

Goose Haven Energy Center, LLC

3853 Goose Haven Road
Suisun City, CA 94585

VIA ELECTRONIC MAIL

Thursday, November 20, 2025

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

TV Tracking #1241 (Semi-Annual)

1. RECEIVED IN
ENFORCEMENT: 11/27/2025

Re: Goose Haven Energy Center, LLC
Semi-Annual Title V Monitoring and Excess Emissions Report
Facility #B4416
Reporting Period: May 1, 2025 through October 31, 2025.

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 May 1, 2025 through October 31, 2025.

GHEC is currently in compliance with the District CEMS regulations. As previously reported to the District, Goose Haven experienced a potential Title V Permit Non-Compliance Event during the reporting period. Attached is the 30-Day Report for the Non-Compliance Event

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,



Signed by:

Andrew Gundershaug

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Andrew Gundershaug
Plant Manager and Responsible Official

cc:	Sadegh Sadeghipour	Permit Engineer	BAAD
	Jamie Wright	O&M Manager	Calpine Corporation
	EHS Walnut Creek	EHS Department	Calpine Corporation

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S-1 – COMBUSTION GAS TURBINE
May 1, 2025, through October 30, 2025

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

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Initial


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 ₂ , 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	
NOx	BAAQMD condition #2057, part 21	Y		121 lb/ calendar day (as NO ₂)	BAAQMD condition #20057, part 23c	C	CEM	X	
NOx	BAAQMD condition #20057, part 21	Y		16.4 tons per calendar year (as NO ₂)	BAAQMD condition #20057, part 23c	C	CEM	X	
CO	BAAQMD condition #20057, part 18.3	Y		6 ppmv, @ 15% O ₂ , 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 ₂ , 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 ₂		Y		None	40 CFR 75.10	C	CEM (CO ₂) or CEM (O ₂) 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 ¹ 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 ₂ (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	

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	40CRFR 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 ¹ 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	

Appendix A

All instances of Non-Compliance for the reporting period

Goose Haven Energy Center, LLC for Goose Haven Energy

3853 Goose Haven Road,
Suisun City, CA 94585

VIA EMAIL

June 13, 2025

Director, Enforcement and Compliance Division
Bay Area Air Quality Management District, Suite 600
375 Beale Street
San Francisco, CA 94105-2066
Attn: Lily Law, Title V Reports

**RE: Goose Haven Energy Center, LLC for Goose Haven Energy, Permit No. 14416
Major Facility Review Permit (Title V Permit) 30-Day Title V Non-Compliance Report and
RCA 201711 Data Request**

Dear Ms. Law,

In accordance with the Major Facility Review Permit (“Title V Permit”) for Goose Haven Energy Center, LLC for Goose Haven Energy (the “Facility”), this letter is intended to satisfy the 30-day follow-up reporting requirement as required by Section I.F. of the Title V Permit, which requires the reporting of all non-compliance instances of the Title V Permit in writing within 30 days of discovery of such non-compliance.

The Reportable Compliance Activity (RCA) for this event was filed with the District on May 15, 2025, and the Title V 10-day notification was submitted on May 21, 2025, in accordance with permit requirements.

This letter also transmits data and information requested by you via email on June 6, 2025.

Event Description

On May 14, 2025, Source S-1 recorded a 3-hour rolling average NO_x emission of 2.8 ppm at 15% O₂ for the 18:00 hour CEMS time (19:00 PDT) hour, exceeding the permitted limit of 2.5 ppm.

Compliance Status

The Facility returned to compliance at 19:00 on May 14, 2025 and is in compliance with all permit conditions.

Corrective Actions

The unit was shut down at 19:06 CEMS time in accordance with a shutdown order.

Investigation and Cause Determination

During normal operation, the Control Room Operator initiated a non-routine swap of the NO_x water injection pumps in preparation for a planned inspection scheduled for the following day. The active pump shut down and the backup pump failed to achieve full pressure within the required time. As a result, the pumps repeatedly toggled, creating unstable injection pressure and causing a 1-minute spike in stack NO_x to 107.89 ppm at 15% O₂ .

The investigation determined that the incident was primarily caused by a flaw in the control logic. When the pump switch was initiated, the code immediately shut down the running pump and triggered an alarm

because the newly selected pump did not instantly reach a pressure above the low-low threshold. As a result, the system rapidly toggled between pumps multiple times before stabilizing and achieving the required water injection pressure. Once stable, the system returned to normal operation.

Preventative Actions

To prevent recurrence, the following actions are being implemented:

- **Modify Low Pressure Logic:** Control logic is being revised to delay pump trip/swap response by 10 seconds, providing sufficient time for pressure stabilization during pump swaps.
- **Add Confirmation Prompt for Pump Swap:** GE Mark VI interface has been modified to require operator confirmation prior to executing a NO_x pump swap, to prevent inadvertent transitions.
- **Operator Training on System Modifications:** Operators will be trained on the control logic changes at a future all hands meeting, including the delayed trip response and the newly implemented confirmation prompt, to ensure consistent and informed operation.
- **Review Incident at All-Hands Meeting:** The May 2025 NO_x exceedance incident was reviewed during the facility's All-Hands meeting on May 29, 2025, to ensure broad awareness and reinforce lessons learned.

Data Request

In response to the district's data request regarding this event, the following information is included with this letter:

- Raw and corrected NO_x emissions data in minute-by-minute, hour-by-hour, and three-hour average formats
- O₂ percent in minute-by-minute, hour-by-hour, and three-hour average formats
- Flow rate of emissions into the CEM monitor in relevant increments
- CEM calibration data for the week encompassing the indicated excess
- RATA, CGA, and Linearities for the CEM monitors
- Estimated excess NO_x mass emissions in pounds

Director, Enforcement and Compliance Division

June 13, 2025


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Certification

As the Responsible Official, I certify that based on information and belief formed after reasonable inquiry, the statements and information in the document 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 646-714-4763.

Sincerely,

Signed by:

5E549D8EAC8C4C3...

Andrew Gundershaug
General Plant Manager

CC: Sadegh Sadeghipour, Permit Engineer, BAAQMD via email attachment
Jamie Wright, O&M Manager, Calpine Corporation via email attachment
EHSWalnutCreek@calpine.com, Calpine Corporation via email attachment
CICS INV103960

Enclosures:

- 1a. Minute_Data_051424_1429_2229,
- 1b. Hourly_Data_051424,
- 1c. 3hr_Rolling_Data_051424_1400_2300,
2. Calibration Data_051125_051725,
3. XS EM Log_0525,
4. CGA_Lin__Q22025,
5. SourceRATA Test_062024 Goose Haven REVISED Report FINAL,
6. NO_x Mass EM_051425