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Pacific Gas and  
Electric Company®

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BAY AREA AIR QUALITY  
MANAGEMENT DISTRICT

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

October 15, 2019

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

874 (2)

**Subject:** Facility #B8143: Semiannual Monitoring Report (April 1, 2019 – September 30, 2019)

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]).<sup>1</sup> 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 October 30<sup>th</sup> for the period of April 1<sup>st</sup> through September 30<sup>th</sup>.

Attachment 1 of this letter serves as the SAMR for the period of April 1, 2019 through September 30, 2019 (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.

<sup>1</sup> 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 cursive script, appearing to read "S. Royall".

Steve Royall  
Director, Fossil Generation

Attachment: a/s

cc. John Heiser  
Compliance Project Manager  
California Energy Commission

Semiannual Monitoring Report

October 31, 2019

Site #: B8143  
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 Period: April 1, 2019 to September 30, 2019

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 <sub>x</sub>	BAAQMD 9-3-303	N	125 ppm	BAAQMD 1-520.1	C	CEM	Y	C	
NO <sub>x</sub>	BAAQMD 9-9-301.1.3	Y	9 ppmv @ 15% O <sub>2</sub> , dry	BAAQMD 9-9-501	C	CEM	Y	C	
NO <sub>x</sub>	BAAQMD 9-9-301.2	N	0.15 lb/MW-hr or 5 ppmv	BAAQMD 9-9-501	C	CEM	Y	C	
NO <sub>x</sub>	SIP 9-9-301.3	Y	9 ppmv @ 15% O <sub>2</sub> , dry	BAAQMD 9-9-501	C	CEM	Y	C	
NO <sub>x</sub>	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 <sub>x</sub>	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 <sub>x</sub>	NSPS, 40 CFR 60.332 (a)(1)	Y	75 ppmv, @ 15% O <sub>2</sub> , dry 4-hr average	40 CFR 60.334(c)	C	CEM	Y	C	
NO <sub>x</sub>		Y	None	40 CFR 75.10	C	CEM	Y	C	
NO <sub>x</sub>	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	

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NO <sub>x</sub>	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 22-26, 2019)	
NO <sub>x</sub>	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 <sub>x</sub>	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 22-26, 2019)	
NO <sub>x</sub>	BAAQMD condition #18138, part 20b	Y	2.5 ppmv, @ 15% O <sub>2</sub> , 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	

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NO <sub>x</sub>	BAAQMD condition #18138, part 20b	Y	2.5 ppmv, @ 15% O <sub>2</sub> , 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 22-26, 2019)	
NO <sub>x</sub>	BAAQMD condition #18138, CD-1	Y	2.0 ppmv, @ 15% O <sub>2</sub> , 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 <sub>x</sub>	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 <sub>x</sub>	BAAQMD condition #18138, part 21	Y	20 lb/turbine during shutdown	BAAQMD condition #18138, part 26	P/D	Records, calculations	Y	C (Condition #18138, part 21 includes an emission limit of 59 lbs NO <sub>x</sub> /SD/turbine. Section VII of the Permit states: In the case of a conflict with any requirement in Sections I-VI, the preceding sections take precedence over Section VII. As such, GGS, LLC compared emissions during shutdown events to the 59 lbs NO <sub>x</sub> /SD/turbine limit.)	
NO <sub>x</sub>	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 <sub>x</sub>	BAAQMD condition #18138, part 23	Y	1,994 lb/day for turbines and HRSGs combined	BAAQMD condition #18138, part 26	C	CEM	Y	C	

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NO <sub>x</sub>	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 <sub>x</sub>	BAAQMD condition #18138, CD-3	Y	139.2 ton/yr for turbines and HRSGs combined	BAAQMD condition #18138, part 26	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 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 22-26, 2019)	
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	

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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	
CO	BAAQMD condition #18138, part 20d	Y	6 ppmv, @ 15% O <sub>2</sub> , 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 <sub>2</sub> , 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	



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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	
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 <sub>2</sub>		Y	None	40 CFR 75.10	C	fuel flow monitor and CO <sub>2</sub> calculation	Y	C	
SO <sub>2</sub>	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	

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SO <sub>2</sub>	BAAQMD 9-1-302	Y	300 ppm (dry)		N		N/A	N/A	
SO <sub>2</sub>	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	
SO <sub>2</sub>	NSPS 40 CFR 60.333	Y	0.015% (vol) @15% O <sub>2</sub> (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 <sub>2</sub>		Y	None	40 CFR 75.11, 40 CFR 75, Appendix D, part 2.3	P/M	Fuel measurements, calculations	Y	C	
SO <sub>2</sub>	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	

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SO <sub>2</sub>	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 <sub>2</sub>	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 22-26, 2019)	
SO <sub>2</sub>	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 22-26, 2019)	
SO <sub>2</sub>	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 <sub>2</sub>	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 <sub>2</sub>	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	

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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	
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 <sub>2</sub>		N		N/A	N/A	
FP	SIP 6-310.3	Y	0.15 grain/dscf @ 6% O <sub>2</sub>		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 <sub>10</sub>	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 22-26, 2019)	
PM <sub>10</sub>	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 22-26, 2019)	
PM <sub>10</sub>	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 <sub>10</sub>	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 22-26, 2019)	
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 22-26, 2019)	
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	
NH3	BAAQMD condition #18138, Part 20c	N	5 ppmv, @ 15% O2, 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	
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	

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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
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 22-26, 2019)	
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	Continuous	
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 22-26, 2019)	



# Semiannual Monitoring Report

October 31, 2019

Site #: B8143  
 Site Name: Gateway Generating Station, LLC  
 Address: 3225 Wilbur Avenue, Antioch CA 94509  
 Period: April 1, 2019 to September 30, 2019

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
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	
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 22-26, 2019)	
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 22-26, 2019)	
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**

October 31, 2019

Site #: B8143  
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**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

October 31, 2019

Site #: B8143  
 Site Name: Gateway Generating Station, LLC  
 Address: 3225 Wilbur Avenue, Antioch CA 94509  
 Period: April 1, 2019 to September 30, 2019

**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 <sub>2</sub>	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 <sub>2</sub>	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	

