2019	10,537	10,364	21	21	289.89	34.18	0.000 WH	0.000	0	0
Feb 2019	9,597	9,430	19	19	267.18	0.00	0.000 WH	0.000	0	0
Mar 2019	10,059	9,891	22	22	278.63	21.30	0.000 WH	0.000	0	0
Apr 2019	9,697	9,526	23	23	269.10	66.23	0.000 WH	0.000	0	0
May 2019	0	0	0	0	0.00	744.00	0.000 WH	0.000		
Jun 2019	411	402	2	2	11.47	426.93	0.000 WH	0.000	0	0
Jul 2019	2,552	2,501	15	15	86.17	5.15	0.000 WH	0.000	0	0
Aug 2019	2,197	2,095	18	18	76.71	4.72	0.000 WH	0.000	0	0
Sep 2019	3,488	3,371	15	15	112.11	10.17	0.000 WH	0.000	0	0
Oct 2019	1,291	1,219	9	9	45.98	4.90	0.000 WH	0.000	0	0
Nov 2019	593	574	5	5	22.90	186.38	0.000 WH	0.000	0	0
Dec 2019	0	0	0	0	0.00	21.47	0.000 WH	0.000		
TOTALS	50,422	49,372	149	149	1,460.14	1,525.43			0	0

February 13, 2020
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CALPINE NERC GADS DATABASE
GADS ANALYSIS & REPORTING

Operating Data Summary

January 2019 Through December 2019

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 2019 Through December 2019

The following Group was selected
KING CITY COMBINED CYCLE - COGEN

01/02/2020 6:28 am

PERFORMANCE LISTING

KING CITY CTI

MONTH	GENERATION MWh		STARTS		DEPENDABLE CAPACITY		HEAT RATE Btu/kWh		TYPICAL UNIT LOADING CHARACTERISTICS
	GROSS	NET	ATT	ACT	GROSS MW	NET MW	GROSS	NET	
<u>2019</u>									
01	24,431.40	23,485.70	23	21	88.00	86.00	12,197	12,689	4 - Daily startup with daily load-following and taken off-line nightly
02	22,658.50	21,822.50	19	19	87.00	85.00	11,459	11,898	4 - Daily startup with daily load-following and taken off-line nightly
03	23,436.60	22,529.20	24	22	87.00	85.00	11,388	11,847	4 - Daily startup with daily load-following and taken off-line nightly
04	22,394.70	21,531.60	22	22	86.00	84.00	11,494	11,955	4 - Daily startup with daily load-following and taken off-line nightly
05	0.00	0.00	0	0	86.00	84.00	0	0	4 - Daily startup with daily load-following and taken off-line nightly
06	873.30	830.30	2	2	86.00	84.00	12,856	13,521	4 - Daily startup with daily load-following and taken off-line nightly
07	5,632.00	5,409.40	15	15	85.00	83.00	12,794	13,320	4 - Daily startup with daily load-following and taken off-line nightly
08	5,015.30	4,887.40	19	18	85.00	83.00	13,326	13,675	4 - Daily startup with daily load-following and taken off-line nightly
09	7,558.90	7,329.70	15	15	85.00	83.00	12,762	13,161	4 - Daily startup with daily load-following and taken off-line nightly
10	2,912.45	2,845.22	9	9	86.00	84.00	13,045	13,353	4 - Daily startup with daily load-following and taken off-line nightly
11	1,446.50	1,404.30	5	5	87.00	85.00	13,432	13,836	4 - Daily startup with daily load-following and taken off-line nightly
12	0.00	0.00	0	0	88.00	86.00	0	0	4 - Daily startup with daily load-following and taken off-line nightly
2019	116,359.65	112,075.32	153	148			11,911	12,366	

PERFORMANCE LISTING

KING CITY CTI

MONTH	SERVICE HOURS	RS HOURS	PUMPING HOURS	SYNCH COND HOURS	PO HOURS	FO & SF HOURS	MO HOURS	SCHED EXT HOURS	PERIOD HOURS	INACTIVE HOURS
<u>2019</u>										
01	308.48	403.63	0.00	0.00	0.00	2.47	29.42	0.00	744.00	0.00
02	283.98	388.02	0.00	0.00	0.00	0.00	0.00	0.00	672.00	0.00
03	296.50	427.82	0.00	0.00	0.00	18.68	0.00	0.00	743.00	0.00
04	286.76	371.62	0.00	0.00	0.00	9.95	51.67	0.00	720.00	0.00
05	0.00	0.00	0.00	0.00	0.00	0.00	744.00	0.00	744.00	0.00
06	13.85	280.40	0.00	0.00	0.00	0.00	425.75	0.00	720.00	0.00
07	100.23	638.62	0.00	0.00	0.00	3.38	1.77	0.00	744.00	0.00
08	95.80	645.93	0.00	0.00	0.00	2.27	0.00	0.00	744.00	0.00
09	126.10	583.73	0.00	0.00	0.00	0.00	10.17	0.00	720.00	0.00
10	54.12	684.98	0.00	0.00	0.00	4.90	0.00	0.00	744.00	0.00
11	28.77	505.85	0.00	0.00	185.13	1.25	0.00	0.00	721.00	0.00
12	0.00	722.53	0.00	0.00	0.00	21.47	0.00	0.00	744.00	0.00
2019	<u>1,594.59</u>	<u>5,653.13</u>	<u>0.00</u>	<u>0.00</u>	<u>185.13</u>	<u>64.37</u>	<u>1,262.78</u>	<u>0.00</u>	<u>8,760.00</u>	<u>0.00</u>

01/02/2020 6:28 am

PERFORMANCE LISTING

KING CITY CTI

MONTH	PRIMARY FUEL			SECONDARY FUEL			TERTIARY FUEL			QUATERNARY FUEL		
	CODE	QTY BURNED	AVG HEAT CONTENT	CODE	QTY BURNED	AVG HEAT CONTENT	CODE	QTY BURNED	AVG HEAT CONTENT	CODE	QTY BURNED	AVG HEAT CONTENT
<u>2019</u>												
01	GG	288,202	1,034		0	0						
02	GG	255,313	1,017		0	0						
03	GG	261,149	1,022		0	0						
04	GG	251,622	1,023		0	0						
05	GG	0	1,032		0	0						
06	GG	10,921	1,028		0	0						
07	GG	70,161	1,027		0	0						
08	GG	64,889	1,030		0	0						
09	GG	93,568	1,031		0	0						
10	GG	36,744	1,034		0	0						
11	GG	18,700	1,039		0	0						
12	GG	0	1,041		0	0						

For fuel quality details, click on link below:

[Primary Fuel Quality](#)

[Secondary Fuel Quality](#)

[Tertiary Fuel Quality](#)

[Quaternary Fuel Quality](#)

FUEL CODES

CC - Coal
LJ - Lignite
GG - Gas
PR - Propane

KE - Kerosene
JP - JP4 or JP5
DI - Distillate Oil (No. 2)
OO - Oil

GF - Geothermal
WA - Water
WH - Waste Heat
NU - Nuclear

SL - Sludge Gas
PE - Peat
WM - Wind
WD - Wood

OL - Other-Liquid (barrels)
OG - Other-Gas (cubic feet)
OS - Other-Solid (tons)
SO - Solar

PERFORMANCE LISTING

KING CITY ST1

MONTH	GENERATION MWh		STARTS		DEPENDABLE CAPACITY		HEAT RATE Btu/kWh		TYPICAL UNIT LOADING CHARACTERISTICS
	GROSS	NET	ATT	ACT	GROSS MW	NET MW	GROSS	NET	
2019									
01	10,537.30	10,363.60	21	21	39.00	38.00	0	0	1 - Base loaded with minor load-following at night and on weekends
02	9,596.60	9,430.10	19	19	39.00	38.00	0	0	1 - Base loaded with minor load-following at night and on weekends
03	10,059.30	9,891.10	22	22	39.00	38.00	0	0	1 - Base loaded with minor load-following at night and on weekends
04	9,696.50	9,525.90	23	23	39.00	38.00	0	0	1 - Base loaded with minor load-following at night and on weekends
05	0.00	0.00	0	0	39.00	38.00	0	0	1 - Base loaded with minor load-following at night and on weekends
06	410.50	402.30	2	2	38.00	37.00	0	0	1 - Base loaded with minor load-following at night and on weekends
07	2,552.10	2,501.10	15	15	38.00	37.00	0	0	1 - Base loaded with minor load-following at night and on weekends
08	2,197.10	2,094.60	18	18	38.00	37.00	0	0	1 - Base loaded with minor load-following at night and on weekends
09	3,488.10	3,370.60	15	15	38.00	37.00	0	0	1 - Base loaded with minor load-following at night and on weekends
10	1,290.75	1,219.38	9	9	38.00	37.00	0	0	1 - Base loaded with minor load-following at night and on weekends
11	593.40	573.60	5	5	38.00	37.00	0	0	1 - Base loaded with minor load-following at night and on weekends
12	0.00	0.00	0	0	39.00	38.00	0	0	1 - Base loaded with minor load-following at night and on weekends
2019	50,421.65	49,372.28	149	149			0	0	

01/02/2020 6:30 am

PERFORMANCE LISTING

KING CITY STI

MONTH	SERVICE HOURS	RS HOURS	PUMPING HOURS	SYNCH COND HOURS	PO HOURS	FO & SF HOURS	MO HOURS	SCHED EXT HOURS	PERIOD HOURS	INACTIVE HOURS
<u>2019</u>										
01	289.89	419.93	0.00	0.00	0.00	3.68	30.50	0.00	744.00	0.00
02	267.18	404.82	0.00	0.00	0.00	0.00	0.00	0.00	672.00	0.00
03	278.63	443.07	0.00	0.00	0.00	21.30	0.00	0.00	743.00	0.00
04	269.10	384.67	0.00	0.00	0.00	12.18	54.05	0.00	720.00	0.00
05	0.00	0.00	0.00	0.00	0.00	0.00	744.00	0.00	744.00	0.00
06	11.47	281.60	0.00	0.00	0.00	0.00	426.93	0.00	720.00	0.00
07	86.17	652.68	0.00	0.00	0.00	3.38	1.77	0.00	744.00	0.00
08	76.71	662.57	0.00	0.00	0.00	4.72	0.00	0.00	744.00	0.00
09	112.11	597.72	0.00	0.00	0.00	0.00	10.17	0.00	720.00	0.00
10	45.98	693.12	0.00	0.00	0.00	4.90	0.00	0.00	744.00	0.00
11	22.90	511.72	0.00	0.00	185.13	1.25	0.00	0.00	721.00	0.00
12	0.00	722.53	0.00	0.00	0.00	21.47	0.00	0.00	744.00	0.00
2019	<u>1,460.14</u>	<u>5,774.43</u>	<u>0.00</u>	<u>0.00</u>	<u>185.13</u>	<u>72.88</u>	<u>1,267.42</u>	<u>0.00</u>	<u>8,760.00</u>	<u>0.00</u>

Attachment 2

2019 Title V Annual Certification Report

CERTIFICATION REPORT (FORM 218-K1)

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

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-0000012

II. GENERAL INFORMATION

1. Reporting period (specify dates): 1/1/2019 – 12/31/2019
2. Due date for submittal of report: 2/15/2020
3. Type of submittal: Monitoring Report (complete Section III below)
 Compliance Schedule Progress Report (complete Section IV of Form 218-K2)
 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 Yes
2. Were deviations from permit conditions discovered during the required monitoring?
 No 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	FACILITY NAME: Calpine King City Cogeneration, LLC and Gilroy Energy Center, LLC

IV. COMPLIANCE SCHEDULE PROGRESS INFORMATION

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

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

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

V. COMPLIANCE CERTIFICATION

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

Yes No (If no, document period(s) of noncompliance or resubmit Forms 218-I and J)
See form 218-L

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

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



Date: February 13, 2020

Print Name of Responsible Official: Kevin Karwick

Title of Responsible Official and Company Name: General Plant Manager, Power Ops West, Calpine Corp.

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

**COMPLIANCE CERTIFICATION REPORT ATTACHMENT FOR
CALPINE KING CITY COGEN AND GILROY ENERGY CENTER**

Reporting Period: January 1, 2019 to December 31, 2019

TV-000012-Effective March 10, 2017

<u>CONDITION</u>	<u>COMPLIANCE STATUS</u> <u>(CONTINUOUS OR Continuous)</u>	<u>METHOD USED TO DETERMINE</u> <u>COMPLIANCE STATUS</u>
1	Continuous Compliance	CEM and Annual Compliance Tests
2	Continuous Compliance	CEM and Annual Compliance Tests
3	Continuous Compliance	CEM and Annual Compliance Tests
4	Continuous Compliance	CEM and Annual Compliance Tests
5	Continuous Compliance	CEM and Annual Compliance Tests
6	Continuous Compliance	CEM and Annual Compliance Tests
7	Continuous Compliance	CEM & Plant data
8	Continuous Compliance	CEM & Annual compliance test.
9	Continuous Compliance	CEM & Annual compliance test
10	Continuous Compliance	CEM & Annual compliance test.
11	Continuous Compliance	CEM
12	Continuous Compliance	No fuel oil fired
13	Continuous Compliance	No fuel oil fired
14	Continuous Compliance	No fuel oil fired
15	Continuous Compliance	No fuel oil fired
16	Continuous Compliance	No fuel oil fired
17	Continuous Compliance	No fuel oil fired
18	Continuous Compliance	Logbook, MBUAPCD notification, Annual Report
19	Continuous Compliance	Logbook and MBUAPCD notification
20	Continuous Compliance	Protocol on-site and reviewed
21	Continuous Compliance	CEM and Plant data. No fuel oil fired
22	Continuous Compliance	CEMS, Quarterly Facility Emissions Report
23	Continuous Compliance	Did not fire on No. 2 fuel oil
24	Continuous Compliance	Compliance Reports to MBARB & CEC

**COMPLIANCE CERTIFICATION REPORT ATTACHMENT FOR
CALPINE KING CITY COGEN AND GILROY ENERGY CENTER**

Reporting Period: January 1, 2019 to December 31, 2019

TV-0000012-Effective March 10, 2017

<u>CONDITION</u>	<u>COMPLIANCE STATUS (CONTINUOUS OR Continuous)</u>	<u>METHOD USED TO DETERMINE COMPLIANCE STATUS</u>
25	Continuous Compliance	CRO Logs and Maintenance Records
26	Continuous Compliance	CEM and Plant data
27	Continuous Compliance	Operational records, calculations & CEM
28	Continuous Compliance	No chromium in water treatment chemicals, MSDS
29	Continuous Compliance	SO2 Allowance account established and necessary deposits made.
30	Continuous Compliance	Plant records/ CRO Logs
31	Continuous Compliance	Air Monitoring station operated
32	Continuous Compliance	RMP document and records maintained
33	Continuous Compliance	Refrigeration Contractors EPA Certified
34	Continuous Compliance	Testing and subsequent reporting completed
35	Continuous Compliance	Testing and subsequent reporting completed
36	Continuous Compliance	Testing and subsequent reporting completed
37	Continuous Compliance	No fuel oil fired
38	Continuous Compliance	No fuel oil delivered for turbine or boilers
39	Continuous Compliance	Lab tests for TDS, monthly reports
40	Continuous Compliance	Lab tests for TDS, monthly reports
41	Continuous Compliance	No fuel oil fired
42	Continuous Compliance	CEMS, Plant Records
43	Continuous Compliance	CEMS, Monthly Reports
44	Continuous Compliance	CEM Records
45	Continuous Compliance	CEMS Records
46	Continuous Compliance	QA/QC Plan, Operational Records
47	Continuous Compliance	CEM Records; Operational Records
48	Continuous Compliance	CEM Records, Plant DCS

**COMPLIANCE CERTIFICATION REPORT ATTACHMENT FOR
CALPINE KING CITY COGEN AND GILROY ENERGY CENTER**

Reporting Period: January 1, 2019 to December 31, 2019

TV-000012-Effective March 10, 2017

<u>CONDITION</u>	<u>COMPLIANCE STATUS</u> <u>(CONTINUOUS OR Continuous)</u>	<u>METHOD USED TO DETERMINE</u> <u>COMPLIANCE STATUS</u>
49	Continuous Compliance	CEMS, Breakdown Reports, Plant Records
50	Continuous Compliance	CEMS records and Plant DCS
51	Continuous Compliance	Plant DCS and Plant Records
52	Continuous Compliance	Plant DCS and Plant Records
53	Continuous Compliance	Plant Records/CRO Log
54	Continuous Compliance	Plant DCS and Plant Records - no oil firing
55	Continuous Compliance	Data provided as requested
56	Continuous Compliance	Records maintained
57	Continuous Compliance	Records maintained
58	Continuous Compliance	No breakdown relief requested
59	Continuous Compliance	Reports submitted on time, as required
60	Continuous Compliance	Reports submitted on time, as required
61	Continuous Compliance	Reports submitted on time, as required
62	Continuous Compliance	Reports submitted on time, as required
63	Continuous Compliance	In compliance with permit conditions
64	Continuous Compliance	No enforcement action
65	Continuous Compliance	No cause for action determined by District
66	Continuous Compliance	No rights conveyed by permit
67	Continuous Compliance	Data provided upon request
68	Continuous Compliance	All requirements met
69	Continuous Compliance	All requirements met
70	Continuous Compliance	No violations reported
71	Continuous Compliance	No deviations reported

**COMPLIANCE CERTIFICATION REPORT ATTACHMENT FOR
CALPINE KING CITY COGEN AND GILROY ENERGY CENTER**

Reporting Period: January 1, 2019 to December 31, 2019

TV-0000012-Effective March 10, 2017

<u>CONDITION</u>	<u>COMPLIANCE STATUS</u> <u>(CONTINUOUS OR Continuous)</u>	<u>METHOD USED TO DETERMINE</u> <u>COMPLIANCE STATUS</u>
72	Continuous Compliance	No administrative or judicial challenges
73	Continuous Compliance	Annual emission fee paid
74	Continuous Compliance	TV-0000012 on file and posted at facility
75	Continuous Compliance	No emergency, as defined in District Rule 218
76	Continuous Compliance	Access to facility granted to authorized personnel
77	Continuous Compliance	Application for Modification to TV-0000012, including Acid Rain application. An application for renewal shall be submitted between September 9, 2020 and September 8, 2021, if needed.

Attachment 3

2019 Annual Facility Emission Report

**2019
December**

Gilroy Energy Center 2019	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
NOx Emissions	244.92	307	257	250	1,058
CO Emissions	99.46	167	152	115	534
PM-10 Emissions	72.61	102	96	78	349
VOC Emissions	34.14	48	46	36	163
SOx Emissions	8.91	12	12	9	43
NH3 Emissions	59.35	76	59	42	237

King City Cogen 2019	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
NOx Emissions	25,768	8,521	8,993	2,464	45,746
CO Emissions	3,460	1,417	2,446	763	8,086
PM-10 Emissions	1,699	566	526	131	2,923
VOC Emissions	236	78	66	16	397
SOx Emissions	122	40	34	8	205
NH3 Emissions	2,470	436	324	80	3,310

Total King City 2019	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
NOx Limit (lbs)	72,452	73,178	73,905	73,905	293,440
NOx Emissions	26,013	8,828	9,250	2,714	46,805
CO Limit (lbs)	58,445	59,095	59,744	59,744	237,028
CO Emissions	3,559	1,584	2,598	878	8,620
PM-10 Limit (lbs)	12,071	12,204	12,339	12,339	48,953
PM-10 Emissions	1,772	668	623	209	3,271
VOC Limit (lbs)	4,762	4,815	4,868	4,868	19,313
VOC Emissions	270	126	112	52	560
SOx Limit (lbs)	1,748	1,768	1,787	1,787	7,090
SOx Emissions	131	53	46	18	248
NH3 Emissions	2,529	512	383	122	3,547

Attachment 4

2019 Fire Marshall Inspection Record

CARMEL FIRE PROTECTION

INSPECTION RECORD

1. ADMINISTRATIVE INFORMATION

Business Name

CAL PINE

Address

750 Me Dy

Mailing Address

Telephone

ON FILE

Owner/First Contact

Second Contact

Website

2. INSPECTION FINDINGS

NO FIRE HAZARDS FOUND! Thanks for keeping our community firesafe!

Repair holes in ceilings/walls to maintain fire resistance.

Remove combustibile materials within 30" of gas fueled appliances.

Maintain storage clearances from ceilings or sprinklers (18" minimum).

Electrical extension cords and multi-tap adapters not permitted.

Remove obstructions from exits, aisles, corridors and stairways.

3. FIRE PROTECTION SYSTEMS

Fire Extinguishers

✓

Automatic Fire Sprinklers

✓

Standpipes

Fixed Fire Protection Systems

FM 200

Fire Alarm and Detection Systems

✓

Other Systems

Hazardous Materials?

MSDS in office

4. 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.

Date 12/3/19 Inspector [Signature]

5. OWNER ACKNOWLEDGEMENT

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

Signature [Signature]

Print Name: Gray Fuller

6. REINSPECTION RECORD

Date	Description	Actions