



**Pacific Gas and
Electric Company®**

Mailing Address:
Pacific Gas & Electric Company
Gateway Generating Station
3225 Wilbur Ave.
Antioch, CA 94509
(925) 522-7801

April 26, 2021

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

TV Tracking #: 216

1. RECEIVED IN 04/27/2021
ENFORCEMENT: _____

Subject: Facility #B8143: Semiannual Monitoring Report (October 1, 2020 – March 31, 2021)

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, 2020 through March 31, 2021 (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. On monitoring parameter for calculated ammonia slip, Unit P-12 was observed to be on “intermittent compliance”. A Reportable Compliance Activity (RCA) was submitted to the Bay Area Air Quality Management District and the California Energy Commission on April 16, 2021. A copy of the RCA submittal is attached in this report as Attachment 2. 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

A handwritten signature in black ink, appearing to read "S. Royall". The signature is fluid and cursive, with the first letter of the first name being a large, stylized 'S'.

Steve Royall
Director, Fossil Generation

Attachment: a/s

cc. John Heiser
Compliance Project Manager
California Energy Commission

ATTACHMENT 1

Semiannual Monitoring Report
Reporting Period: October 1, 2020 – March 31, 2021

Semiannual Monitoring Report

April 30, 2021

Site #: B8143
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 Period: October 1, 2020 to Mar 31, 2021

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% O ₂ , 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(e)	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 11-15, 2021)	
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 11-15, 2021)	

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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 11-15, 2021)	
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 11-15, 2021)	
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	

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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	
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 measurements, 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 11-15, 2021)	

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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 11-15, 2021)	
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)	N		N/A	N/A	
FP	BAAQMD 6-1-310	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 11-15, 2021)	
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 11-15, 2021)	
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 CH ₄) 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 11-15, 2021)	
POC	BAAQMD condition #18138, part 20f	Y	0.0025 lb/MM BTU (as CH ₄) 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 11-15, 2021)	
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	I	I	2/18/2021, 3/1/2021, 3/17/2021
Formaldehyde	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 11-15, 2021)	

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Formaldehyde	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 11-15, 2021)	
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 11-15, 2021)	
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 11-15, 2021)	

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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
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 22-26, 2019)	
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 11-15, 2021)	
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 11-15, 2021)	
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, 2021

Site #: B8143
 Site Name: Gateway Generating Station, LLC
 Address: 3225 Wilbur Avenue, Antioch CA 94509
 Period: October 1, 2020 to Mar 31, 2021

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

April 30, 2021

Site #: B8143
 Site Name: Gateway Generating Station, LLC
 Address: 3225 Wilbur Avenue, Antioch CA 94509
 Period: October 1, 2020 to Mar 31, 2021

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: ≤ 0.5 ppm for 3 minutes and ≤ 0.25 ppm for 60 min. and ≤ 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	

ATTACHMENT 2

**Copy of Reportable Compliance Activity (RCA)
Submitted to the BAAQMD and CEC on April 16, 2021**

From: [Espiritu, Angel](#)
To: [John Heiser \(john.heiser@energy.ca.gov\)](mailto:john.heiser@energy.ca.gov)
Cc: [Espiritu, Angel B](#)
Subject: Facility 00-AFC-01C CEC Condition of Certification AQ-35 - Reportable Compliance Activity April 15, 2021
Date: Friday, April 16, 2021 12:25:00 PM
Attachments: [RCA Apr 15 2021_PGE GGS Plant 18143.pdf](#)

Hi John,

In compliance with the CEC Condition of Certification AQ-35, we are sending to you a copy of the Reportable Compliance Activity (RCA) – April 15, 2021 that we submitted to the Bay Area Air Quality Management District (BAAQMD) earlier today. Please let us know if you have questions. Thank you.

Angel B. Espiritu
Pacific Gas & Electric – Gateway Generating Station
Sr. Environmental Consultant-Environmental Compliance Manager
3225 Wilbur Avenue, Antioch, CA 94509
925-522-7838, 510-861-1597 (Cell)
ABE4@pge.com

From: Espiritu, Angel
Sent: Friday, April 16, 2021 12:18 PM
To: RCA Notification <rca@baaqmd.gov>
Cc: Caryn Quist (cquist@baaqmd.gov) <cquist@baaqmd.gov>; 'compliance@baaqmd.gov' <compliance@baaqmd.gov>
Subject: Facility #18143 - Reportable Compliance Activity April 15, 2021

In compliance with BAAQMD Permit Condition 18138 Part 35 for Pacific Gas and Electric Company Gateway Generating Station (Facility # B8143), attached is Reportable Compliance Activity (RCA)-April 15, 2021. Please let us know if you have questions. Thank you.

Angel B. Espiritu
Pacific Gas & Electric – Gateway Generating Station
Sr. Environmental Consultant-Environmental Compliance Manager
3225 Wilbur Avenue, Antioch, CA 94509
925-522-7838, 510-861-1597 (Cell)
ABE4@pge.com



**Pacific Gas and
Electric Company®**

Mailing Address:
Pacific Gas & Electric Company
Gateway Generating Station
3225 Wilbur Ave.
Antioch, CA 94509
(925) 522-7801

April 16, 2021

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

Reference: Plant # 18143: PG&E Gateway Generating Station

Subject: Reportable Compliance Activity (PTO Condition 18138 Part 35)

Dear Sir/Madam,

In compliance with the Bay Area Air Quality Management District Permit Condition 18138 Part 35, the PG&E Gateway Generating Station is submitting the attached Reportable Compliance Activity (RCA).

During the regular examination of the CEMS-DAHS data yesterday (April 15, 2021), an excess emission on calculated ammonia slip was detected on Unit P-12 during the following dates/time: 2-18-2021/7:00 to 7:59 AM, 3-1-2021/5:00 to 5:59 AM, and 3-17-2021/5:00 AM to 5:59 AM (see attached CEMS-DAHS report printout). This detection was a result of the new set of ammonia correction factors being applied retroactively at the conclusion of the annual source test on January 15, 2021. This new set of correction factors was uploaded into the CEMS-DAHS database on April 14, 2021. Please note that the corresponding 3-hour average mole (molar) ratio values for the same indicated dates/times were all below the permit limits (see attached CEMS-DAHS report printout).

Upon examination of the ammonia correction factor calculation in the January 15, 2021 Source Test, we noted that the values for the maximum load were higher than the values for other load configurations and uncharacteristically higher compared to previous years' results on maximum load (see attached summary of previous years' correction factors). We also noted that the inlet NOx concentration, which is a direct function of the ammonia correction factor, was about 1 part per million (ppm) higher than the 2020 source test result. Upon careful analysis of the calculation, this increase in inlet NOx value was sufficient to bump up the resultant correction factor value. This leads us to believe that there is need to investigate further the cause of this increase in inlet NOx at the time of this year's test.

This RCA is also being copied to the California Energy Commission (CEC) in compliance of the CEC Conditions of Certification AQ-35.

If you have any questions regarding this submittal, please feel free to call me or Angel Espiritu at (510) 861-1597, (925) 522-7838.

Sincerely,

Tim Wisdom
Senior Plant Manager

Enclosure: a/s

Cc: John Heiser
Project Compliance Manager
California Energy Commission



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

COMPLIANCE & ENFORCEMENT DIVISION

Notification Form

Reportable
Compliance
Activity (RCA)

[See back of form for instructions](#) →

1. **BREAKDOWN RELIEF: *District Use Only* BREAKDOWN REFERENCE #:**

2. **MONITOR EXCESS EMISSION or EXCURSION: *District Use Only* REFERENCE #:**

3. **MONITOR IS INOPERATIVE: *District Use Only* REFERENCE #:**

4. **PRESSURE RELIEF DEVICE (PRD): *District Use Only* PRD REFERENCE #:**

SITE INFORMATION AND DESCRIPTION INFORMATION (REQUIRED)

Company	PG&E Gateway Generating Station	Site #	18143
Address	3225 Wilbur Ave, Antioch, CA 94509	Source #	P-12
Reported by	Tim Wisdom	Phone #	925-200-4811
Indicated Excess	Ammonia Slip	Fax #	
Allowable Limit	5.0 ppm at 15% O2	Averaging Time	3-hour
Start Time/Date	7:00 AM/2-18-2021, 5:00 AM/3-1-2021, 5:00 AM/3-17-2021	Clear Time	See Event Description
Monitor/device type(s)	<input type="checkbox"/> ▶ CEM <input type="checkbox"/> ▶ GLM <input type="checkbox"/> ▶ Parametric <input type="checkbox"/> ▶ PRD <input checked="" type="checkbox"/> ▶ Non-monitor		
Monitor description(s)			
Parameter(s) exceeded or not functioning due to inoperation			
<input type="checkbox"/> ▶ NO _x <input type="checkbox"/> ▶ SO ₂ <input type="checkbox"/> ▶ CO <input type="checkbox"/> ▶ CO ₂ <input type="checkbox"/> ▶ H ₂ S <input type="checkbox"/> ▶ TRS <input checked="" type="checkbox"/> ▶ NH ₃			
<input type="checkbox"/> ▶ O ₂ <input type="checkbox"/> ▶ H ₂ O <input type="checkbox"/> ▶ Opacity <input type="checkbox"/> ▶ Lead <input type="checkbox"/> ▶ Gauge Pressure <input type="checkbox"/> ▶ Flow			
<input type="checkbox"/> ▶ Hydrocarbon Breakthrough (VOC) <input type="checkbox"/> ▶ Temperature <input type="checkbox"/> ▶ Wind Speed			
<input type="checkbox"/> ▶ Wind Direction <input type="checkbox"/> ▶ Steam <input type="checkbox"/> ▶ Other (describe)			
Unit(s) of Measurement			
<input type="checkbox"/> ▶ ppm <input type="checkbox"/> ▶ ppb <input type="checkbox"/> ▶ min/hr > 20% <input type="checkbox"/> ▶ inches H ₂ O <input type="checkbox"/> ▶ mmHg			
<input type="checkbox"/> ▶ psig <input type="checkbox"/> ▶ pH <input type="checkbox"/> ▶ °Fahrenheit <input checked="" type="checkbox"/> ▶ Other (describe) <input type="checkbox"/> ▶ Calculated Values			

Event Description:

Upon examination of CEMS-DAHS data, an excess emission on calculated ammonia slip was detected yesterday (4-15-2021) on Unit P-12 on the following dates/times: 2-18-2021/7:00 AM to 7:59 AM, 3-1-2021/5:00 AM to 5:59 AM, and 3-17-2021/5:00 AM to 5:59 AM (See attached CEMS-DAHS report printout). This detection of exceedance was a result of a new set of ammonia corrections factors, that were uploaded in the CEMS-DAHS database on 4-14-2021, being applied retroactively to the date for when the new correction factors were calculated at the conclusion of the annual source test for the unit on 01-15-2021. The corresponding 3-hour average mole (molar) ratio values for the same events, however, were below the indicated permit limit (See attached CEMS-DAHS report printout).

District Use Only

Received by

Date

Time

General Instructions

- ✓ Check the Box numbers 1- 4 that apply to the RCA you are trying to report or request and read the detailed instructions.
- ✓ You will receive an ID # for each RCA you submit. In the case of a request for Breakdown Relief where multiple monitors are affected, you do not need to submit multiple forms, as long as all necessary information is given on one form. RCA reported during other than core business hours will be assigned an ID # the following working day. If you do not receive an ID #, it is your responsibility to contact the BAAQMD to get one.
- ✓ You may submit only one request for breakdown relief per form. However, you may submit multiple indicated excess, inoperative monitors and PRD reports on one form, provided that the start and end times given for the events in the required information section is inclusive of all events. Information on parameters exceeded, units of measurement and allowable limits can be provided in the event description box or when contacted by District staff with questions.
- ✓ Fill out the "Site Information and Description Information Required" areas of this form and email to rca@baaqmd.gov
- ✓ **A 30-day written follow-up report is required for Breakdown Requests and PRD Releases.** Reports for these types of RCA must contain a quantification of emissions, the calculations used to derive the emissions, and their duration. Reference [Breakdown Admissions Advisory dated 12/3/04](#). Send 30-day report letters to: BAAQMD Compliance and Enforcement Division, MAILSTOP: RCA 30-DAY REPORT, 375 Beale Street, Ste. 600 San Francisco, CA 94105. NOTE: **You may have additional report requirements under Title V.**

Detailed Instructions

Box 1: To Request Breakdown Relief (Regulations 1-112, 1-113, 1-208, 1-431, 1-432)

If you have an equipment malfunction (e.g.; breakdown) that leads to the release of air pollutants above the regulatory or your permitted levels, you may request relief from BAAQMD enforcement action.

- Check Box #1.
- **NOTE: Start and end times given for these events in the required information section must be inclusive of all events.**
- Fill out all the information in the "Site Information and Description Information (Required)" area of the form.
- Requests for breakdown relief may not be withdrawn and must be called in or faxed to the BAAQMD immediately upon discovery of an equipment malfunction.
- Receipt of an RCA ID# for a breakdown does not mean relief has been granted. An Inspector will visit your facility to determine compliance.

Box 2: Monitor Indicates Excess Emission or Excursion (Regulation 1-522.7, 1-523.3, 1-542)

When a BAAQMD-required monitor indicates an excess or excursion, you must report it to the BAAQMD.

- Check Box #2.
- Fill out all the information in the "Site Information and Description Information (Required)" area of the form.
- Any excess emission indicated by a CEM or excursion of a parametric monitor, shall be reported to the BAAQMD within 96 hours.
- Area concentration excesses over the limits prescribed in District regulations shall be reported to the BAAQMD within the next normal working day following the examination of data.

Box 3: Monitor Is Inoperative (Regulations 1-522, 1-523, 1-530)

When a BAAQMD-required monitor is inoperative for greater than 24 hours, you must report it to the BAAQMD.

- Check Box #3 only if inoperative for greater than 24 hours.
- Fill out all the information in the "Site Information and Description Information (Required)" area of the form.
- All reports of inoperative monitors must be reported by the following BAAQMD working day and additionally be cleared by a notification of resumption of monitoring. To notify the BAAQMD regarding the resumption of monitoring, do not send in a separate RCA form; call (415) 749-4979 and give the RCA ID #, date, and the time of resumption.
- Inoperative monitors (except parametric monitors) with downtime greater than 15 days must furnish proof of expedited repair in a follow-up report.

Box 4: Pressure Relief Device (PRD) Is Released (Regulation 8-28-401)

When a PRD at your refinery/chemical plant vents to the atmosphere, you must report it to the BAAQMD.

- Check Box #4 only if a pressure relief device is released.
- Separate RCA ID #'s can be applied to monitor(s) affected by a PRD by also checking Box #2 if other monitors record an excess or excursion.
- Fill out all the information in the "Site Information and Description Information (Required)" area of the form.
- All PRD release reports must be reported by the following BAAQMD working day.

Unit P12 Excess Emissions

Gateway Generating Facility

Excess Emissions for 1/1/2021 thru 4/15/2021: NH3 ppm @15% O2 3-Hr Rolling

Parameter	Start	End	Duration	Value	Min	Max	Limit	Reason	Action
NH3 ppm @15% O2 3-Hr Rolling	2/18/2021 7:00 AM	7:59 AM	1 hour	5.6	5.6	5.6	5.0	<i>Not specified</i>	
NH3 ppm @15% O2 3-Hr Rolling	3/1/2021 5:00 AM	6:59 AM	2 hours	5.3	5.1	5.5	5.0	<i>Not specified</i>	
NH3 ppm @15% O2 3-Hr Rolling	3/17/2021 5:00 AM	6:59 AM	2 hours	5.7	5.4	5.9	5.0	<i>Not specified</i>	
Total duration			5 hours						

Gateway Generating Facility
 Antioch, CA
ABE4_P-12 Ammonia Slip Check
 February 18, 2021

Hour	SCR NOx ppm 1-Hr	60-NOx ppm 1-Hr	NH3 Flow lb/hr 1-Hr	NOx ppm @15% O2 1-Hr	DB Gas On-TIME 1-Hr	Combined Heat Input Rate mmBtu/hr 1-Hr	CT Megawatts 1-Hr	Megawatts - Gross Load Range	NH3 Molar Ratio 1-Hr	NH3 Slip Correction Factor 1 Hr	NH3 Slip ppm 1-Hr	Process Code 1-Hr	NH3 Molar Ratio 3-Hr Rolling	NH3 Molar Ratio 3-Hr Rolling Limit	NH3 ppm @15% O2 1-Hr	NH3 ppm @15% O2 3-Hr Rolling
02/18/2021 00	13.2	2.0	85.62	1.5	1.00	1969.2	163.9	9	1.1	3.551	4.30	Normal	1.1	1.4	3.21	3.3
02/18/2021 01	14.2	2.0	92.85	1.5	1.00	2034.9	166.5	10	1.1	4.617	4.57	Normal	1.1	1.4	3.37	3.4
02/18/2021 02	14.3	2.0	93.37	1.5	1.00	2036.1	166.5	10	1.1	4.637	4.41	Normal	1.1	1.4	3.25	3.3
02/18/2021 03	14.3	2.0	93.15	1.5	1.00	2033.1	166.1	10	1.1	4.588	4.31	Normal	1.1	1.4	3.18	3.3
02/18/2021 04	14.3	2.0	94.29	1.5	1.00	2035.4	166.5	10	1.1	4.626	5.04	Normal	1.1	1.4	3.72	3.4
02/18/2021 05	14.4	2.1	96.02	1.5	1.00	2058.6	168.9	10	1.1	5.002	5.90	Normal	1.1	1.4	4.35	3.8
02/18/2021 06	14.5	2.0	99.53	1.5	1.00	2061.4	169.2	10	1.1	5.048	8.23	Normal	1.1	1.4	5.99	4.7
02/18/2021 07	11.4	2.0	85.53	1.5	1.00	1922.9	163.3	9	1.3	2.799	8.31	Normal	1.2	1.4	6.37	5.6
02/18/2021 08	9.7	1.8	67.73	1.5	0.72	1663.1	144.7	8	1.3	0.428	1.15	Normal	1.2	1.4	0.94	4.4
02/18/2021 09	9.3	1.8	53.11	1.5	0.00	1489.2	130.0	7	1.2	0.410	0.62	Normal	1.3	1.6	0.52	2.6
02/18/2021 10	9.1	1.8	50.34	1.6	0.00	1220.8	92.1	6	1.4	0.237	0.64	Normal	1.3	1.6	0.56	0.7
02/18/2021 11	9.5	1.8	68.32	1.5	0.00	1724.5	159.6	8	1.3	0.404	0.94	Normal	1.3	1.6	0.79	0.6
02/18/2021 12	9.4	1.8	69.87	1.5	0.00	1752.0	162.7	8	1.3	0.393	0.92	Normal	1.3	1.6	0.79	0.7
02/18/2021 13	9.2	1.8	57.52	1.5	0.00	1540.3	136.9	7	1.3	0.445	0.91	Normal	1.3	1.5	0.77	0.8
02/18/2021 14	9.3	1.8	55.36	1.5	0.00	1467.6	127.3	7	1.3	0.394	0.80	Normal	1.3	1.6	0.67	0.7
02/18/2021 15	8.8	1.7	51.95	1.5	0.00	1228.7	93.3	6	1.5	0.237	0.74	Normal	1.4	1.6	0.65	0.7
02/18/2021 16	10.5	1.9	73.05	1.5	0.73	1791.7	157.5	8	1.3	0.670	1.44	Normal	1.4	1.6	1.16	0.8
02/18/2021 17	13.2	2.0	86.85	1.5	1.00	1981.3	163.5	9	1.1	3.747	4.91	Normal	1.3	1.6	3.67	1.8
02/18/2021 18	13.7	2.0	87.33	1.5	1.00	1982.9	162.0	9	1.1	3.773	3.89	Normal	1.2	1.4	2.87	2.6
02/18/2021 19	14.1	2.1	91.46	1.5	1.00	2021.2	164.2	9	1.1	4.395	5.45	Normal	1.1	1.4	3.97	3.5
02/18/2021 20	14.2	2.0	91.58	1.5	1.00	2014.6	163.4	9	1.1	4.288	4.72	Normal	1.1	1.4	3.44	3.4
02/18/2021 21	14.1	2.1	89.79	1.5	1.00	2008.5	162.8	9	1.1	4.189	4.52	Normal	1.1	1.4	3.29	3.6
02/18/2021 22	14.1	2.1	90.74	1.5	1.00	2023.4	164.4	9	1.1	4.431	4.96	Normal	1.1	1.4	3.61	3.4
02/18/2021 23	14.0	2.1	88.54	1.5	1.00	2002.9	161.9	9	1.1	4.098	4.26	Normal	1.1	1.4	3.10	3.3

Gateway Generating Facility
 Antioch, CA
ABE4_P-12 Ammonia Slip Check
 March 1, 2021

Hour	SCR NOx ppm 1-Hr	60-NOx ppm 1-Hr	NH3 Flow lb/hr 1-Hr	NOx ppm @15% O2 1-Hr	DB Gas On-TIME 1-Hr	Combined Heat Input Rate mmBtu/hr 1-Hr	CT Megawatts 1-Hr	Megawatts - Gross Load Range	NH3 Molar Ratio 1-Hr	NH3 Slip Correction Factor 1 Hr	NH3 Slip ppm 1-Hr	Process Code 1-Hr	NH3 Molar Ratio 3-Hr Rolling	NH3 Molar Ratio 3-Hr Rolling Limit	NH3 ppm @15% O2 1-Hr	NH3 ppm @15% O2 3-Hr Rolling
03/01/2021 00	11.6	2.0	76.66	1.5	1.00	1889.7	160.2	9	1.2	2.261	3.80	Normal	1.2	1.4	2.91	3.3
03/01/2021 01	11.7	2.0	80.35	1.5	1.00	1938.1	165.5	9	1.2	3.046	5.57	Normal	1.2	1.4	4.27	3.3
03/01/2021 02	11.3	2.0	75.93	1.6	1.00	1889.3	162.6	9	1.2	2.254	3.90	Normal	1.2	1.4	3.03	3.4
03/01/2021 03	11.6	1.9	80.52	1.5	1.00	1954.4	167.7	9	1.2	3.311	5.83	Normal	1.2	1.4	4.47	3.9
03/01/2021 04	13.4	2.1	90.76	1.5	1.00	2052.3	170.8	10	1.1	4.900	7.25	Normal	1.2	1.4	5.35	4.3
03/01/2021 05	13.7	2.0	93.95	1.5	1.00	2053.0	171.4	10	1.1	4.911	7.51	Normal	1.1	1.4	5.54	5.1
03/01/2021 06	13.8	2.0	94.55	1.5	1.00	2050.0	171.3	10	1.1	4.863	7.44	Normal	1.1	1.4	5.49	5.5
03/01/2021 07	11.4	1.9	76.93	1.5	0.93	1864.4	160.0	9	1.2	1.850	3.66	Normal	1.1	1.4	2.80	4.6
03/01/2021 08	8.9	1.8	50.45	1.6	0.00	1208.2	90.7	6	1.4	0.237	0.75	Normal	1.2	1.6	0.65	3.0
03/01/2021 09	8.9	1.7	48.39	1.5	0.00	1201.2	89.6	5	1.4	0.237	0.64	Normal	1.3	1.6	0.56	1.3
03/01/2021 10	13.8	6.5	44.32	6.7	0.00	865.4	54.3	5	1.5	0.237	0.77	#####	1.4	1.6	0.80	0.7
03/01/2021 11	Down	Down	Down	Down	0.00	Down	Down	Down	Down	Down	Down	Down	NSD	1.6	Down	NSD
03/01/2021 12	19.7	14.6	14.89	33.1	0.00	324.8	4.2	1	0.8	0.237	0.00	Hot S/U	NSD	1.6	0.00	NSD
03/01/2021 13	29.2	27.4	38.72	30.5	0.00	844.5	45.0	4	4.7	0.237	1.65	Hot S/U	NSD	1.6	1.84	NSD
03/01/2021 14	9.3	1.4	56.45	1.2	0.00	1178.5	87.2	5	1.5	0.237	0.87	Normal	2.3	1.6	0.77	0.9
03/01/2021 15	9.5	1.8	53.97	1.5	0.00	1513.1	131.4	7	1.2	0.426	0.51	Normal	2.5	1.6	0.44	1.0
03/01/2021 16	9.6	1.7	60.66	1.4	0.00	1623.5	147.0	7	1.2	0.443	0.69	Normal	1.3	1.6	0.58	0.6
03/01/2021 17	11.1	2.0	67.97	1.6	0.58	1790.9	154.7	8	1.1	0.657	0.78	Normal	1.2	1.5	0.61	0.5
03/01/2021 18	13.9	2.1	86.13	1.5	1.00	1988.6	161.1	9	1.1	3.866	3.40	Normal	1.1	1.5	2.48	1.2
03/01/2021 19	14.0	2.1	87.46	1.5	1.00	1991.7	161.2	9	1.1	3.916	3.72	Normal	1.1	1.4	2.71	1.9
03/01/2021 20	14.1	2.1	89.29	1.5	1.00	1991.9	161.5	9	1.1	3.919	3.72	Normal	1.1	1.4	2.74	2.6
03/01/2021 21	14.1	2.1	88.94	1.5	1.00	1995.1	161.7	9	1.1	3.971	4.13	Normal	1.1	1.4	3.01	2.8
03/01/2021 22	14.0	2.1	89.81	1.5	1.00	2023.9	165.2	9	1.1	4.439	5.50	Normal	1.1	1.4	3.96	3.2
03/01/2021 23	12.6	2.0	80.00	1.5	1.00	1900.8	159.2	9	1.1	2.441	3.08	Normal	1.1	1.4	2.33	3.1

Gateway Generating Facility
 Antioch, CA
ABE4_P-12 Ammonia Slip Check
 March 17, 2021

Hour	SCR NOx ppm 1-Hr	60-NOx ppm 1-Hr	NH3 Flow lb/hr 1-Hr	NOx ppm @15% O2 1-Hr	DB Gas On-Tim e 1-Hr	Combin ed Heat Input Rate mmBtu/hr 1-Hr	CT Megawatts 1-Hr	Megawatts - Gross Load Range	NH3 Molar Ratio 1-Hr	NH3 Slip Correction Factor 1 Hr	NH3 Slip ppm 1-Hr	Process Code 1-Hr	NH3 Molar Ratio 3-Hr Rolling	NH3 Molar Ratio 3-Hr Rolling Limit	NH3 ppm @15% O2 1-Hr	NH3 ppm @15% O2 3-Hr Rolling
03/17/2021 00	13.8	2.0	89.63	1.5	1.00	1984.4	161.9	9	1.1	3.798	4.75	Normal	1.1	1.4	3.50	4.3
03/17/2021 01	12.5	2.0	81.13	1.5	0.90	1888.7	158.2	9	1.2	2.244	3.61	Normal	1.1	1.4	2.73	3.5
03/17/2021 02	10.9	1.9	77.61	1.5	0.52	1850.2	164.0	9	1.2	1.619	3.59	Normal	1.2	1.4	2.86	3.0
03/17/2021 03	13.7	2.0	92.90	1.5	1.00	2038.2	168.6	10	1.1	4.671	6.87	Normal	1.2	1.4	5.07	3.6
03/17/2021 04	13.6	2.0	92.14	1.5	1.00	2036.3	168.6	10	1.1	4.640	6.87	Normal	1.1	1.4	5.07	4.3
03/17/2021 05	13.6	1.9	97.86	1.4	1.00	2035.6	168.6	10	1.2	4.629	10.14	Normal	1.1	1.4	7.48	5.9
03/17/2021 06	12.3	1.9	84.54	1.5	1.00	1924.5	166.7	9	1.2	2.825	4.69	Normal	1.2	1.4	3.64	5.4
03/17/2021 07	9.4	1.8	69.84	1.5	0.03	1768.3	165.6	9	1.3	0.386	0.92	Normal	1.2	1.4	0.78	4.0
03/17/2021 08	9.2	1.8	61.51	1.5	0.00	1653.3	151.8	8	1.3	0.431	0.87	Normal	1.3	1.5	0.73	1.7
03/17/2021 09	9.0	1.8	48.91	1.5	0.00	1408.7	119.3	7	1.2	0.353	0.56	Normal	1.3	1.6	0.47	0.7
03/17/2021 10	9.2	1.8	49.13	1.5	0.00	1384.2	115.8	7	1.2	0.336	0.53	Normal	1.2	1.6	0.45	0.6
03/17/2021 11	8.9	1.8	48.90	1.5	0.00	1448.0	124.7	7	1.2	0.381	0.55	Normal	1.2	1.6	0.46	0.5
03/17/2021 12	9.0	1.8	48.74	1.5	0.00	1327.8	107.8	6	1.3	0.296	0.58	Normal	1.2	1.6	0.50	0.5
03/17/2021 13	9.2	1.8	59.81	1.5	0.00	1659.0	152.3	8	1.2	0.429	0.79	Normal	1.2	1.6	0.66	0.5
03/17/2021 14	9.2	1.8	64.14	1.5	0.00	1722.5	159.7	8	1.3	0.404	0.82	Normal	1.3	1.6	0.69	0.6
03/17/2021 15	9.0	1.8	51.32	1.5	0.00	1493.3	131.1	7	1.2	0.412	0.66	Normal	1.2	1.5	0.55	0.6
03/17/2021 16	9.6	1.9	59.11	1.6	0.38	1540.3	130.0	7	1.3	0.445	0.95	Normal	1.3	1.5	0.79	0.7
03/17/2021 17	13.5	2.0	86.58	1.5	1.00	1997.0	163.1	9	1.1	4.002	4.76	Normal	1.2	1.5	3.47	1.6
03/17/2021 18	14.0	2.1	89.58	1.5	1.00	2004.8	162.6	9	1.1	4.129	4.87	Normal	1.2	1.4	3.55	2.6
03/17/2021 19	13.8	2.1	89.05	1.5	1.00	2004.6	162.7	9	1.1	4.126	5.36	Normal	1.1	1.4	3.90	3.6
03/17/2021 20	13.8	2.1	89.25	1.5	1.00	2006.7	163.0	9	1.1	4.160	5.45	Normal	1.1	1.4	3.97	3.8
03/17/2021 21	13.6	2.0	89.81	1.5	1.00	2010.8	165.5	10	1.1	4.226	6.21	Normal	1.1	1.4	4.52	4.1
03/17/2021 22	9.3	1.8	69.89	1.5	0.07	1768.4	164.4	9	1.4	0.386	1.02	Normal	1.2	1.4	0.85	3.1
03/17/2021 23	9.3	1.8	69.52	1.5	0.00	1781.6	166.7	9	1.3	0.506	1.27	Normal	1.3	1.5	1.06	2.1

**TABLE 1-3
 SUMMARY OF AVERAGE AMMONIA RESULTS -
 UNIT P12 (S-43/44)
 JANUARY 11-12, 2021**

Parameter	Averages				Permit Limit
	Min Load	Mid Load	Base Load	Max Load	
Process Data:					
Total Heat Input, MMBtu/hr	1,243.8	1,568.1	1,774.1	2,070.6	--
Gas Turbine Gross Output, MW	95.2	140.5	165.3	169.8	--
Stack Gas Data:					
O ₂ , % volume dry	14.0	13.8	13.8	12.7	--
Ammonia:					
ppm volume dry	0.61	0.73	0.85	1.12	--
ppm @ 15% O ₂	0.52	0.61	0.71	0.81	5
New NH₃ Slip Correction Factor:	0.237	0.465	0.384	5.197	--

TABLE 4-23
NH₃ CORRECTION FACTOR RESULTS -
UNIT P12 (S-43/44), MAXIMUM LOAD

Parameter:	1-NH3-2- Max	2-NH3-2- Max	3-NH3-2- Max	Average
Process Data ¹:				
NH ₃ solution injection rate, lb/hr	87.82	86.93	86.37	87.04
lb NH ₃ per lb of solution	0.293	0.293	0.293	0.293
Fuel flow rate, MMBtu/hr	2,073.6	2,070.3	2,067.8	2,070.6
NH ₃ injected, equivalent as ppm vol. dry	12.63	12.49	12.44	12.52
Gaseous Emissions (Inlet) ¹:				
NO _x , ppm vol. dry	14.39	14.35	14.35	14.36
Gaseous Emissions (Outlet) ¹:				
O ₂ , % volume dry	12.7	12.8	12.8	12.8
NO _x , ppm vol. dry	2.07	2.06	2.06	2.06
Measured NH ₃ slip, ppmvd @ 15% O ₂	0.697	0.872	0.868	0.812
Plant NH ₃ slip calculated, ppmvd @ 15% O ₂ ²	0.22	0.14	0.11	0.16
New NH₃ Slip Correction Factor:	--	--	--	5.197

¹ Process data and gaseous emissions data are derived from plant instrumentation. The following equations were used to calculate the NH₃ Slip Correction Factor.

² "Plant NH₃ slip calculated" is the raw calculation of ammonia slip with no correction factor, used in calculation of the new NH₃ Slip Correction Factor shown below.

Ammonia Slip Correction Factor Equation:

$$NH_3SlipCorrectionFactor(b) = \frac{(NH_3SlipMeasured @ 15\% O_2)}{(NH_3SlipCalculated @ 15\% O_2)}$$

Where:

$$NH_3SlipCalculated @ 15\% O_2 = (NH_3injected - (NO_xIn - NO_xOut)) * \left[\frac{(20.9 - 15.0)}{(20.9 - O_2)} \right]$$

Where:

$$NH_3injected = \left[\frac{(NH_3InjectionRate * a)}{(Q * 8710 * 4.4096E - 8)} \right] * \left[\frac{(20.9 - O_2)}{20.9} \right]$$

Where:

a = Ammonia solution concentration (lb NH₃ per lb solution)

b = Ammonia slip correction factor

Q = Fuel flow rate (MMBtu/hr)

Ammonia Correlation (Based on Annual ST Results)

Unit P12							
Year	Source Test Date	Parameter	Min Load	Mid Load	Base Load	Max Load	Permit Limit ppm
2016	1/15/2016	Total Heat Input, MMBTU/hr	1,216	1,504	1,795	2,051	5
		NH3 Slip Correction Factor	0.425	0.934	1.144	2.344	
2017	1/20/2017	Total Heat Input, MMBTU/hr	1,259	1,500	1,859	2,030	5
		NH3 Slip Correction Factor	0.416	0.391	0.413	0.832	
2018	1/18/2018	Total Heat Input, MMBTU/hr	1,262	1,538	1,822	2,037	5
		NH3 Slip Correction Factor	0.393	0.399	0.455	1.148	
2019	1/25/2019	Total Heat Input, MMBTU/hr	1,205	1,518	1,798	2,046	5
		NH3 Slip Correction Factor	0.535	0.456	0.282	2.27	
2020	1/9/2020	Total Heat Input, MMBTU/hr	1,206	1,524	1,803	2,073	5
		NH3 Slip Correction Factor	0.131	0.383	0.189	0.43	