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2019 Annual Compliance Report

Additional submitted attachment is included below.



GWQ-20-015

April 7, 2020

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

Mr. Veerkamp,

Subject: 82-AFC-1C 2019 Annual Compliance Report Geysers Unit 20 (Grant) Power Plant

In fulfillment of the Compliance Plan's annual reporting requirement, Geysers Power Company, LLC hereby submits the following report for Unit 20 (Grant).

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

Sincerely,

Bill King Project Manager, EHS Calpine Corporation

82-AFC-1C

CALIFORNIA ENERGY COMMISSION

FINAL DECISION

CONDITIONS FOR CERTIFICATION

FOR

GEYSERS POWER PLANT

UNIT 20

2019 ANNUAL COMPLIANCE REPORT

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EXECUTIVE SUMMARY

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

On March 18, 1982, PG&E filed an Application for Certification (AFC) for Geysers Power Plant Unit 20. In order for the AFC to be granted the CEC issued the "Final Commission Decision Document for Geysers Power Plant Unit 20". In November, 1999, the CEC license was transferred from PG&E to Geysers Power Company LLC (GPC). The license requires GPC to be responsible for administering and monitoring various Conditions for Certification as contained in the Final Commission Decision, , in accordance with the Complaince Plan for Unit 20, including submitting an Annual Report that summarizes compliance tasks conducted during the previous year.

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

Air Quality: Four on-going compliance tasks

Public Health: Five on-going compliance tasks

Cultural Resources: One on-going compliance task

Biological Resources: Five on-going compliance tasks

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

Solid Waste Management: Six on-going compliance tasks.

Safety: Two on-going compliance tasks.

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

Noise: One on-going compliance task.

Power Plant Efficiency and Reliability: Five on-going compliance tasks.

This Annual Report meets the aforementioned requirements found in the CEC's Final Decision for Geysers Power Plant Unit 20.

SECTION 1: AIR QUALITY

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

Annual Compliance Report: Geysers Power Company LLC (GPCLLC) interactions with the NSCAPCD occur during the course of the year as routine reports and non-routine submittals. No significant interactions occurred or formal appeals were filed.

Quarterly Operating Report Submittals: The following Quarterly reports were submitted to the NSCAPCD and CEC CPM with the required elements addressed in the report sections entitled: Continuous Compliance Monitor Availability; Summary of H2S Abatement Incidents Requiring Corrective Action and Monitor Irregularities; Source Test Results. The required elements pertaining to this CEC licensed Power Plant was submitted to the CEC Compliance Manager as follows:

- ☑ Fourth Quarter 2018 (Oct Dec) Submittal to NSCAPCD, 1/29/2019, ref. GPC19-002
- ☑ First Quarter 2019 (Jan Mar) Submittal to NSCAPCD, 4/29/2019, ref. GPC19-037
- Second Quarter 2019 (Apr June) Submittal to NSCAPCD, 7/24/20019, ref. GPC19-075
- ☑ Third Quarter 2019 (July Sep) Submittal to NSCAPCD, 10/17/2019, ref. GPC19-086

Other Routine Reports submittals:

- Annual Title V Operating Permit Compliance Report and Certification of Compliance for the year 2018, to NSCAPCD, 6/27/2019, ref. GPC19-013
- Criteria Pollutant Report: Year 2019 to NSCAPCD, 3/30/2019, ref. GPC19-016

Non-routine Submittals

- ☑ NESHAP Notifications None
- ☑ Breakdown reports None
- ☑ Applications for Authority to Construct equipment modifications or replacement: None

Significant interactions with the NSCAPCD:

- ☑ NSCAPCD staff conducted a compliance inspection of the facility on 5/29/2019.
- ☑ No Appeals filed;
- ☑ No Variances filed;
- No Notices of Violations were issued

SECTION 1: AIR QUALITY (continued)

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation
Condition: 1-2	NSCAPCD CEC	GPCLLC shall provide the CEC with copies of all reports submitted to the NSCAPCD and copies of all notices received from NSCAPCD.	On-going	The 2019 Annual Compliance Report provides references to reports submitted to NSCAPCD in 2019. The required elements pertaining to this CEC licensed Power Plant were submitted to the CEC Compliance Manager. No Notices were received from the NSCAPCD other than the annual invoice for permit renewal.
Condition: 1-3	NSCAPCD CEC	GPC shall file a copy of the written approval from the NSCAPCD with the CEC prior to beginning construction of any alternative H ₂ S emissions abatement system	As needed	No alternative H ₂ S emissions abatement systems have been proposed.
Condition: 1-5	NSCAPCD CEC	Participate in GAMP or perform equivalent ambient monitoring. Provide detailed plan for alternative H ₂ S ambient monitoring at least 60 days before starting such alternative monitoring	On-going	GPCLLC continues to fully participate in the Geysers Air Monitoring Program (GAMP.)

SECTION 2: PUBLIC HEALTH

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation
Condition: 2-1	CDHS/RHB	During first year of operations, provide CDHS/RHB with quarterly sampling results of Radon-222 concentrations entering the plant.	On-going	First, second, and third quarter samples of main steam supply Radon 222 concentrations were collected in 2019. Calculated resulting concentrations of Radon 222 exiting the cooling tower stacks are below 0.30 pCi/l.
Condition: 2-2	CDHS/RHB	If Radon-222 concentration exceeds 3.0 pCi/l in the cooling tower exhaust, CDHS/RHB must be notified by written report with 30 days of detection.	On-going	Measurements of main steam Radon 222 used to calculate radon concentrations in the cooling tower exhaust are consistently below California's standard (3.0 pCi/l for indoor radon exposure).
Condition: 2-3	CDHS/RHB	GPC will notify CDHS/RHB and the CEC within 24 hours if levels of Radon-222 exceed 6.0 pCi/l in the cooling tower exhaust. A special report will follow outlining corrective actions taken.	On-going	Measurements of main steam Radon 222 used to calculate radon concentrations in the cooling tower exhaust are consistently below California's standard of 3.0 pCi/l for indoor radon exposure. Confirmation sampling and written special reports to CDHS/RHB have never been necessary.

SECTION 2: PUBLIC HEALTH (continued)

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation
Condition: 2-4	NSCAQPD CARB CEC	GPC shall conduct ambient monitoring for arsenic, mercury, silica, vanadium, ammonia, benzene, boron and radon-222. Calpine can participate in GAMP to meet this requirement. If Calpine participates in GAMP, Calpine shall notify the CEC.	Ongoing	GPC LLC continues to fully participate in the Geyser Air Monitoring Program (GAMP.)
Condition: 2-5		GPC shall perform quarterly steam analysis for ammonia, arsenic, mercury, silica, boron, benzene, fluoride and asbestos in steam entering Unit 20. A written report will be submitted to CDHS within 30 days of the analysis. After one year, the NSCAPCD, in consultation with CEC, shall determine if annual testing is sufficient.	As requested	GPCLLC conducts steam sampling at the request of the NSCAPCD. NSCAPCD Permits to Operate PTO- 97-30A and PTO-9730B Condition 11 and Rule 455 c requires testing as prescribed by the Control Officer

SECTION 4: CULTURAL RESOURCES

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation
Condition: 4-2	CEC	Prepare annual statement verifying that fencing at archaeological site CA-SON-793 has remained intact. Submit to CEC with annual compliance report.	On-going	1/29/2020 inspection found the fence to be in good condition. New perimeter fencing (approximately 1,100 feet) was installed around site on 4/19/2018.

SECTION 5: BIOLOGICAL RESOURCES

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation
Condition: 5-1	CEC	Maintain sediment ponds.	On-going	The sedimentation pond was inspected on 1/29/2020 and found to be in acceptable working condition. (Attachment 1).
Condition: 5-3	CEC CDF&G	Submit to CEC a detailed plan to monitor <u>Dichanthelium</u> at Little Geysers, within 60 days after certification. Annually prepare a report of population status to CEC and CDF&W. (Fish & Wildlife). The verification was revised on January 17, 2008, to allow GPC to perform the monitoring of Dichanthelium every three years; and submit the monitoring results every three years in the Annual Report	On-going	Monitoring of Geysers Dichanthelium was conducted in the fall of 2017 and will be completed again in the fall of 2020. GPC maintains and inspects the environmental signage placed near dichantheluim populations that are located along roads and ditches that may typically be graded.

SECTION 5: BIOLOGICAL RESOURCES (continued)

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation
Condition: 5-5	CEC	 Must perform aerial photography of Unit 20 every 5 years. Amended on March 15, 1995 to read as follows: PG&E shall maintain a photo record of the vegetation surrounding the Unit 20 power plant by using false color infrared aerial photography. PG&E shall photograph annually for the first three years of operation and every five years thereafter or until PG&E can demonstrate that the aerial photography shows that Unit 20 is not having a visible effect on the surrounding vegetation. If photography is discontinued because it has been demonstrated that no significant impacts are occurring and if, after termination of the aerial photography, significant changes are noted in the vegetation by GPC or the CPM, a new set of aerial photograph shall be taken the following fall. They shall be used to assess changes as compared to the last set of aerial photography. If upon evaluation of the most recent aerial photography significant impacts are noted, GPC may be required to continue the photography on a basis prescribed by the CPM. If no significant impacts are noted, the photography may be discontinued upon receiving CPM approval. GPC and the CPM accept that preoperational data from the stress monitoring study for Units 13, 17 and 18 can also be used as baseline data for Unit 20. GPC shall provide the CPM with copies of aerial photographs whenever they are taken as a result of this condition. 	On-going	The most recent aerial photographs were acquired from PG&E. They were taken on December 14, 1998 and are available upon written request. On April 1, 2003, conversation with Jim Brownell of CEC staff provided concurrence that the Unit 20 aerial photography requirement is on hold unless problems were identified by the CEC.
Condition: 5-6 Subpart (a)	CEC	Conduct prescribed burns the first fall season following power plant construction or participate in the California Department of Forestry Chaparral Management Plan.	On-going	The prescribed burn requirements for Unit 20 are satisfied through GPC's participation in the Sonoma County Vegetation Management Plan. CAL FIRE did not conduct prescribed burns at the Geysers in 2019.

SECTION 5: BIOLOGICAL RESOURCES (continued)

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation
Condition: 5-6 Subpart (c)	CEC	Annually inspect guzzlers and perform necessary maintenance.	On-going	The guzzler below Unit 20, "Bath Tub" style guzzler and Joe Guzzler are being reinstalled after having burned in the Valley Fire. All materials have been purchased and one unit pre-constructed. Final installation will occur once operational limitations due to the pandemic have ceased.

SECTION 6: WATER QUALITY, HYDROLOGY AND WATER RESOURCES

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation
Condition: 6-14	CEC NCRWQCB	Notify CEC immediately following an accidental discharge by vehicle into Anderson or Gunning Creek and provide descriptions of problem and corrective actions.	On-going	No accidental discharges into Anderson or Gunning Creek occurred in 2019.
Condition: 6-17	CEC NCRWQCB	The CEC added new revision to Condition 6-17 on March 12, 2004, which provides the following: The project owner shall provide the Compliance Project Manager with copies of all local and state water quality permits related to the use and disposal of reclaimed municipal wastewater within thirty (30) days of receipt. In the annual compliance reports, the project owner shall provide the CPM with data on the annual quantity of water reinjected at the facility, and a copy of the report submitted to the California Department of Health Services on the additional uses of recycled water per Provision #2 of the December 5, 2003 California Department of Health Services approval letter.	On-going	104.1 million gallons of recycled Santa Rosa Wastewater was pumped into the Unit 20 cooling tower in 2019. A copy of GPC's letter GWQ-20-031, dated January 28, 2020 is provided for CPM review (Attachment 2). Total water injected within the Unit 20 area in 2019 was approximately 424 million gallons. This quantity includes recycled wastewater from Lake County (SEGEP) and Santa Rosa (SRGRP) in addition to condensate.

SECTION 11: SOLID WASTE MANAGEMENT

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation
Condition: 11-1	DTSC	GPC shall keep letters on file verifying that hazardous waste haulers for Geysers Unit 20 have valid DTSC certification of registration.	On-going	GPC only uses DTSC registered waste haulers, which is a contract requirement. GPC has letters on file for certificates of registration in 2019. The certificates of registration expire at different times of the year. GPC requests updates as required.
Condition: 11-2	DTSC	GPC shall each month submit completed hazardous waste manifests to DTSC in compliance with Section 66475 to Title 22, CCR.	On-going	GPC submits hazardous waste manifests to DTSC in compliance with Section 66262 to Title 22 of the CCR.
Condition: 11-3	CEC DTSC	GPC shall indicate, in the Annual Compliance Report, if the disposal site(s) have changed for either hazardous or nonhazardous wastes.	On-going	GPC only uses licensed and permitted disposal facilities. The CEC has acknowledged that in the information can be obtained, upon request, from the Biennial Hazardous Waste Report to the Department of Toxic Substances Control (DTSC) or US EPA. Since CEC certification, the Hazardous Waste Report being submitted to the DTSC has become required by law. Reporting to the CEC regarding selection of waste disposal sites is no longer necessary. Copies of both hazardous waste shipping manifests and reports are maintained at The Geysers, and are available for inspection.
Condition: 11-4	CEC CDOHS	GPC shall promptly notify the CEC if it files an in- lieu application with CDOHS for the operation of a hazardous waste facility.	On-going	In compliance with state and federal regulations, GPC operates as a hazardous waste generator but does not intend to operate hazardous waste facilities that require a permit.

SECTION 11: SOLID WASTE MANAGEMENT (continued)

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation
Condition: 11-7	itionCECComply with all applicable provisions of the RCRA and California Hazardous Waste Laws; provide copies of all required documents under such laws to the CEC within 60 days of filing with the appropriate 		On-going	GPC's Geysers operations are in compliance with RCRA and the California Hazardous Waste Control Law. Copies of all required documents under RCRA and the California Hazardous Waste Control Law are kept on file at The Geysers.
Condition: 11-8	CEC		On-going	GPC was not notified of any impending enforcement action against waste haulers of disposal site operators in 2019. Such notification is a contract requirement. There are no enforcement actions against GPC.

SECTION 12: SAFETY

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation				
Condition: 12-14	CEC CDF	GPC and the California Department of Forestry shall annually re-examine the fire protection plan. GPC shall summarize the joint re-examination in its periodic compliance report.	On-going	The prescribed burn requirements for Unit 20 are satisfied through GPC's participation in the Sonoma County Vegetation Management Plan. CAL FIRE did not conduct prescribed burns at the Geysers in 2019.				
Condition: 12-15	CEC CAL/OSHA	Note any on-site worker safety inspections and actions by CAL-OSHA in periodic compliance reports.	On-going	CAL/OSHA did not conduct any inspections at Unit 20 during 2019.				

SECTION 13: TRANSMISSION LINE SAFETY AND NUISANCE

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation
Condition: 13-2	CEC	GPC shall construct, operate, and maintain the transmission lines in accordance with Title 14, California Administration Code, Sections 1254-1256, and Public Resources Cod, Sections 4292-4296.	On-going	GPC does not own the transmission facilities, so cannot comply with this compliance task.
Condition: 13-6	CEC	GPC shall maintain records of Cal/OSHA inspections and shall make them available to authorized CEC staff upon request.	On-going	GPC does not own the transmission facilities, so cannot comply with this compliance task.
Condition: 13-7	CEC	GPC shall make every reasonable effort to locate and correct, on a case-by -case basis, all causes of radio interference's and television interference attributed to the transmission line facilities. GPC shall maintain records of complaints and corrective action and shall make these records available to authorized CEC staff upon request.	On-going	GPC does not own the transmission facilities, so cannot comply with this compliance task.
Condition: 13-8	CEC	Within 7 days of serious accident or fatality, file report by telephone to CEC. Within 30 days of accident, prepare report according outline of compliance Plan, Section 13-8.	On-going	GPC does not own the transmission facilities, so cannot comply with this compliance task.

SECTION 16: NOISE

Compliance Plan Condition	Agency	Compliance Task	Status	Task implementation			
Condition: 16-2	SCPD	GPC shall conduct noise surveys upon the request of the Sonoma County Planning Department and shall identify and implement feasible mitigation measures.	On-going	GPC received no requests from the Sonoma County Planning Department in 2019 to conduct a noise survey.			

SECTION 17: POWER PLANT EFFICIENCY AND RELIABILITY

Compliance Plan ConditionAgencyCondition: 17-2CEC		Compliance Task	Status	Task implementation GPC retains plant performance-related data for 5 years and such data is available at the Geysers Operation Center under the supervision of the Unit 20 Engineer.				
		 GPC shall continuously obtain performance related data over the life of the plant for the following parameters: a) main condenser absolute pressure; b) turbine inlet steam pressure; and c) plant generation capacity as net and gross megawatts. 	On-going					
Condition: 17-3	CEC	GPC shall inform the CEC of the location of the performance-related data in a periodic compliance report.	On-going	GPC retains plant performance-related data for 5 years and such data is available at the Geysers Operation Center under the supervision of the Unit Engineer.				
Condition: 17-5	CEC	GPC shall collect the routine performance-related data defined in requirement 17-2. GPC shall file the data in its periodic compliance reports.	On-going	Performance-related data is in Attachment 3. The average plant Gross MW: 39.44 , ISO Net MW: 36.53				
Condition: 17-6	ition: 17-6 CEC After each overhaul of the plant, GPC shall undertake a post-overhaul performance test.		On-going	Unit 20 did not have an overhaul in 2019				
Condition: 17-7 CEC		 Provide the CEC staff, upon reasonable notice, with access to the following data: a) mass-flow rate of steam b) steam temperature and pressures c) power plant auxiliary usage in megawatts d) power plant electrical generation output e) power plant auxiliary steam flow f) turbine steam inlet pressure g) main condenser absolute pressure. 	On-going	These data are available to the CEC upon request				

LIST OF ACRONYMS

AFC	Application for Certification
ARB	Air Resources Board
CAL/OSHA	California Occupational Safety and Health Administration
CEC	California Energy Commission
CDF&W	California Department of Fish and Wildlife
CDF	California Department of Forestry
CDHS/RHB	California Department of Health Services Radiological Health Branch
СРМ	Compliance Program Manager
CVRWQCB	Central Valley Regional Water Quality Control Board
DTSC	California Department of Toxic Substances Control
EPA	Environmental Protection Agency
GAMP	Geysers Air Monitoring Program
GPC	Geysers Power Company LLC
LCAQMD	Lake County Air Quality Management District
LCBO	Lake County Building Official
PG&E	Pacific Gas and Electric Company
NCRWQCB	
	North Coast Regional Water Quality Control Board
NSCAPCD	North Coast Regional Water Quality Control Board Northern Sonoma County Air Pollution Control District
NSCAPCD SCBO	











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

GWQ-20-031

January 28, 2020

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

Subject: 2019 Geysers Power Plant Units Recycled Water Use Report

Dear Ms. Thomas:

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

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

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

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

Sincerely,

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

ATTACHMENT 3

2019							Performance	Data					
Unit	1	20	20	20	20	20	20	20	20	20	20	20	20
•		Grant	Grant	Grant	Grant	Grant	Grant	Grant	Grant	Grant	Grant	Grant	Grant
Date		1/10/2019	2/28/2019	3/18/2019	4/3/2019	4/3/2019	4/9/2019	5/6/2019	6/3/2019	7/22/2019	8/1/2019	9/24/2019	10/11/2019
Time		9:15	9:31	14:02	8:33	10:51	9:34	10:48	9:38	10:13	9:29	9:25	10:45
Gross MW	MW	39.58	39.21	38.18	43.02	42.47	39.27	39.45	38.12	38.94	38.61	38.05	38.42
ISO Net MW	MW	36.56	36.10	35.19	40.09	40.60	36.21	36.37	35.19	35.91	35.49	35.09	35.54
B Turbine Inlet Pressure SE	psig	51.5	50.7	49.8	57.6	57.6	51.2	51.3	50.6	51.8	51.2	50.9	51.0
B Turbine Inlet Pressure SW	psig	51.5	50.7	49.8	57.6	57.6	51.2	51.3	50.6	51.8	51.2	50.9	51.0
Condenser Pressure	"Hg	1.12	1.02	1.26	1.23	1.58	1.12	1.22	1.61	1.60	1.55	1.46	1.24