DOCKETED	
Docket Number:	81-AFC-01C
Project Title:	Compliance - Application for Certification of the Occidential Plant # 1
TN #:	242576
Document Title:	2020 Revised Annual Compliance Report - Calistoga
Description:	N/A
Filer:	Sharon Peterson
Organization:	Geysers Power Company, LLC
Submitter Role:	Applicant
Submission Date:	4/5/2022 4:31:02 PM
Docketed Date:	4/5/2022

CALPINE

GEYSERS POWER COMPANY, LLC

10350 SOCRATES MINE ROAD

MIDDLETOWN, CA 95461

GPC-22-066

April 5, 2022

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 REVISED 2020 Annual Compliance Report – U19 (Calistoga) Power Plant

Dear Mr. Veerkamp:

In fulfillment of the Compliance Plan's annual reporting requirement, Geysers Power Company, LLC hereby submits the following revised 2020 Annual Compliance Report (ACR) for Unit 19 (Calistoga). This ACR supersedes the previous 2020 ACR that was docketed on 12/20/2021 (TN# 240994).

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) 431-6858.

Sincerely,

Sharon Peterson
Air Compliance Manager, Geysers
Calpine Corporation

Cc:
Mr. Nicholas Lavrov
Bureau of Land Management
2550 N. State Street
Ukiah, California 95482

Geysers Calistoga Plant (Unit 19)
81-AFC-01C
2020 Annual Compliance Report to the California Energy Commission (Rev. 1)
January 2020-December 2020 Reporting Period

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, or Unit 19), transfer of ownership requires Geysers Power Company, LLC (GPC or Project Owner) to be responsible for administering and monitoring various Conditions for Certification as contained in the Commission Decision.

Two amendments to the Final Decision have been approved by the CEC, resulting in the inclusion of additional on-going compliance tasks for reporting in the Annual Compliance Report.

First, on October 14, 2020, the CEC Final Decision was amended to revise the Air Quality Conditions of Certification (TN#: 235330). The new Air Quality Conditions of Certification requires on-going reporting of certain monitoring and other activities at Calistoga. Second, on November 16, 2020, additional Compliance Conditions of Certification were adopted for Unit 19 (TN#: 235699): GEN-1, COM-1 through 11, FIRE PREVENTION-1 and FIRE PROTECTION-1 through 5. Condition COM-5 requires submission of Periodic and Annual Compliance Reports and details specific reporting requirements that should be included in each Annual Compliance Report (ACR). The following sections of this ACR corresponds with the reporting requirements set forth in Condition COM-5. The conditions with annual reporting requirements that are included as part of this ACR are summarized below:

Technical Area	Conditions with Annual Reporting Requirements
Air Quality	AQ-4, AQ-E3E AQ-SC2, AQ-SC3
Compliance	COM-5
Fire Protection	FIRE PROTECTION-3
Public Health	PH 2-1
Water Quality, Hydrology and Water Resources	WQ 6-10

Geysers Calistoga Plant (Unit 19)
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In accordance with Condition Compliance-5, the Project Owner reports as follows:

1. Updated Compliance Matrix

A copy of the updated compliance matrix showing the status of all conditions of certification (with the exception of fully satisfied conditions) is included as an attachment under COMPLIANCE-5.

2. Summary of current project operating status and explanation of any significant changes to facility operating status during the year.

Calistoga is currently operational and was operational during the 2020 reporting period with the exception of the following outage periods:

Event	Summary	Start	Actual End
Maintenance Outage	Unit 2 removed from service for internal generator inspection, H2 cooler installation	6/28/2020 4:00	6/30/2020 22:05
Planned Outage, Transmission supplier	Units removed from service for scheduled 230 kV line outage	6/23/2020 5:15	6/23/2020 17:05
Planned Outage (CL/BOP)	Both Calistoga Units forced O.O.S due to "B" Circ Pump failure	6/10/2020 7:20	6/11/2020 19:25
Forced Outage, Transmission supplier	Units removed from service for PG&E Transmission line PSPS Event	10/25/2020 12:00	10/27/2020 21:00
Forced Outage, Transmission supplier	Both Units were separated from the system upon PG&E's request	10/2/2020 11:15	10/6/2020 21:10
Forced Outage, Transmission supplier	PG&E 230 kV line relay operation	9/27/2020 22:50	10/1/2020 5:30
Planned Outage, Transmission supplier	Units removed from service for scheduled P.G&E. 230 kV line outage	9/24/2020 4:00	9/25/2020 0:20

Geysers Calistoga Plant (Unit 19)
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3. Required Annual Compliance Report Documents

The following information is required by specific conditions to be submitted annually and are provided as attachments, as applicable:

Condition of Certification	Submittal Title
AQ-4	**Attachment AQ-4:** Summary of H2S source test results for the 2020 calendar year
AQ-E3E	**Attachment AQ-E3E**: Engine operating data summary for the 2020 calendar year (Note: No data to report for 2020. The emergency wet down pump diesel engine was not yet operational.)
AQ-SC2	**Attachment AQ-SC2:** Copy of the Annual Throughput Report submitted to LCAQMD for the operating period October 1, 2019 through September 30, 2020.
AQ-SC3 / COM-5	**Attachment COM-5:** Compliance Matrix This Annual Compliance Report is being submitted to the CEC in accordance with AQ-SC3 and COM-5. An updated Compliance Matrix is attached in accordance with COM-5.
PH 2-1	**Attachment PH 2-1:** Table of quarterly radon-222 concentration analyses in non-condensable gases during the 2020 calendar year
FIRE PROTECTION - 3	Inspection, Testing, and Maintenance (ITM) reports are submitted to the CEC under confidential designation. ITM reports are not provided as part of this ACR.
WQ 6-10	**Attachment WQ 6-10:** 2020 Geysers Power Plant Units Recycled Water Use Report. In 2020, there was no recycled water used at Calistoga. A copy of the report is attached.

Geysers Calistoga Plant (Unit 19)
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4. Cumulative List of All Known Post-Certification Changes Approved by the CEC or CPM

- Authorized cooling tower fill replacement project for the west tower approved 6/23/2020 per TN#233613.
- Order approving installation of a permanent standby diesel engine-power pump for the cooling tower wet-down system and revising air quality conditions of certification to conform with ATC issued on May 11, 2020 by LCAQMD. (Conditions set forth in TN#: 234737) was approved 10/20/2020 per TN#235330.
- Order approving settlement relating to fire system investigation, and adding Conditions of Certification GEN-1, COM-1 through 11, FIRE PREVENTION-1 and FIRE PROTECTION-1 through 5 was approved 11/19/2020 per TN# 235699.

5. Submittal deadlines not met

There are no past due compliance submittals.

6. Filings Submitted to or Permits Issued by Other Governmental Agencies

Permit:

- Authority to Construct Permit - Diesel Engine Powered Emergency Standby Cooling Tower Wet-Down Pump issued by LCAQMD on 5/11/20

Filings:

- Quarterly Compliance Reports submitted to CEC
- Quarterly Compliance Reports submitted to LCAQMD
- Application for Authority to Construct for an Emergency Wet-Down Pump Engine at the Calistoga Power Plant submitted to LCAQMD on 2/28/20; Permit # A/C 2020-05 issued on 5/1/2020
- Petition for Modification: Installation of a Standby Pump for the Cooling Tower Wet-Down System at the Calistoga Power Plant submitted to the CEC
- Authority to Construct Permit # A/C 2020-05 received from LCAQMD for the Diesel Engine Powered Emergency Standby Cooling Tower Wet-down Pump
- Request for APCO Approval: Other Filter Media in the Mercury Removal System at the Calistoga Power Plant submitted to LCAQMD
- 2020 PSD H2S Abatement System Performance Results: Geysers Power Company LLC's Sonoma, Lake View, Grant, Quicksilver and Calistoga Power Plants submitted to CEC
- Lake County AB2588 Air Toxics "Hot Spots" Emission Inventory Report for the Inventory Year 2020 submitted to LCAQMD
- Monthly submission of completed hazardous waste manifests to DTSC.
- Annual Hazardous Waste Report submitted to DTSC.
- Sulfur Hexafluoride (SF6) Geothermal Resource Tracer Testing Exemption- Progress Report submitted to CEC

7. Projection of Scheduled Compliance Activities for Next Year

- AQ-3: Perform periodic source test of H2S

- AQ-4: Conduct periodic source test and/or process estimates of cooling tower drift rate
- AQ-8: Perform biannual tests to determine the content of steam components
- AQ-F1B: Conduct source testing for the following: ROG, PM10, SOx, or NOx.
- Biological Resources 5-2: Inspect, maintain and repair erosion control measures in place.
- Compliance-5: Evaluate Site Contingency Plan for unplanned facility closure
- Fire Protection-1: Perform annual inspection, testing, and maintenance of the non-NFPA cooling tower wet down system
- Fire Protection-3: Perform inspections, testing, and maintenance of fire systems
- Public Health 2-1: Perform quarterly sampling and analysis of radon-222 concentrations in noncondensable gases entering the power plant in the incoming steam line, or vent off-gas line, or H2S abatement off-gas line

8. Additions to the Compliance Record

- Calistoga (Unit 19) Petition for Modification for Installation of a Standby Pump for the Cooling Tower Wet-Down System filed and docketed 6/24/20, per TN #233639.
- Calistoga (Unit 19) Petition for Modification for Installation of a Diesel Standby Pump, Air District Health Risk Analysis, docketed 7/21/2020 per TN# 233983.
- Calistoga Unit 19 PTA Diesel Amendment Staff Analysis docketed 9/15/20 per TN# 234737
- Order Approving Petition to Amend the Facility License docketed 10/20/2020 per TN# 235330
- Order Approving Settlement docketed 11/19/2020 per TN# 235699
- On-going logging of monitoring and calibration of H2S monitoring devices, continuous strip chart record and appropriate sampling line, and other additions pursuant to AQ-3.
- On-going analyses of results of source tests and other tests requested by the LCAQMD or CEC pursuant to the AQ conditions of certification.
- 2020 Geysers Power Plant Units Recycled Water Use Report to the State WRCB-Division of Drinking Water.

9. Evaluation of the Site Contingency Plan

An evaluation of the Site Contingency Plan for unplanned facility closure was conducted and minor modifications were made to the plan to update the listed agency contact information for listed to be referenced in case of a facility closure.

10. Listing of complaints, notices of violations, official warnings, and citations

No complaints, notices of violations, official warnings or citations were received in the 2020 reporting period.

CONDITION OF CERTIFICATION
AQ-4

Attachment AQ-4: Summary of H2S source test results for the 2020 calendar year

Geysers Calistoga Plant (Unit 19) 81-AFC-01C
2020 Annual Compliance Report to the California Energy Commission
January 2020-December 2020

Summary of H2S Source Test Results for the 2020 Calendar Year

Geysers Calistoga Plant (Unit 19) 81-AFC-01C, Condition AQ-4		
Quarter	**Test Date**	**Measured H_2S Emissions (lb/Hr)***
1st Quarter	**2/5/2020**	**2.9**
2nd Quarter	**5/13/2020**	**0.2**
3rd Quarter	**7/30/2020**	**0.5**
4th Quarter	**10/14/2020**	**0.8**

*Calistoga allowable H_2S emissions = 8.0 lb/hr

CONDITION OF CERTIFICATION
AQ-SC2

Attachment AQ-SC2: Copy of the Annual Throughput Report submitted to LCAQMD for the operating period October 1, 2019 through September 30, 2020

Geysers Calistoga Plant (Unit 19) 81-AFC-01C
2020 Annual Compliance Report to the California Energy Commission
January 2020-December 2020

GEYSERS POWER COMPANY, LLC

NYSE CPN

GPC-20-040

October 28, 2020

Douglas Gearhart
Air Pollution Control Officer
Lake County Air Quality Management District
2617 South Main Street
Lakeport, CA 95453

Attention: Elizabeth Knight, AQS

Dear Mr. Gearhart:

Subject: Annual Production 2020 Throughput Report and Full Field Survey H2S Results

Enclosed are the annual throughput reports requested in your letter dated September 1, 2020. These data are presented for the period of operations from October 1, 2019 through September 30, 2020.

The 2020 annual steam field H_2S analysis results for production wells are provided with these throughput data.

If you have any questions concerning this submittal please call me at (707) 431-6053.

Sincerely,

Brian Benn
Environmental Chemistry Manager, Geysers

Enclosure

Geothermal Power Plant Emissions/Throughput Worksheet

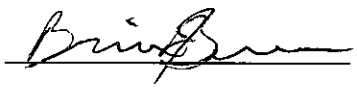
Geysers Power Company, LLC
c/o Calpine Corporation
10350 Socrates Mine Rd.
Middletown, CA 95461

2020

		Normal Production			Stretford Bypass		Steam Stacking/Venting	
Source	**Permit #**	**Number of Hours in Production**	**Average H2S Emissions (lbs/hr)**	**H2S Emissions (lbs/yr)**	**Number of Stretford Bypass Events**	**Stretford Bypass Emissions (H2S-lbs/yr)**	**Number of Steam Stacking Events**	**Steam Stacking Emissions (H2S-lbs/yr)**
Calistoga Geothermal Power Plant	P/O 96-53D	6589.3	1.0	6,589	0	0	2	30,786
Unit 13 Geothermal Power Plant	P/O 80-001B	6589.0	2.8	18,449	0	0	2	3,192
Unit 16 Geothermal Power Plant	A/C 2015-24	8470.9	2.3	19,483	0	0	1	334
West Ford Flat Geothermal Plant Power Plant	P/O 90-050B	0	0	0	0	0	0	0

Covering the latest twelve (12) month period from October 1, 2019 to September 30, 2020

Print Name: Brian Benn Phone: (707) 431-6053

Submitted by:  Date: 10/28/20

Geothermal Steam Transmission Line Emissions/Throughput Worksheet

2020

Geysers Power Company, LLC
c/o Calpine Corporation
10350 Socrates Mine Rd
Middletown, CA 95461

Associated Project	Source	Permit #	Number of Bleed/Vent Occurrences [1]	Total Hours on Bleed & Vent	Total Steam Vented (K-lbs)	H2S Conc. Steam (ppmw)	H2S Emissions (lbs)
Bear Canyon Creek	BCC I Unit 16 Intertie Steam	AIC 2013-21	9	9.3	125	129	11.7
Bear Canyon Creek	BCC Steam Transmission Line	P/O 90-061	0				
Unit 11/17 (North)	Binkley Steam Transmission Line	P/O 80-028	0				
Sonoma Geo	CA 1862/Sonoma Geo Steam Transmission	P/O 90-004	0				
Unit 11/17 (North)	L'Esperance Steam Transmission Line	P/O 92-006	0				
Unit #13	Unit 13/16 Intertie Steam Transmission Line	P/O 85-023	0				
Unit #13	Unit 13/18 Intertie Steam Transmission Line	A/C 2000-11	0				
Unit #13	Unit 13 Parallel Steam Transmission	A/C 2007-15A	0				
Unit #13	Unit 13 Steam Transmission Line	A/C 2017-04	2	195.1	1149	128	147.0
Unit #16	Unit 16 Steam Transmission Line System	P/O 98-20A	3	14.4	213	129	27.5
Unit 17	Unit 17/21 Intertie Steam Transmission Line	A/C 84-029	2	199.6	1176	319	375.0
Unit 11/17 (North)	Unit 17 DX Steam Transmission Line	P/O 84-007	0				
Unit 11/17 (North)	Unit 17 GDHS Steam Transmission Line	P/O 92-011	0				
Unit 11/17 (North)	Unit 17 NEGU Steam Transmission Line	P/O 92-010	0				
Unit 18 South	Unit 18 Tocher Steam Transmission Line	P/O 83-009	2	199.2	440	72	32.0
Unit 11/17 (North)	Unit 21/17 Intertie Steam Transmission Line	A/C 2001-05	0				
West Ford Flat	WFF/Calistoga Steam Transmission	A/C 2015-06	1	1.6	5	163	0.7
West Ford Flat	WFF Steam Transmission Line	P/O 90-051	0				
Calistoga	Calistoga Steam Transmission Line	P/O 85-002E	10	326.2	1606	163	264.2

Endnotes:

1. Steam transmission lines include all venting to atmosphere, clean-outs, freeze protection and condensate collection emissions.

Covering the latest twelve (12) month period from October 1, 2019 to September 30, 2020

Print Name: Brian Benn Phone: (707) 431-6053

Submitted by: Brian Benn Date: 10/28/20

Geothermal Well Emissions/Throughput Worksheet

2020

Calpine Calistoga Holdings, LLC
c/o Calpine Corporation
10350 Socrates Mine Rd
Middletown, CA 95461

Associated Project	Source	Permit #	Status[1]	Number of Bleed/Vent Occurrences	Total Hours On Bleed & Vent	Total Steam Vented (K-lbs)	H2S Conc. Steam [2] (ppmw)	H2S Emissions [3] (lbs)
Calistoga	23-22	P/O 85-008A	SI	0				
Calistoga	23A-22	P/O 85-009A	SI	0				
Calistoga	23B-22	A/C 2005-08	P	2	2054.2	583.5	716	417.7
Calistoga	23C-22	P/O 88-084	I	0				
Calistoga	23D-22	P/O 96-10	SI	0				
Calistoga	23E-22	A/C 97-16	SI	2	2054.0	479.5	352	168.9
Calistoga	23F-22	P/O 95-09	P	1	285.9	74.0	270	20.0
Calistoga	23G-22	P/O 96-11	P	2	297.0	94.5	413	39.2
Calistoga	23H-22	P/O 96-16	P	1	2043.0	586.0	334	196.0
Calistoga	23I-22	A/C 99-09	ND	0				
Calistoga	36-22	P/O 91-012	P	4	2073.0	3927.5	39	153.1
Calistoga	36A-22	P/O 91-009	SI	0				
Calistoga	36B-22	P/O 91-010	P	3	2059.0	608.5	106	64.6
Calistoga	36C-22	P/O 93-012	P	3	2002.0	548.5	74	40.5
Calistoga	68-21	P/O 85-004A	P	2	8.0	1.8	31	0.1
Calistoga	68A-21	P/O 95-01	P	1	1.4	0.2	137	0.0
Calistoga	68B-21	P/O 85-006A	P	2	960.7	249..5	35	8.7
Calistoga	68C-21	P/O 95-02	P	2	2420.0	628.5	30	18.9
Calistoga	68D-21	P/O 86-002	P	1	2114.4	531.3	54	28.7
Calistoga	68E-21	P/O 91-011	P	1	2096.2	558.6	56	31.3
Calistoga	68F-21	P/O 96-45	P	0			30	
Calistoga	68G-21	P/O 95-05	P	2	2097.5	558.9	56	31.3
Calistoga	74-21	P/O 85-015A	SI	0				
Calistoga	74B-21	P/O 85-016A	P	1	10.0	0.5	207	0.1
Calistoga	74C-21	P/O 85-017A	P	1	10.0	0.5	68	0.0
Calistoga	74D-21	P/O 88-083	P	1	10.0	0.5	270	0.1
Calistoga	74E-21	P/O 93-002	SI	0				
Calistoga	74F-21	P/O 94-015	I	0				
Calistoga	74G-21	P/O 94-02	P	1	120.0	2400.0	136	326.0
Calistoga	74H-21	P/O 94-016	P	1	10.0	0.5	391	0.2
Calistoga	87-21	A/C 97-15	SI	0				
Calistoga	87A-21	P/O 85-012A	SI	3	1.3	11.2	25	0.3
Calistoga	87B-21	P/O 93-013	P	2	2107.0	580.6	52	30.2
Calistoga	87C-21	P/O 93-014	P	2	2107.0	570.0	254	144.7
Calistoga	87D-21	P/O 86-003	P	2	2107.0	587.6	115	67.6
Calistoga	87E-21	P/O 91-002	SI	0				
Calistoga	87F-21	P/O 91-006	SI	3	2.3	36.5	92	3.3
Calistoga	87G-21	P/O 92-015	SI	0				

Endnotes

1. (Status: P (production, I (injection, SI (shut in), ND (not drilled), B (standby bleed),... note other abbrs used.)
2. H_2S concentration of steam reported for the current year (2019) annual full field survey.
3. Steam emission occurrences which result in H_2S emissions of less than 0.05 lbs. are rounded and reported as 0.0 lb.

Covering the latest twelve (12) month period from October 1, 2019 to September 30, 2020

Print Name: Brian Benn Phone: (707) 431-6053

Submitted by: Brian Benn Date: 10/28/20

Geothermal Well Emissions/Throughput Worksheet

2020

Geysers Power Company, LLC
c/o Calpine Corporation
10350 Socrates Mine Rd.
Middletown, CA 95461

Associated Project	Source	Permit #	Status[1]	Number of Bleed/Vent Occurrences	Total Hours On Bleed & Vent	Total Steam Vented (K-lbs)	H2S Conc. Steam [2] (ppmw)	H2S Emissions [3] (lbs)
Unit #13	Abel 1	P/O 80-009A	P	1	0.9	0.23	254	0.1
Unit #16	Barrows 2	P/O 86-052	P	2	212.9	58.2	110	6.4
Unit #16	Barrows 3	P/O 86-053	P	2	213.4	86.4	197	17.0
Unit #16	Barrows 4	P/O 86-054	SI	0				
Unit #16	Barrows 5	P/O 86-055	P	2	220.5	79.9	160	12.8
Unit #16	Barrows 6	P/O 91-016	P	2	223.7	45.6	211	9.6
Unit #16	Barrows 7	A/C 2003-06A	I	0				
Unit #13	Bianchi 3	P/O 84-004A	SI	0				
Unit 11/17 North	BRU 1	P/O 80-029	P	5	721.5	322.2	641	206.6
Unit #18 (South)	CA 1862-1	P/O 95-06	SI	0				
Unit #13	CA 1862-2	P/O 80-027A	P	1	0.9	0.2	317	0.1
Sonoma Geo	CA 1862-4	A/C 2007-04	I	0				
Unit #13	CA 956A 1 (Redrill)	A/C 2003-16	SI	0				
Unit #13	CA 956A 4	P/O 80-26A	P	1	1.4	0.3	174	0.0
Unit #16	CA 956A 5	P/O 86-059	P	2	224.5	43.9	70	3.1
Unit #16	CA 958 1	P/O 86-060	P	2	224.3	44.7	293	13.0
Unit #16	CA 958 10	P/O 85-021A	P	2	224.2	45.7	54	2.5
Unit #16	CA 958 11	P/O 86-062	P	2	224.3	48.4	40	1.9
Unit #16	CA 958 13	P/O 93-005	P	2	211.0	41.3	122	5.0
Unit #16	CA 958 5	P/O 85-019A	P	2	223.6	45.6	48	2.2
Unit #16	CA 958 6 (Injection)	P/O 86-061	SI	0				
Unit #13	CA 958 7	P/O 81-003A	P	0			212	
Unit #16	CA 958 9	P/O 85-020A	P	2	224.4	46.6	71	3.3
Unit #16	CA 958-16	P/O 93-006	P	2	224.7	46.6	150	7.0
L'Esperance	Cal State 92-6	A/C 2008-04	SI	0				
Unit #13	D&V 1	P/O 80-010A	P	1	518.2	112.0	217	24.3
Unit #13	D&V 2	P/O 80-011A	P	1	356.9	75.2	90	6.8

Geothermal Well Emissions/Throughput Worksheet

2020

Geysers Power Company, LLC
c/o Calpine Corporation
10350 Socrates Mine Rd.
Middletown, CA 95461

Associated Project	Source	Permit #	Status[1]	Number of Bleed/Vent Occurrences	Total Hours On Bleed & Vent	Total Steam Vented (K-lbs)	H2S Conc. Steam [2] (ppmw)	H2S Emissions [3] (lbs)
Unit #13	D&V 3	P/O 80-012A	P	1	355.7	83.4	153	12.8
Unit #13	D&V 4	P/O 88-088	P	1	356.9	75.8	84	6.4
Bear Canyon Creek	Davies 5206-1	P/O 90-062	P	2	311.0	8289.0	388	321.6
Bear Canyon Creek	Davies 5206-2	P/O 90-063	P	1	3130.1	3374.6	277	934.8
Unit #16	Davies Estate 1	P/O 86-050	SI	0				
Bear Canyon Creek	Davies Estate 3	AC 17-76	SI	0				
Bear Canyon Creek	Davies Estate 4 (Injectio	AC 92-013	I	0				
Bear Canyon Creek	Davies Estate 5	P/O 90-065	SI	0				
Bear Canyon Creek	Davies Estate 6	P/O 90-066	P	5	31.7	47.8	106	5.1
Bear Canyon Creek	Davies Estate 7	P/O 90-067	P	1	1.4	0.4	197	0.1
Bear Canyon Creek	Davies Estate 8	P/O 90-068	SI	0				
Bear Canyon Creek	Davies Estate 9	P/O 91-005	P	1	14.0	5.1	229	1.2
Bear Canyon Creek	Davies State 4 (5206-4)	P/O 93-003	P	1	14.0	3.5	68	0.2
Bear Canyon Creek	Davies State 5 (5206-5)	P/O 97-01	P	2	26.5	3.3	247	1.5
Unit 11/17 North	DX-52	P/O 84-006A	SI	0				
Unit 11/17 North	DX-87	P/O 88-077	P	0			256	
Unit #13	East Ford Flat #1	P/O 93-016	P	1	0.8	0.2	231	0.0
Unit 11/17 North	GDHS 6	P/O 88-079	P	0			331	
Unit 11/17 North	GDHS 7	P/O 88-080	P	0			371	
Unit 11/17 North	GDHS 8	P/O 88-081	P	0			489	
Unit 11/17 North	GDHS 9	P/O 92-009	SI	0				
L'Esperance	L'Esperance 1	A/C 2008-05	SI	0				
Unit #13	McKinley 1	P/O 80-013A	SI	0				
Unit #16	McKinley 10	P/O 86-056	P	2	224.8	46.2	123	5.7
Unit #16	McKinley 11	P/O 93-007	P	2	223.0	45.9	111	5.1
Unit #16	McKinley 12	P/O 86-058	P	4	218.8	47.5	97	4.6
Unit #16	McKinley 13	P/O 91-013	P	5	229.3	51.0	96	4.9

Geothermal Well Emissions/Throughput Worksheet

2020

Geysers Power Company, LLC
c/o Calpine Corporation
10350 Socrates Mine Rd.
Middletown, CA 95461

Associated Project	Source	Permit #	Status[1]	Number of Bleed/Vent Occurrences	Total Hours On Bleed & Vent	Total Steam Vented (K-lbs)	H2S Conc. Steam [2] (ppmw)	H2S Emissions [3] (lbs)
Unit #16	McKinley 15	P/O 91-014	P	2	225.9	46.8	69	3.2
Unit #16	McKinley 16	A/C 2015-01	SI	0				
Unit #13	McKinley 3	P/O 80-014A	P	2	353.7	76.9	197	15.2
Unit #13	McKinley 9	P/O 84-003A	P	1	0.8	0.1	194	0.0
Unit #13	MLM 1	P/O 80-018A	P	4	5772.8	1235.9	156	192.8
Unit #13	MLM 2 Deepening	A/C 2004-11	P	1	0.9	0.2	35	0.0
Unit #16	MLM 4	P/O 94-01	P	2	222.0	46.0	67	3.1
Unit #13	MLM 5 Fork Mod.	A/C 2004-10	SI	1	8784.0	2541.1	134	340.5
Unit #13	MLM 7	P/O 88-092	P	1	4.6	1.1	160	0.2
West Ford Flat	Moody 1	P/O 90-052	P	1	120.0	6720.0	135	907.0
West Ford Flat	Moody 2	P/O 90-053	P	0			151	
West Ford Flat	Moody 3	P/O 90-054	P	0			152	
West Ford Flat	Moody 4	P/O 90-055	P	0			132	
West Ford Flat	Moody 5	P/O 97-33	P	1	120.0	1728.0	65	112.0
Unit 11/17 North	NEGU 1	A/C 17-76-33	P	2	344.0	112.0	164	18.4
Unit 11/17 North	NEGU 10	A/C 84-041	P	0			908	
Unit 11/17 North	NEGU 13	A/C 2012-09	I	0				
Unit 11/17 North	NEGU 15	P/O 92-007	SI	0				
Unit 11/17 North	NEGU 17	P/O 92-008	P	1	714.0	206.6	229	47.3
Unit 11/17 North	NEGU 19	A/C 84-043	ND	0				
Unit 11/17 North	NEGU 20	A/C 84-044	ND	0				
Unit 11/17 North	NEGU 7A	P/O 2002-11	P	0			939	
Unit 11/17 North	NEGU 8	A/C 2004-02	P	2	277.0	126.0	757	95.4
West Ford Flat	PDC 1	P/O 90-056	P	0			223	
West Ford Flat	PDC 2	P/O 90-057	P	0			195	
West Ford Flat	PDC 3	P/O 90-058	P	0			128	
West Ford Flat	PDC 4	P/O 98-19	P	0			226	

Geothermal Well Emissions/Throughput Worksheet

2020

Geysers Power Company, LLC
c/o Calpine Corporation
10350 Socrates Mine Rd.
Middletown, CA 95461

Associated Project	Source	Permit #	Status[1]	Number of Bleed/Vent Occurrences	Total Hours On Bleed & Vent	Total Steam Vented (K-lbs)	H2S Conc. Steam [2] (ppmw)	H2S Emissions [3] (lbs)
Unit #13	Thorne 1	P/O 80-020A	P	2	353.5	91.8	231	21.2
Unit #13	Thorne 10	P/O 88-093	P	1	1.8	0.4	252	0.1
Unit #13	Thorne 3	A/C 2003-17	P	4	522.4	123.1	449	55.4
Unit #13	Thorne 5 Redrill	A/C 2007-22	I	0				
Unit #13	Thorne 6	P/O 93-009	P	2	35.1	11.0	140	1.5
Unit #18 (South)	Tocher 2	P/O 83-010	SI	0				
Unit #18 (South)	Tocher 3 Redrill	A/C 2007-27	I	0				
Unit #18 (South)	Tocher 4	P/O 91-008	P	0			117	
Unit #13	Wolfe 1	P/O 93-008	P	1	1.0	0.3	130	0.0

Endnotes:

1. Status: P (production), I (injection), SI (shut in), ND (not drilled), B (standby bleed),... note other abbrs used.
2. H_2S concentration of steam repoted for the current year (2020) annual full field survey.
3. Steam emission occurrences which result in H_2S emissions of less than 0.05 lbs. are rounded and reported as 0.0 lb.

Covering the latest twelve (12) month period from October 1, 2019 to September 30, 2020

Print Name: Brian Benn Phone: (707) 431-6053

Submitted by: Brian Benn Date: 10/28/20

Lake County Air Quality Management District
2617 South Main Street
Lakeport, CA 95453
707-263-7000 / fax 263-0421

Douglas G. Gearhart
Air Pollution Control Officer
dougg@lcaqmd.net

2020 Throughput Worksheet

(All Throughput Worksheets are Due by October 31, 2020)

Geysers Power Company, LLC

DATE: September 1, 2020

Source — Permit #

Barrows 7 — A/C 2003-06A

Unit #16 Steamfield

The quantity of fuel used. Ø gallons
The type(s) of fuel used. _____
The number of hours operated during the year. Ø total hours
Emergency _____ hours Testing _____ hours Maintenance _____ hours

CA 1862-4 — A/C 2007-04

CA 1862-4 Padsite

The quantity of fuel used. Ø gallons
The type(s) of fuel used. _____
The number of hours operated during the year. Ø total hours
Emergency _____ hours Testing _____ hours Maintenance _____ hours

CA 956A 1 (Redrill) — A/C 2003-16

Unit 13 Steamfield - 956A 1 Padsite

The quantity of fuel used. Ø gallons
The type(s) of fuel used. _____
The number of hours operated during the year. Ø total hours
Emergency _____ hours Testing _____ hours Maintenance _____ hours

Cal State 92-6 — A/C 2008-04

L'Esperance Padsite

The quantity of fuel used. Ø gallons
The type(s) of fuel used. _____
The number of hours operated during the year. Ø total hours
Emergency _____ hours Testing _____ hours Maintenance _____ hours

Davies Estate 3 — A/C 17-76-63B

Bear Canyon Creek Steamfield - Davies Estate 3 Padsite

The quantity of fuel used. Ø gallons
The type(s) of fuel used. _____
The number of hours operated during the year. Ø total hours
Emergency _____ hours Testing _____ hours Maintenance _____ hours

Ek 8/2020

Annual Throughput Worksheet - Continued

Source — Permit #

Diesel Engine Powered Emergency Standby Cooling Tower Wet-Down Pump — A/C 2017-49

Unit 16 Geothermal Power Plant

Note: Data not available due to PSPS - will report data on 11/2/20.

The quantity of fuel used. _____ gallons
The type(s) of fuel used. _____
Hour meter reading. _____ on _____ date
The number of hours operated during the year. _____ total hours
Emergency _____ hours Testing _____ hours Maintenance _____ hours

Diesel Engine Powered Emergency Standby Cooling Tower Wet-Down Pump — A/C 2020-05

Calistoga Geothermal Power Plant

The quantity of fuel used. Ø gallons
The type(s) of fuel used. _____
Hour meter reading. _____ on _____ date
The number of hours operated during the year. Ø total hours
Emergency _____ hours Testing _____ hours Maintenance _____ hours

Diesel Fire Pump — A/C 2005-26

West Ford Flat Power Plant

The quantity of fuel used. Ø gallons
The type(s) of fuel used. _____
Hour meter reading. _____ on _____ date
The number of hours operated during the year. Ø total hours
Emergency _____ hours Testing _____ hours Maintenance _____ hours

Diesel Fire Pump — P/O 2014-05

Bear Canyon Creek Power Plant

The quantity of fuel used. Ø gallons
The type(s) of fuel used. _____
Hour meter reading. _____ on _____ date
The number of hours operated during the year. Ø total hours
Emergency _____ hours Testing _____ hours Maintenance _____ hours

Diesel Fire Pump — P/O 2016-19

Calistoga Power Plant

The quantity of fuel used. Ø gallons
The type(s) of fuel used. _____
Hour meter reading. 729.7 on 9/30/20 date
The number of hours operated during the year. Ø total hours
Emergency _____ hours Testing _____ hours Maintenance _____ hours

Emergency Backup Diesel Generator — A/C 2005-29

Unit 13 Injection Pond

See Note: above

The quantity of fuel used. _____ gallons
The type(s) of fuel used. _____
Hour meter reading. _____ on _____ date
The number of hours operated during the year. _____ total hours
Emergency _____ hours Testing _____ hours Maintenance _____ hours

Annual Throughput Worksheet - Continued

Source — Permit #

Emergency Backup Diesel Generator — P/O 2014-03
See Note: Page 2.

Unit 16 Power Plant Vent Site

The quantity of fuel used. _____ gallons
The type(s) of fuel used. _____
Hour meter reading. _____ on _____ date
The number of hours operated during the year. _____ total hours
Emergency _____ hours Testing _____ hours Maintenance _____ hours

Emergency Backup Diesel Generator — P/O 2005-07

West Ford Flat Power Plant

The quantity of fuel used. Ø gallons
The type(s) of fuel used. _____
Hour meter reading. _____ on _____ date
The number of hours operated during the year. Ø total hours
Emergency _____ hours Testing _____ hours Maintenance _____ hours

Emergency Backup Diesel Generator — P/O 2005-08

Bear Canyon Creek Power Plant

The quantity of fuel used. Ø gallons
The type(s) of fuel used. _____
Hour meter reading. _____ on _____ date
The number of hours operated during the year. Ø total hours
Emergency _____ hours Testing _____ hours Maintenance _____ hours

Emergency Backup Diesel Generator — P/O 2005-09

Unit 13 Power Plant

The quantity of fuel used. _____ gallons — See Note page 2.
The type(s) of fuel used. _____
Hour meter reading. _____ on _____ date
The number of hours operated during the year. _____ total hours
Emergency _____ hours Testing _____ hours Maintenance _____ hours

L' Esperance 1 — A/C 2008-05

L'Esperance Padsite

The quantity of fuel used. Ø gallons
The type(s) of fuel used. _____
The number of hours operated during the year. Ø total hours
Emergency _____ hours Testing _____ hours Maintenance _____ hours

McKinley 16 — A/C 2015-01

Unit 13 Steamfield

The quantity of fuel used. Ø gallons
The type(s) of fuel used. _____
The number of hours operated during the year. Ø total hours
Emergency _____ hours Testing _____ hours Maintenance _____ hours

Annual Throughput Worksheet - Continued

Source	Permit #

MLM 2 Deepening and conversion to injection well — A/C 2004-11

Unit 13 Steamfield - D Line

The quantity of fuel used. ___Ø___ gallons
The type(s) of fuel used. _____
The number of hours operated during the year. _____ total hours
Emergency _____ hours Testing _____ hours Maintenance _____ hours

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MLM 5 - Fork Modification — A/C 2004-10

Unit 13 Steamfield - D Line

The quantity of fuel used. ___Ø___ gallons
The type(s) of fuel used. _____
The number of hours operated during the year. _____ total hours
Emergency _____ hours Testing _____ hours Maintenance _____ hours

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NEGU 13 — A/C 2012-09

DX Padsite

The quantity of fuel used. ___Ø___ gallons
The type(s) of fuel used. _____
The number of hours operated during the year. _____ total hours
Emergency _____ hours Testing _____ hours Maintenance _____ hours

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NEGU 8 — A/C 2004-02

NEGU 8 Padsite

The quantity of fuel used. ___Ø___ gallons
The type(s) of fuel used. _____
The number of hours operated during the year. _____ total hours
Emergency _____ hours Testing _____ hours Maintenance _____ hours

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Thorne 3 — A/C 2003-17

Unit 13 Steamfield - Well Thorne 3

The quantity of fuel used. ___Ø___ gallons
The type(s) of fuel used. _____
The number of hours operated during the year. _____ total hours
Emergency _____ hours Testing _____ hours Maintenance _____ hours

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Thorne 5 Re-Drill and Liner Installation — A/C 2007-22

Unit 13 Steamfield - B Line

The quantity of fuel used. ___Ø___ gallons
The type(s) of fuel used. _____
The number of hours operated during the year. _____ total hours
Emergency _____ hours Testing _____ hours Maintenance _____ hours

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Annual Throughput Worksheet - Continued

Source	Permit #
Tocher 3 Re-Drill and Liner Installation	A/C 2007-27

Tocher Padsite

The quantity of fuel used. Ø gallons

The type(s) of fuel used. _____

The number of hours operated during the year. _____ total hours

Emergency _____ hours Testing _____ hours Maintenance _____ hours

Covering the period from September 1, 2019 through August 31, 2020 .

Print Name: Brian Benn Phone: 707-431-6053

Submitted By: _____ Date: 10/28/20
(signature)

Designated Non Major Stationary Source Permit to Operate, Condition 5 A
Permit # P/O 2003-04

WELL NAME	Sample Date	Time	H2S ppmw
23B-22	5/21/2020	13:58	716
23E-22	5/20/2020	9:53	352
23F-22	5/20/2020	10:02	270
23G-22	5/20/2020	10:20	413
23H-22	5/20/2020	10:14	334
36-22	5/20/2020	11:11	39
36B-22	5/20/2020	11:02	106
36C-22	5/20/2020	10:54	74
68-21	5/20/2020	11:10	31
68A-21	5/20/2020	11:27	137
68B-21	5/20/2020	11:18	35
68C-21	5/20/2020	11:03	30
68D-21	5/20/2020	11:40	54
68E-21	5/20/2020	12:10	56
68F-21	5/20/2020	11:48	30
68G-21	5/20/2020	12:16	56
74B-21	5/20/2020	10:16	207
74C-21	5/20/2020	10:05	68
74D-21	5/20/2020	9:55	260
74D-21	5/20/2020	9:55	271
74G-21	5/20/2020	10:33	136
74H-21	5/20/2020	10:41	391
87B-21	5/20/2020	11:35	52
87C-21	5/20/2020	11:43	254
87D-21	5/20/2020	11:52	114
87D-21	5/20/2020	11:52	115
ABEL1	5/6/2020	11:20	254
BARROWS2	5/11/2020	12:49	110
BARROWS3	5/14/2020	13:46	197
BARROWS5	5/14/2020	13:54	160
BARROWS6	5/11/2020	10:29	211
BRU1	5/4/2020	12:27	641
CA18622	5/6/2020	9:50	317
CA956A-4	5/6/2020	10:43	174
CA956A-5	5/11/2020	9:18	70
CA958-1	5/11/2020	10:21	294
CA958-1	5/11/2020	10:21	292
CA958-10	5/11/2020	11:01	54
CA958-11	5/11/2020	9:43	40
CA958-13	5/11/2020	9:48	122
CA958-16	5/11/2020	10:14	150
CA958-5	5/11/2020	11:24	48
CA958-7	5/6/2020	10:37	212
CA958-9	5/11/2020	10:49	71
DE6	5/13/2020	9:53	105
DE6	5/13/2020	9:53	106
DE7	5/13/2020	10:09	196
DE9	5/13/2020	10:37	229

WELL NAME	Sample Date	Time	H2S ppmw
DS1	5/13/2020	11:15	388
DS1	5/13/2020	11:15	392
DS2	5/13/2020	11:25	277
DS4	5/13/2020	10:47	68
DS5	5/13/2020	10:57	247
D&V1	5/6/2020	12:26	217
D&V2	5/6/2020	10:11	90
D&V3	5/6/2020	9:44	153
D&V4	5/6/2020	10:17	84
DX87	6/4/2020	12:59	256
EFFU1	5/6/2020	10:55	231
GDH6	6/4/2020	12:00	331
GDH7	6/4/2020	11:50	371
GDH8	6/4/2020	11:45	489
MCKINLEY10	5/11/2020	12:15	123
MCKINLEY11	5/11/2020	12:08	111
MCKINLEY12	5/11/2020	11:58	97
MCKINLEY13	5/11/2020	11:48	96
MCKINLEY15	5/11/2020	11:14	69
MCKINLEY3	5/6/2020	12:50	197
MCKINLEY9	5/6/2020	10:28	194
MLM2	5/6/2020	11:12	35
MLM4	5/11/2020	10:55	67
MLM7	5/6/2020	10:48	160
MOODY1	5/14/2020	9:24	135
MOODY2	5/14/2020	9:06	151
MOODY3	5/14/2020	8:55	151
MOODY4	5/14/2020	9:15	132
MOODY5	5/14/2020	9:44	65
NEGU1	6/4/2020	9:30	164
NEGU1	6/4/2020	9:30	161
NEGU10	6/4/2020	10:05	908
NEGU17	6/4/2020	11:23	229
NEGU7A	6/4/2020	9:58	939
NEGU8	6/4/2020	10:55	757
PDC1	5/14/2020	10:50	223
PDC2	5/14/2020	11:20	195
PDC3	5/14/2020	11:05	128
PDC4	5/14/2020	10:41	226
THORNE1	5/6/2020	12:17	231
THORNE1	5/6/2020	12:17	227
THORNE10	5/6/2020	10:40	252
THORNE3	5/6/2020	11:53	449
THORNE6	5/6/2020	9:50	138
THORNE6	5/6/2020	9:50	141
TOCH4	5/5/2020	9:40	117
TOCH4	5/5/2020	9:40	115
WOLFE1	5/6/2020	10:20	130

CONDITION OF CERTIFICATION
COMPLIANCE-5

Attachment COM-5: Compliance Matrix

Geysers Calistoga Plant (Unit 19) 81-AFC-01C
2020 Annual Compliance Report to the California Energy Commission
January 2020-December 2020

Technical Area	No.	Facility Status	Condition of Certification	Compliance Verification	Status	2020 Annual Compliance Report
AQ	1	Operations/Ongoing	The project owner shall operate the power plant and air emissions control system described in 81-AFC-1 and subsequent permit modification reviews, to include A/C 97- 20, in a manner necessary to limit hydrogen sulfide (H2S) emissions on a continuous basis from Calistoga Geothermal Power Plant to eight (8) pounds or five (5) pounds of H2S per million pounds of steam flow. This same emissions limitation shall apply during power plant outages, unless Lake County Air Quality Management District (LCAQMD) Rule 510 is complied with as the result of a breakdown.	The project owner shall verify compliance by adhering to all testing and monitoring requirements. The project owner shall make the site and records available for inspection by representatives of the District, ARB, and Energy Commission upon request.	Ongoing	GPC is in compliance.
AQ	2	Operations/Ongoing	The use of the hydrogen peroxide/catalyst condensate abatement, Stretford type non-condensable H2S gas treatment system and surface condenser, drift eliminators, turbine bypass, dual generating units with shunt and multiple power source constitute the air emissions control system as proposed in 81-AFC-1 and is further amended to include the use of long contact time (per A/C 97-20) for dissolved H2S oxidation within the cooling tower basin, addition of oxidation enhancing catalyst to the secondary abatement system and non-condensable mercury removal system; and shall be the equipment used to satisfy the requirements of Condition AQ- 1. In the event the project owner seeks to modify the above equipment necessary to control H2S emissions, they shall first apply for and receive an Authority to Construct from the LCAQMD. The non-condensable gas treatment systems and the long retention time condensate re-route shall be fully utilized to maximize emissions control during all operations. All abatement systems shall be properly winterized and maintained to ensure proper and reliable functioning and availability. Non-condensable H2S shall be treated to a level below 10 ppmv at the discharge of the Stretford type gas treatment unit prior to introduction to the cooling tower. Abatement capacity shall be incorporated in the air emissions control system as is necessary to meet the emission requirement in Condition 1. The existing condensate line and modification including the air emissions control system shall be constructed and operated in a manner so as to preclude stacking of steam during scheduled and unscheduled power generation or transmission outages and during power plant startups and shutdowns.	The project owner shall verify compliance by adhering to all testing and monitoring requirements. The project owner shall provide the CPM with any applications and permits issued according to AQ-SC1. The project owner shall make the site and records available for inspection by representatives of the District, ARB and Energy Commission upon request.	Ongoing	GPC verifies compliance by adhering to all testing, monitoring, and reporting requirements.
AQ	3	Operations/Ongoing	The project owner shall install, when practicable, continuous monitoring devices indicating total volume flow rates and H2S concentrations at the following locations: a) the Stretford unit; and b) in the treated condensate and in the circulating water upstream of the cooling tower. A log of such monitoring shall be maintained and made available to the LCAQMD staff upon request. The H2S monitoring devices must have an accuracy of plus or minus 1 ppm, provide measurements at least every 15 minutes, and be readily accessible to LCAQMD staff. Flow rate measuring devices shall have accuracies of plus or minus 5 percent at 40 percent to 100 percent of the total flow rate, and calibrations must be performed at least quarterly. A Houston-Atlas or equivalent type instrument, or equipment as approved on writing by the LCAQMD, shall be used in monitoring Stretford treated non-condensable gas for H2S. A continuous strip chart record and appropriate sampling line shall be maintained to ensure compliance with LCAQMD Rule 412. Said system shall be calibrated no less than monthly with a three-point calibration and such calibration indicated in a log. A one (1) point check shall be performed no less than weekly. Estimates of total Stretford tail gas, using a LCAQMD approved method, shall be logged no less than weekly. A log of the above maintenance, calibration, and associated monitoring (condensate and Stretford tail gas) shall be maintained on site and copies furnished to the LCAQMD upon request. No less than weekly, a composite or separate condensate sample(s) of steam from the hot wells (prior to mixing with the circulating water) shall be analyzed for dissolved sulfide content. Should such condensate level exceed seven (7) ppmw H2S, (assume 30% reduction by natural oxidation), the LCAQMD and CPM shall be promptly notified. Source tests and corrective actions shall be taken to ensure net emissions of the plant do not exceed eight (8) pounds per hour or five (5) pounds of H2S per million pounds of steam flow per Rule 608. Alternatively, a performance plan as specified in LCAQMD Rule 655 shall be developed and approved in writing by the Air Pollution Control Officer (APCO) to ensure operation in compliance with specified emissions limitations. The approach accepted therein by the LCAQMD may be substituted for this condition.	The project owner shall submit source test results and any description of corrective action to the CPM in the following periodic report. If a performance plan is needed or modified the plan shall be submitted to the CPM. The project owner shall make the site and records available for inspection by representatives of the District, ARB and Energy Commission upon request.	Ongoing	GPC conducts H2S source tests at Calistoga on a quarterly basis and provides the source test results to the LCAQMD and the CPM in the quarterly compliance report. Records are available upon request.

Technical Area	No.	Facility Status	Condition of Certification	Compliance Verification	Status	2020 Annual Compliance Report
AQ	4	Operations/Ongoing	The power plant cooling towers shall utilize drift eliminators with a guaranteed drift rate of 0.001 percent or less and the Stretford cooling tower shall have a guaranteed drift rate of 0.002 percent or less, maintained in good working order. Source tests or process estimates acceptable to the LCAQMD shall be made annually.	Source tests results and/or process estimates shall be submitted to the CPM in the following periodic report. The project owner shall make the site and records available for inspection by representatives of the District, ARB and Energy Commission upon request.	Ongoing	GPC conducts H2S source tests at Calistoga on a quarterly basis and provides the source test results to the LCAQMD and the CPM in the quarterly compliance report. An annual summary of H2S results in provided as part of this ACR.
AQ	5	Operations/Ongoing	The project owner shall provide safe access to sampling ports that enable representatives of the LCAQMD or California Air Resources Board to collect samples from the treated and untreated condensate and/or the circulating water upstream of the cooling tower, cooling tower stacks, the noncondensable exit gas from the Stretford unit, and the direct off-gas vent from any other port deemed necessary by the LCAQMD for sampling.	The project owner shall make the site and records available for inspection by representatives of the District, ARB and Energy Commission upon request.	Ongoing	GPC is in compliance.
AQ	6	Operations/Ongoing	If a generic monitoring program (such as GAMP) for H2S and/or other constituents of concern is continued in the Geysers KGRA by responsible agencies (NSCAPCD, ARB, CEC, and LCAQMD), the project owner shall participate to the extent equitable with other parties in funding or causing such a program to be performed. If such program does not exist and the Calistoga Geothermal Power Plant is determined to be out of compliance with any rule, regulation, or permit condition, such monitoring shall immediately be initiated and funded by the project owner until compliance is established.	If the project owner does not participate in GAMP, the project owner shall submit to the LCAQMD and CPM, for their review and approval, a detailed ambient monitoring plan prior to exiting the program.	Ongoing	GPC is in compliance and participates in GAMP.
AQ	7	Complete - report only for 2020	The project owner shall (starting 1/15/1985) install continue to operate for a continuous period of one year in the Gunning Creek Drainage Basin a wet/dry deposition sampler, and analyze monthly composite of both wet and dry samples for soluble solids, boron, fluoride, arsenic, silica, and mercury. The sampler utilized shall comply with or exceed the guidelines of the National Atmospheric Deposition Program. Results shall be forwarded on a monthly basis to the LCAQMD. A review of such data and the need for a continued effort shall be jointly conducted by the LCAQMD and project owner.	The project owner shall submit any ongoing sampling results to the CPM in the following periodic report. Any change to sampling requirements shall be noted in the following periodic compliance report. The project owner shall make the site and records available for inspection by representatives of the District, ARB and Energy Commission upon request.	Complete	Condition is complete and will no longer be provided to the CEC in the ACR.
AQ	8	Operations/Ongoing	The project owner shall perform biannual tests to determine the content of steam components as listed below upon written request of the LCAQMD and as required in the LCAQMD's geothermal fluid transmission line permit (P/O 85-002D). The continued need for such tests shall be reviewed after two years of operation. Copies of all tests shall be forwarded to the ARB and CEC. Such monitoring is not intended to be redundant with the steam line requirements and the APCO may relieve requirements as appropriate to avoid redundancy as required in this condition. STEAM CONDENSATE/TOTAL STEAM: Ammonium (total); Arsenic (total); Asbestos (total); Benzene; Boron (total); Carbon Dioxide (total); Hydrogen Sulfide (total); Fluorides (total); Mercury; Nickel (total); pH; Total Dissolved Solids; and Total Suspended Solids. GAS PHASE: Benzene; Particulate mass in micrograms per kilogram of steam; Arsenic from particulates above; Lead from particulates above; Cadmium from particulates above; Sulfur from particulates above; Radon 222 and Daughters; Mercury Vapor; Total Methane and Non-Methane Hydrocarbons; Other non-gases as indicated by condensate analysis; and NESHAP pollutants as requested.	The project owner shall submit any test results or report to the CPM in the following quarterly report. Any change to sampling requirements shall be noted in the following periodic compliance report. The project owner shall make the site and records available for inspection by representatives of the District, ARB and Energy Commission upon request.	Ongoing	Submittal of the AB2588 report submitted to LCAQMD on 4/29/21 fulfills this condition. See attached for Lake County Cooling Tower Annual Injection Report.
AQ	9	Operations/Ongoing	The project owner shall issue quarterly reports to the LCAQMD detailing: a) hours of operation; b) any periods of significant abatement equipment malfunction, reasons for malfunctions, and the corrective action; c) types and amounts of chemicals used for condensate treatment; d) periods of scheduled and unscheduled outages and the cause of the outages if known; e) a summary of any irregularities that occurred with the continuous emission monitors, if used; and f) if any, the dates and hours in which Calistoga Geothermal Power Plant H2S emission rate was in excess of the emissions limitations specified in Condition AQ-1.	The project owner shall submit the quarterly reports to the CPM within 45 calendar days of the end of each quarter. The project owner shall make the site and records available for inspection by representatives of the District, ARB, U.S. EPA, and Energy Commission upon request.	Ongoing	GPC provides copies of the quarterly reports to the CPM at the time of submittal to LCAQMD. Additional records are available upon request.
AQ	10	Operations/Ongoing	Dust of three (3) minutes duration or longer in any one hour will be kept below Ringelmann 2 by use of water, oil, or surfacing of roads, pads and parking areas during operation and maintenance of the power plant, or by such other means deemed appropriate. Roads used regularly shall be maintained to avoid the generation of dust by paving or oiling as necessary.	The project owner shall perform a Visible Emissions Evaluation or source test to determine compliance as requested by the LCAQMD or CPM. The project owner shall make the site and records available for inspection by representatives of the District, ARB, and Energy Commission upon request.	Ongoing	No request has been made to perform testing.

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AQ	11	Operations/Ongoing	The project owner shall allow authorized representatives of the LCAPMD and ARB to enter the premises where the source is located, within one hour of notification, to inspect the plant for compliance with the conditions of this license. Source test shall be performed in a fashion to allow Senior Plant or project owner staff reasonable opportunity for co-sampling if desired.	The project owner shall make the site and records available for inspection by representatives of the District, ARB and Energy Commission upon request.	Ongoing	No violations occurred during the reporting period.
AQ	12	Operations/Ongoing	The project owner shall comply with all applicable federal, state, and local laws, standards, and ordinances in the operation of Calistoga Geothermal Power Plant.	The project owner shall make a statement of compliance to verify compliance by adhering to all testing, monitoring, and reporting requirements. The project owner shall make the site and records available for inspection by representatives of the District, ARB and Energy Commission upon request.	Ongoing	GPC verifies compliance by adhering to all testing, monitoring, and reporting requirements. No violations occurred during the reporting period.
AQ	13	Operations/Ongoing	The project owner shall fund or supply any required special protective clothing or safety equipment for the LCAQMD's utilization should such be deemed necessary by the project owner during the life of this project.	The project owner shall make the site and records available for inspection by representatives of the District, ARB and Energy Commission upon request	Ongoing	GPC is in compliance, records available upon request.
AQ	14	Operations/Ongoing	Significant deviation from license conditions cannot be granted by the APCO and can only be granted by the LCAQMD Hearing Board. This requirement does not replace the CEC amendment process.	The project owner shall follow the LCAQMD procedures for significant deviation from the license conditions. The project owner shall provide the CPM with any applications and permits issued according to AQ-SC1. The project owner shall make the site and records available for inspection by representatives of the District, ARB and Energy Commission upon request.	Ongoing	GPC is in compliance. Site and records are available upon request.
AQ	15	Operations/Ongoing	GPC shall test each Stretford sulfur load for mercury total threshold limit concentration (TTLC). Test records shall be maintained on site for a period of three years or longer as otherwise required by law, and provided to the LCAQMD upon request.	The project owner shall verify compliance by adhering to all testing and monitoring requirements. The project owner shall make the site and records available for inspection by representatives of the District, ARB and Energy Commission upon request.	Ongoing	GPC is in compliance. Site and records are available upon request.
AQ	16	Operations/Ongoing	The mercury concentration of the non-condensable gas stream prior to and after passing through the mercury removal equipment shall be annually sampled and analyzed to establish the removal efficiency of the equipment. An alternate method of calculating the mercury efficiency may be utilized upon approval of the APCO. The annual test results shall be provided to the LCAQMD and CPM within 60 days of testing.	The project owner shall submit any test results to the CPM within 60 days of testing. The project owner shall notify the CPM of any request and subsequent approval of an alternate calculation method. The project owner shall make the site and records available for inspection by representatives of the District, ARB and Energy Commission upon request.	Ongoing	GPC complies with the condition through Hg testing of the sulfur waste product to verify Hg removal efficiency of the equipment. Results are available upon request.
AQ	17	Operations/Ongoing	Activated carbon media shall be used as replacement media during the next major shut down of the facility, or not later than June 1, 2002, or prior to that date, or if the abatement efficiency drops below 65% and is not correctable by normal maintenance. A modification, other than the carbon media change out and flow/contact enhancements to the existing equipment shall require an application for a modification and approval by the LCAQMD.	The project owner shall provide the CPM with any applications and approvals/permits issued according to AQ-SC1. The project owner shall make the site and records available for inspection by representatives of the District, ARB and Energy Commission upon request	Ongoing	No violations occurred during the reporting period.
AQ	E1A	Operations/Ongoing	All equipment shall be regularly maintained in good working order pursuant to manufacturer's guidelines and operated in a manner to prevent or minimize air emissions. The Lake County Air Quality Management District (LCAQMD) shall be notified pursuant to Rule 510, regarding equipment breakdown.	The project owner shall notify the CPM of breakdowns in the quarterly compliance reports. The project owner shall make the site and records available for inspection by representatives of the District, ARB, and Energy Commission upon request.	Ongoing	GPC complies with the condition by adhering to all testing, monitoring, and reporting requirements.
AQ	E1C	Operations/Ongoing	Visible emissions from E1 shall not exceed Ringelmann 0.5 (10% opacity) from the engine exhaust stack for more than three (3) minutes in any one (1) hour.	The project owner shall perform a Visible Emissions Evaluation to determine compliance as requested by the LCAQMD or CPM. The project owner shall make the site and records available for inspection by representatives of the District, ARB, and Energy Commission upon request.	Ongoing	No request has been made to perform testing.
AQ	E2A	Operations/Ongoing	E1 shall only operate to power emergency standby cooling tower wet-down pump for use when commercial line power is not available because of an emergency or line maintenance outage. The project owner shall develop or utilize an engine maintenance plan with prescribed oil change frequency per manufacturer's specifications and/or the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Reciprocating Internal Combustion Engines (RICE) and New Source Performance Standards (NSPS).	The project owner shall make the site and records available for inspection by representatives of the District, ARB, and Energy Commission upon request.	Ongoing	The engine is operated only for emergency use. Testing and maintenance is limited in accordance to RICE and NESHAP regulations. Records available upon request.

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AQ	E2B	Operations/Ongoing	Testing and maintenance operations for E1 is allowed for up to 50 hours per 12-month period.	The project owner shall maintain logs as required in Records and Reporting. The project owner shall make the site and records available for inspection by representatives of the District, ARB, and Energy Commission upon request.	Ongoing	GPC is in compliance, records available upon request.
AQ	E2C	Operations/Ongoing	Diesel fuel utilized shall be California Low Sulfur Diesel containing less than 15 ppmw sulfur.	The project owner shall maintain logs as required in Records and Reporting. The project owner shall make the site and records available for inspection by representatives of the District, ARB, and Energy Commission upon request.	Ongoing	GPC contracts with vendors who only supply CARB diesel fuel. Records are available upon request.
AQ	E2D	Operations/Ongoing	The project owner shall comply with the requirements of the Air Toxics "Hot Spots" Information and Assessment Act as specified in Sections 44300 - 44394 of the California Health and Safety Code as well as the Air Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines.	The project owner shall make the site and records available for inspection by representatives of the District, ARB, and Energy Commission upon request.	Ongoing	2020 AB2588 annual update files were exported from HARP and provided to LCAQMD on 4/29/2021.
AQ	E2E	Complete - report only for 2020	Within 180 days of initial operation, the project owner shall apply for a Permit to Operate, and prove compliance with these conditions.	The project owner shall submit the Permit to Operate to the CPM according to AQ-SC1. The project owner shall make the site and records available for inspection by representatives of the District, ARB, and Energy Commission upon request.	Complete	Condition is complete as of 2020 and will no longer be provided to the CEC in the ACR.
AQ	E3A	Operations/Ongoing	The project owner shall maintain a log for E1 (logs can be hard copy or digital) meeting the requirements of the NESHAP for RICE and NSPS which contains at a minimum, the facility name, location, engine information, fuel used, emission control equipment, maintenance conducted on the engine, and documentation that the engine meets the emission standards.	The project owner shall make the site and records available for inspection by representatives of the District, ARB, and Energy Commission upon request.	Ongoing	GPC is in compliance, records available upon request.
AQ	E3B	Operations/Ongoing	The project owner shall maintain a log for E1 of usage that shall document hours of operation, and initial startup hours. The project owner shall maintain a log of engine maintenance to show compliance with maintenance plan and NSPS requirements.	The project owner shall make the site and records available for inspection by representatives of the District, ARB, and Energy Commission upon request.	Ongoing	GPC is in compliance, records available upon request.
AQ	E3C	Operations/Ongoing	The project owner shall document fuel usage by retention of fuel purchase records or by other methods that adequately show fuel use for E1. Log entries shall be retained for a minimum of 36 months, with 24 months of the most recent entries retained / accessible on-site. The log shall meet all requirements of the ATCM for Stationary Compression Ignition Engines.	The project owner shall make the site and records available for inspection by representatives of the District, ARB, and Energy Commission upon request.	Ongoing	GPC is in compliance. Records available upon request.
AQ	E3D	Operations/Ongoing	The project owner shall maintain a non-resettable hour meter for E1 capable of displaying 9,999 hours.	The project owner shall make the site and records available for inspection by representatives of the District, ARB, and Energy Commission upon request.	Ongoing	GPC is in compliance. Records available upon request.
AQ	E3E	Operations/Ongoing	The project owner shall furnish an annual record of fuel use (gallons) and engine use (hours), breaking down hours of testing, maintenance, and emergency use, or in a format acceptable to the LCAQMD, within 15 days of request, and by October 31st of each year.	The content and format of the annual record submitted by the project owner to the LCAQMD shall be approved by the LCAQMD. The project owner shall provide the CPM a summary of the type of fuel used and engine use (hours) breaking down hours of testing, maintenance, and emergency use, to the CPM in the annual compliance report. The project owner shall make the site and records available for inspection by representatives of the District, ARB, and Energy Commission upon request.	Ongoing	Reporting of engine hours will be provided annually as an attachment in the ACR per Eric VeerKamp, CPM request by email to Sharon Peterson on 2/24/2022. See attachment AQ-E2b.
AQ	E4A	Operations/Ongoing	The project owner shall apply for and receive an Authority to Construct permit prior to the addition of new equipment or modification of permitted equipment.	The project owner shall provide the CPM with applications and permits issued according to AQ-SC1. The project owner shall make the site and records available for inspection by representatives of the District, ARB, and Energy Commission upon request.	Ongoing	GPC provides copies of permits and permit applications in accordance with Condition AQ SC-1.
AQ	E5A	Operations/Ongoing	The herein permitted facility shall not cause a public nuisance nor make a measurable contribution to any Ambient Air Quality Standard exceedance. Should this facility result in odor or health complaints, the LCAQMD may require under Sections 430 and 670, monitoring, testing, and mitigation by the project owner to abate said condition.	The project owner shall perform monitoring and testing as requested by the LCAQMD or CPM. The project owner shall make the site and records available for inspection by representatives of the District, ARB, U.S. EPA, and Energy Commission upon request.	Ongoing	No request has been made to perform testing.

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AQ	E6A	Operations/Ongoing	The permit for the E1 shall be posted at the equipment site and be available for the project owner's reference and LCAQMD staff inspection. If locks or unmanned gates are used to secure the project area, the LCAQMD or its representative will be given free access of entry for the purposes of monitoring or inspecting during normal business hours or periods of emergency engine use.	The project owner shall make the site and records available for inspection by representatives of the District, ARB, and Energy Commission upon request.	Ongoing	GPC is in compliance. Records available upon request.
AQ	F1B	Operations/Ongoing	The total ROG, PM10, SOx, or NOx emission rate for this facility shall not exceed 25 tons per 12-month period. The emission rate(s) determination shall be consistent with the methodology and assumptions used to evaluate the application(s) under which the LCAQMD permit(s) was/were issued.	The project owner shall perform a source test to verify compliance with the emission rate(s) upon request of the District. The project owner shall make the site and records available for inspection by representatives of the District, ARB, and Energy Commission upon request.	Ongoing	No request has been made to perform testing.
AQ	SC1	Operations/Ongoing	The project owner shall provide the compliance project manager (CPM) copies of any Lake County Air Quality Management District- (LCAQMD or District) issued project air permit for the facility. The project owner shall submit any new request or application for a new project air permit or project air permit modification to the CPM.	The project owner shall submit any request or application for a new project air permit or project air permit modification to the CPM at the time of its submittal to the permitting agency. The project owner shall provide the CPM a copy of all issued air permits, including all modified air permits, to the CPM within 30 days of finalization.	Ongoing	GPC provides copies of permits and permit applications in accordance with Condition AQ SC-1.
AQ	SC2	Operations/Ongoing	The project owner shall provide the CPM with copies or summaries of the quarterly and annual reports submitted to the District or ARB. The project owner shall submit to the CPM in the required quarterly reports a summary of any notices of violation and reports, and complaints relating to the project.	The project owner shall provide the reports to the CPM within the timeframes required in the conditions of certification.	Ongoing	See attachment AQ SC-2 for a copy of the Annual Throughput Report submitted to LCAQMD. For the Quarterly Reports, the CPM is provided with a copy at the time of submittal to LCAQMD.
AQ	SC3	Operations/Ongoing	The project owner shall provide the CPM with an Annual Compliance Report demonstrating compliance with all the conditions of certification as required in the General Provisions of the Compliance Plan for the facility.	The project owner shall provide the Annual Compliance Report to the CPM within 45 calendar days after the end of the reporting period or a later date as approved by the CPM.	Ongoing	GPC is in compliance with all the conditions of certification as required in the General Provisions of the Compliance Plan. The ACR due date agreed upon with the CPM is December 31st for the 2020 report and June 30th annually thereafter.
AQ	SC4	Operations/Ongoing	The project owner shall maintain a current equipment list for the facility.	The project owner shall provide the CPM with the equipment list upon request.	Ongoing	GPC is in compliance, equipment list available upon request.

Technical Area	No.	Facility Status	Condition of Certification	Compliance Verification	Status	2020 Annual Compliance Report
Biological Resources	5-2	Operations/Ongoing	Project owner will implement the biological mitigation measures outlined in the AFC (pp. 5-62 through 5-67), Responses to Data Requests (dated March 20, 1981, and May 18, 1981), and other submittals from Project Owner [Proposed Scope of Work for Aquatic Monitoring, dated May 18, 1981; Monitoring and Mitigation Plan, dated August 1981; and additions to proposed mitigation measures discussed at Issues Hearing of June 15, 1981 (Transcript pp. 311 - 328)]. These mitigation measures include the following: 1. Construction activities will be restricted to the area indicated on engineering drawings (No. 13876-EY-3A-C) and shall not be exceeded without approval of the CEC. 2. No disturbance shall be allowed in the serpentine barrens area. The biologist shall establish a buffer zone around the barrens. Fences shall be placed along the boundary of any activity that occurs near the buffer zone to serve as a warning to construction workers. 3. No mass-grading shall take place during the wet season (November - March) without the written approval of the Lake County Building Department. 4. Hydromulch and seeding of native shrubs will be completed in time to ensure that seeds sprout and become established prior to the rainy season. 5. The establishment of vegetation ground cover shall be promoted by regular irrigation until natural rainfall levels provide adequate moisture. 6. The hydromulch seed mixture used by the revegetation contractor shall be checked by a qualified biologist to confirm that hydromulch specifications are met. Percent seed composition for any commercial premixed seed mixtures will be checked by counting the relative proportions of seeds in a series of random samples. 7. No construction shall be allowed within 235 feet of Anderson Creek. 8.The plant site shall be benned to control accidental spills. 9. Following each storm episode for the first winter, erosion control measures will be inspected to verify their effectiveness. 10. Erosion control measures which are damaged during storms shall be repaired as soon as possible, but in no case shall repair be delayed more than 10 days. 11. Wildlife habitat enhancement measures, including prescribed burns and snag protection, shall be implemented in accordance with the provisions of the Monitoring and Mitigation Plan, sated August 1981. These measures shall be continued on an annual rotational basis for the life of the power plant.	Project owner's biologist shall inform the CEC and the CDFG in writing no later than 10 days after completion of berm construction, construction of protective fences along the serpentine barrens, planting of native species and hydromulch of bare slopes, installation of mechanical erosion measures, and implementation of wildlife enhancement measures. The other provisions of this section need be reported only where violation of the requirement has occurred. In this case the CEC shall be informed as soon as possible by telephone and a written report shall be submitted within 10 days of the incident.	Ongoing	GPC is in compliance.
Biological Resources	5-4	Complete - report only for 2020	Project owner shall monitor drift effects on the vegetation surrounding the power plant. Monitoring shall be conducted for one year prior to operation, annually for the first three years of operation, and then at five-year intervals for the life of the power plant. Monitoring shall include large-scale (not smaller than 1:3000) false color infrared photographs (one stereo pair), taken in June, coupled with ground sampling at permanent study plots. Ground sampling will include examination by a qualified biologist for visible foliar injury and collection of foliar samples which will be analyzed for boron content at a qualified laboratory.	Project owner shall submit annual reports to the CEC in those years in which the monitoring takes place. These reports shall include copies of all laboratory analyses, field survey work, and a stereo pair (full color copy) of aerial photographs of the leasehold. NOTE: 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.	Complete	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 GPC to suspend boron drift monitoring with CPM approval. CPM approval to suspend monitoring was given 7/16/08. Condition is complete and will no longer be provided to the CEC in the ACR.
COM	1	Operations/Ongoing	Unrestricted Access The project owner shall ensure that the CPM, responsible staff, and delegate agencies are granted unrestricted access to the facility site, related facilities, project-related staff, and the records maintained on-site for the purpose of conducting facility audits, surveys, inspections, or general or closure-related site visits. Although the CPM will normally schedule site visits on dates and times agreeable to the project owner, the CPM reserves the right to make unannounced visits at any time, whether such visits are by the CPM in person or through representatives from staff, delegated agencies, or consultants.	N/A	Ongoing	GPC is in compliance.

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COM	2	Operations/Ongoing	Compliance Record The project owner shall maintain electronic copies of all project files and submittals on-site, or at an alternative site approved by the CPM for the operational life and closure of the project. The files shall also contain at least: 1.the facility's Application for Certification, if available; 2.all amendment petitions, staff approvals and CEC orders; 3.all site-related environmental impact and survey documentation; 4.all appraisals, assessments, and studies for the project; 5.all finalized original and amended design plans and "as-built" drawings for the entire project; 6.all citations, warnings, violations, or corrective actions applicable to the project, and 7.the most current versions of any plans, manuals, and training documentation required by the conditions of certification or applicable LORS. Staff and delegate agencies shall, upon request to the project owner, be given unrestricted access to the files maintained pursuant to this condition.	N/A	Ongoing	GPC is in compliance.
COM	3	Operations/Ongoing	A cover letter or email from the project owner or an authorized agent is required for all compliance submittals and correspondence pertaining to compliance matters. The cover letter or email's subject line shall identify the project by the docket number for the compliance phase, cite the appropriate condition of certification number(s), and give a brief description of the subject of the submittal. When submitting supplementary or corrected information, the project owner shall reference the date of the previous submittal and the condition(s) of certification applicable. All reports and plans required by the project's conditions of certification shall be submitted in a searchable electronic format (.pdf, MS Word or Excel, etc.) and include standard formatting elements such as a table of contents identifying by title and page number each section, table, graphic, exhibit, or addendum. All report and/or plan graphics and maps shall be adequately scaled and shall include a key with descriptive labels, directional headings, a distance scale, and the most recent revision date. The project owner is responsible for the content and delivery of all verification submittals to the CPM and notification that the actions required by the verification were satisfied by the project owner or an agent of the project owner. All submittals shall be accompanied by an electronic copy on an electronic storage medium, or by e-mail, as agreed upon by the CPM. If hard copy submittals are required, they should be addressed as follows: Compliance Project Manager Geysers Energy Project (Docket Number) California Energy Commission 1516 Ninth Street (MS-2000)	N/A	Ongoing	GPC is in compliance.

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COM	4	Pre-con	Monthly Compliance Report During the construction of approved project modifications requiring construction of 6 months or more, the project owner or authorized agent shall submit an electronic searchable version of the MCR to the CPM within ten (10) business days after the end of each reporting month. No MCR shall be required for maintenance and repair activities, regardless of duration. MCRs shall be submitted each month until construction is complete, and the final certificate of occupancy is issued by the DCBO. MCRs shall be clearly identified for the month being reported. The MCR shall contain, at a minimum: 1.A summary of the current project construction status, a revised/updated schedule if there are significant delays, and an explanation of any significant changes to the schedule; 2.Construction submittals pending approval, including those under review, and comments issued, and those approved since last MCR; 3.A projection of project compliance activities (compliance submittals, etc.) scheduled during the next (2) two months; the project owner shall notify the CPM as soon as any changes are made to the project construction schedule that would affect compliance with conditions of certification; 4.A listing of incidents (safety, etc.), complaints, inspections (status and those requested),notices of violation, official warnings, trainings administered, and citations received during the month; a list of any incidents that occurred during the month, a description of the actions, taken to date to resolve the issues; and the status of any unresolved actions noted in the previous MCRs; 5.Documents required by specific conditions (if any) to be submitted along with each MCR. Each of these items shall be identified in the transmittal letter, as well as the conditions they satisfy, and submitted as attachments to the MCR; 6.A list of conditions (if any) that have been satisfied during the reporting period, and a description or reference to the actions that satisfied the condition; and 7.A listing of the month's additions to the Compliance Record.		Ongoing	GPC is in compliance. Monthly compliance reports are sent to the CEC.
COM	5	Operations/Ongoing	Periodic and Annual Compliance Reports The project owner shall continue to submit searchable electronic ACRs to the CPM, as well as other PCRs required by the various technical disciplines. ACRs shall be completed for each year of commercial operation and are due each year on a date agreed to by the CPM. Other PCRs (e.g. quarterly reports), may be specified by the CPM. The searchable electronic copies may be filed on an electronic storage medium or by e-mail, subject to CPM approval. Each ACR must include the AFC number, identify the reporting period, and contain the following: 1.an updated list showing the status of all conditions of certification (fully satisfied conditions do not need to be included in the matrix after they have been reported as completed); 2.a summary of the current project operating status and an explanation of any significant changes to facility operating status during the year; 3.documents required by specific conditions to be submitted along with the ACR; each of these items shall be identified in the transmittal letter with the conditions it satisfies, and submitted as an attachment to the ACR; 4.a cumulative list of all known post-certification changes approved by the CEC or the CPM; 5.an explanation for any submittal deadlines that were missed, accompanied by an estimate of when the information will be provided; 6.a listing of filings submitted to, or permits issued by, other governmental agencies during the year; 7.a projection of project compliance activities scheduled during the next year; 8.a listing of the year's additions to the Compliance Record; 9.an evaluation of the Site Contingency Plan, including amendments and plan updates; and 10.a listing of complaints, incidents, notices of violation, official warnings, and citations received during the year, a description of how the issues were resolved, and the status of any unresolved complaints.	N/A	Ongoing	GPC is in compliance. The ACR due date agreed upon with the CPM is December 31st for the 2020 report and June 30th annually thereafter.
COM	6	Operations/Ongoing	Confidential Information Any information that the project owner designates as confidential shall be submitted to the CEC's Executive Director with an application for confidentiality, pursuant to Title 20, California Code of Regulations, section 2505(a).	N/A	Ongoing	GPC is in compliance.
COM	7	Operations/Ongoing	Annual Energy Facility Compliance Fee Pursuant to the provisions of section 25806 (b) of the Public Resources Code, the project owner shall continue paying an annual compliance fee which is adjusted annually, due by July 1 of each year in which the facility retains its certification.	N/A	Ongoing	GPC is in compliance.

Technical Area	No.	Facility Status	Condition of Certification	Compliance Verification	Status	2020 Annual Compliance Report
COM	8	Operations/Ongoing	Amendments and Staff Approved Project Modifications The project owner shall petition the CEC, pursuant to Title 20, California Code of Regulations, section 1769, to modify the design, operation, or performance requirements of the project or linear facilities, or to transfer ownership or operational control of the facility. Section 1769 details the required contents for a Petition to Amend a CEC Decision. A project owner is required to submit a five thousand ($5,000) dollar fee for every Petition to Amend a previously certified facility, pursuant to Public Resources Code section 25806(e). If the actual amendment processing costs exceed $5,000.00, the total Petition to Amend reimbursement fees owed by a project owner will not exceed seven hundred fifty thousand dollars ($750,000), adjusted annually.	N/A	Ongoing	GPC is in compliance.
COM	9	Operations/Ongoing	Incident-Reporting Requirements Within 24 hours of its occurrence, the project owner shall report to the CPM any safety-related incident. Such reporting shall include any incident that has resulted in death to a person; an injury or illness to a person requiring overnight hospitalization; a report to Cal/OSHA, OSHA, or other regulatory agency; or damage to the property of the project owner or another person of more than $50,000. If not initially provided, a written report also will be submitted to the CPM within five business days of the incident. The report will include copies of any reports concerning the incident that have been submitted to other governmental agencies.	N/A	Ongoing	GPC is in compliance.
COM	10	Operations/Ongoing	Non-Operation and Restoration Plans If the facility ceases operation temporarily because it is physically unable to operate (excluding maintenance or repair) for longer than three (3) months (or other CPM-approved date), the project owner shall notify the CPM. Notice of planned non-operation, excluding maintenance or repair, shall be given at least two (2) weeks prior to the scheduled date. Notice of unplanned non-operation shall be provided no later than one (1) week after non-operation begins.	N/A	Ongoing	GPC is in compliance.
COM	11	Operations/Closure	Facility Closure Planning The project owner shall coordinate with the CEC to plan and prepare for eventual permanent closure and license termination by filing a Facility Closure Plan. The Facility Closure Plan shall be filed 90 days before the commencement of closure activities or at such other time agreed to between the CPM and the project owner. The Facility Closure Plan shall include the information set forth in Title 20, California Code of Regulations, section 1769, but shall not be subject to the fee set forth in Public Resources Code section 25806(e).	N/A	Ongoing	GPC is in compliance.
FIRE PREVENTION	1	Operations/Ongoing	After commissioning of the non-NFPA cooling tower wet down system, the project owner shall annually conduct the inspection, testing, and maintenance protocol designated in the Basis of Design Document for the wet down system.	The project owner shall submit the test results of the annual inspection, testing, and maintenance protocol in the Basis of Design Document 30 days after completion of the test.	Ongoing	Once Basis of Design is completed and approved by CEC, an inspection program will be implemented.
FIRE PROTECTION	1	Operations/Ongoing	The project owner shall notify and submit design drawings to the compliance project manager (CPM) for any planned modifications that would materially change the design, operation, or performance of the fire protection or fire alarm systems.	At least 15 business days before the start of any construction that materially changes the design, operation or performance made to the fire protection or fire alarm systems, the project owner shall submit a complete set of design drawings to the CPM for review and approval, and to the DCBO for plan check against the applicable LORS and construction inspection.	Ongoing	There were no modifications made during this reporting period.
FIRE PROTECTION	2	Operations/Ongoing	The project owner shall maintain and update, as appropriate, the fire protection Basis of Design documents and appendices to ensure that the fire protection and fire alarm systems are documented and accurately depicted on drawings for the project site.	The project owner shall provide the CPM with an updated Basis of Design document within 30 days of completing any changes to fire protection or fire alarm systems that result in changes to the Basis of Design.	N/A	Once Basis of Design is completed and approved by CEC, an inspection program will be implemented.
FIRE PROTECTION	3	Operations/Ongoing	The project owner shall ensure that all required inspections, testing, and maintenance (ITM) are performed on the project's fire protection systems as specified and in the frequencies set forth in Title 19, California Code of Regulations, section 904(a) and on the project's fire alarm systems as specified in the applicable edition of the National Fire Protection Association (NFPA) 72 National Fire Alarm and Signaling Code.	The project owner shall provide to the CPM copies of the completed ITM reports for the project's fire protection systems and fire alarm systems within 15 days of receiving the ITM reports. The ITM reports shall be submitted quarterly for the first two years following approval of this condition, then all ITM reports shall be submitted annually thereafter.	Ongoing	ITM reports are submitted to the CEC under confidential designation.

Technical Area	No.	Facility Status	Condition of Certification	Compliance Verification	Status	2020 Annual Compliance Report
FIRE PROTECTION	4	Operations/Ongoing	Whenever deficiencies or failures are identified in any of the ITM reports for the project's fire protection or fire alarm systems, the project owner shall provide the CPM with a summary of the following information from the ITM reports required by FIRE SAFETY-3: (a)A summary of all deficiencies or failures identified; (b)The corrective action the project owner has taken, or plans to take, to address each identified deficiency or failure; and (c)The completion date or an estimated completion date to implement the corrective action.	The project owner shall provide the CPM with the information from (a)-(c) within 15 days of receiving the ITM reports.	Ongoing	GPC is in compliance
FIRE PROTECTION	5	Operations/Ongoing	In the case of a fire protection system impairment, as defined in the latest applicable edition of NFPA-25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems, California Edition, that would prevent the proper functioning of any portion of the fire protection or fire alarms systems during a fire event, the project owner shall inform the CPM of the impairment along with the following information: (a)The date discovered; (b)The location of the impairment; (c)A short description, including a photograph (if applicable), of the impairment and its cause (if known), and a description of the actions to be taken to protect life and safety until the impairment is corrected; (d)The corrective action outlining how the impairment was repaired, including any engineering drawings or inspections, not already provided to the CPM or the DCBO; (e)The date the impairment was repaired; and (f)Before and after photographs (if applicable) showing the completed impairment repair.	The project owner shall provide the CPM with information from (a)-(c) within two business days of the discovery of an impairment, or within a time as approved by the CPM. The project owner shall provide the CPM with information from (d)-(f) within 5 days of correction of the impairment.	Ongoing	No impairments were discovered during the reporting period.
GEN	1	Operations/Ongoing	Whenever material modifications to the facility are planned, the project owner shall design, construct, and inspect project modifications in accordance with the applicable version of the California Building Standards Code (CBSC), also known as Title 24, California Code of Regulations, which encompasses the California Building Code (CBC), California Administrative Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Fire Code, California Code for Building Conservation, California Reference Standards Code, and all other applicable engineering laws, ordinances, regulations and standards (LORS) in effect at the time initial design plans are submitted to the chief building official (CBO) for review and approval (the CBSC in effect is the edition that has been adopted by the California Building Standards Commission and published at least 180 days previously). The project owner shall ensure that the provisions of the above applicable codes are enforced during the construction, addition, alteration, or demolition of the modifications. Where, in any specific case, different applicable sections of the code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern. The project owner shall ensure that all contracts with contractors, subcontractors, and suppliers clearly specify that all work performed, and materials supplied comply with the codes listed above.	Within 30 days following receipt of the certificate of occupancy (if one is required by the CBO) for any material project modification completed after the effective date of this condition, the project owner shall submit to the compliance project manager (CPM) a statement of verification, signed by the responsible design engineer, attesting that all designs, construction, installation, and inspection requirements of the applicable LORS and the CEC's decision have been met in the area of facility design. The project owner shall also provide the CPM a copy of the certificate of occupancy within 30 days of receipt from the CBO. Once the certificate of occupancy has been issued, the project owner shall inform the CPM at least 30 days prior to any construction, addition, alteration, or demolition to be performed on any portion(s) of the completed facility that requires CBO approval for compliance with the above codes. The CPM will then determine if the CBO needs to approve the work.	Ongoing	On October 20, 2020, the CEC approved the installation of a stationary permanent emergency diesel-driven engine for the cooling tower wet-down system to aid in fire prevention, per order #20-1014-3. Documents were submitted by the DCBO to the CEC.
Geotechnical/ Seismic Hazards	7-6	Operations/Ongoing	Occidental shall ensure that geologic records of site inspections, especially detailed logs of excavated surfaces, will be prepared during site preparation and submitted to the CEC upon request.	Occidental shall notify the CEC of the availability of geologic records of site inspections.	Ongoing	GPC is in compliance.
Noise	16-3	Operations/Ongoing	Within 90 days after the. Plant reaches its rated power generation capacity and construction is complete, project owner shall conduct a noise survey at 500 feet from the generating station or at a point acceptable to project owner, CEC, and the LCAPCD. The survey will cover a 24-hour period with results reported in terms of Lx (x = 10, 50, and 90), Leq' and Ldn levels. Project owner shall prepare a report of the survey that will be used to determine the plant's conformance with county standards. In the event that county standards are being exceeded, the report shall also contain a mitigation plan and a schedule to correct the noncompliance. No additional noise surveys of off-site operational noise are required unless the public registers complaints or the noise from the project is suspected of increasing due to a change in the operation of the facility.	Within 30 days of the noise survey project owner shall submit its report to the LCAPCD.	Ongoing	No complaints were received during the reporting period.

Technical Area	No.	Facility Status	Condition of Certification	Compliance Verification	Status	2020 Annual Compliance Report
Noise	16-4	Operations/Ongoing	Within 180 days after the start of commercial operation, project owner shall prepare a noise survey report for the noise-hazardous areas in the facility. The survey shall be conducted by a qualified person in accordance with the provisions of Title 8 CAC, Article 105. The survey results will be used to determine the magnitude of employee noise exposure. If employee complaints of excessive noise arise during the life of the project, CAL/DOSH, Department of Industrial Relations, shall make a compliance determination.	Project owner shall notify CAL/DOSH and the CEC of the availability of the report.	Ongoing	No complaints were received during the reporting period.
Public Health	2-1	Operations/Ongoing	Project owner shall quarterly sample and analyze radon-222 concentrations in noncondensable gases entering the power plant in the incoming steam line, or vent off-gas line, or H2S abatement off-gas line in accordance with the most recent California Department of Health Services, Radiologic Health Service (CDHS/RHS) requirements for radon-222 monitoring and reporting. This radon-222 steam monitoring program will be conducted for at least the first three years of commercial operation. If monitoring results indicate that the radon-222 release from Oxy No. 1 is well within applicable standards, the monitoring program may be modified, reduced in scope, or eliminated, provided Project Owner obtains the permission of CDHS/RHS. As new information and techniques become available, with concurrence of Project Owner and CDHS/RHS, changes may be made to the program or the methods employed in monitoring radon-222.	During the first year of commercial operation, project owner shall provide the CDHS/RHS with the results of the quarterly sampling within 30 days after sample collection. After the first year of commercial operation, project owner shall provide the CDHS/RHS with an annual report summarizing the quarterly sampling results. The annual report will comply in format and content with the most recent CDHS/RHS reporting requirements.	Ongoing	See attachment Public Health 2-1 for table of quarterly analysis.
Public Health	2-10	Operations/Ongoing	Project owner shall implement the provisions of the approved plan to to provide bottled water to the Anderson Springs community in the event of a water pollution incident related to the project, until an alternative water supply system has been established for Anderson Springs.	Project owner shall immediately notify the CEC and the Lake County Health Department when the plan is implemented.	Ongoing	A water pollution incident related to the project did not occur during the reporting period.
Public Health	2-2	Operations/Ongoing	If the radon-222 concentration exceeds 3.0 picocuries (pCi/l) in the cooling tower exhaust, project owner must CDHS/RHS with a special report.	Project owner shall provide a written report to CDHS/RHS of sample results within 30 days of confirming an exceedance of 3.0 (pCi/l) radon-222 in the cooling tower exhaust.	Ongoing	See the attached table referenced in Public Health 2-1. There was no exceedance of 3.0 pCi/l during the reporting period.
Public Health	2-3	Operations/Ongoing	If the radon-222 concentrations exceed 6.0 pCi/l in the cooling tower exhaust, project owner shall notify the CDHS/RHS and the CEC by telegram or telephone upon confirmation of the sample result. Confirmation includes re-analyzing the sample by project owner or another qualified laboratory. The confirmation procedures used shall be the same as the routine analysis, but may include sending samples to CDHS/RHS or other qualified laboratories for analysis. Sample result confirmation must be accomplished in the quickest possible manner and should take less than five calendar days.	Project owner shall notify CDHS/RHS and the CEC within 24 hours of confirming the sample; results. Project owner shall provide a special report to CDHS/RHS and the CEC outlining corrective actions taken.	Ongoing	See the attached table referenced in Public Health 2-1. There was no exceedance of 6.0 pCi/l during the reporting period.
Safety	12-13	Operations/Ongoing	On-site worker safety inspections shall be conducted by the California Division of Occupational Safety and Health (CAL/DOSH) during construction and operation of the facility or when an employee complaint has been received. CAL/DOSH shall notify the CEC in writing in the event of a violation that could involve DOSH action affecting the construction or operation schedule.	Project owner shall note any CAL/DOSH inspections in its periodic compliance reports.	Ongoing	No Cal/OSHA inspections were performed in 2020 on Calpine GPC policies/procedures.
Solid Waste Management	11-1	Operations/Ongoing	Project owner shall ensure that any hazardous waste hauler employed has a certificate of registration from the California Department of Health Services (CDHS), Hazardous Materials Management Section.	Project owner shall keep a letter on file verifying that hazardous waste haulers have CDHS certificates of registration.	Ongoing	All waste haulers are in compliance and on file in the DTSC database.
Solid Waste Management	11-2	Operations/Ongoing	The only Stretford process waste is sulfur cake with some entrained process chemicals. Project owner shall ensure that the sulfur cake is properly stored in an appropriate container and removed periodically to be sold or disposed at a site approved for such wastes. Any sludge which accumulates in the cooling tower ·will be removed as needed and hauled by a registered hazardous waste hauler to an approved disposal site.	Project owner shall submit final design plans and "As Built" drawings to the Lake County CBC incorporating these design features. In addition, project owner shall each month submit completed hazardous waste manifests to CDHS in compliance with Section 66475 of Title 22, CAC	Ongoing	GPC is in compliance.

Technical Area	No.	Facility Status	Condition of Certification	Compliance Verification	Status	2020 Annual Compliance Report
Solid Waste Management	11-3	Operations/Ongoing	Project owner shall require that hazardous wastes are taken to a facility permitted by CDHS to accept such wastes. (Project owner has indicated its intention to dispose of wastes generated at either the· Middletown or Kelseyville ·approved sites.)	Project owner shall notify the CEC, CDHS, and Solid Waste Management Board of the selected disposal site. Any notice of change in disposal sites will be submitted as changes occur.	Ongoing	GPC is in compliance. No update to changes in approved disposal sites
Solid Waste Management	11-4	Operations/Ongoing	If a secondary treatment system is used to abate H2S emissions, the plant may produce additional hazardous wastes. To ensure that these wastes are properly disposed, project owner shall submit its secondary abatement waste disposal plans, if secondary abatement is required, to the CEC for review.	The plans shall be submitted as soon as project owner determines secondary abatement is required, but not later than 120 days prior to operation of the secondary abatement system.	As needed	GPC is in compliance.
Solid Waste Management	11-5	Operations/Ongoing	If hazardous wastes, including Stretford sulfur effluent, are stored on site for more than 60 days, project owner shall obtain a determination from the CDHS that the requirements of a Hazardous Waste Facility Permit have been satisfied.	Project owner shall notify the CEC if it files an in lieu application with CDHS for the operation of a Hazardous Waste Facility.	As needed	GPC is in compliance.
Transmission Line Safety and Nuisance	13-4	Operations/Ongoing	In the event of complaints regarding induced currents from vehicles, portable objects, large metallic roofs, fences, gutters, or other objects, project owner shall investigate and take all reasonable measures at its own expense to correct the problem for valid complaints, provided that (a) the object is located outside the right-"of-way, or (b) the object is within the right-of-way and existed prior to right-of-way acquisition. For objects constructed, installed, or otherwise placed within the right-of-way after right-of-way acquisition, project owner shall notify the owner of the object that it should be grounded. In this case, grounding is the responsibility of the property owner. project owner shall advise the property owner of this responsibility in writing prior to signing the right-of-way agreement.	Project owner shall maintain a record of activities related to this paragraph. These records shall be made available to CEC staff upon request.	Ongoing	GPC is in compliance with GPC's Transmission Line maintenance program.
Transmission Line Safety and Nuisance	13-6	Operations/Ongoing	On-site worker safety inspections may be conducted by the California Division of Occupational Safety and Health (CAL/DOSH) during construction and operation of the transmission line or when an employee complaint has been received. Project owner shall notify the CEC in writing in the event of a violation that could involve DOSH actions affecting the transmission line construction or operation schedule.	Project owner shall maintain records of CAL/DOSH inspections and shall make them available to CEC staff upon request.	Ongoing	No Cal/OSHA complaints have been received during the reporting period
Transmission Line Safety and Nuisance	13-7	Operations/Ongoing	Project owner shall make every reasonable effort to locate and correct, on a case-by-case basis, all causes of radio interference and television interference attributed to the transmission line facilities, including, if necessary, the modification of receivers and the furnishing and installation of antennas. In addition, project owner shall take reasonable care to prevent the conductors from being scratched or abraded.	Project owner shall maintain records of complaints and corrective action and shall make these records available to CEC staff upon request.	Ongoing	No complaints received concerning induced currents from the GPC plants during the reporting period.
Transmission Line Safety and Nuisance	13-8	Operations/Ongoing	Project owner shall report all public or employee injury and fatal accidents to the CEC.	Within 30 days of an employee injury or fatality, project owner shall file a report with the CEC which includes (1) date accident occurred; (2) job title of injured employee or fatality; (3) description of injury; (4) description and cause of accident; (5) discussion of compliance with General Order 95 requirements and applicable DOSH regulations in vicinity of accident; and (6) a statement of corrective/preventive measures taken or to be taken.	Ongoing	No injuries have been reported during the reporting period.
Water Quality/Hydrology/Water Resources	6-2	Operations/Ongoing	Project owner shall comply with the waste discharge requirements of CVRWQCB Order No. 79-228.	The CVRWQCB will verify compliance with Order No. 79-228	Ongoing	GPC is in compliance

Technical Area	No.	Facility Status	Condition of Certification	Compliance Verification	Status	2020 Annual Compliance Report
Water Quality/Hydrology/Water Resources	6-4	Complete - report only for 2020	If Occidental employs a hydrogen peroxide secondary H2S abatement system, Occidental shall ensure that the hydrogen peroxide and catalyst will be stored within the bermed area of the plant site. Any other chemicals which may be used in an alternative secondary abatement system shall be stored within the bermed area of the plant site.	The storage facilities for any chemicals stored for the secondary abatement system will be reflected in the final design plans and "as-built" drawings submitted to the Lake County CBO.	Complete	Condition is complete and will no longer be provided to the CEC in the ACR. Hydrogen peroxide H2S secondary abatement system is no longer in use. Tanks are in a bermed area but they are empty.
Water Quality/Hydrology/Water Resources	6-5	Complete - report only for 2020	To prevent spills of Stretford process material from leaving the immediate vicinity, Project Owner shall surround the H2S abatement process area with an impermeable concrete barrier. Spilled Stretford process material shall be drained 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 II-1 solid waste disposal site.	Project owner shall submit final design plans and as built drawings to the Lake County CBO incorporating this design requirement,	Complete	Condition is complete and will no longer be provided to the CEC in the ACR.
Water Quality/Hydrology/Water Resources	6-6	Complete - report only for 2020	To prevent spills of condensate and other materials from leaving the site, Project owner shall construct an impermeable concrete or asphaltic concrete retention barrier around the plant. Project owner shall also pave the site, except the switchyard, with two inches of asphaltic concrete and attain a permeability of at least 1 x io-6 cm/sec. As a result of this construction, the paved area of the plant site will serve as a spill retention basin. The proposed retention basin shall be designed twice the maximum condensate spill expected to occur before plant personnel can correct the cause of the spill. In addition, the design shall accommodate runoff from a 30-minute 100-year storm. Storm water sumps shall be equipped with 100 gallon per minute pumps to return spilled material to the cooling tower basin for reinjection. Should a spill occur which exceeds the capacity of the pumps, plant personnel shall use portable pumps to remove excess materials. Alarm systems will notify plant operators when a spill has occurred and when the catch basin pump has started. Plant personnel shall respond to the alarms within 30 minutes and take measures necessary to correct the problem.	Project owner shall submit final design plans and "as built" drawings to the Lake County CBO incorporating this design requirement for the 1 x 10-6 cm/sec permeability of the pad layer. In addition, the plant superintendent shall file a statement with the CVRWQCB and the CEC at the start of the operations verifying that plant personnel are trained and prepared to handle spills.	Complete	Condition is complete and will no longer be provided to the CEC in the ACR.
Water Quality/Hydrology/Water Resources	6-7	Complete - report only for 2020	Project owner 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. The steam condensate from the plant shall be used for cooling water, with any excess reinjected into the geothermal reservoir.	Project owner shall submit final design plans and as built drawings to the Lake County CBO incorporating this design requirement.	Complete	Condition is complete and will no longer be provided to the CEC in the ACR.
Water Quality/Hydrology/Water Resources	6-8	Operations/Ongoing	To minimize the potential adverse impacts of storm runoff on the water quality of Anderson Creek, Project owner shall route plant site runoff to the cooling tower basin for subsequent injection into the geothermal reservoir. When the capacity of the return system is exceeded, the runoff will be released into Anderson Creek. Under such conditions, the impacts on water quality should be minimal due to pollutant material dilution from heavy rainfall. If storm runoff is released from the power plant site, Project owner shall satisfy the intent of Basin Plan (5A) plus any applicable requirements of the CVRWQCB.	Project owner shall submit final design plans and "as-built" drawings to the Lake County CBO incorporating this design requirement. In addition, Project owner shall notify the CEC when the CVRWQCB has approved Oxy's plan.	Ongoing	No storm water runoff was discharged from the power plant site during the reporting period.

Technical Area	No.	Facility Status	Condition of Certification	Compliance Verification	Status	2020 Annual Compliance Report
Water Quality/Hydrology/Water Resources	6-10	Operations/Ongoing	Project owner shall utilize condensed steam for cooling water purposes, acquire an outside source for freshwater supplies, and utilize annually approximately 3.6 million gallons (12 acre-feet) of water for construction. Project owner shall not use water from Anderson or Gunning creeks, their tributaries, springs, observation wells, or exploratory drill holes in the area unless such water can be obtained without adversely impacting the biota or the drinking water supplies of local residents. Sources in the Anderson/Gunning creeks watersheds shall not be used without first obtaining approval from the Anderson Springs Water Company Manager, CEC, and the United States Geological Survey DCM for Geothermal in consultation with the Bureau of Land Management and Lake County Planning Department.	Prior to the start of construction of the power plant and the transmission line, project owner shall provide the CEC with a periodic compliance report listing the sources of water for construction activities. Project owner shall submit subsequent reports to the CEC showing: (a) The source and amount of cooling tower basin start-up water, (b) The source, means (appropriation, purchase), and amount of freshwater supply for in-plant uses and irrigation, and (c) The source, amount. means, and construction water supply for the power plant and transmission line. The project owner shall provide the Compliance Project Manager (CPM) 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.	Ongoing	(a) & (c): This construction compliance verification item was completed and will not be reported on in subsequent ACRs (b) Approximately 2 acre-feet of leased groundwater was used during the reporting period. A copy of the reinjection water report is provided with this ACR.

CONDITION OF CERTIFICATION
PUBLIC HEALTH 2-1

Attachment PH 2-1: Table of quarterly radon-222 concentration analyses in non-condensable gases during the 2020 calendar year

Geysers Calistoga Plant (Unit 19) 81-AFC-01C
2020 Annual Compliance Report to the California Energy Commission
January 2020-December 2020

	1Q20	2Q20	3Q20	4Q20
Date	03/10/20	06/30/20	07/28/20	12/2/20
Unit	CALISTOGA	CALISTOGA	CALISTOGA	CALISTOGA
[Rn-222] Main Steam Sample (pCi/Kg)	**21923**	**19235**	**21983**	**25782**
Unit gross load (MW)	**69.8**	**39.5**	**62.3**	**62.9**
Supply steam flow rate (klb/hr)	**1125**	**685**	**980**	**1057**
Supply Steam Flow Rate (Mg/hr)	523	311	445	479
Steam Rate (lb/kwhr)	**16.53**	**18.03**	**17.02**	**17.32**
Steam Rate Derived Supply Steam Flow Rate (Mg/hr)	523	323	481	494
100% Service Cool. Tower Air flow Rate, S.T.P. (GL/hr)	26.82	26.82	26.82	26.82
Number of Fans in Service	**10**	**7**	**10**	**10**
Number of Fans	10	10	10	10
Cool. Tower fract. (cells oper. /cells design)	1.00	0.70	1.00	1.00
Cooling Tower air flow rate, S.T.P. (GL/hr)	26.82	18.77	26.82	26.82
Unit daily Cooling Tower air flow (L/day)	6.4368E+11	4.50576E+11	6.4368E+11	6.4368E+11
Unit Rn222 Release Rate (Ci/day)	0.28	0.14	0.23	0.30
Unit Rn222, Emission Concentration (pCi/L)	**0.43**	**0.32**	**0.36**	**0.46**
Notes on Color Codes:				
Data from Sample Collection Sheet				
Data from Analytical Laboratory Results				
Data From Annual Criteria Pollutant Inventory (see *updated Generation Summary* tab)				
Data Result				
Data Entry Or Import From Other Source Required				
Maxiumum Value Substiututed in lieu of corrupt data				
Anomolous Source Data Corrupt And Not Used				
Data is Constant or Calculated				
Conversion Const. Mg/klb =				
0.4535924				

CONDITION OF CERTIFICATION
WQ 6-10

2020 Geysers Power Plant Units Recycled Water Use Report

Geysers Calistoga Plant (Unit 19) 81-AFC-01C
2020 Annual Compliance Report to the California Energy Commission
January 2020-December 2020

GEYSERS POWER COMPANY, LLC
10350 Socrates Mine Road
Middletown, CA 95461
707.431.6000

GWQ-21-024

February 11, 2021

Janice Oakley, P.E.
District Engineer
State WRCB – Division of Drinking Water
50 D Street, Suite 200
Santa Rosa, CA 95404

Subject: 2020 Geysers Power Plant Units Recycled Water Use Report

Dear Ms. Oakley:

Use of Santa Rosa recycled water 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, recycled water 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 recycled water during 2020.

2020 Total	U17 Tower	U20 Tower	Unit 7/8 Sediment Pond	Aidlin Injection and/or Burner
Gallons	144,809,847	109,083,331	188,903,650	69,621,026

Minor amounts of recycled water 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, recycled water was used for various drilling activities in Sonoma County during 2020. 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,

Bill King
Calpine-Geysers EHS