



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

B005028

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: AUGUST 2024

OWNER OF OPERATOR (Co.#15)

Pacific Gas & Electric/Air Permits
PO Box 7640
San Francisco, CA 94120

EQUIPMENT LOCATION (Fac.#535)

PG&E - Hinkley Compressor Station
35863 Fairview Road
Hinkley, CA 92347

Description:

NATURAL GAS IC ENGINE, COMPRESSOR (K-11) consisting of:

One Cooper-Bessemer, NG fired internal combustion engine Model No. 16W-330 and Serial No. 47022, Turbo Charged, After Cooled, Two-Stroke Lean Burn, Pre-Combustion Chamber (also SC), producing 7250 bhp with 16 cylinders at 0 rpm while consuming a maximum of scf/hr. This equipment powers a TBD Compressor Model No. TBD and Serial No. TBD, rated at TBD.

CONDITIONS:

1. This engine, and any associated air pollution control equipment, shall be installed, operated, and maintained in strict accord with those recommendations of the manufacturer/supplier and/or sound engineering principles, and in a manner consistent with safety and good air pollution control practices 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 204; 40 CFR 63.6605(a); 63.6605 (b)]

2. These engines shall be fired on PUC quality natural gas only.

[District Rule 431]

3. A non-resettable four-digit (9,999) hour timer shall be installed and maintained on this unit to indicate elapsed engine operating time.

[District Rule 1160]

Fee Schedule: 1 (d)

Rating: 7250 bhp

SIC: 4939

SCC: 20200202

Location/UTM(Km):
485E/3862N

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.

Pacific Gas & Electric/Air Permits
PO Box 7640
San Francisco, CA 94120

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

4. The owner/operator shall conduct compliance tests at least once every twenty-four (24) months or 8760 hours of operation, whichever comes first, commencing in 1999. These tests shall demonstrate compliance with the emission limitations listed in Condition 7, below.

The owner/operator must submit a source test protocol at least thirty (30) days prior to the scheduled source test date for District review and approval, and the owner/operator must conduct all required tests in accordance with the District-approved test protocol. The owner/operator must notify the District a minimum of ten (10) days prior to the first day of testing so that an observer may be present. The final source test results must be submitted to the District within forty-five (45) days of completion of the test. All compliance/certification test notifications, protocols, and results may be submitted electronically to reporting@mdaqmd.ca.gov [District Rule 1160(E)(1)(b); 40 CFR 70.6 (a)(3)(i)(B) - Periodic Monitoring Requirements]

5. Emissions from this equipment to the atmosphere shall not exceed the following emission limits at nominal full load:

- (a) VOC (as CH₄) 0.5 g/bhp-hr (demonstrates compliance with 106 ppmv limit Rule 1160(C))
- (b) CO 2.0 g/bhp-hr (demonstrates compliance with 4500 ppmv limit Rule 1160(C))
- (c) NO_x (as NO₂) 1.5 g/bhp-hr and 120 ppmv

The total emissions of NO_x from this equipment shall be limited to 105 tons per year, calculated on a rolling 12-month annual sum. Compliance with the annual NO_x emission limit shall be determined by using fuel use data and the fuel use-based emission factor derived from the most recent MDAQMD compliance test, and calculating a rolling sum of the previous 12 calendar months. Compliance with the hourly emission limits shall be determined using the most recent MDAQMD compliance test.

*All ppmv limitations shall be referenced at 15 percent volume stack gas oxygen measured on a dry basis and averaged over 15 consecutive minutes.

[District Rule 1160 - Internal Combustion Engines (spark ignited, lean burn)]; Regulation XIV - Emission Reduction Credit Banking (in the case of NO_x and NMHC limits); 40 CFR 70.6 (a)(3)(i)(B) - Periodic Monitoring Requirements]

6. The owner/operator shall maintain a log for this equipment, which, at a minimum, contains the information specified below. This log shall be maintained current and on-site for a minimum of five (5) years and shall be provided to District personnel on request:

- (a) Inspections at least every quarter or every 2,000 hours of operation whichever is more frequent which includes:
 - (i) Date of inspection;
 - (ii) Records of testing;
 - (iii) Date and a summary of any emissions corrective maintenance taken;
 - (b) Quarterly fuel consumption;
 - (c) Quarterly hours of operation;
 - (d) Records of the occurrence and duration of each malfunction of operation and the actions taken to correct such malfunction of operation; [40 CFR 63.6655(a)]
 - (e) Records of actions taken during periods of malfunction to minimize emissions in accordance with subpart 63.6605(b), including corrective actions to restore malfunctioning process and air pollution control (if any) and monitoring equipment to its normal or usual manner of operation; and
 - (f) Records of each instance in which the emission and operating limitations are not met. [63.6640 (b)]
- [District Rules 1160, 1303 and 1203(D)(1)(d)(ii); 40 CFR Part 64; 40 CFR Part 63 Subpart ZZZZ; 40 CFR 70.6(a)(3)(ii)(B)]

7. The owner/operator (o/o) shall perform the following required compliance tests in accordance with the MDAQMD Compliance Test Procedural Manual.

- (a) NO_x emissions for compliance tests shall be determined by EPA Method 7E.
- (b) CO emissions for compliance tests shall be determined by using EPA Method 10.
- (c) The measurement of VOC emissions shall be conducted in accordance with EPA Methods 18, 25 and/or 25A (40 CFR 60, Appendix A) as they exist on (date of adoption) and test procedures should be performed in accordance with a protocol approved by the APCO.
- (d) Oxygen content for compliance tests shall be determined by using EPA Method 3A.
- (e) Determination of the exempt compounds, shall be performed in accordance with ASTM Test Method D 4457-85 (Solvents and Coatings) and be consistent with the provisions set forth in the Federal Register (FR, Vol. 56, No. 52, March 18, 1991). Perfluorocarbon compounds shall be assumed to be absent from a product or process unless a manufacturer or facility operator identifies a specific compound or compounds from the broad classes of perfluorocarbons listed in 40 CFR 51.100(S)(1) as being present in the product or process. When such compounds are identified, the facility shall provide the test method to determine the amount(s) of the specific compound(s).

[Rule 204 - Permit Conditions, District Rule 1160(E)(1)(c)]

8. Conditions 8 through 21 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)]

9. 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)]

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)]

10. 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 5 through 12); 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)]

11. 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.
[17CCR 95669(f)]

12. 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)]

13. 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)]

Maximum Allowable Leak Thresholds:

- (a) 200 or Less Components:
 - (i) 1,000-9,999 ppmv: 5
 - (ii) 10,000-49,999 ppmv: 2
 - (iii) 50,000 ppmv or greater: 0
- (b) More than 200 Components:
 - (i) 1,000-9,999 ppmv: 2% of total inspected
 - (ii) 10,000-49,999 ppmv: 1% of total inspected
 - (iii) 50,000 ppmv or greater: 0

14. 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)]

15. 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)]

16. 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)]

17. 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)]

18. 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 12, 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]

19. 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)]

20. 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 leak concentration for each rod packing or seal measured above the minimum leak threshold as specified in Appendix A, Table A5.
- (b) 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)]:

- (c) Annually, report the results of each leak detection and repair inspection conducted during the calendar year as specified in Appendix A, Table A4.
- (d) 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:

- (i) Submissions to ARB may be submitted electronically to oil&gas@arb.ca.gov with the subject line "O&G GHG Regulation Reporting", or mailed to:

California Air Resources Board
Attention: O&G GHG Regulation Reporting
Industrial Strategies Division
1001 I Street, PO Box 2815
Sacramento, California 95814

- (ii) 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

21. 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 leak concentration measurement, a record of each rod packing leak concentration measurement found above the minimum leak threshold as specified in Appendix A, Table A5.
- (b) 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.
- (c) 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.
- (d) 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)]:

- (e) 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.
- (f) 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.
- (g) Maintain records that provide proof that parts or equipment required to make necessary repairs have been ordered.
- (h) 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)]:

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