

ORIGINAL

SOUTH COAST AQMD
CLERK OF THE BOARDS

PETITION FOR VARIANCE
BEFORE THE HEARING BOARD OF THE
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

IV 10/2/24
SV 10/23/24

2024 SEP 17 AM 8:47

PETITIONER: Sentinel Energy Center LLC CASE NO: 6141-3

FACILITY ID: 152707

FACILITY ADDRESS: 15775 Melissa Lane Rd
[location of equipment/site of violation; specify business/corporate address, if different, under Item 2, below]

City, State, Zip: North Palm Springs, CA 92258

1. TYPE OF VARIANCE REQUESTED (more than one box may be checked; see Attachment A, Item 1, before selecting)

INTERIM SHORT REGULAR EMERGENCY EX PARTE EMERGENCY

2. CONTACT: Name, title, company (if different than Petitioner), address, and phone number of persons authorized to receive notices regarding this Petition (no more than two authorized persons).

Wayne Forsyth

David Wells

Compliance Manager, DGC Ops, LLC

EHS Coordinator, Sentinel Energy Center LLC

15775 Melissa Lane Rd

15775 Melissa Lane Rd

North Palm Springs, CA Zip 92258

North Palm Springs, CA Zip 92258

(213) 503-1145 Ext.

(760) 288-7904 Ext.

Fax ()

Fax ()

E-mail w.forsyth@dgc-ops.com

E-mail d.wells@dgc-ops.com

3. RECLAIM Permit Yes No

Title V Permit Yes No

4. **GOOD CAUSE:** Explain why your petition was not filed in sufficient time to issue the required public notice. (Required only for Emergency and Interim Variances; see Attachment A, Item 4)

Sentinel Energy Center, LLC (facility ID 152707) operates eight GE LMS100 simple cycle gas turbines (Devices D1, D7, D13, D19, D25, D31, D37, D43) subject to CEMS requirements under Rule 218 for CO and Rule 2012 for NOx. Sentinel is scheduled to be in outage to complete required construction; during the outage the eight turbines and eight CEMS will be powered down and locked out from all power sources for an extended period. During their respective shutdown periods, the CEMS monitoring equipment and communications capability will be unavailable. Units 1-4 (Devices D1, D7, D13, D19) will be non-operational and entirely powered down, including the CEMS monitoring equipment that will be unavailable from October 1-11, 2024. It is expected that Units 1-4 will be re-energized and CEMS monitoring equipment and communication will be restored on or before October 12, 2024. Units 5-8 (Devices D25, D31, D37, D43) will be non-operational and entirely powered down, including the CEMS monitoring equipment that will be unavailable from October 9-16, 2024. It is expected that Units 5-8 will be powered back on and CEMS monitoring equipment and communication will be restored on or before October 17, 2024.

The units are being shut down for installation of black start equipment, including a battery storage system.

Rule 2012 (amended November 3, 2023) contains provisions that allow a CEMS to not be subject to the monitoring requirements for NOx, and for NOx emissions to be considered valid zeros, when the source does not operate for a minimum of 168 consecutive hours, contingent on meeting additional requirements to document non-operation. Sentinel intends to comply with the provisions of Rule 2012(c)(2)(D-E) so no variance is being requested for NOx.

While there is a comparable provision for CO CEMS requirements (Rule 218.2(e)(3) (amended September 2, 2022)), because Sentinel is currently a RECLAIM facility, it appears that there is not currently an equivalent counterpart under Rule 218, which governs CO CEMS requirements for Sentinel. As a result, it appears that a variance will be required because Sentinel will not be able to comply with these requirements when there is no power to the CEMS. Sentinel has consulted with district legal counsel to discuss if provisions contained in Rule 218.2(e)(3) could apply in this case but has so far not gotten a definitive answer that there is a way to make use of this provision. Accordingly, Sentinel is filing this application for variance.

Because of the outage and required construction, the facility cannot provide power to the CEMS equipment for Units 1-8 (Devices D1, D7, D13, D19, D25, D31, D37, D43) during the period of October 1-16, 2024 to comply with the CO CEMS monitoring requirements as required by Rule 218. Sentinel investigated the potential use of generators to maintain power to the CEMS; however, upon further investigation and as the scope of work changed, Sentinel deemed it was not feasible to maintain power to the CEMS because of the life-threatening danger to the construction staff since the electrical equipment would be powered on during modifications with exposed wiring causing an extremely hazardous environment.

Because Units 1-8 will be in outage during this period, there will be no emissions and there is no risk to the environment if the CO CEMS is not in operation.

5. Briefly describe the type of business and processes at your facility.

Sentinel is a nominally rated 850-megawatt natural gas-fired, simple-cycle facility consisting of eight natural gas-fired General Electric LMS100 combustion turbine generators, selective catalytic reduction, and carbon monoxide oxidation system, and a zero liquid discharge system. Sentinel is designed to meet electric generation loads during periods of high demand.

6. List the equipment and/or activity(s) that are the subject of this petition (see Attachment A, Item 6, Example #1). **Attach copies of the Permit(s) to Construct and/or Permit(s) to Operate for the subject equipment. For RECLAIM or Title V facilities, attach *only* the relevant sections of the Facility Permit showing the equipment or process and conditions that are subject to this petition. You must bring the entire Facility Permit to the hearing.**

Equipment/Activity	Application/ Permit No.	RECLAIM Device No.	Date Application/Plan
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			Denied (if relevant)*
GE LMS100PA simple cycle gas turbine (Unit 1)	Application No: 634495	D1	N/A
GE LMS100PA simple cycle gas turbine (Unit 2)	Application No: 634496	D7	N/A
GE LMS100PA simple cycle gas turbine (Unit 3)	Application No: 634497	D13	N/A
GE LMS100PA simple cycle gas turbine (Unit 4)	Application No: 634498	D19	N/A
GE LMS100PA simple cycle gas turbine (Unit 5)	Application No: 634499	D25	N/A
GE LMS100PA simple cycle gas turbine (Unit 6)	Application No: 634500	D31	N/A
GE LMS100PA simple cycle gas turbine (Unit 7)	Application No: 634501	D37	N/A
GE LMS100PA simple cycle gas turbine (Unit 8)	Application No: 634502	D43	N/A

*Attach copy of denial letter

7. Briefly describe the activity or equipment, and why it is necessary to the operation of your business. A schematic or diagram may be attached, in addition to the descriptive text.

Sentinel operates eight gas turbines that are dispatched according to electricity demand from the surrounding area via the California Independent System Operator (Cal ISO). The units are operated to supply electrical power as required by existing contracts.

8. Is there a regular maintenance and/or inspection schedule for this equipment? Yes No

If yes, how often: Annual Date of last maintenance and/or inspection: Aug 26-29, 2024

Describe the maintenance and/or inspection that was performed.

Regular maintenance and inspections are performed on the entire power generating system for all eight (8) units at least annually during regularly scheduled outages that are coordinated with CAISO. Annual inspections are comprehensive and evaluate the mechanical integrity of the equipment, wearing of parts, and other ancillary equipment necessary to operate the units in compliance.

9. List all District rules, and/or permit conditions [indicating the specific section(s) and subsection(s)] from which you are seeking variance relief (if requesting variance from Rule 401 or permit condition, see Attachment A). Briefly explain how you are or will be in violation of each rule or condition (see Attachment A, Item 9, Example #2).

Rule	Explanation
SCAQMD Rule 3002(c)	Rule 3002 requires Title V permit holders to comply with all terms, requirements, and conditions specified in the Title V permit at all times.

SCAQMD Rule 218(b) and Permit Condition # D82.1 of Facility Permit 152707 (Rev. 7), applicable to Device D1, D7, D13, D19, D25, D31, D37, D43

Rule 218 and Condition D82.1 requires that CEMS be installed and maintained to measure CO concentration for Units 1-8. Due to construction at the Facility, the eight units will need to be powered down during specific extended periods. During their respective shutdown periods, CEMS monitoring equipment and communication will be unavailable as follows:

- Units 1-4 (Devices D1, D7, D13, D19) will be non-operational and entirely powered down, including the CEMS monitoring equipment that will be unavailable from October 1-11, 2024. It is expected that Units 1-4 will be powered back on and CEMS monitoring equipment and communication will be restored on October 12, 2024.
- Units 5-8 (Devices D25, D31, D37, D43) will be non-operational and entirely powered down, including the CEMS monitoring equipment that will be unavailable from October 9-16, 2024. It is expected that Units 5-8 will be powered back on and CEMS monitoring equipment and communication will be restored on October 17, 2024.

10. Are the equipment or activities subject to this request currently under variance coverage? Yes No

Case No.	Date of Action	Final Compliance Date	Explanation
<u>6141-2</u>	May 14, 2024	December 31, 2024	The CO Catalyst device (Device C15) associated with turbine Unit 3 (Device D13) at the Facility is currently under variance coverage. Unit 3 has been out of service since December 14, 2023. The source testing on the associated CO Catalyst, required by permit condition D29.5, cannot be performed until Unit 3 is repaired and back in operation. Unit 3 is planned to be tested in December 2024.

11. Are any other equipment or activities at this location currently (or within the last six months) under variance coverage? Yes No

Case No.	Date of Action	Final Compliance Date	Explanation

12. Were you issued any Notice(s) of Violation or Notice(s) to Comply concerning this equipment or activity within the past year? Yes No

If yes, you must attach a copy of each notice.

13. Have you received any complaints from the public regarding the operation of the subject equipment or activity within the last six months? Yes No

If yes, you should be prepared to present details at the hearing.

14. Explain why it is beyond your reasonable control to comply with the rule(s) and/or permit condition(s). Provide specific event(s) and date(s) of occurrence(s), if applicable.

The Facility is required to complete the necessary construction for the Black Start project, which will necessitate shutting off power for the entire facility, including Units 1-8 during the construction period. As a result, CEMS monitoring equipment and communication will be unavailable for Units 1-4 from October 1 to October 11, 2024, and for Units 5-8 from October 9 to October 16, 2024. Rule 218 and permit condition D82.1 requires that the CEMS monitor CO concentrations. Per Rule 218(f)(3) the Facility is requesting a variance from Rule 218 and permit condition D82.1 due to the unavailability of CEMS CO monitoring equipment and communication during the construction period.

15. When and how did you first become aware that you would not be in compliance with the rule(s) and/or permit condition(s)? Provide specific event(s) and date(s) of occurrence(s).

Sentinel had an initial conference call with consultants on August 27, 2024, to discuss the construction timing and the possibility of maintaining power to the CEMS using generators. Sentinel deemed it was not feasible to maintain power to the CEMS because of the life-threatening danger to the construction staff since the electrical equipment would be powered on during modifications with exposed wiring causing an extremely hazardous environment.

In reviewing the SCAQMD rules, Sentinel determined that the facility would be able to comply with the provisions of Rule 2012(c)(2)(D-E) which contains provisions that allows the CEMS to not be subject to the monitoring requirements for NOx, and for NOx emissions to be considered valid zeros, when the source does not operate for a minimum of 168 consecutive hours; however, no such provisions exist in Rule 218 (amended March 5, 2021). Beginning on September 4, 2024 and through September 13, Sentinel consulted with John Jones, district legal counsel, to discuss if provisions contained in Rule 218.2(e)(3) could apply in this case; however, our understanding is that the CEMS at Sentinel is not subject to Rule 218.2 at this time nor is currently certified to comply with the provisions of Rule 218.2. As of this date, district legal counsel was still considering whether there was a way to avoid the necessity of this variance.

16. List date(s) and action(s) you have taken since that time to achieve compliance.

Sentinel made additional effort to identify a work around and discussions with District counsel regarding the ability to apply 218.2. Sentinel can also provide supporting data to demonstrate zero fuel flow as well as the lock-out/tag-out (LOTO) which locks the fuel supply valve.

17. What would be the harm to your business during **and/or after** the period of the variance if the variance were not granted?

Economic losses: \$ _____

Number of employees laid off (if any): _____

Provide detailed information regarding economic losses, if any, (anticipated business closure, breach of contracts, hardship on customers, layoffs, and/or similar impacts).

- This project is for the installation of batteries to enable the power plant to restart the grid in the event of a grid outage; if the variance is not granted, Sentinel would be put to a choice of potentially being in violation of its air permit or failing to meet construction deadlines and outage schedules to complete the battery installation in order to provide so-called "black start" services to the grid.
- Potential impacts to California's grid and the public could result if CAISO cannot dispatch Units 1-8, which could result in the dispatch of less efficient generation to satisfy electricity demand.

18. Can you curtail or terminate operations in lieu of, or in addition to, obtaining a variance? Please explain.

Units 1-8 and the associated CEMS equipment will be unavailable for operation during the specific construction periods. Thus, a variance is required for relief from Rule 218 and permit condition D82.1.

19. Estimate excess emissions, if any, on a daily basis, including, if applicable, excess opacity (the percentage of total opacity above 20% during the variance period). If the variance will result in no excess emissions, insert "N/A" here and skip to No. 20.

Pollutant	(A)	(B)	(C)*
	Total Estimated Excess Emissions (lbs/day)	Reduction Due to Mitigation (lbs/day)	Net Emissions After Mitigation (lbs/day)
N/A	N/A	N/A	N/A

* Column A minus Column B = Column C

Excess Opacity: _____ %

20. Show calculations used to estimate quantities in No. 19 or explain why there will be no excess emissions.

There will be no excess emissions during the variance period, as Units 1-4 will be offline from October 1-11, 2024, and Units 5-8 will be offline from October 9-16, 2024. Units 1-4 and Units 5-8, along with the CEMS monitoring equipment, are expected to resume full compliance on October 12 and October 17, respectively.

21. Explain how you plan to reduce (mitigate) excess emissions during the variance period to the maximum extent feasible, or why reductions are not feasible.

There will be no excess emissions during the variance period since Units 1-8 will not be operational during the variance period, and so no additional mitigation measures will be required.

22. How do you plan to monitor or quantify emission levels from the equipment or activity(s) during the variance period, and to make such records available to the District? **Any proposed monitoring does not relieve RECLAIM facilities from applicable missing data requirements.**

The Facility can provide fuel records and documentation of fuel line LOTO to the District to confirm zero gas usage during the variance period, demonstrating that Units 1-4 will not be operational from October 1-11, 2024, and Units 5-8 will not be operational from October 9-16, 2024.

23. How do you intend to achieve compliance with the rule(s) and/or permit condition(s)? Include a detailed description of any equipment to be installed, modifications or process changes to be made, permit conditions to be amended, etc., dates by which the actions will be completed, and an estimate of total costs.

Bring Units 1-8 and associated CEMS equipment back into operation and clear the units for service.

24. State the date you are requesting the variance to begin: October 1, 2024; and the date by which you expect to achieve final compliance: October 19, 2024.

If the regular variance is to extend beyond one year, you **must** include a **Schedule of Increments of Progress**, specifying dates or time increments for steps needed to achieve compliance. See District Rule 102 for definition of Increments of Progress (see Attachment A, Item 24, Example #3).

List Increments of Progress here: N/A

25. List the names of any District personnel with whom facility representatives have had contact concerning this variance petition or any related Notice of Violation or Notice to Comply.

John Jones Ext. 2403

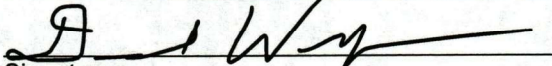
_____ Ext. _____
_____ Ext. _____

If the petition was completed by someone other than the petitioner, please provide their name and title below.

David Wells Sentinel Energy Center EHS Coordinator
Name Company Title

The undersigned, under penalty of perjury, states that the above petition, including attachments and the items therein set forth, is true and correct.

Executed on 09/13/2024, at North Palm Springs, California


Signature

David Wells
Print Name

Title: EHS Coordinator



**FACILITY PERMIT TO OPERATE
SENTINEL ENERGY CENTER LLC**

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: INTERNAL COMBUSTION					
System 1: GAS TURBINES, POWER GENERATION					
GAS TURBINE, CTG-1, NATURAL GAS, GENERAL ELECTRIC, MODEL LMS100PA. SIMPLE CYCLE, 891.7 MMBTU/HR AT 72 DEGREES F. WITH WATER INJECTION WITH A/N: 634495	D1	C3	NOX: MAJOR SOURCE**	CO: 4 PPMV NATURAL GAS (4) [RULE 1703(a)(2) - PSD-BACT, 10-7-1988]; CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 2.5 PPMV NATURAL GAS (4) [RULE 1703(a)(2) - PSD-BACT, 10-7-1988; RULE 2005, 12-4-2015]; NOX: 12.26 LBS/MMSCF (1) [RULE 2012, 5-6-2005]; NOX: 15 PPMV NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; PM10: 0.01 GRAINS/SCF NATURAL GAS (5A) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; PM10: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]; PM10: 11 LBS/HR NATURAL GAS (5B) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; SO2: (9) [40CFR 72 - Acid Rain Provisions, 11-24-1997]; SOX: 0.06 LBS/MMBTU NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; VOC: 2 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]	A63.1, A63.2, A99.3, A99.9, A99.10, A195.1, A195.2, A195.3, A327.1, A433.1, A433.2, A433.3, A433.4, B61.1, C1.1, C1.6, D12.1, D29.2, D29.3, D82.1, D82.2, E71.1, E193.1, H23.1, I298.1, K40.1, K48.1, K67.1
GENERATOR, 103 MW					

* (1) (1A) (1B) Denotes RECLAIM emission factor (2) (2A) (2B) Denotes RECLAIM emission rate
 (3) Denotes RECLAIM concentration limit (4) Denotes BACT emission limit
 (5) (5A) (5B) Denotes command and control emission limit (6) Denotes air toxic control rule limit
 (7) Denotes NSR applicability limit (8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
 (9) See App B for Emission Limits (10) See section J for NESHAP/MACT requirements
 ** Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.



**FACILITY PERMIT TO OPERATE
SENTINEL ENERGY CENTER LLC**

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: INTERNAL COMBUSTION					
GAS TURBINE, CTG-2, NATURAL GAS. GENERAL ELECTRIC, MODEL LMS100PA, SIMPLE CYCLE. 891.7 MMBTU/HR AT 72 DEGREES F, WITH WATER INJECTION WITH A/N: 634496	D7	C9	NOX: MAJOR SOURCE**	CO: 4 PPMV NATURAL GAS (4) [RULE 1703(a)(2) - PSD-BACT, 10-7-1988]; CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 2.5 PPMV NATURAL GAS (4) [RULE 1703(a)(2) - PSD-BACT, 10-7-1988; RULE 2005, 12-4-2015]; NOX: 12.26 LBS/MMSCF (1) [RULE 2012, 5-6-2005]; NOX: 15 PPMV NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; PM10: 0.01 GRAINS/SCF NATURAL GAS (5A) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; PM10: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]; PM10: 11 LBS/HR NATURAL GAS (5B) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; SO2: (9) [40CFR 72 - Acid Rain Provisions, 11-24-1997]; SOX: 0.06 LBS/MMBTU NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; VOC: 2 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]	A63.1, A63.2, A99.3, A99.9, A99.10, A195.1, A195.2, A195.3, A327.1, A433.1, A433.2, A433.3, A433.4, B61.1, C1.1, C1.6, D12.1, D29.2, D29.3, D82.1, D82.2, E71.1, E193.1, H23.1, I298.3, K40.1, K48.1, K67.1
GENERATOR, 103 MW					

* (1) (1A) (1B) Denotes RECLAIM emission factor (2) (2A) (2B) Denotes RECLAIM emission rate
 (3) Denotes RECLAIM concentration limit (4) Denotes BACT emission limit
 (5) (5A) (5B) Denotes command and control emission limit (6) Denotes air toxic control rule limit
 (7) Denotes NSR applicability limit (8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
 (9) See App B for Emission Limits (10) See section J for NESHAP/MACT requirements

** Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.



FACILITY PERMIT TO OPERATE SENTINEL ENERGY CENTER LLC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: INTERNAL COMBUSTION					
GAS TURBINE, GTG 3, NATURAL GAS, GENERAL ELECTRIC, MODEL LMS100PA, SIMPLE CYCLE. 891.7 MMBTU/HR AT 72 DEGREES F, WITH WATER INJECTION WITH A/N: 634497	D13	C15	NOX: MAJOR SOURCE**	CO: 4 PPMV NATURAL GAS (4) [RULE 1703(a)(2) - PSD-BACT, 10-7-1988]; CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 2.5 PPMV NATURAL GAS (4) [RULE 1703(a)(2) - PSD-BACT, 10-7-1988; RULE 2005, 12-4-2015]; NOX: 15 PPMV NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; PM10: 0.01 GRAINS/SCF NATURAL GAS (5A) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; PM10: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]; PM10: 11 LBS/HR NATURAL GAS (5B) [RULE 475, 8-7-1978]; SO2: (8) [40CFR 72 - Acid Rain Provisions, 11-24-1997]; SOX: 0.06 LBS/MMSCF NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; VOC: 2 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]	A63.1, A63.2, A99.3, A99.9, A99.10, A195.1, A195.2, A195.3, A327.1, A433.1, A433.2, A433.3, A433.4, B61.1, C1.1, C1.6, D12.1, D29.2, D29.3, D82.1, D82.2, E71.1, E193.1, H23.1, I298.4, K40.1, K48.1, K67.1
GENERATOR. 103 MW					
CO OXIDATION CATALYST, NO. 3, SYNERGY, WITH 141 CUBIC FEET OF TOTAL CATALYST VOLUME, OR APPROVED EQUIVALENT CATALYST A/N: 643296	C15	D13 C16			D29.5, E519.2

- * (1) (1A) (1B) Denotes RECLAIM emission factor (2) (2A) (2B) Denotes RECLAIM emission rate
- (3) Denotes RECLAIM concentration limit (4) Denotes BACT emission limit
- (5) (5A) (5B) Denotes command and control emission limit (6) Denotes air toxic control rule limit
- (7) Denotes NSR applicability limit (8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
- (9) See App B for Emission Limits (10) See section J for NESHAP/MACT requirements

** Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.



**FACILITY PERMIT TO OPERATE
SENTINEL ENERGY CENTER LLC**

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: INTERNAL COMBUSTION					
GAS TURBINE, GTG 4, NATURAL GAS, GENERAL ELECTRIC, MODEL LMS100PA, SIMPLE CYCLE, 891.7 MMBTU/HR AT 72 DEGREES F, WITH WATER INJECTION WITH A/N: 634498	D19	C21	NOX: MAJOR SOURCE**	CO: 4 PPMV NATURAL GAS (4) [RULE 1703(a)(2) - PSD-BACT, 10-7-1988]; CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 2.5 PPMV (4) [RULE 1703(a)(2) - PSD-BACT, 10-7-1988; RULE 2005, 12-4-2015]; NOX: 12.26 LBS/MMSCF NATURAL GAS (1) [RULE 2012, 5-6-2005]; NOX: 15 PPMV (8) [40CFR 60 Subpart KKKK, 3-20-2009]; PM10: 0.01 GRAINS/SCF NATURAL GAS (5A) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; PM10: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]; PM10: 11 LBS/HR NATURAL GAS (5B) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; SO2: (9) [40CFR 72 - Acid Rain Provisions, 11-24-1997]; SOX: 0.06 LBS/MMBTU NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; VOC: 2 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]	A63.1, A63.2, A99.3, A99.9, A99.10, A195.1, A195.3, A327.1, A433.1, A433.2, A433.3, A433.4, B61.1, C1.1, C1.6, D12.1, D29.2, D29.3, D82.1, D82.2, E71.1, E193.1, H23.1, I298.5, K40.1, K48.1, K67.1
GENERATOR, 103 MW					

* (1) (1A) (1B) Denotes RECLAIM emission factor (2) (2A) (2B) Denotes RECLAIM emission rate
 (3) Denotes RECLAIM concentration limit (4) Denotes BACT emission limit
 (5) (5A) (5B) Denotes command and control emission limit (6) Denotes air toxic control rule limit
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**FACILITY PERMIT TO OPERATE
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SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: INTERNAL COMBUSTION					
GAS TURBINE, GTG 5, NATURAL GAS, GENERAL ELECTRIC, MODEL LMS100PA, SIMPLE CYCLE, 891.7 MMBTU/HR AT 72 DEGREES F, WITH WATER INJECTION WITH A/N: 634499	D25	C27	NOX: MAJOR SOURCE**	CO: 4 PPMV NATURAL GAS (4) [RULE 1703(a)(2) - PSD-BACT, 10-7-1988]; CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 2.5 PPMV NATURAL GAS (4) [RULE 1703(a)(2) - PSD-BACT, 10-7-1988; RULE 2005, 12-4-2015]; NOX: 12.26 LBS/MMSCF NATURAL GAS (1) [RULE 2012, 5-6-2005]; NOX: 15 PPMV NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; PM10: 0.01 GRAINS/SCF NATURAL GAS (5C) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; PM10: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]; PM10: 11 LBS/HR NATURAL GAS (5B) [RULE 474, 12-4-1981; RULE 475, 10-8-1976]; SO2: (8) [40CFR 72 - Acid Rain Provisions, 11-24-1997]; SOX: 0.06 LBS/MMBTU NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; VOC: 2 PPMM NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]	A63.1, A63.2, A99.3, A99.9, A99.10, A195.1, A195.2, A195.3, A327.1, A433.1, A433.2, A433.3, A433.4, B61.1, C1.1, C1.6, D12.1, D29.2, D29.3, D82.1, D82.2, E71.1, E193.1, H23.1, I298.6, K40.1, K48.1, K67.1
GENERATOR, 103 MW					

* (1) (1A) (1B) Denotes RECLAIM emission factor (2) (2A) (2B) Denotes RECLAIM emission rate
 (3) Denotes RECLAIM concentration limit (4) Denotes BACT emission limit
 (5) (5A) (5B) Denotes command and control emission limit (6) Denotes air toxic control rule limit
 (7) Denotes NSR applicability limit (8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
 (9) See App B for Emission Limits (10) See section J for NESHAP/MACT requirements

** Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.



FACILITY PERMIT TO OPERATE SENTINEL ENERGY CENTER LLC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: INTERNAL COMBUSTION					
GAS TURBINE, GTG 6, NATURAL GAS, GENERAL ELECTRIC, MODEL LMS100PA, SIMPLE CYCLE, 891.7 MMBTU/HR AT 72 DEGREES F, WITH WATER INJECTION WITH A/N: 634500	D31	C33	NOX: MAJOR SOURCE**	CO: 4 PPMV NATURAL GAS (4) [RULE 1703(a)(2) - PSD-BACT, 10-7-1988]; CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 2.5 PPMV NATURAL GAS (4) [RULE 1703(a)(2) - PSD-BACT, 10-7-1988; RULE 2005, 12-4-2015]; NOX: 12.26 LBS/MMSCF NATURAL GAS (1) [RULE 2012, 5-6-2005]; NOX: 15 PPMV NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; PM10: 0.01 GRAINS/SCF NATURAL GAS (5A) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; PM10: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]; PM10: 11 LBS/HR NATURAL GAS (5B) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; SO2: (9) [40CFR 72 - Acid Rain Provisions, 11-24-1997]; SOX: 0.06 LBS/MMBTU NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; VOC: 2 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]	A63.1, A63.2, A99.3, A99.9, A99.10, A195.1, A195.2, A195.3, A327.1, A433.1, A433.2, A433.3, A433.4, B61.1, C1.1, C1.6, D12.1, D29.2, D29.3, D82.1, D82.2, E71.1, E193.1, H23.1, I298.7, K40.1, K48.1, K67.1
GENERATOR, 103 MW					

* (1) (1A) (1B) Denotes RECLAIM emission factor (2) (2A) (2B) Denotes RECLAIM emission rate
 (3) Denotes RECLAIM concentration limit (4) Denotes BACT emission limit
 (5) (5A) (5B) Denotes command and control emission limit (6) Denotes air toxic control rule limit
 (7) Denotes NSR applicability limit (8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
 (9) See App B for Emission Limits (10) See section J for NESHAP/MACT requirements

** Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.



**FACILITY PERMIT TO OPERATE
SENTINEL ENERGY CENTER LLC**

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: INTERNAL COMBUSTION					
GAS TURBINE, GTG 7, NATURAL GAS, GENERAL ELECTRIC, MODEL LMS100PA, SIMPLE CYCLE, 891.7 MMBTU/HR AT 72 DEGREES F, WITH WATER INJECTION WITH A/N: 634501	D37	C39	NOX: MAJOR SOURCE**	CO: 4 PPMV NATURAL GAS (4) [RULE 1703(a)(2) - PSD-BACT, 10-7-1988]; CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 2.5 PPMV NATURAL GAS (4) [RULE 1703(a)(2) - PSD-BACT, 10-7-1988; RULE 2005, 12-4-2015]; NOX: 12.26 LBS/MMSCF NATURAL GAS (1) [RULE 2012, 5-6-2005]; NOX: 15 PPMV NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; PM10: 0.01 GRAINS/SCF NATURAL GAS (5A) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; PM10: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]; PM10: 11 LBS/HR NATURAL GAS (5B) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; SO2: (9) [40CFR 72 - Acid Rain Provisions, 11-24-1997]; SOX: 0.06 LBS/MMBTU NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; VOC: 2 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]	A63.1, A63.2, A99.3, A99.9, A99.10, A195.1, A195.2, A195.3, A327.1, A433.1, A433.2, A433.3, A433.4, B61.1, C1.1, C1.6, D12.1, D29.2, D29.3, D82.1, D82.2, E71.1, E193.1, H23.1, I298.8, K40.1, K48.1, K67.1
GENERATOR, 103 MW					

* (1) (1A) (1B) Denotes RECLAIM emission factor (2) (2A) (2B) Denotes RECLAIM emission rate
 (3) Denotes RECLAIM concentration limit (4) Denotes BACT emission limit
 (5) (5A) (5B) Denotes command and control emission limit (6) Denotes air toxic control rule limit
 (7) Denotes NSR applicability limit (8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
 (9) See App B for Emission Limits (10) See section J for NESHAP/MACT requirements

** Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.



FACILITY PERMIT TO OPERATE SENTINEL ENERGY CENTER LLC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: INTERNAL COMBUSTION					
GAS TURBINE, GTG8, NATURAL GAS, GENERAL ELECTRIC, MODEL LMS100PA, SIMPLE CYCLE, 891.7 MMBTU/HR AT 72 DEGREES F, WITH WATER INJECTION WITH A/N: 634502	D43	C45	NOX: MAJOR SOURCE**	CO: 4 PPMV NATURAL GAS (4) [RULE 1703(a)(2) - PSD-BACT, 10-7-1988]; CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 2.5 PPMV NATURAL GAS (4) [RULE 1703(a)(2) - PSD-BACT, 10-7-1988; RULE 2005, 12-4-2015]; NOX: 12.26 LBS/MMSCF NATURAL GAS (1) [RULE 2012, 5-6-2005]; NOX: 15 PPMV NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; PM10: 0.01 GRAINS/SCF NATURAL GAS (5A) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; PM10: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]; PM10: 11 LBS/HR NATURAL GAS (5B) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; SO2: (9) [40CFR 72 - Acid Rain Provisions, 11-24-1997]; SOX: 0.06 LBS/MMBTU NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; VOC: 2 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]	A63.1, A63.2, A99.3, A99.9, A99.10, A195.1, A195.2, A195.3, A327.1, A433.1, A433.2, A433.3, A433.4, B61.1, C1.1, C1.6, D12.1, D29.2, D29.3, D82.1, D82.2, E71.1, E193.1, H23.1, I298.9, K40.1, K48.1, K67.1
GENERATOR, 103 MW					

* (1) (1A) (1B) Denotes RECLAIM emission factor (2) (2A) (2B) Denotes RECLAIM emission rate
 (3) Denotes RECLAIM concentration limit (4) Denotes BACT emission limit
 (5) (5A) (5B) Denotes command and control emission limit (6) Denotes air toxic control rule limit
 (7) Denotes NSR applicability limit (8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
 (9) See App B for Emission Limits (10) See section J for NESHAP/MACT requirements

** Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.



FACILITY PERMIT TO OPERATE SENTINEL ENERGY CENTER LLC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

and

d) The temperature of the Summa canisters when extracting samples for analysis is not to be below 70 F.

The use of this alternative method for VOC compliance determination does not mean that it is more accurate than unmodified South Coast AQMD Method 25.3, nor does it mean that it may be used in lieu of South Coast AQMD Method 25.3 without prior approval, except for the determination of compliance with BACT level of 2.0 ppmv VOC calculated as carbon set by CARB for natural gas fired turbines.

For the purposes of this condition, alternative test method may be allowed for VOC upon concurrence of South Coast AQMD, EPA, and CARB.

The test shall be conducted and test report submitted to the South Coast AQMD in accordance with Section E of the Facility Permit.

The South Coast AQMD shall be notified of the date and time of the test at least 10 days prior to the test.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition : C3, C9, C15, C21, C27, C33, C39, C45]

D82.1 The operator shall install and maintain a CEMS to measure the following parameters:



FACILITY PERMIT TO OPERATE SENTINEL ENERGY CENTER LLC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

CO concentration in ppmv

Concentrations shall be corrected to 15 percent oxygen on a dry basis. The CEMS shall be operated in accordance with an approved SCAQMD Rule 218 CEMS plan.

The CEMS shall be operated to measure CO concentrations over a 15 minute averaging time period.

The CEMS shall be operated to measure CO concentrations over a 15 minute averaging time period.

The CEMS would convert the actual CO concentrations to mass emission rates (lbs/hr) using the equation below and record the hourly emission rates on a continuous basis.

The CEMS would convert the actual CO concentrations to mass emission rates (lbs/hr) using the equation below and record the hourly emission rates on a continuous basis.

CO Emission Rate, lbs/hr = $K C_{co} F_d [20.9\% - \%O_2 d]$ $[(Q_g * HHV)/1.0^6]$, where

$K = 7.267 * 10^{-8}$ (lb/scf)/ppm

C_{co} = Average of four consecutive 15 min. ave. CO concentration, ppm

F_d = 8710 dscf/MMBTU natural gas

$\%O_2 d$ = Hourly ave. % by vol. O₂ dry, corresponding to C_{co}

Q_g = Fuel gas usage during the hour, scf/hr

HHV = Gross high heating value of fuel gas, BTU/scf

[RULE 1703(a)(2) - PSD-BACT, 10-7-1988; RULE 218, 5-14-1999]



FACILITY PERMIT TO OPERATE SENTINEL ENERGY CENTER LLC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

[Devices subject to this condition : D1, D7, D13, D19, D25, D31, D37, D43]

D82.2 The operator shall install and maintain a CEMS to measure the following parameters:

NOx concentration in ppmv

Concentrations shall be corrected to 15 percent oxygen on a dry basis.

The CEMS shall comply with the requirements of Rule 2012.

[RULE 1703(a)(2) - PSD-BACT, 10-7-1988; RULE 2005, 12-4-2015; RULE 2012, 5-6-2005]

[Devices subject to this condition : D1, D7, D13, D19, D25, D31, D37, D43]

E. Equipment Operation/Construction Requirements

E71.1 The operator shall not operate this equipment for commercial electrical generation on a day in which the unit has been operated for black start commissioning or a black start periodic test.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1703(a)(2) - PSD-BACT, 10-7-1988]

[Devices subject to this condition : D1, D7, D13, D19, D25, D31, D37, D43]

E144.1 The operator shall vent this equipment, during filling, only to the vessel from which it is being filled.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]