



MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT

14306 Park Avenue Victorville, CA 92392-2310
760.245.1661 -- 800.635.4617 -- FAX 760.245.2022

PERMIT TO OPERATE

B000294

Operation under this permit must be conducted in compliance with all information included with the initial application, initial permit condition, and conditions contained herein. The equipment must be maintained and kept in good operating condition at all times. This Permit to Operate or copy must be posted on or within 8 meters of equipment. If a copy is posted, the original must be maintained on site, available for inspection at all times.

EXPIRES LAST DAY OF: OCTOBER 2024

OWNER OF OPERATOR (Co.#31)

Southern California Gas Co. - MD
9400 Oakdale Avenue
Chatsworth, CA 91313

EQUIPMENT LOCATION (Fac.#66)

SCG - Adelanto
Koala/Rancho Roads
Adelanto, CA 92301

Description:

TURBINE, CENTRIFUGAL NATURAL GAS COMPRESSOR consisting of: A model GE LM-1500 turbine, natural gas-fired, driving a single-stage compressor with a maximum heat input of 150 MMBtu/hr, includes, one Vapor Control System (VCS) for one Turbine Compressor. This VCS is comprised of pipes, fittings, and components. Centrifugal compressor means equipment that increases the pressure of natural gas by centrifugal action through an impeller. Screw, sliding vane, and liquid ring compressors are not centrifugal compressors for the purpose of the Oil and Gas Regulation. [17 CCR 95667 - Definitions] Equipment elevation is 2957 feet above sea level. Stack height is 30 feet, and is 13.3 feet in diameter. Flue gas exhausts at 336,539 cfm at a temperature of 850 deg F, and at a velocity of 2404 fpm.

CONDITIONS:

1. This equipment, and any associated air pollution control device(s), shall be installed, operated, and maintained in strict accord with those recommendations of the manufacturer/supplier and/or sound engineering principles in a manner consistent with good air pollution control practice for minimizing emissions. Unless otherwise noted, this equipment shall also be operated in accordance with all data and specifications submitted with the application for this permit.

[District Rule 1302(C)(2)(a)]

2. This equipment shall be exclusively fueled with pipeline quality natural gas with a sulfur content not exceeding 1.0 grains per 100 dscf on a rolling twelve month average basis. Compliance with this limit shall be demonstrated by providing evidence of a contract, tariff sheet or other approved documentation that shows that the fuel meets the definition of pipeline quality gas.

[District Rule 1302(C)(2)(a)]

Fee Schedule: 2 (f)

Rating: 382000000 Btu

SIC: 4923

SCC: 20200201

Location/UTM(Km):
459E/3824N

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

Southern California Gas Co. - MD
PO Box 2300, SC 9314
Chatsworth, CA 91313-2300

By: **COPY**
Brad Poiriez
Air Pollution Control Officer

3. The owner/operator shall comply with MDAQMD Rule 1159 (D)(2)(b) and (F)(1)(e), by keeping the following operating records. The owner/operator shall maintain a continuous monitoring device that measures and records elapsed time of operation (Note that this turbine is not subject to Rule 1159(F)(1)(a) as it is not equipped with an emissions control system):

a. The owner/operator shall keep daily operating logs for Turbine that includes, as a minimum, the following information: the total hours of operation per day; the accumulated hours of operation per calendar month and calendar year; and the type and quantity of fuel used during each day and accumulative amounts per calendar month, quarter year and year.

[District Rules 204 and 1159]

4. This equipment shall not emit a measured NOx Emissions Concentration (as defined by Rule 1159) in excess of 90 ppmv. Compliance with this condition shall be established through periodic source testing as defined in Condition 5, below:

a. For the Southern California Gas Company Turbine Model GE LM-1500, the following alternative federal NOx RACT limits apply: NOx Limit: 90 ppmv when fired on PUC quality natural gas fuel.

b. NOx ppmv emission limit is corrected to 15 percent oxygen and ISO standard conditions on a dry basis, averaged over any consecutive 15-minute period.

[District Rules 204 and 1159]

5. This equipment is presently not operated; therefore, source testing shall occur according to the following schedule once operations commence, defined as operating 2000 hrs in any 12-month period. Once operations commence, this unit shall be source tested in accordance with this condition at least once every twelve (12) month period in which the unit exceeds a run-time of 2000 hours. The owner/operator must submit a compliance/source test protocol at least thirty (30) days prior to the compliance/source test date. The owner/operator must conduct all required compliance/certification tests in accordance with a District-approved test protocol. The owner/operator must notify the District a minimum of ten (10) days prior to the compliance/source test date so that an observer may be present. The final compliance/source test results must be submitted to the District within forty-five (45) days of completion of the test. All compliance/source test notifications, protocols, and results may be submitted electronically to reporting@mdaqmd.ca.gov.

The following compliance tests are required:

a. NOx as NO2 in ppmvd at 15% oxygen (measured per USEPA Reference Method 20); and,

b. The Higher Heating Value (HHV) and the Lower Heating Value (LHV) shall be determined by the following method for gaseous fuels: ASTM Test Method D 3588-91; or ASTM Test Method D 1826-88; or ASTM Test Method D 1945-81.

[District Rule 1159 and 40 CFR 70.6(a)(3)(i)(A)]

6. The owner/operator shall maintain current and on-site for a minimum of five (5) years a turbine operating log. This daily log shall be provided to District, State or Federal personnel upon request and shall include at a minimum the following information:

a. Date and nature of all repairs and maintenance;

b. Date of operation (startup and shutdown if necessary);

c. Duration of operational period (in hours);

d. Total calendar monthly operations (in hours); and,

e. Type and quantity of fuel consumed (in cubic feet or equivalent).

[District Rules 204 and 1203(D)(1)(d)(ii)]

For missing records of fuel usage, the substitute data value shall be the best available estimate of the parameter, based on all available process data (e.g., load, operating hours, etc.). The procedure used to estimate the substitute data value shall be documented and records of the procedure used for such estimates shall be maintained.

[40 CFR 98.35(b)(2), District Rule 204]

7. Conditions 7 through 19 ARE DISTRICT AND STATE ENFORCEABLE ONLY REQUIREMENTS and are specific to the requirements California Code of Regulations Title 17, Division 3, Chapter 1, Subchapter 10 Climate Change, Article 4 - Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities. In the event of conflict between conditions the more stringent requirements shall govern. These do not apply to centrifugal natural gas compressors that operate less than 200 hours per calendar year provided that the owner or operator maintains, and makes available upon request by the ARB Executive Officer or District, a record of the operating hours per calendar year.

[17 CCR 95668 (d)(1)&(2)]

8. Beginning January 1, 2018, components on driver engines and compressors that use a wet seal or a dry seal shall comply with the leak detection and repair requirements specified in 17 CCR section 95669 (as outlined in conditions 13 through 19).

[17 CCR 95668 (d)(3)]

Additionally, the compressor wet seal shall be measured annually by direct measurement (high volume sampling, bagging, calibrated flow measuring instrument) while the compressor is running at normal operating temperature in order to determine the wet seal emission flow rate using one of the following methods:

- a. Vent stacks shall be equipped with a meter or instrumentation to measure the wet seal emissions flow rate; or,
- b. Vent stacks shall be equipped with a clearly identified access port installed at a height of no more than six (6) feet above ground level or a permanent support surface for making wet seal emission flow rate measurements.
- c. If the measurement is not obtained because the compressor is not operating for the scheduled test date and the remainder of the inspection period, then testing shall be conducted within 7 calendar days of resumed operation. The owner or operator shall maintain, and make available upon request by the ARB Executive Officer, a copy of operating records that document the compressor hours of operation and run dates in order to demonstrate compliance with this requirement.

[17 CCR 95668 (d)(4)]

9. Beginning January 1, 2019, centrifugal compressors with wet seals shall control the wet seal vent gas with the use of a vapor collection system as described in section 17 CCR 95671 (as outlined by condition 20, below); or, a compressor with a wet seal emission flow rate greater than three (3) scfm, or a combined flow rate greater than the number of wet seals multiplied by three (3) scfm, shall be successfully repaired within 30 calendar days of the initial flow rate measurement. [17 CCR 95668(d)(5)]

A delay of repair may be granted by the ARB Executive Officer if the owner or operator can provide proof that the parts or equipment required to make necessary repairs have been ordered. A delay of repair to obtain parts or equipment shall not exceed 30 calendar days, or 60 days from the date from of the initial measurement, unless the owner or operator notifies the ARB Executive Officer to report the delay and provides an estimated time by which the repairs will be completed. [17 CCR 95668(d)(6)]

If parts are not available to make the repairs, the wet seal shall be replaced with a dry seal by no later than January 1, 2020. [17 CCR 95668(d)(7)]

The owner/operator shall maintain, and make available upon request by the ARB Executive Officer and the District staff, a record of the flow rate measurement as specified in Appendix A, Table A7 and shall report the result to ARB and the District once per calendar year as specified in section 95673 of this subarticle. [17 CCR 95668(d)(8)]

A centrifugal natural gas compressor with a wet seal emission flow rate measured above the standard specified in section 17 CCR 95668(d)(6) and which has been approved by the ARB Executive Officer as a critical component as specified in section 95670, shall be successfully repaired by the end of the next scheduled process shutdown or within 12 months from the date of the initial flow rate measurement, whichever is sooner. [17 CCR 95668(d)(9)]

10. Beginning January 1, 2018, all components, including components found on tanks, separators, wells, and pressure vessels not identified in 17 CCR 95669(b) shall be inspected and repaired as follows. The ARB Executive Officer may perform inspections at facilities at any time to determine compliance with the requirements specified. [17 CCR 95669(c)&(d)]

Except for inaccessible or unsafe to monitor components, the owner/operator shall audio-visually inspect (by hearing and by sight) all hatches, pressure-relief valves, well casings, stuffing boxes, and pump seals for leaks or indications of leaks at least once every 24 hours for facilities that are visited daily, or at least once per calendar week for facilities that are not visited at least once every 24 hours; and, the owner/operator shall audio-visually inspect all pipes for leaks or indications of leaks at least once every 12 months. [17 CCR 95669(e)]

Any audio-visual inspection specified above that indicates a leak that cannot be repaired within 24 hours shall be tested using US EPA Reference Method 21 (October 1, 2017) within 24 hours after initial leak detection, and the leak shall be repaired in accordance with the repair timeframes specified:

- a. For leaks detected during normal business hours, the leak measurement shall be performed within 24 hours. For leaks detected after normal business hours or on a weekend or holiday, the deadline is shifted to the end of the next normal business day.
- b. Any leaks measured above the minimum leak threshold shall be successfully repaired within the timeframes specified. [17 CCR 95669(f)]

11. At least once each calendar quarter, all components shall be tested for leaks of total hydrocarbons in units of parts per million volume (ppmv) calibrated as methane in accordance with US EPA Reference Method 21 (October 1, 2017) excluding the use of PID instruments.

Optical Gas Imaging (OGI) instruments may be used as a leak screening device, but may not be used in place of US EPA Reference Method 21 (October 1, 2017) during quarterly leak inspections, provided they are approved for use by the ARB Executive Officer and used by a technician with a certification or training in infrared theory, infrared inspections, and heat transfer principles (e.g., Level II Thermography or equivalent training); and, all leaks detected with the use of an OGI instrument shall be measured using US EPA

Reference Method 21 (October 1, 2017) within two calendar days of initial OGI leak detection or within 14 calendar days of initial OGI leak detection of an inaccessible or unsafe to monitor component to determine compliance with the leak thresholds and repair timeframes specified in this subarticle.

All inaccessible or unsafe to monitor components shall be inspected at least once annually using US EPA Reference Method 21 (October 1, 2017).
[17 CCR 95669(g)]

12. On or after January 1, 2020, any component with a leak concentration measured above the following standards shall be repaired within the time period specified:

- a. Leaks with measured total hydrocarbon concentrations greater than or equal to 1,000 ppmv but not greater than 9,999 ppmv shall be successfully repaired or removed from service within 14 calendar days of initial leak detection.
- b. Leaks with measured total hydrocarbon concentrations greater than or equal to 10,000 ppmv but not greater than 49,999 ppmv shall be successfully repaired or removed from service within five (5) calendar days of initial leak detection.
- c. Leaks with measured total hydrocarbon concentrations greater than or equal to 50,000 ppmv shall be successfully repaired or removed from service within two (2) calendar days of initial leak detection.
- d. Critical components or critical process units shall be successfully repaired by the end of the next process shutdown or within 12 months from the date of initial leak detection, whichever is sooner.

A delay of repair may be granted by the ARB Executive Officer under the following conditions:

- i. The owner or operator can provide proof that the parts or equipment required to make necessary repairs have been ordered. A delay of repair to obtain parts or equipment shall not exceed 30 calendar days from the dates specified above by which repairs must be made, unless the owner or operator notifies the ARB Executive Officer to report the delay and provides an estimated time by which the repairs will be completed.
- ii. A gas service utility can provide documentation that a system has been temporarily classified as critical to reliable public gas system operation as ordered by the utility's gas control office.

[17 CCR 95669(i)]

On or after January 1, 2020, no facility shall exceed the number of allowable leaks listed below during an ARB Executive Officer or District inspection as determined in accordance with US EPA Reference Method 21 (October 1, 2017), excluding the use of PID instruments [17 CCR 95669(o)(2)&(3)]:

// Leak Threshold // 200 or Less Components // More than 200 Components

1,000-9,999 ppmv // 5 // 2% of total inspected

10,000-49,999 ppmv // 2 // 1% of total inspected

50,000 ppmv or greater // 0 // 0

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13. The failure of an owner/operator to repair leaks within the timeframes specified, during any inspection period, shall constitute a violation. Leaks discovered during an operator-conducted inspection shall not constitute a violation if the leaking components are repaired within the timeframes.

[17 CCR 95669(o)(4)&(5)]

14. Upon detection of a component with a leak concentration measured above the standards specified, the owner/operator shall affix to that component a weatherproof readily visible tag that identifies the date and time of leak detection measurement and the measured leak concentration. The tag shall remain affixed to the component until all of the following conditions are met:

- a. The leaking component has been successfully repaired or replaced; and,
- b. The component has been re-inspected and measured below the lowest standard specified for the inspection year when measured in accordance with US EPA Reference Method 21 (October 1, 2017), excluding the use of PID instruments.
- c. Tags shall be removed from components following successful repair.

[17 CCR 95669(j)]

15. Owner/operator shall maintain, and make available upon request by the ARB Executive Officer or District, a record of all leaks found at the facility as specified in Appendix A, Tables A4 and A5, and shall report the results to ARB and the District once per calendar year as specified in section 17 CCR 95673.

[17 CCR 95669(k)]

16. Additional Leak Detection and Repair Requirements:

Hatches shall remain closed at all times except during sampling, adding process material, or attended maintenance operations. [17 CCR 95669(l)]

Open-ended lines and valves located at the end of lines shall be sealed with a blind flange, plug, cap or a second closed valve, at all times except during operations requiring liquid or gaseous process fluid flow through the open-ended line. Open-ended lines do not include vent stacks used to vent natural gas from equipment and cannot be sealed for safety reasons. Open-ended lines shall be repaired as follows [17 CCR 95669(m)]:

- a. Open-ended lines that are not capped or sealed shall be capped or sealed within 14 calendar days from the date of initial inspection.
- b. Open-ended lines that are capped or sealed and found leaking shall be repaired in accordance with the timeframes specified in 17 CCR 95669(h) and 95669(i).

Components or component parts which incur five (5) repair actions within a continuous 12-month period shall be replaced with a compliant component in working order and must be re-measured using US EPA Reference Method 21 (October 1, 2017), to determine that the component is below the minimum leak threshold. A record of the replacement must be maintained in a log at the facility, and shall be made available upon request by the ARB Executive Officer or District.
[17 CCR 95669(n)]

17. Beginning January 1, 2019, the following requirements apply to equipment at facilities located in sectors listed in 17 CCR 95666 that must be controlled with the use of a vapor collection system and control device as a result of the requirements specified in section 95668 of this subarticle:

The vapor collection system shall direct the collected vapors to one of the following:

- a. Sales gas system; or,
- b. Fuel gas system; or,
- c. Gas disposal well not currently under review by the Division of Oil and Gas and Geothermal Resources. [17 CCR 95671(b)]

If no sales gas system, fuel gas system, or gas disposal well specified above is available at the facility, the owner or operator must control the collected vapors with either:

- a. A non-destructive vapor control device that achieves at least 95 percent vapor control efficiency of total emissions and does not result in emissions of nitrogen oxides (NOx); or,
- b. A vapor control device that achieves at least 95 percent vapor control efficiency of total emissions and does not generate more than 15 parts per million volume (ppmv) NOx when measured at 3 percent oxygen and does not require the use of supplemental fuel gas, other than gas required for a pilot burner, to operate. [17 CCR 95671(d)]

If the collected vapors cannot be controlled as specified in herein, the equipment subject to the vapor collection and control requirements may not be used or installed and must be removed from service by January 1, 2019, and circulation tanks may not be used and must be removed from service by January 1, 2020. [17 CCR 95671(e)]

Vapor collection systems and control devices are allowed to be taken out of service for up to 30 calendar days per calendar year for performing maintenance. A time extension to perform maintenance not to exceed 14 calendar days per calendar year may be granted by the ARB Executive Officer. The owner or operator is responsible for maintaining a record of the number of calendar days per calendar year that the vapor collection system or vapor control device is out of service and shall provide a record of such activity at the request of the ARB Executive Officer. If an alternate vapor control device compliant with this section is installed prior to conducting maintenance and the vapor collection and control system continues to collect and control vapors during the maintenance operation consistent with the applicable standards specified in section 95671, the event does not count towards the 30 calendar day limit. Vapor collection system and control device shutdowns that result from utility power outages are not subject to enforcement action provided the equipment resumes normal operation as soon as normal utility power is restored. Vapor collection system and control device shutdowns that result from utility power outages do not count towards the 30 calendar day limit for maintenance. [17 CCR 95671(f)]

18. The owner/operator shall maintain the following records for this equipment to comply with Title 17, Division 3, Chapter 1, Subchapter 10 Climate Change, Article 4 - Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities. These records must be made available to ARB or District staff upon request.

For Centrifugal Natural Compressors [17 CCR 95672 (a)(9-11)]:

- a. Maintain, for at least five years from the date of each emissions flow rate measurement, a record of each wet seal emission flow rate measurement as specified in Appendix A, Table A7.
- b. Maintain, for at least one calendar year, a record that documents the date(s) and hours of operation a compressor is operated in order to demonstrate compliance with the wet seal emission flow rate measurement in the event that the compressor is not operating during a scheduled inspection.
- c. Maintain records that provide proof that parts or equipment required to make necessary repairs have been ordered.

For Leak Detection and Repair [17 CCR 95672 (a)(17-21)]:

- d. Maintain, for at least five years from each inspection, a record of each leak detection and repair inspection as specified in Appendix A Table A4.
- e. Maintain, for at least five years from the date of each inspection, a component leak concentration and repair form for each inspection as specified in Appendix A Table A5.
- f. Maintain records that provide proof that parts or equipment required to make necessary repairs have been ordered.
- g. Maintain gas service utility records that demonstrate that a system has been temporarily classified as critical to reliable public gas operation throughout the duration of the classification period.

For Vapor Collection System and Vapor Controls [17 CCR 95672 (a)(22)]:

- h. Maintain records that provide proof that parts or equipment required to make necessary repairs have been ordered.

19. Beginning January 1, 2018, the owner/operator shall report the following information to ARB and the District by July 1st of each calendar year unless otherwise specified:

For Centrifugal Natural Gas Compressors [17 CCR 95673 (a)(4)]:

- a. Annually, report the emission flow rate measurement for each wet seal as specified in Appendix A, Table A7.

For Leak Detection and Repair [17 CCR 95673 (a)(12-13)]:

- b. Annually, report the results of each leak detection and repair inspection conducted during the calendar year as specified in Appendix A, Table A4.
- c. Annually, report the initial and final leak concentration measurements for components measured above the minimum allowable leak threshold as specified in Appendix A Table A5.

Reports shall be submitted as follows:

- 1. Reports made to the California Air Resources Board (CARB) shall be submitted electronically through their Cal e-GGRT Reporting Portal.

- 2. Submissions to the District may be submitted electronically to reporting@mdaqmd.ca.gov with the subject line "O&G GHG Regulation Reporting", or mailed to:

Mojave Desert AQMD

Attention: O&G GHG Regulation Reporting

14306 Park Avenue

Victorville, CA 92392

Note: It is anticipated that Districts will be able to retrieve Reports through the Cal-eGGRT portal sometime in 2020. Once that functionality is available, Report submittals to the District will no longer be required.

20. A facility wide Comprehensive Emission Inventory (CEI) for all emitted criteria and toxic air pollutants must be submitted to the District, in a format approved by the District, upon District request.

[District Rule 107(b), H&S Code 39607 & 44341-44342, and 40 CFR 51, Subpart A]