



**Plant Name: PG&E San Medanos**  
**Synthetic Minor Operating Permit Condition**  
**Condition No. 25741**

**Plant No. A0541**

**--- SYNTHETIC MINOR OPERATING PERMIT ---**

PG&E  
4690 Evora Road  
Concord, CA 94520  
Plant #541  
Application #23856

Parts #1 – 43 of this condition establish the practically enforceable permit terms that ensure this plant is classified as a Synthetic Minor Facility under BAAQMD Regulation 2, Rule 6 - Major Facility Review and ensure it is not subject to the permitting requirements of Title V of the Federal Clean Air Act as amended in 1990 and 40 CFR Part 70. Any revision to a condition establishing this plant's status as a Synthetic Minor Facility or any new permit term that would limit emissions of a new or modified source for the purpose of maintaining the facility as a Synthetic Minor must undergo the procedures specified by Rule 2-6, Section 423.

After issuance of a synthetic minor permit, facilities must have emissions that are below the following thresholds, which are set forth in BAAQMD Regulation 2-6-423.2.1:

- 95 tons per year of any regulated air pollutant except CO<sub>2e</sub>, as defined in 40 CFR 98;
- 90,000 tons per year of CO<sub>2e</sub>, as defined in 40 CFR 98;
- 9 tons per year of any individual hazardous air pollutant, as defined in section 112(b) of the federal Clean Air Act; and
- 23 tons per year of any combination of hazardous air pollutants as defined in section 112(b) of the federal Clean Air Act.

The permit conditions below acknowledge that the current potential to emit for all pollutants except CO is below these thresholds. No additional explicit limits have been placed on pollutants other than CO and POC. Additional limits have been placed on POC to ensure that the facility complies with BAAQMD Regulation 2-2-302. Nonetheless, by accepting the synthetic minor permit, the facility accepts the obligation to limit the emissions in every consecutive 12-month period to no more than the thresholds above.

This operating permit covers all sources and abatement devices at the facility. The current sources are listed below:

- S1, Natural Gas Compressor Engine, Spark Ignition Reciprocating engine, 4000 hp, 118843 cu in, Natural gas
- S11, Condensate Tank #16, Fixed Roof, 8,000 gal
- S12, Condensate Tank #21, Fixed Roof, 8,000 gal
- S17, Natural Gas Engine, Caterpillar model G398, emergency standby, 435 hp, 1649 cu in
- S18, Dehydration Station #1, Natural gas, 2.5 MMbtu/hr max
- S19, Dehydration Station #2, Natural gas, 2.5 MMbtu /hr max
- S22, Convault Aboveground Tank, 1,000 gal, White, Condensate
- S23, Convault Aboveground Tank, 500 gal, White, Condensate
- S34, Convault Aboveground Tank, 500 gal, White, Condensate
- S25, Convault Aboveground Tank, 500 gal, White, Condensate
- S26, Convault Aboveground Tank, 500 gal, White, Condensate
- S27, Condensate Storage Tank, Horizontal, 1,700 gal, White, Condensate

The current abatement devices are listed below:



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A18, Thermal Oxidizer #1, Direct Flame Afterburner, 10.9 MMBtu/hr max, Natural gas  
A19, Thermal Oxidizer #2, Direct Flame Afterburner, 10.9 MMBtu/hr max, Natural gas

1. The owner/ operator shall ensure that facility-wide emissions of carbon monoxide (CO) from all sources do not exceed 95 tons in any consecutive 12-month period. (Basis: Regulation 2-6-423)
2. Notwithstanding any other limits in PGE's permit for Plant 541, facility-wide POC emissions, including fugitive emissions, shall be less than 35 tons in any consecutive 12-month period (beginning 6/1/12). This limit is imposed because POC offsets were provided by the District in accordance with Regulation 2-2-302 for emission increases in Applications 10285, 17680, and 21581. (Basis: Regulation 2-2-302)
3. The owner/ operator shall ensure that facility-wide emissions of any single hazardous air pollutant (HAP) from all sources shall not exceed 18,000 pounds in any consecutive 12-month period. (Basis: Regulation 2-6-423)
4. Facility-wide emissions of total HAPs from all sources shall not exceed 46,000 pounds in any consecutive 12-month period. (Basis: Regulation 2-6-423)
5. The owner/ operator shall ensure that the following sources shall be fueled exclusively with natural gas: S1, S17, S18, and S19. (Basis: Cumulative Increase)
6. The owner/ operator shall ensure that the following abatement devices, A18 and A19, shall be fueled exclusively with natural gas, recognizing that the abatement devices will also burn the effluent from the S18 and S19 flash drums and reboilers. (Basis: Cumulative Increase)

Conditions for S1:

7. The owner/operator shall ensure that the hourly natural gas throughput at S1 does not exceed 31 Mscf/hr. (Basis: Regulation 2-6-423)
8. The owner/operator shall ensure that the emissions of carbon monoxide from S1, Natural Gas Compressor Engine, do not exceed 86.35 tons in any consecutive 12-month period. (Basis: Regulation 2-6-423)
9. The owner/operator shall ensure that the emissions of carbon monoxide from S1, Natural Gas Compressor Engine, do not exceed 600 lb/day. (Basis: BACT)
10. The owner/operator of the S-1 compressor engine shall not exceed the following limits in BAAQMD Regulation 9-8-301: 65 ppmv NOx and 2000 ppmv CO, corrected to 15% O2, dry. (Basis: Regulation 9-8-301)
11. The owner/operator shall ensure that the emissions of NMHC from S1, Natural Gas Compressor Engine, do not exceed 150 lb/day. (Basis: BACT)
12. Within one year of issuance of the synthetic minor permit, the owner/operator shall conduct a District-approved source test at S1 to determine mass emission rates of CO, NOx, NMHC, and formaldehyde in lb/hr and lb/Mscf. The test shall be conducted within 90% of maximum capacity. The owner/operator shall ensure that gas flow rates and temperature are recorded, as well as concentration. NMOC shall be recorded in place of NMHC. (Basis: 2-6-503)

Conditions for S17

13. The owner/operator shall ensure that the hourly natural gas throughput at S17 does not exceed 2.76 MMBtu/hr. (Basis: Regulation 2-6-423)



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14. The owner/operator shall ensure that the emissions of carbon monoxide from S17, Natural Gas Engine, do not exceed 2.57 tons in any consecutive 12-month period including use of the engine during emergencies. (Basis: Regulation 2-6-423)

Conditions for S18, S19, A18, and A19

15. NMHC emissions from the triethylene glycol dehydration process (consisting of TEG absorber, filter-separator flash tank, and glycol reboiler) at S-18 shall be abated by the properly operated and maintained A-8 Thermal Oxidizer. (Basis: Cumulative Increase, Regulation 2-5)
16. NMHC emissions from the triethylene glycol dehydration process (consisting of TEG absorber, filter-separator flash tank, and glycol reboiler) at S-19 shall be abated by the properly operated and maintained A-9 Thermal Oxidizer. (Basis: Cumulative Increase, Regulation 2-5)
17. The total usage of natural gas at each of the reboilers at S-18 and S-19 shall not exceed 11 million standard cubic feet during any consecutive twelve-month period. (Basis: Cumulative Increase, Regulation 2-5)
18. The owner/operator shall ensure that the hourly natural gas throughput at A18 and A19 does not exceed 10.9 MMbtu/hr each. (Basis: Regulation 2-6-423)
19. The owner/operator shall ensure that the emissions of carbon monoxide from the reboilers at S18 and S19, Dehydration Stations, do not exceed 0.93 tons in any consecutive 12-month period. (Basis: Regulation 2-6-423)
20. The owner/operator shall ensure that the emissions of carbon monoxide from A18 and A19, Thermal Oxidizers, do not exceed 4.90 tons in any consecutive 12-month period. (Basis: Regulation 2-6-423)
21. The owner/operator shall comply with the following emission limits at A-8 and A-9, Thermal Oxidizers:  
    NO<sub>x</sub> = 0.16 lb/MMbtu  
    CO = 0.10 lb/MMbtu  
    POC = 0.33 lb/MMbtu  
(Basis: Cumulative Increase, RACT) (Amended Application 23856)
22. Starting on the date of issuance of the synthetic minor permit pursuant to Application 23856, the owner/operator shall ensure that the daily emission rate of NMOC at A18 and A19, Thermal Oxidizers, does not exceed 10 lb/day each. (Basis: Cumulative Increase)
23. Within 90 days of issuance of the synthetic minor permit pursuant to Application 23856, the owner/operator shall conduct a District-approved source test at S18 and S19 to determine compliance with the emission limits in parts 19, 20, 21 and 22 of this condition. The owner/operator shall ensure that flow rates, temperature, and hourly mass emission rates of CO, NO<sub>x</sub>, CO<sub>2</sub>, and NMOC are recorded, as well as concentration. NMOC shall be recorded in place of POC. Hourly rates of CO, NO<sub>x</sub>, and NMOC shall be determined. For the purposes of determining compliance with the daily limit in part 22, an hourly NMOC rate of 0.4 lb/hr shall be considered to indicate compliance with the daily limit. (Basis: Cumulative Increase) (Added Application 23856)
24. In order to demonstrate compliance with part 18, the owner/operator shall install a District approved flow meter to measure natural gas consumption at each of S18 and S19. (Basis: Cumulative Increase, Regulation 2-5)



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25. Monthly records of natural gas consumption at S-18, S19, A18, and A19 shall be maintained in a District approved logbook. All records shall be retained on site for at least five years from the date of entry, and made available for inspection by District staff upon request. These record keeping requirements shall not replace the record keeping requirements contained in any applicable District Regulations. (Basis: Cumulative Increase, Regulation 2-5)

Tanks

26. The owner/operator of S22, S23, S24, S25, S26, and S27 shall ensure that each tank is equipped with a submerged fill pipe. (Basis: 8-5-301, 8-5-302)
27. The owner/operator of S11 and S12 shall ensure that the throughput of pipeline liquids does not exceed 80,000 gallons during any consecutive twelve-month period. (Basis: Cumulative Increase)
28. The owner/operator of S22 shall ensure that the throughput of pipeline liquids does not exceed 1,600 gallons during any consecutive twelve-month period. (Basis: Cumulative Increase)
29. The owner/operator of S23, S24, S25, and S26 shall ensure that the throughput of pipeline liquids does not exceed 80,000 gallons during any consecutive twelve-month period. (Basis: Cumulative Increase)
30. The owner/operator of S27 shall ensure that the throughput of pipeline liquids does not exceed 170,000 gallons during any consecutive twelve-month period. (Basis: Cumulative Increase)
31. Only natural gas condensate mixed in water shall be stored in S-11, S-12, S22, S23, S24, S25, S26, and S27. (Basis: Cumulative Increase)
32. S-11 and S-12 shall be maintained in an air-tight condition and shall be equipped with properly operated and maintained pressure-vacuum valves or equivalent devices at all times. (Basis: Cumulative Increase, 8-5-301, 8-5-303.2, 8-5-307.1, 8-5-307.2)
33. In order to demonstrate compliance with the above conditions, records of material removed from S11, S12, S22, S23, S24, S25, S26, and S27 shall be maintained in a District-approved log. These records shall be totaled on a monthly basis, kept on site, and made available to the District upon request for at least five years, from the date of entry. (Basis: Cumulative Increase)
34. The owner/operator may store alternate liquid(s) in the tanks S11, S12, and S22-S27 other than the materials specified in Parts 27 through 30 and/or usages in excess of those specified in Parts 27 through 30, provided that the owner/operator can demonstrate that all of the following are satisfied:
- No gasoline is stored in the tanks.
  - Total POC emissions from S22 do not exceed 121 pounds in any consecutive twelve month period.
  - Total POC emissions from Tanks S23, S24, S25, S26, and S27 do not exceed 974 pounds in any consecutive twelve month period.
  - No NPOC is emitted.
  - Emissions of benzene from S22-S27 do not exceed 49.4 lb in any consecutive twelve month period.
  - The use of these materials does not increase toxic emissions of materials other than benzene above any risk screening trigger level of Table 2-5-1 in Regulation 2-5. (Basis: Cumulative Increase; Toxics, 8-5-301)



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35. To determine compliance with the above parts, the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above parts, including the following information:
- Quantities of each type of liquid stored at this source on a monthly basis.
  - If a material other than those specified in Parts 27 through 30 is stored, POC/NPOC and toxic component contents of each material used; and mass emission calculations to demonstrate compliance with Part 34, on a monthly basis;
  - Monthly throughput and/or emission calculations shall be totaled for each consecutive twelve-month period.

All records shall be retained on-site for five years, from the date of entry, and made available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations.  
(Basis: Cumulative Increase; Toxics, 8-5-501)

Monitoring

36. Within 30 days of issuance of the synthetic minor permit pursuant to Application 23856, the owner/operator shall determine the flow rate, temperature, and oxygen content of the gases exiting A18 and A19, Thermal Oxidizers. Within one year of issuance of the synthetic minor permit pursuant to Application 23856, the owner/operator shall determine the flow rate, temperature, and oxygen content of the gases existing A18 and A19, Thermal Oxidizers when A18 and A19 are operating at maximum capacity. (Basis: Regulation 2-6-503)
37. The owner/operator shall maintain the temperature of A18 and A19 at 1500 degrees F. whenever S18 and S19 are operating. The owner/operator will start S18 and S19, Dehydration Stations, after the corresponding abatement device, A18 or A19, has reached 1500 degrees F. (Basis: Regulation 2-2-409)
38. The owner/operator shall keep the following records:
- The monthly natural gas usage at each of the following sources: S1, S18, S19, A18, and A19
  - The monthly hours of operation at S17
  - On a monthly basis, the CO concentration and the oxygen concentration at S1 using the procedure in BAAQMD Regulation 9-8-503. In any calendar month that the engine does not operate, CO and oxygen content monitoring are not required.
  - On a monthly basis, the CO concentration and the oxygen concentration at S17 using the procedure in BAAQMD Regulation 9-8-503. In any calendar month that the engine does not operate, CO and oxygen content monitoring are not required.
  - On a monthly basis, the CO concentration and the oxygen concentration at A18 and A19 using the procedure in BAAQMD Regulation 9-8-503. In any calendar month that S18 and S19 do not operate, CO and oxygen content monitoring are not required.
  - The owner/operator shall monitor and record the operating temperature of A18 and A19 with a District approved temperature monitor. The temperature monitoring and recording shall be subject to District approval as parametric monitoring. The owner/operator shall record the abatement device temperature during any emissions testing.  
(Basis: Regulation 2-6-503)
39. In order to demonstrate compliance with part 1, the owner/operator shall estimate the monthly emissions of CO in the following manner:
- The owner/operator shall calculate the mass emissions of CO in tons for each calendar month at S1 using the total cubic feet of gas burned at the engine during the month and



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the measured concentration of CO in the gas corrected to 0% O<sub>2</sub>. The owner/operator shall calculate the mass emissions of CO in pounds for any calendar day at S1 that a CO and oxygen measurement has been taken using the total cubic feet of gas burned at the engine during the calendar day and the measured concentration of CO in the gas to determine compliance with part 9 on that day.

- b. The owner/operator shall estimate the emissions of CO from S17 for each calendar month using the total cubic feet of gas burned at the engine during the month and the measured concentration of CO in the gas corrected to 0% O<sub>2</sub>.
- c. The owner/operator shall estimate the emissions of CO from the reboilers at S18 and S19 for each calendar month using the monthly natural gas flow rate and the AP-42 emission factor of 84 lb/MMscf of natural gas.
- d. The owner/operator shall estimate the emissions of CO from A18 and A19, Thermal Oxidizers, for each calendar month using the measured CO concentration and the maximum flow rate measured as required in part 34.
- e. The owner/operator shall sum the estimates for S1, S17, S18, S19, A18, and A19 for each calendar month by the 15<sup>th</sup> day of the following month. The owner/operator shall calculate consecutive 12-month rolling totals of CO emissions for each calendar month by the 15<sup>th</sup> day of the following month. The owner/operator shall maintain the emissions calculations and rolling consecutive 12 month rolling totals in a District approved log to be maintained onsite for at least five years from the last date of entry and shall make them available for review by District staff upon request.

(Basis: Regulations 2-6-423, 2-6-503)

40. In order to demonstrate compliance with part 2, the owner/operator shall estimate the monthly emissions of POC in the following manner:
- a. The owner/operator will assume 150 lb POC/day for each day that S1 operates.
  - b. The owner/operator shall estimate the POC emissions of S17, by multiplying the monthly fuel usage in MMbtu by the following emission factor from AP-42 Table 3.2-3: 0.00296 lb POC/MMbtu.
  - c. The owner/operator shall estimate the POC emissions of the reboilers at S18 and S19 by multiplying the monthly fuel usage in MMscf by the following emission factor from AP-42 Table 1.4-1: 5.5 lb POC/MMbtu.
  - d. The owner/operator shall estimate the POC emissions of A18 and A19, Thermal Oxidizers, by multiplying the hours of operation by the hourly emissions determined in the last source test.
  - e. The owner/operator shall estimate the monthly POC emissions of the tanks by dividing the annual potential to emit (0.49 tpy) by 12.
  - f. The owner/operator shall sum the estimates for all sources for each calendar month by the 15<sup>th</sup> day of the following month. The owner/operator shall calculate consecutive 12-month rolling totals of POC emissions for each calendar month by the 15<sup>th</sup> day of the following month. The owner/operator shall maintain the emissions calculations and rolling consecutive 12 month rolling totals in a District approved log to be maintained onsite for at least five years from the last date of entry and shall make them available for review by District staff upon request.
  - g. After the survey required by part 40h of this condition is complete, the owner/operator will use the results of the survey to estimate fugitive POC emissions from pipelines and components.
  - h. Within 6 months of issuance of the synthetic minor permit pursuant to Application 23856, the owner/operator shall determine and report the fugitive emissions of POC from pipelines and components handling natural gas. The owner/operator shall count and monitor all components using the methods in 40 CFR 98, Subpart W. The owner/operator shall calculate the losses of natural gas using the methods in 40 CFR 98, Subpart W. The owner/operator shall determine the fugitive POC emissions by



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multiplying the weight of natural gas lost by the weight fraction of POC. The report shall be submitted to the District Compliance and Enforcement Division and to the District Engineering Division. If the fugitive POC emissions and the emissions calculated in accordance with parts 40a through 40f of this condition are less than 35 tpy, no further monitoring of fugitive POC is necessary. If the fugitive POC emissions and the emissions calculated in accordance with parts 40a through 40f of this condition are greater than 35 tpy, the owner/operator shall either:

- i. Submit 1.207 tons of POC offsets to the District or
- ii. Submit a plan for approval to the District to reduce the POC emissions from the facility to less than 35 tpy. The facility shall implement the plan within 6 months of approval.

If the facility submits the POC offsets, the District will delete part 2 of this permit condition limiting the facility to 35 tpy of POC and the recordkeeping and reporting in part 40 of this condition.

(Basis: Regulations 2-6-423, 2-6-503)

41. In order to demonstrate compliance with part 3, the owner/operator shall estimate the monthly emissions of formaldehyde in the following manner:
  - a. The owner/operator shall estimate the formaldehyde emissions of S1, by multiplying the monthly fuel usage in Mscf by the emission rate developed during the last source test.
  - b. The owner/operator shall calculate consecutive 12-month rolling totals of formaldehyde emissions for each calendar month by the 15<sup>th</sup> day of the following month. The owner/operator shall maintain the emissions calculations and rolling consecutive 12 month rolling totals in a District approved log to be maintained onsite for at least five years from the last date of entry and shall make them available for review by District staff upon request.
  - c. In any year that the owner/operator estimates that the formaldehyde emissions are over 5 tpy, the owner/operator shall conduct a District-approved source test at S1 to determine the formaldehyde emission rate at S1 in lb/Mscf and lb/hr. The source test shall be conducted within 9 months of the determination.

(Basis: Regulations 2-6-423, 2-6-503)
42. The owner/operator shall submit a facility-wide annual CO, POC and formaldehyde emissions summary and supporting calculations for each calendar year to the District's Director of Compliance & Enforcement by the end of February of the following year. (Basis: Regulation 2-6-423)
43. Monthly records (beginning 6/1/12) of facility-wide POC emissions shall be kept in a District-approved log for at least 5 years and shall be made available to the District upon request. (Basis: Regulation 2-2-302)
44. The owner/operator shall report any non-compliance with the conditions of the synthetic minor permit within 10 days of discovery of the non-compliance to the District's Director of Compliance & Enforcement. (Basis: Regulation 2-6-423)

*End of Conditions*