



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

B000301

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 2025

OWNER OF OPERATOR (Co.#31)

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

EQUIPMENT LOCATION (Fac.#69)

SCG - No Needles Compressor Station
4500 Needles Highway
Needles, CA 92363

Description:

THREE SPARK-IGNITED (SI) NATURAL GAS IC ENGINES POWERING THREE RECIPROCATING COMPRESSORS (UNITS #1, 2 & 3) consisting of: 4 Stroke Lean Burn (4SLB) Engines greater than 500 bhp each located at a HAP Major Source; RICE NESHAP 40 CFR 63 Subpart ZZZZ IS NOT APPLICABLE; 3 Three Ingersoll Rand, 4,000 bhp natural gas fueled piston IC engines driving three natural gas compressors one through three (serial numbers 616KVT134, 118, and 135). The 12,000 total bhp is equivalent to 75.6 MMBTU/hr. Equipment Elevation is 563 feet above sea level. Stacks are 34 feet high and have diameters of 2 feet. Stacks' gas exhausts at 5655 cfm at a temperature of 800 deg F and at a velocity of 1800 fpm. Lat/Longs (THREE RECIPROCATING COMPRESSORS; RC1, RC2, RC3): RC1: Lat = 34.907932, Long = -114.642774 RC2: Lat = 34.908026, Long = -114.642770 RC3: Lat = 34.908114, Long = -114.642769 // Emission Type // Est. at Max Load // Unit CO // 3.33 // gm/Bhp-hr NOx // 8.89 // gm/bhp-hr PM10 // 0.0008 // gm/bhp-hr PM2.5 // 0.0008 // gm/bhp-hr SOx // 0.0062 // gm/bhp-hr VOC // 15.44 // gm/bhp-hr

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)]

Fee Schedule: 1 (d)

Rating: 12000bhp

SIC: 4922

SCC: 20200202

Location/UTM(Km): 718E/3865N

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

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)]

3.The owner/operator shall maintain a log of all inspections pursuant to subpart 63.6603(a)- Table 2d.9, repairs and maintenance on this equipment and submit it to District, state or federal personnel upon request. The log shall be kept for a minimum of five (5) years.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 1302 (C)(2)(a)]

4.A detailed record of each engine modification conducted shall be maintained; including engine model and serial number, modifications description, manufacturer data, and any other pertinent information that will ensure subsequent modifications can be accurately described and replicated.

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

5.The owner/operator shall conduct baseline source test for NOx, VOC, and CO before the installation of the Precombustion Chambers (PCCs) pursuant to the District approved test protocol dated September 10, 2010.

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

6.Not later than 90 days after the emission modifications have been completed, the owner/operator shall perform subsequent source testing on the modified engine pursuant to the District approved test protocol dated September 10, 2010.

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

7.Tests shall be conducted in accordance with the following test methods:

- a. Flow rate in accordance with EPA Method 19; no current limit exists
- b. Fuel analysis in accordance with ASTM D3588; limit not applicable
- c. O₂, and CO₂ in accordance with EPA Method 3A
- d. *NO_x, per USEPA Methods 7E; shall not exceed 1500 ppm as tested
- e. *CO, as tested per USEPA Method 10; shall not exceed 2000 ppm
- f. VOC, shall be tested per EPA Method 18/GC-FID Analyses; no current limit exists

*Quantities shall be corrected to 15% oxygen.

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

8.If the modified engine is found to exceed 1500 PPM NO_x @ 15% O₂ or 2000 PPM CO @ 15%, then the Operator shall be given 15 calendar days to correct the problem while continuing to operate that engine. If the problem cannot be corrected within 15 days, then that engine must be shut down and kept out of operation until such time as it can be repaired and its compliance with either the NO_x limit or CO limit is confirmed by a either an emissions analysis or a certified source test.

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

9.Source test results and emission analyses performed by the owner/operator shall be used only for the evaluation of the PCC equipment, or for rule-making purposes, and not be used for enforcement or compliance purposes.

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

10.In addition to complying with the emission limits of condition 7, owner/operator shall ensure that as a result of the PCC Pilot Project, emissions from engines will not cause a net emission increase (beyond 25 lbs/day in the case of VOC) of NO_x and VOC, calculated pursuant to District Regulation XIII. The owner/operator must demonstrate emission changes through pre- and post- project emission source tests as required above. The owner/operator must notify the District within 90 days of any such emission increase. Further, any emission increase must be fully offset according to the requirements of Regulation XIII. Further, any increase in VOC may be offset using simultaneous emission reductions from NO_x reductions from this project at a ratio of 2.0:1, NO_x to VOC.

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

11.Conditions 11 through 24 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 reciprocating 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 (c)(2)(A)]

12. By January 1, 2018 or within 180 days from installation, critical components used in conjunction with a critical process unit at facilities located in sectors listed in section 95666 of Title 17, Division 3, Chapter 1, Subchapter 10 Climate Change, Article 4 - Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities must be pre-approved by the ARB Executive Officer if owners/operators wish to claim any critical component exemptions available under this subarticle. Critical components that have been designated as critical under an existing local air district leak detection and repair program as of January 1, 2018 are not subject the critical component requirements specified in this subarticle. [17 CCR 95670(a)]

Note: The regulation states that critical components must be submitted to CARB by January 1, 2018; this deadline was met, however, some components were rejected by CARB. As of August 6, 2020, the critical component list remains in review and pending final approval by CARB.
[17 CCR 95670(a)]

Owners/operators must provide sufficient documentation demonstrating that a critical component is required as part of a critical process unit and that shutting down the critical component or process unit would impact safety or reliability of the natural gas system. [17 CCR 95670(b)]

A request for a critical component or process unit approval is made by submitting a record of the component or process unit as specified in Appendix A, Table A3 along with supporting documentation to the ARB at the address listed in section 95673(b) of this subarticle. [17 CCR 95670(c)]

Owners/operators shall maintain, and make available upon request by the ARB or the district staff, a record of all critical components or process units located at the facility as specified in Appendix A, Table A3. [17 CCR 95670(d)]

Each critical component or critical process unit must be identified according to one of the following methods [17 CCR 95670(e)]:
a. Identify each component using a weatherproof, readily visible tag that indicates it as an ARB approved critical component and includes the date of ARB Executive Officer approval; or,
b. Provide a diagram or drawing of all critical components or the critical process unit upon request by the ARB Executive Officer and by district staff.

Approval of a critical component may be granted only if owners/operators fully comply with this section. The ARB Executive Officer and/or District retain discretion to deny any request for critical component or process unit approval. [17 CCR 95670(f)]

13. Beginning January 1, 2018, components on driver engines and compressors shall comply with the leak detection and repair requirements specified in 17 CCR 95669 (as outlined in conditions 15 through 22); except for the rod packing component subject to 17 95668(c)(4)(B), which is outlined below:

The compressor rod packing or seal emission flow rate through the rod packing or seal vent stack shall be measured annually by direct measurement (high volume sampling, bagging, calibrated flow measuring instrument) while the compressor is running at normal operating temperature using one of the following methods:

- a. Vent stacks shall be equipped with a meter or instrumentation to measure the rod packing or 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 individual or combined rod packing or 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(c)(4)(A)&(B)]

14. 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)]

15. 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)]

16. 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 of 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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17. The failure of an owner/operator to repair leaks within the timeframes specified, during any inspection period, shall constitute a violation. Except for the fourth (4th) quarterly inspection of each calendar year, 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)]

18. 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)]

19. 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)]

20. 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)]

21. Beginning January 1, 2019, compressor vent stacks used to vent rod packing or seal emissions shall be controlled with the use of a vapor collection system as specified in 17 CCR 95671 (as outlined by condition 23, below); or, a compressor with a rod packing or seal with a measured emission flow rate greater than two (2) standard cubic feet per minute (scfm), or a combined rod packing or seal emission flow rate greater than the number of compression cylinders multiplied by two (2) scfm, shall be successfully repaired within 30 calendar days from the date of the initial emission flow rate measurement.

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.

A reciprocating natural gas compressor with a rod packing or seal emission flow rate measured above the standard specified in 17 CCR 95668(c)(4)(D) (as outlined above) and which has been approved by the ARB Executive Officer as a critical component, 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 - Standards, section (c)(4)(C),(D)&(F) Reciprocating Natural Gas Compressors]

22. 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 (NO_x); 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) NO_x 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)]

23. 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 Reciprocating Natural Gas Compressors [17 CCR 95672 (a)(5-8)]:

- a. Maintain, for at least five years from the date of each emissions flow rate measurement, a record of each rod packing 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 rod packing leak concentration or 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.

24. 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 Reciprocating Natural Gas Compressors [17 CCR 95673 (a)(2-3)]:

- a. Annually, report the emission flow rate measurement for each rod packing or 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.

25.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]