Pacific Gas and Electric Company

Power Generation

Mailing Address:
Gateway Generating Station
3225 Wilbur Ave
Antioch, CA 94509
(925) 522-7801

April 19, 2024

TV Tracking #: 898

1. ☐ RECEIVED IN ENFORCEMENT: 4/19/2024

Director of Compliance and Enforcement
Bay Area Air Quality Management District
375 Beale Street
Suite 600
San Francisco, CA 94105

Attn: Title V Reports

***Subject*:** Facility #B8143: Semiannual Monitoring Report (October 1, 2023 – March 31, 2024)

On October 30, 2013, the Bay Area Air Quality Management District (BAAQMD) issued Gateway Generating Station, LLC (GGS) an initial Major Facility Review Permit (Permit) for the operation of a power generating station located in Antioch, California (Gateway Generating Station [GGS]).[1] Per Permit Condition I.F, GGS is required to evaluate the monitoring requirements in the Permit and report to BAAQMD any instances of non-compliance identified during the evaluation. GGS is required to submit a Semiannual Monitoring Report (SAMR) to the BAAQMD by April 30th for the period of October 1st through March 31st.

Attachment 1 of this letter serves as the SAMR for the period of October 1, 2023 through March 31, 2024 (reporting period). The format of the SAMR is based on Tables VII-A and VII-B listed in Section VII – *Applicable Limits and Compliance Monitoring Requirements* of the Permit. As shown in Attachment 1 of this letter, GGS has added columns to Tables VII-A and VII-B to document the compliance status of each monitoring requirement during the reporting period.

GGS determined, through reasonable inquiry, that all required monitoring was performed during the reporting period and after review of the monitoring results, all sources were found to be in- compliance with the monitoring requirements provided in Tables VII-A and VII-B. Copies of all monitoring records are available at GGS.

[1] Pacific Gas and Electric Company (PG&E) is the parent company to GGS, LLC.

Based upon the information and belief formed after reasonable inquiry, I, as the responsible official of GGS, certify that the information contained in this SAMR is true, accurate, and complete. If you have any questions or comments about the information presented in this letter, please do not hesitate to call me at (530) 934-9061.

Sincerely,

PACIFIC GAS AND ELECTRIC COMPANY

Steve Royall
Director, PG Fossil & Renewables

Attachment: a/s

cc: John Heiser
Compliance Project Manager
California Energy Commission

ATTACHMENT 1

Semiannual Monitoring Report
Reporting Period: October 1, 2023 – March 31, 2024

Semiannual Monitoring Report

April 30, 2024

Site #: B8143
Site Name: Gateway Generating Station, LLC
Address: 3225 Wilbur Avenue, Antioch CA 94509
Period: October 1, 2023 to Mar 31, 2024

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S-41, S-43 GAS TURBINES
S-42, S-44 HEAT RECOVERY STEAM GENERATORS

Type of Limit	Citation of Limit	FE Y/N	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance Yes (Y) or No (N)	Continuous (C) or Intermittent (I)	Days Out of Compliance/ Comments
NO_x	BAAQMD 9-3-303	N	125 ppm	BAAQMD 1-520.1	C	CEM	Y	C	
NO_x	BAAQMD 9-9-301.1.3	Y	9 ppmv @ 15% O2, dry	BAAQMD 9-9-501	C	CEM	Y	C	
NO_x	BAAQMD 9-9-301.2	N	0.15 lb/MW-hr or 5 ppmv	BAAQMD 9-9-501	C	CEM	Y	C	
NO_x	SIP 9-9-301.3	Y	9 ppmv @ 15% O_2, dry	BAAQMD 9-9-501	C	CEM	Y	C	
NO_x	NSPS 40 CFR 60.44Da (a)(1)	Y	0.2 lb/MMBtu	40 CFR 60.48Da(j)	C	CEM and fuel monitoring	Y	C	
NO_x	NSPS 40 CFR 60.44Da (d)(1)	Y	1.6 lb/MW-hr (rolling 24-hr average)	40 CFR 60.48Da(k),	C	CEM and load monitoring	Y	C	
NO_x	NSPS, 40 CFR 60.332 (a)(1)	Y	75 ppmv, @ 15% O_2, dry 4-hr average	40 CFR 60.334(c)	C	CEM	Y	C	
NO_x		Y	None	40 CFR 75.10	C	CEM	Y	C	

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NO_x	BAAQMD condition #18138, part 20a	Y	20 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, or steam turbine cold start-up	BAAQMD condition #18138, part 26b	C	CEM	Y	C	
NO_x	BAAQMD condition #18138, part 20a	Y	20 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, or steam turbine cold start-up	BAAQMD condition #18138, part 30	P/A	Source test at maximum load	Y	C (Source Test performed on Jan 2024)	
NO_x	BAAQMD condition #18138, part 20a	Y	0.009 lb/MM BTU, for each turbine and HRSG combined, except during turbine startup, shutdown, or steam turbine cold start-up	BAAQMD condition #18138, part 26b	C	CEM	Y	C	
NO_x	BAAQMD condition #18138, part 20a	Y	0.009 lb/MM BTU, for each turbine and HRSG combined, except during turbine startup, shutdown, or steam turbine cold start-up	BAAQMD condition #18138, part 30	P/A	Source test at maximum load	Y	C (Source Test performed on Jan 2024)	

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NO_x	BAAQMD condition #18138, part 20b	Y	2.5 ppmv, @ 15% O_2, dry, for each turbine and HRSG combined, 1-hr average except during turbine startup, shutdown, or steam turbine cold start-up	BAAQMD condition #18138, part 26b	C	CEM	Y	C	
NO_x	BAAQMD condition #18138, part 20b	Y	2.5 ppmv, @ 15% O_2, dry, for each turbine and HRSG combined, 1-hr average except during turbine startup, shutdown, or steam turbine cold start-up	BAAQMD condition #18138, part 30	P/A	Source test at maximum load	Y	C (Source Test performed on Jan 2024)	
NO_x	BAAQMD condition #18138, CD-1	Y	2.0 ppmv, @ 15% O_2, dry, for each turbine and HRSG combined, 1-hr average except during turbine startup, and shutdown	BAAQMD condition #18138, part 26b	C	CEM	Y	C	
NO_x	BAAQMD condition #18138, part 21	Y	189 lb/turbine during start-up	BAAQMD condition #18138, part 26	P/D	Records, calculations	Y	C	

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NO_x	BAAQMD condition #18138, part 21	Y	59 lb/turbine during shutdown	BAAQMD condition #18138, part 26	P/D	Records, calculations	Y	C	
NO_x	BAAQMD condition #18138, part 21	Y	452 lb/turbine during steam turbine cold start-up	BAAQMD condition #18138, part 26	P/D	Records, calculations	Y	C	
NO_x	BAAQMD condition #18138, part 23	Y	1,994 lb/day for turbines and HRSGs combined	BAAQMD condition #18138, part 26	C	CEM	Y	C	
NO_x	BAAQMD condition #18138, part 24	Y	174.3 ton/yr for turbines, HRSGs, and diesel fire pump combined (includes emissions from commissioning period)	BAAQMD condition #18138, part 26	C	CEM	Y	C	
NO_x	BAAQMD condition #18138, CD-3	Y	139.2 ton/yr for turbines and HRSGs combined	BAAQMD condition #18138, part 26	C	CEM	Y	C	

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CO	BAAQMD condition #18138, part 20c	Y	29.22 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, or steam turbine cold start-up	BAAQMD condition #18138, part 26b	C	CEM	Y	C	
CO	BAAQMD condition #18138, part 20c	Y	29.22 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, or steam turbine cold start-up	BAAQMD condition #18138, part 30	P/A	Source test at maximum and minimum load	Y	C (Source Test performed on Jan 2024)	
CO	BAAQMD condition #18138, part 20c	Y	0.013 lb/MM BTU, for each turbine and HRSG combined, except during turbine startup, shutdown, or steam turbine cold start-up	BAAQMD condition #18138, part 26b	C	CEM	Y	C	
CO	BAAQMD condition #18138, part 20c	Y	0.013 lb/MM BTU, for each turbine and HRSG combined, except during turbine startup, shutdown, or steam turbine cold start-up	BAAQMD condition #18138, part 30	P/A	Source test at maximum and minimum load	Y	C (Source Test performed on Jan 2024)	

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CO	BAAQMD condition #18138, part 20d	Y	6 ppmv, @ 15% O_2, dry, for each turbine and HRSG combined, 3-hr average except during turbine startup, shutdown, or steam turbine cold start-up,	BAAQMD condition #18138, part 26b	C	CEM	Y	C	
CO	BAAQMD condition #18138, part 20d	Y	6 ppmv, @ 15% O_2, dry, for each turbine and HRSG combined, 3-hr average except during turbine startup, shutdown, or steam turbine cold start-up	BAAQMD condition #18138, part 30	P/A	Source test at maximum and minimum load	Y	C (Source Test performed on Jan 2024)	
CO	BAAQMD condition #18138, part 21	Y	291 lb/turbine during start-up	BAAQMD condition #18138, part 26	P/D	Records, calculations	Y	C	
CO	BAAQMD condition #18138, part 21	Y	73 lb/turbine during shutdown	BAAQMD condition #18138, part 26	P/D	Records, calculations	Y	C	
CO	BAAQMD condition #18138, part 21	Y	990 lb/turbine during steam turbine cold start-up	BAAQMD condition #18138, part 26	P/D	Records, calculations	Y	C	

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CO	BAAQMD condition #18138, part 23b	Y	3,602 lb/day for turbines and HRSGs combined	BAAQMD condition #18138, part 26b	C	CEM	Y	C	
CO	BAAQMD condition #18138, part 24b	Y	259.1 ton/yr for turbines, HRSGs, and diesel fire pump combined (includes emissions from commissioning period)	BAAQMD condition #18138, part 26b	C	CEM	Y	C	
CO_2		Y	None	40 CFR 75.10	C	fuel flow monitor and CO_2 calculation	Y	C	
SO_2	BAAQMD 9-1-301	Y	GLC of 0.5 ppm for 3 min or 0.25 ppm for 60 min or 0.05 ppm for 24 hours		N		N/A	N/A	
SO_2	BAAQMD 9-1-302	Y	300 ppm (dry)		N		N/A	N/A	
SO_2	NSPS 40 CFR 60.43Da (b)(2)		0.2 lb/MM BTU, 24 hr average except during startup, or shutdown		N		N/A	N/A	

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SO_2	NSPS 40 CFR 60.333	Y	0.015% (vol) @15% O_2 (dry) or total sulfur content of fuel less than or equal to 0.8% sulfur by weight (8,000 ppmw)	NSPS 40 CFR 60.334(h)(3) (ii) and BAAQMD Condition 18138, Part 44	P/M	Monthly fuel sulfur analysis	Y	C	
SO_2		Y	None	40 CFR 75.11, 40 CFR 75, Appendix D, part 2.3	P/M	Fuel measure-ments, calculations	Y	C	
SO_2	BAAQMD condition #18138, part 44	Y	Fuel sulfur content of 1 gr/100 scf	BAAQMD condition #18138, part 44	P/M	Fuel testing	Y	C	
SO_2	BAAQMD condition #18138, CD-4	Y	Fuel sulfur content of 1 gr/100 scf	BAAQMD condition #18138, part 44	P/M	Fuel testing	Y	C	
SO_2	BAAQMD condition #18138, part 20g	Y	6.18 lb/hr, for turbine and HRSG combined	BAAQMD condition #18138, part 30	P/A	Source test at maximum load	Y	C (Source Test performed on Jan 2024)	

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SO_2	BAAQMD condition #18138, part 20g	Y	0.0028 lb/MM BTU, for turbine and HRSG combined	BAAQMD condition #18138, part 30	P/A	Source test at maximum load	Y	C (Source Test performed on Jan 2024)	
SO_2	BAAQMD condition #18138, part 23e	Y	297 lb/day for turbines and HRSGs combined	BAAQMD condition #18138, part 27	P/D	Records, calculations	Y	C	
SO_2	BAAQMD condition #18138, part 24e	Y	48.5 ton/yr for turbines, HRSGs, and diesel fire pump combined (includes emissions from commissioning period)	BAAQMD condition #18138, part 27	P/D	Records, calculations	Y	C	
SO_2	BAAQMD condition #18138, part CD-3	Y	18.5 ton/yr for turbines and HRSGs combined (includes emissions from commissioning period)	BAAQMD condition #18138, part 27	P/D	Records, calculations	Y	C	
Opacity	BAAQMD 6-1-301	N	> Ringelmann No. 1 for no more than 3 minutes in any hour		N		N/A	N/A	
Opacity	SIP 6-301	Y	> Ringelmann No. 1 for no more than 3 minutes in any hour		N		N/A	N/A	

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Opacity	NSPS 40 CFR 60.42Da(b)	Y	20% Opacity (6 min avg.) with one 6 min avg. at less than 27% Opacity	40 CFR 60.49Da(a) (3)[2]	N		N/A	N/A	
FP	BAAQMD 6-1-310.1	N	0.15 grain/dscf		N		N/A	N/A	
FP	SIP 6-310	Y	0.15 grain/dscf		N		N/A	N/A	
FP	BAAQMD 6-1-310.3	N	0.15 grain/dscf @ 6% O_2		N		N/A	N/A	
FP	SIP 6-310.3	Y	0.15 grain/dscf @ 6% O_2		N		N/A	N/A	
PM	NSPS 40 CFR 60.42Da (a)(1)	Y	0.03 lb/MMBtu of PM		N		N/A	N/A	
PM	NSPS 40 CFR 60.42Da(b)	Y	< 20% opacity, 6 minute average, except one six minute period/hr up to 27% opacity		N		N/A	N/A	

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PM_{10}	BAAQMD condition #18138, part 20h	Y	11.0 lb/hr, for each turbine and HRSG combined (duct burners not in operation) 13.0 lb/hr, for each turbine and HRSG combined (duct burners in operation)	BAAQMD condition #18138, part 30	P/A	Source test at maximum load	Y	C (Source Test performed on Jan 2024)	
PM_{10}	BAAQMD condition #18138, part 20h	Y	0.00588 lb/MMBTU, for each turbine and HRSG combined (duct burners not in operation) 0.00584 lb/MMBTU, for each turbine and HRSG combined (duct burners not in operation)	BAAQMD condition #18138, part 30	P/A	Source test at maximum load	Y	C (Source Test performed on Jan 2024)	
PM_{10}	BAAQMD condition #18138, part 23d	Y	624 lb/day for turbines and HRSGs combined	BAAQMD condition #18138, part 27	P/D	Records, calculations	Y	C	
PM_{10}	BAAQMD condition #18138, part 24d	Y	105 ton/yr for turbines, HRSGs, and diesel fire pump combined (includes emissions from commissioning period)	BAAQMD condition #18138, part 27	P/D	Records, calculations	Y	C	

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POC	BAAQMD condition #18138, part 20f	Y	5.6 lb/hr (as CH4) for each turbine, and HRSG combined except during turbine startup, shutdown, or steam turbine cold start-up	BAAQMD condition #18138, part 30	P/A	Source test at maximum load	Y	C (Source Test performed on Jan 2024)	
POC	BAAQMD condition #18138, part 20f	Y	0.0025 lb/MM BTU (as CH4) for each turbine, and HRSG combined except during turbine startup, shutdown, or steam turbine cold start-up	BAAQMD condition #18138, part 30	P/A	Source test at maximum load	Y	C (Source Test performed on Jan 2024)	
POC	BAAQMD condition #18138, part 21	Y	26 lb/turbine during start-up	BAAQMD condition #18138, part 27	P/D	Records, calculations	Y	C	
POC	BAAQMD condition #18138, part 21	Y	6 lb/turbine during shutdown	BAAQMD condition #18138, part 27	P/D	Records, calculations	Y	C	
POC	BAAQMD condition #18138, part 21	Y	109 lb/turbine during steam turbine cold start-up	BAAQMD condition #18138, part 27	P/D	Records, calculations	Y	C	

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POC	BAAQMD condition #18138, part 23c	Y	468 lb/day (as CH4) for turbines and HRSGs combined	BAAQMD condition #18138, part 27	P/D	Records, calculations	Y	C	
POC	BAAQMD condition #18138, part 24c	Y	46.6 ton/yr for turbines, HRSGs, and diesel fire pump combined (includes emissions from commissioning period)	BAAQMD condition #18138, part 27	P/D	Records, calculations	Y	C	
NH_3	BAAQMD condition #18138, Part 20e	N	5 ppmv, @ 15% O_2, dry, averaged over 3 hrs for each turbine and HRSG combined except during turbine startup or shutdown	BAAQMD condition #18138, part 26c, part 29, part AM-1	C	Ammonia injection rate monitor, calculations, and annual source test	Y	C	
Formal-dehyde	BAAQMD condition #18138, part 25.1	N	4,102 lb/yr for turbines and HRSGs combined	BAAQMD condition #18138, part 28	P/D	Records, calculations	Y	C (Source Test performed on Jan 2023)	

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Formal-dehyde	BAAQMD condition #18138, part 25.1	N	4,102 lb/yr for turbines and HRSGs combined	BAAQMD condition #18138, part 32	P/every two years on P-1 or P-2	Source test	Y	C (Source Test performed on Jan 2023)	
Benzene	BAAQMD condition #18138, part 25.1	N	506 lb/yr for turbines and HRSGs combined	BAAQMD condition #18138, part 28	P/D	Records, calculations	Y	C (Source Test performed on Jan 2023)	
Benzene	BAAQMD condition #18138, part 25.1	N	506 lb/yr for turbines and HRSGs combined	BAAQMD condition #18138, part 32	P/every two years on P-1 or P-2	Source test	Y	C (Source Test performed on Jan 2023)	

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Specified PAH's	BAAQMD condition #18138, Part 25.1	N	38 lb/yr for turbines and HRSGs combined	BAAQMD condition #18138, part 28	P/D	Records, calculations	Y	C (Source Test performed on Jan 2023)	
Specified PAH's	BAAQMD condition #18138, Part 25.1	N	38 lb/yr for turbines and HRSGs combined	BAAQMD condition #18138, part 32	P/every two years on P-1 or P-2	Source test	Y	C (Source Test performed on Jan 2023)	
Hexane	BAAQMD condition #18138, Part 25.2	N	20,000 lb/yr for turbines and HRSGs combined	BAAQMD condition #18138, part 32	P/every two years on P-1 or P-2	Source test	Y	C (Source Test performed on Jan 2023)	
Heat Input limit	BAAQMD condition #18138, part 14	Y	2,227 MM BTU/hr, 3-hr average for each Turbine and HRSG, total	BAAQMD condition #18138, part 26a	C	Fuel meter, firing monitor, calculations	Y	C	

Semiannual Monitoring Report

April 30, 2024

Site #: B8143
Site Name: Gateway Generating Station, LLC
Address: 3225 Wilbur Avenue, Antioch CA 94509
Period: October 1, 2023 to Mar 31, 2024

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S-41, S-43 GAS TURBINES
S-42, S-44 HEAT RECOVERY STEAM GENERATORS

Type of Limit	Citation of Limit	FE Y/N	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance Yes (Y) or No (N)	Continuous (C) or Intermittent (I)	Days Out of Compliance/ Comments
Heat Input Limit	BAAQMD condition #18138, part 15	Y	49,950 MM BTU/calendar day, for each Turbine and HRSG, total	BAAQMD condition #18138, part 26a	C	fuel meter, firing monitor, calculations	Y	C	
Heat Input Limit	BAAQMD condition #18138, part 16	Y	34,900,000 MM BTU/yr for S-41, S-43, Turbines and S-42, S-44, HRSGs combined	BAAQMD condition #18138, part 26a	C	fuel meter, firing monitor, calculations	Y	C	

Semiannual Monitoring Report

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Table VII – B
Applicable Limits and Compliance Monitoring Requirements
S-47, FIRE PUMP DIESEL ENGINE

Type of Limit	Citation of Limit	FE Y/N	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance Yes (Y) or No (N)	Continuous (C) or Intermittent (I)	Days Out of Compliance/ Comments
Opacity	BAAQMD 6-1-303.1	N	> Ringelmann No. 2 for no more than 3 minutes in any hour		N		N/A	N/A	
Opacity	SIP Regulation 6-303.1	Y	Ringelmann 2.0 for 3 minutes in any hour		N		N/A	N/A	
FP	BAAQMD 6-1-310	N	0.15 grain/dscf		N		N/A	N/A	
FP	SIP Regulation 6-310	Y	0.15 gr/dscf		N		N/A	N/A	
SO_2	BAAQMD 9-1-301	Y	Property Line Ground Level Limits: $\underline{<}$ 0.5 ppm for 3 minutes and $\underline{<}$ 0.25 ppm for 60 min. and $\underline{<}$0.05 ppm for 24 hours	None	N	N/A	N/A	N/A	
SO_2	BAAQMD 9-1-304	Y	Fuel Sulfur Limit 0.5%	BAAQMD Condition # 19498, Parts 5 and 8	P/E	Vendor Certification	Y	**C**	
Reliability Related Hours	BAAQMD 9-8-330	N	100 hours until 1/1/12 50 hours after 1/1/12	9-8-502	P/E	Totalizing meter, record keeping	Y	**C**	

Semiannual Monitoring Report

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Table VII – B
Applicable Limits and Compliance Monitoring Requirements
S-47, FIRE PUMP DIESEL ENGINE

Type of Limit	Citation of Limit	FE Y/N	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance Yes (Y) or No (N)	Continuous (C) or Intermittent (I)	Days Out of Compliance/ Comments
Hours for maintenance and testing	Title 17, California Code of Regulations section 93115.6(a) (4)	N	Not operate more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25 – "Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems," 2002 edition	93115.10(d)	P/E	Totalizing meter, record keeping	Y	C	
Reliability-related activities	BAAQMD Condition #25057, part 1	N	50 hours per calendar year	BAAQMD Condition #25057, part 3, 4	P/E	Totalizing meter, record-keeping	Y	C	