

DOCKETED

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GEYSERS POWER COMPANY, LLC
10350 Socrates Mine Road
Middletown, CA 95461

GWQ-20-017

April 7, 2020

Eric Veerkamp, Compliance Project Manager
Energy Facilities Siting and Environmental Protection Division
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, California 95814-5512

Subject: **81-AFC-01C** 2019 Annual Compliance Report - U19 (Calistoga) Power Plant

Mr. Veerkamp:

In fulfillment of the Compliance Plan's annual reporting requirement, Geysers Power Company, LLC hereby submits the following report for Unit 19 (Calistoga).

The California Energy Commission established a monitoring program with all compliance verifications maintained by the United States Geological Survey (USGS). A letter of understanding between CEC and USGS with respect to post-licensing project compliance management duties was established in 1982. On August 25, 2010, an amendment petition was approved by the Energy Commission, which released the USGS from the compliance project manager role and placed the project compliance manager responsibilities with the Energy Commission.

If you have any comments or questions, please contact me at (707) 431-6097.

Sincerely,

Bill King
Project Manager, EHS
Calpine Corporation

cc:
Ms. Amanda James
Bureau of Land Management
2550 N. State Street
Ukiah, California 95482

81-AFC-01C

CALIFORNIA ENERGY COMMISSION

FINAL DECISION

CONDITIONS FOR CERTIFICATION

CALISTOGA POWER PLANT

(Licensed as OXY 1, aka Santa Fe Geothermal Plant No 1)

2019 ANNUAL COMPLIANCE REPORT

2019 Annual Report to the California Energy Commission
81-AFC-01C Geysers Calistoga Power Plant

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**2019 Annual Report to the California Energy Commission
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EXECUTIVE SUMMARY

Section 25532 of the Public Resources Code provides that the California Energy Commission (CEC) shall establish a monitoring system to assure that any facility certified by the CEC is constructed and operated in compliance with air, water quality, public health, safety, and other applicable regulations, guidelines, and conditions adopted or established by the CEC.

On January 29, 1981, Occidental Geothermal, Inc. filed an Application for Certification (AFC) for Oxy No.1 Geothermal Power Plant. In order for the AFC to be granted the CEC issued the "Commission Decision Document for Oxy No.1 Geothermal Power Plant". Florida Power and Light Energy (FPL) subsequently purchased and renamed OXY No 1 to the "Santa Fe Geothermal Power Plant." Since October 19, 1999, when FPL sold the "Santa Fe Geothermal Power Plant" (Now Calistoga Power Plant), transfer of ownership requires Geysers Power Company, LLC (GPC) to be responsible for administering and monitoring various Conditions for Certification as contained in the Commission Decision. As directed by CEC letter, dated August 8, 1997 GPC is submitting information required on an annual rather than a quarterly basis.

According to the guidance provided by CEC staff on July 12, 1995, only the on-going compliance tasks will be addressed in this, and future Annual Reports. The status of the compliance tasks in each of the following areas are summarized below:

Air Quality: Two on-going compliance tasks

Public Health: Three on-going compliance tasks

Biological Resources: One on-going compliance task

Water Quality, Hydrology and Water Resources: Nine on-going compliance tasks.

Solid Waste Management: Four on-going compliance tasks.

Safety: One on-going compliance task

Transmission Line Safety and Nuisance: Three on-going compliance tasks. GPC does not own the transmission facilities so cannot comply with these tasks.

Noise: One on-going compliance task.

This Annual Report meets the aforementioned requirements found in the Compliance Monitoring Plan of the CEC's Final Decision for the Calistoga Power Plant.

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SECTION 1: AIR QUALITY

Compliance Plan Condition	Agency	Verification Task	Status	Task implementation
Condition: 1-1	LCAQMD CEC CARB	GPC shall summarize in a periodic compliance report any interactions with the LCAPCD. GPC shall immediately inform the CEC and CARB in writing of any formal appeals filed with the LCAPCD.	On-going	The Annual Compliance Report is provided below.

Annual Compliance Report: Geysers Power Company LLC (GPC) interactions with the LCAQMD occur during the course of the year as routine reports and non-routine submittals. No significant interactions occurred during this calendar year.

Quarterly Operating Reports: The following Quarterly reports were submitted to LCAQMD the required elements: are addressed in the report sections entitled: Operating Hours, Chemical Usage, and Source Test Results; Listing of Plant Outages; Incidents Requiring Corrective Action and Monitor Irregularities; and Treated gas monitor Calibration and Maintenance Activities.:

- Fourth Quarter 2018 Compliance Monitoring Report (Oct – Dec) Submittal to LCAQMD, dated 1/28/2019, ref, GPC19-001
- First Quarter 2019 Compliance Monitoring Report (Jan – Mar) Submittal to LCAQMD, dated 4/26/2019, ref. GPC19-036,
- Second Quarter 2019 Compliance Monitoring Report (Apr – June) Submittal to LCAQMD, dated 7/23/2019, ref. GPC19-074
- Third Quarter 2019 Compliance Monitoring Report (July – Sep) Submittal to LCAQMD, dated 10/17/2019, ref GPC19-085

Other Routine Reports:

- Annual Production 2019 Throughput Report to LCAQMD, 11/26/2019, ref. GPC19-040

Nonroutine Submittals

- NESHAP Notifications – **None**
- Breakdown reports – **None**
- Applications for Authority to Construct equipment modifications or replacement: **None**
- 2018 annual request for a statement of compliance verification, 7/1/2019, ref. GPC19-057.

Significant Interactions with the LCAQMD:

- No Appeals filed;
- No Variances filed;
- No Notices of Violations were issued

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SECTION 1: AIR QUALITY (Continued)

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation
Condition: 1-2	CEC LCAPCD	GPC shall summarize in an annual compliance report to the Compliance Project Manager (CPM) any significant interactions related to Calistoga Power Plant with the LCAPCD. GPC shall immediately inform the CPM and CARB in writing of any formal appeals filed with the LCAPCD.	On-going	The Annual Compliance Report provides references to reports submitted to LCAQMD in 2019. The required elements pertaining to this CEC licensed Power Plant were submitted to the CEC Compliance Manager. No Notices were received from the LCAQMD other than the annual invoice for permit renewal.
Condition: 1-3	CEC LCAPCD	GPC shall file a copy of the written approval from the LCAPCD with the CEC prior to beginning construction of any alternative H2S emissions abatement system	As Needed	GPC operators use only the equipment specified in the AFC for the Stretford abatement system and secondary chemical feed system.
Condition: 1-6	CEC LCAPCD	GPC shall, at the request of the LCAQMD, operate and maintain an on-site meteorological station. GPC shall submit data of wind direction, wind speed and temperature in periodic compliance reports filed with the CEC.	As Needed	LCAQMD, made no request for an on-site meteorological station. GPC continues to fully participate in the Geyser Air Monitoring Program (GAMP.)

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SECTION 2: PUBLIC HEALTH

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation
Condition: 2-1	CDHS/RHB	During first year of operations, provide CDHS/RHB with quarterly sampling results of Radon-222 concentrations entering the plant. After first year, annual reports will be submitted	On-going	First, second, and third quarter samples of main steam supply Radon 222 concentrations were collected in 2019. Calculated resulting concentrations of radon exiting the cooling tower stacks are below 0.44 pCi/l. Annual reports to CDHS-RHB are submitted upon request
Condition: 2-2	CDHS/RHB	If Radon-222 concentration exceeds 3.0 pCi/l in the cooling tower exhaust, CDHS/RHB must be notified by written report with 30 days of detection.	On-going	Measurements of main steam Radon 222 used to calculate radon concentrations in the cooling tower exhaust are consistently below California's standard (3.0 pCi/l for indoor radon exposure).
Condition: 2-3	CDHS/RHB	GPC will notify CDHS/RHB and the CEC within 24 hours if levels of Radon-222 exceed 6.0 pCi/l in the cooling tower exhaust. A special report will follow outlining corrective actions taken.	On-going	Measurements of main steam Radon 222 used to calculate radon concentrations in the cooling tower exhaust are consistently below California's standard of 3.0 pCi/l for indoor radon exposure. Confirmation sampling and written special reports to CDHS/RHB have never been necessary.

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SECTION 5: BIOLOGICAL RESOURCES

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation
Condition: 5-4	BLM	GPC shall monitor drift effects on the vegetation surrounding the power plant. GPC shall submit annual reports to the CEC in those years in which the monitoring takes place. The reports shall include copies of laboratory analysis, field survey work and full color copy of aerial photographs of the leasehold.	On-going	A Petition for Amendment to suspend the monitoring requirement was submitted March 13th 2008 to Donna Stone, CPM. The Petition was granted by the Commission on 7/16/08; and allowed Geysers Power Company to suspend boron drift monitoring with CPM approval. CPM approval to suspend monitoring was given 7/16/08.

SECTION 6: WATER QUALITY, HYDROLOGY AND WATER RESOURCES

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation
Condition: 6-2	NCRWQCB	GPC shall comply with the Central Valley Region California Regional Water Quality Control Board CVRWQCB Order 99-029.	On-going	GPC complies with CVRWQCB Order No. 99-029.
Condition: 6-5	LCBO	To prevent spills of Stretford process material from leaving the immediate vicinity, GPC shall surround the H ₂ S abatement process area with an impermeable concrete barrier. Spilled Stretford process material will drain to a sump where it will be pumped to a chemical storage tank for reuse in the Stretford process or for disposal off site at an approved Class 1 solid waste disposal site	On-going	The Stretford system area is surrounded by an impermeable concrete barrier. A drain system routes spilled Stretford material to a designated sump. It is then pumped back into the Stretford process.
Condition: 6-6	CEC LCBO CVRWQCB	The catch basin shall be equipped with a 100 gallon per minute pump to return spilled material to the cooling tower basin for reinjection. Should a spill occur which exceeds the capacity of the pumps; GPC plant personnel shall use a portable pump to remove excess material.	On-going	GPC complies with the Compliance Task. Two yard area containment pumps are designed to meet the required criteria to prevent spills. Calistoga had no storm water releases in 2019.

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SECTION 6: WATER QUALITY, HYDROLOGY AND WATER RESOURCES (continued)

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation
Condition: 6-6 (continued)	CEC LCBO CVRWQCB	Alarm systems will notify plant operators when a spill has occurred and when the catch basin pump has started. GPC plant personnel shall respond to the alarms within 30 minutes and take measures necessary to correct the problem.	On-going	GPC complies with the Compliance Task. In addition, operators inspect main control board alarms each shift.
Condition: 6-7	CEC LCBO	GPC shall ensure that rainwater entering the Stretford process area will not enter surface water or groundwater. The rainwater shall be used in the Stretford process or pumped to the cooling tower overflow structure	On-going	The Stretford system area is surrounded by an impermeable concrete barrier. A drain system routes rainwater to a designated sump, which is then pumped to reinjection during rains.
Condition: 6-7 (continued)	CEC LCBO	The steam condensate from the plant shall be used for cooling water, with any excess reinjected into the geothermal reservoir.	On-going	The power plant is designed so that excess steam condensate is reinjected into the geothermal reservoir.
Condition: 6-8	CEC LCBO CVRWQCB	To minimize the potential adverse impacts of storm runoff on the quality of Anderson Creek, GPC shall return plant site runoff to the cooling tower basin for subsequent injection into the geothermal reservoir. When the capacity of the return system is exceeded and a spill has not occurred, the runoff will be released from the site into Anderson Creek. If storm runoff is released from the power plant site, GPC shall satisfy the Basin (5A) Plan intent and any applicable requirements of the CVRWQCB.	On-going	GPC adheres to Waste Discharge Requirements Order No. 99-029 adopted on April 30, 1999 and maintains the plant spill containment system. GPC does not release runoff into Anderson Creek. Calistoga had no storm water releases in 2019.

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SECTION 6: WATER QUALITY, HYDROLOGY AND WATER RESOURCES (continued)

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation
Condition: 6-10	CEC NCRWQCB	The CEC added new revision to Condition 6-10 on March 12, 2004 which provides the following: The project owner shall provide the Compliance Project Manager with copies of all local and state water quality permits related to the use and disposal of reclaimed municipal wastewater within thirty (30) days of receipt. In the annual compliance reports, the project owner shall provide the CPM with data on the annual quantity of water reinjected at the facility, and a copy of the report submitted to the California Department of Health Services on the additional uses of recycled water per Provision #2 of the December 5, 2003 California Department of Health Services approval letter.	On-going	No recycled Santa Rosa Wastewater was sent to the cooling tower at the Calistoga Power Plant during 2019. A copy of GPC's letter GWQ-20-031, dated January 28, 2020 is provided in Attachment 2. Total water injected within the Calistoga Plant area in 2019 was approximately 497 million gallons. In addition to recycled wastewater, this value includes condensate reinjection.

SECTION 11: SOLID WASTE MANAGEMENT

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation
Condition: 11-1	CEC	Keep a letter on file verifying that hazardous waste haulers have DTSC certificates of registration.	On-going	GPC only uses DTSC registered waste haulers which is a contract requirement. GPC has certificates of registration on file for 2019. The certificates of registration expire at different times during the year. GPC requests updated copies as required
Condition: 11-2	LCBO	Any sludge, which accumulates in the cooling tower, will be vacuumed off and hauled by a registered hazardous waste hauler to an approved disposal site. GPC shall each month submit completed hazardous waste manifests to DTSC each month.	On-going	Any sludge removed from the cooling tower is disposed of according to the applicable state and federal laws and regulations. GPC submits completed hazardous waste manifests to DTSC each month.

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SECTION 11: SOLID WASTE MANAGEMENT (continued)

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation
Condition: 11-3	DTSC CEC	Notify the CEC, DTSC, and Integrated Waste Management Board of the selected disposal site. Any notice of change in disposal sites will be submitted as changes occur	On-going	GPC only uses licensed and permitted disposal facilities. The CEC has acknowledged that the information can be obtained, upon request, from the Biennial Hazardous Waste Report to the Department of Toxic Substances Control (DTSC) or US EPA. Since CEC certification, the Hazardous Waste Report being submitted to the DTSC has become required by law. Reporting to the CEC regarding selection of waste disposal sites is no longer necessary. Copies of both hazardous waste shipping manifests and reports are maintained at The Geysers, and are available for inspection.
Condition: 11-5	DTSC CEC	Notify the CEC if GPC files an in-lieu application with DTSC for the operation of a Hazardous Waste Facility.	On-going	In compliance with state and federal regulations, GPC operates as a hazardous waste generator but does not intend to operate hazardous waste facilities that require a permit.

SECTION 12: SAFETY

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation
Condition: 12-13	CAL/OSHA	GPC shall note any CAL/OSHA inspections in its periodic compliance reports.	On-going	CAL/OSHA conducted no inspections at the Calistoga Power Plant in 2019.

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SECTION 13: TRANSMISSION LINE --SAFETY AND NUISANCE

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation
Condition: 13-4	CEC	GPC shall maintain a record of complaints regarding induced currents from vehicles, portable objects, large metallic roofs, fences, gutters, or other objects.	On-going	GPC does not own the transmission facilities so cannot comply with this task.
Condition: 13-6	CEC	GPC shall maintain records of CAL/OSHA inspections and shall make them available to CEC staff upon request.	On-going	GPC does not own the transmission facilities so cannot comply with this task.
Condition: 13-8	CEC	GPC shall report within 30 days of an employee injury or fatality to the CEC		GPC does not own the transmission facilities so cannot comply with this task.

SECTION 16: NOISE

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation
Condition: 16-3	LCAPCD	GPC shall comply with the Lake County Noise Ordinance Standards, which are 55 dBA for daytime hours (7 a.m. to 10 p.m.) and 45 dBA for nighttime hours (10 p.m. to 7 a.m.) GPC must take measures to resolve noise complaints.	On-going	GPC complies with applicable Noise Ordinances. There were no noise complaints in 2019.

**2019 Annual Report to the California Energy Commission
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LIST OF ACRONYMS

AFC	Application for Certification
ARB	Air Resources Board
BLM	Bureau of Land Management
CAL/OSHA	California Occupational Safety and Health Administration
CEC	California Energy Commission
CDF&G	California Department of Fish and Game
CDF	California Department of Forestry
CDHS/RHB	California Department of Health Services Radiological Health Branch
CPM	Compliance Program Manager
CVRWQCB	Central Valley Regional Water Quality Control Board
DTSC	California Department of Toxic Substances Control
FPL	Florida Power and Light Energy
GAMP	Geysers Air Monitoring Program
GPC	Geysers Power Company LLC
LCAQMD	Lake County Air Quality Management District
LCBO	Lake County Building Official
NCRWQCB	North Coast Regional Water Quality Control Board
NSCAPCD	Northern Sonoma County Air Pollution Control District
SCBO	Sonoma County Building Official
SMUD	Sacramento Municipal Utility District
PG&E	Pacific Gas and Electric Company
UBC	Uniform Building Code
USGS	United States Geological Survey

ATTACHMENT 2



GEYSERS POWER COMPANY, LLC

10350 Socrates Mine Road
Middletown, CA 95461
707.431.6000

GWQ-20-031

January 28, 2020

Janice M. Thomas, P.E.
Drinking Water Field Operations Branch
California Department of Health Services
50 D Street, Suite 200
Santa Rosa, CA 95404

Subject: 2019 Geysers Power Plant Units Recycled Water Use Report

Dear Ms. Thomas:


Use of Santa Rosa Waste Water (SRWW) first began at Unit 17 on July 22, 2004 where it supports cooling tower basin levels by replacing blowdown water at a rate of 400-500 gpm. When tower basin water levels are sufficiently high, SRWW bypasses the tower and enters the onsite sediment pond, where it mixes with condensate then gravity feeds to the Unit 11 sediment pond prior to reinjection at the OS-16 well. Tabulated below are various uses of SRWW during 2019.

2019 Total	U17 Tower	U20 Tower	Unit 7/8 Sediment Pond	Aidlin Injection and/or Burner
Gallons	144,809,847	104,113,633	279,889,164	88,960,837

Minor amounts of SRWW were used for incidental purposes as identified in Section 3.2 of the Engineering Report. These uses may consist of dust control, construction, fire-fighting and industrial process water. Additionally, SRWW was used for various drilling activities in Sonoma County during 2019. Appropriate signage and labeling was directed by the User Supervisor for these activities.

If you have any questions, please contact me at (707) 431-6097.

Sincerely,

 Date:
2020.01.28
07:57:52 -08'00'
Bill King
Calpine-Geysers EHS