

# Goose Haven Energy Center, LLC

3853 Goose Haven Road  
Suisun City, CA 94585

## VIA EMAIL and FEDEX

Tuesday, May 28, 2024

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

TV Tracking #: 917

1.  RECEIVED IN  
ENFORCEMENT: 05/30/2024

**Re:** Goose Haven Energy Center, LLC  
Semi-Annual Title V Monitoring and Excess Emissions Report  
Facility #B4416  
Reporting Period: November 1, 2023 through April 30, 2024.

To Whom It May Concern:

Enclosed is the Title V CEMS Semi-Annual Monitoring Report for the Goose Haven Energy Center, LLC (GHEC) for the reporting period of November 1, 2023 through April 30, 2024.

GHEC is currently in compliance with the District CEMS regulations. GHEC maintained compliance with the monitoring requirements listed in the Title V permit for GHEC during this reporting period.

By signing this report I am certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the attached report are true, accurate, and complete.

If you have any questions or require additional information, please contact me at (707) 399-4393 or Ehab Aqleem, EHS Specialist, at (707) 399-4395.

Sincerely,

DocuSigned by:

*Andrew Gundershaug*

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Andrew Gundershaug  
Plant Manager and Responsible Official

cc:	Sadegh Sadeghipour	Permit Engineer	BAAQMD
	David Williams	EHS Manager	Calpine Corporation
	Chris Cullison	EHS Manager	Calpine Corporation
	Jaron Bergin	EHS Director	Calpine Corporation
	Jamie Wright	O&M Manager	Calpine Corporation
	Jessica Grossman	Sr. Counsel	Calpine Corporation

**Table VII – A**  
**Applicable Limits and Compliance Monitoring Requirements**  
**S-1 – COMBUSTION GAS TURBINE**  
**November 1, 2023, through April 30, 2024**

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
NOx	BAAQMD 9-9-301.3	N		9 ppmv @ 15% O2, dry	BAAQMD 9-9-501 and BAAQMD condition #20057, part 23c	C	CEM	X	
NOx	BAAQMD 9-9-301.3	N		9 ppmv @ 15% O2, dry	BAAQMD condition #20057, part 24a	P/ Every 8,000 hrs or every 3 yrs, whichever comes first	Source test	X	
NOx	BAAQMD 9-9-301.2	N		.43 lbs/MW or 9 ppmv @ 15% O2, dry	BAAQMD 9-9-501 and BAAQMD Condition #20057 part 23c	C	CEM	X	
NOx	SIP Regulation 9-9-301.3	Y		9ppmv @ 15% O2, dry	BAAQMD 9-9-501 and BAAQMD condition #20057, part 23c	C	CEM	X	
	SIP Regulation 9-9-301.3	Y		9ppmv @ 15% O2, dry	BAAQMD condition #20057, part 24a	P/ Every 8,000 hrs or every 3 yrs, whichever comes first	Source test	X	
NOx	NSPS, 40 CFR 60.332(a)(1)	Y		75ppmv @ 15% O2, dry	NSPS 40CFR 60.334(c)	C	CEM	X	
NOx	None	Y		None	40 CFR 75.10	C	CEM	X	
NOx	BAAQMD condition #20057, part 18.1	Y		2.5 ppm @15% O2, dry 3-hr rolling average except during turbine startup or shutdown	BAAQMD condition #20057, part 18.1	C	CEM	X	

Facility Name: Goose Haven Energy Center  
Permit for Facility #: B4416

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
NOX	BAAQMD condition #20057, part 18.1	Y		2.5 ppm @15% O <sub>2</sub> , dry 3-hr average except during turbine startup or shutdown	BAAQMD condition #20057, part 24a	P/ Every 8,000 hrs or every 3 yrs, whichever comes first	Source test	X	
NO <sub>x</sub>	BAAQMD condition #2057, part 21	Y		121 lb/ calendar day (as NO <sub>2</sub> )	BAAQMD condition #20057, part 23c	C	CEM	X	
NO <sub>x</sub>	BAAQMD condition #20057, part 21	Y		16.4 tons per calendar year (as NO <sub>2</sub> )	BAAQMD condition #20057, part 23c	C	CEM	X	
CO	BAAQMD condition #20057, part 18.3	Y		6 ppmv, @ 15% O <sub>2</sub> , dry, 3-hr average except during turbine startup or shutdown	BAAQMD condition #20057, parts 18.3 and 23c	C	CEM	X	
CO	BAAQMD condition #20057, part 18.3	Y		6 ppmv, @ 15% O <sub>2</sub> , dry, 3-hr average except during turbine startup or shutdown	BAAQMD condition #20057, part 24c	P/ Every 8,000 hrs or every 3 yrs, whichever comes first	Source test	X	
CO	BAAQMD condition #20057, part 21	Y		163 lb/ calendar day	BAAQMD condition #20057, part 23c	C	CEM	X	
CO	BAAQMD condition #20057, part 21	Y		29.1 tons per calendar year	BAAQMD condition #20057, part 23c	C	CEM	X	
CO <sub>2</sub>		Y		None	40 CFR 75.10	C	CEM (CO <sub>2</sub> ) or CEM (O <sub>2</sub> ) or fuel flow monitor	X	

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
SO2	BAAQMD 9-1-301	Y		GLC <sup>1</sup> of 0.5 ppm for 3 min or 0.25 ppm for 60 min or 0.05 ppm for 24 hours		N		X	
SO2	BAAQMD 9-1-302	Y		300 ppm (dry)	BAAQMD condition #20057, part 23e	P/Q	Total Sulfur analysis	X	
SO2	NSPS 40 CFR 60.333(a)	Y		0.015% (vol) @ 15% O <sub>2</sub> (dry)	NSPS 40 CFR 60.334(h)(3)		Fuel Measurements, calculations	X	
SO2	None	Y		None	40 CFR 75.11(d)(2), 40 CFR 75, Appendix D, part 2.3		Fuel measurements, calculations	X	
SO2	BAAQMD condition #20057, part 18.6	Y		1.39 lb/hr excluding startup and shutdown of turbines	BAAQMD condition #20057, part 23e	P/Q	Total sulfur analysis	X	
SO2	BAAQMD condition #20057, part 18.6	Y		1.39 lb/hr excluding startup and shutdown of the turbines	BAAQMD condition #20057, part 24f	P/ Every 8,000 hrs or every 3 yrs, whichever comes first	Source test	X	
SO2	BAAQMD condition #20057, part 21	Y		33 lb/ calendar day	BAAQMD condition #20057, part 23e	P/Q	Total sulfur analysis	X	
SO2	BAAQMD condition #20057, part 21	Y		6.0 tons/ calendar year	BAAQMD condition #20057, part 23e	P/Q	Total sulfur analysis	X	
Opacity	BAAQMD 6-1-301	N		>Ringelmann No.1 for no more than 3 minutes in any hour		N		X	
Opacity	SIP 6-301	Y		>Ringelmann No.1 for no more than 3 minutes in any hour		N		X	

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
Opacity	BAAQMD condition #20057, part 17	Y		> Ringelmann No.1 for no more than 3 minutes in any hour or equivalent 20% opacity		N		X	
Filterable Particulate	BAAQMD 6-1-310	N		0.15 grains/dscf		N		X	
Filterable Particulate	SIP 6-310	Y		0.15 grains/dscf		N		X	
PM10	BAAQMD condition #20057, part 18.5	Y		3 lb/hr for S-1	BAAQMD condition #20057, part 24e	P/ Every 8,000 hrs or every 3 yrs, whichever comes first	Source test	X	
PM10	BAAQMD condition #20057, part 21	Y		72 lb/ calendar day	BAAQMD condition #20057, parts 24e	P/ Every 8,000 hrs or every 3 yrs, whichever comes first	Source test	X	
PM10	BAAQMD condition #20057, part 21	Y		13.1 tons/ calendar year	BAAQMD condition #20057, part 24e	P/ Every 8,000 hrs or every 3 yrs, whichever comes first	Source test	X	
POC	BAAQMD condition #20057, part 18.4	Y		2 ppmv @ 15% O2, dry, except during turbine startup or shutdown	BAAQMD condition #20057, part 24d	P/ Every 8,000 hrs or every 3 yrs, whichever comes first	Source test	X	
POC	BAAQMD condition #20057, part 21	Y		30.0 lb/calendar day	BAAQMD condition #20057, part 24d	P/ Every 8,000 hrs or every 3 yrs, whichever comes first	Source test	X	
POC	BAAQMD condition #20057, part 21	Y		4.9 ton/ calendar year	BAAQMD condition #20057, part 24d	P/ Every 8,000 hrs or every 3 yrs, whichever comes first	Source test	X	

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
NH3	BAAQMD condition #20057, part 18.2	N		10ppmv @15% O2, dry, except during turbine startup or shutdown	BAAQMD condition #20057, parts 18.2 and 23b	C	Ammonia flowmeter and a District-approved corrected ammonia slip calculation.	X	
NH3	BAAQMD condition #20057, part 18.2	N		10ppmv @15% O2, dry, except during turbine startup or shutdown	BAAQMD condition #20057, part 24b	P/ Every 8,000 hrs or every 3 yrs, whichever comes first	Source test	X	
Heat input limit	BAAQMD condition #20057, part 22	Y		500 MMBTU/hr (HHV),	BAAQMD condition #20057, part 23d	C	Fuel meter,	X	
Heat input limit	BAAQMD condition #20057, part 22	Y		500 MMBTU/hr (HHV),	BAAQMD condition #20057, part 23d	P/Q	Fuel composition analysis	X	
Heat input limit	BAAQMD condition #20057, part 22	Y		500 MMBTU/hr (HHV)	BAAQMD condition #20057, part 24g	P/ Every 8,000 hrs or every 3 yrs, whichever comes first	Source test	X	
Heat input limit	BAAQMD condition #20057, part 22	Y		12,000 MMBTU/day (HHV)	BAAQMD condition #20057, part 23d	C	Fuel meter, calculations	X	
Heat input limit	BAAQMD condition #20057, part 22	Y		12,000 MMBTU/day (HHV)	BAAQMD condition #20057, part 31g	P/Q	Fuel composition analysis	X	
Heat input limit	BAAQMD condition #20057, part 22	Y		4,380,000 MMBTU/yr	BAAQMD condition #20057, part 23d	C	Fuel meter, calculations	X	
Heat input limit	BAAQMD condition #20057, part 22	Y		4,380,000 MMBTU/yr	BAAQMD condition #20057, part 31g	P/Q	Fuel composition analysis	X	

Facility Name: Goose Haven Energy Center  
 Permit for Facility #: B4416

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
MW	N/A			None	BAAQMD condition #20057, part 24h	P/ Every 8,000 hrs or every 3 yrs, whichever comes first	Source test	X	
Exhaust Gas temperature	N/A			None	BAAQMD condition #20057, part 24j	P/ Every 8,000 hrs or every 3 yrs, whichever comes first	Source test	X	
Stack gas flow	N/A			None	BAAQMD condition #20057, part 24i	P/ Every 8,000 hrs or every 3 yrs, whichever comes first	Source test	X	
NH3 injection rate	N/A			None	BAAQMD condition #20057, part 24k, 18.2	P/ Every 8,000 hrs or every 3 yrs, whichever comes first	Source test and a District approved corrected ammonia slip calculation	X	
Start-up Period	BAAQMD Condition #20057 part 19			60 minutes per start-up	BAAQMD condition #2057, part 31(b)	P/E	Records	X	
Shutdown Period	BAAQMD Condition #20057 part 20			30 minutes per shutdown	BAAQMD condition #2057, part 31(b)	P/E	Records	X	
Fuel Sulfur Content	40 CFR 60.333(b)			0.8 percent by weight (8000ppmw) sulfur	40CFR 60.334(h)(1)	P	Fuel Sulfur Content Testing	X	

**Table VII - B**  
**Applicable Limits and Compliance Monitoring Requirements**  
**S-2 – DIESEL FIREWATER PUMP**

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
SO2	BAAQMD 9-1-301 BAAQMD	N		GLC <sup>1</sup> of 0.5 ppm for 3 min or 0.25 ppm for 60 min or 0.05 ppm for 24 hours		P/E	Fuel certification by vendor	X	
	BAAQMD 9-1-304	Y		Sulfur content of fuel <0.5% by weight		P/E	Fuel certification by vendor	X	
Opacity	SIP Regulation 6-302	Y		<Ringelmann No. 2 for more than 3 min/hr		N		X	
Opacity	BAAQMD Regulation 6-1-302	N		<Ringelmann No. 2 for more than 3 min/hr		N		X	
FP	SIP Regulation 6-310	Y		0.15 grain/dscf		N		X	
FP	BAAQMD Regulation 6-1-310	N		0.15 grain/dscf		N		X	
Hours of operation	BAAQMD 9-8-330.1 BAAQMD Condition #22850 Part 1	Y		Emergency use for an unlimited number of hours	BAAQMD 9-8-530 BAAQMD Condition #22850 Part 3	C P/E	Hour meter, recordkeeping	X	
Hours of operation	BAAQMD 9-8-330.2 BAAQMD Condition #22850 Part 1	Y		Reliability-related activities not to exceed 50 hours in any consecutive 12-month period	BAAQMD Regulation 9-8-530 BAAQMD Condition #22850 Part 3	C P/E	Hour meter, recordkeeping	X	



**Table VII - C**  
**Applicable Limits and Compliance Monitoring Requirements**  
**S-3 – COOLING TOWER**

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
Opacity	BAAQMD Regulation 6-1-301	N		>=Ringelmann 1 for no more than 3 min/hr		N		X	
Opacity	SIP Regulation 6-301	Y		>=Ringelmann 1 for no more than 3 min/hr		N		X	
Particulate Weight	BAAQMD Regulation 6-1-310	N		0.15 grains per dscf		N		X	
Particulate Weight	SIP Regulation 6-310	Y		0.15 grains per dscf		N		X	
Particulate Weight	BAAQMD Regulation 6-1-311	Y		40 lb/hr	N	N		X	
Particulate Weight	SIP Regulation 6-311	Y		40 lb/hr	N	N		X	

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