

SIERRITA GAS PIPELINE LLC.

AIR QUALITY PERMIT 6215

TECHNICAL SUPPORT DOCUMENT (TSD)

I. GENERAL COMMENTS:

A. Company Information

1. Source Name: Sierrita Gas Pipeline LLC
2. Source Address: Unassigned; Parcel #: 209-20-003A (Sec. 22, T.15S, R.11E)

B. Background

This technical support document has been developed for the new compressor station to be installed and operated by Sierrita Gas Pipeline LLC. The facility will provide additional natural gas compression to the existing Sierrita pipeline.

The source is considered a true minor stationary source of criteria pollutants and an area source of Hazardous Air Pollutants, when considering the operating and emission limitations in the permit and emissions from sources at the facility aggregated under the same SIC code. The activities and operations covered by this permit fall under the following industrial classification:

- SIC Code – 4922 – Pipeline Transmission of Natural Gas
- North American Industry Classification System (NAICS): 486210

Permitting History

On July 6, 2017, Sierrita Gas Pipeline LLC submitted a Class II application for the installation and operation of a new gas compressor station at the above described parcel.

C. Attainment Classification

The source is located in an area that is in attainment for all pollutants.

II. SOURCE DESCRIPTION

A. Process Description

The source consists of a compressor station along the Sierrita Pipeline. A natural gas combustion turbine fueled by the natural gas from the pipeline will be used to drive a centrifugal compressor to compress and transport the natural gas in the pipeline. The facility will also include a 1114 hp natural gas emergency engine. Included in the process is the collection of fugitive emission components pipes, headers, valves, instruments, et. al. at the compressor station.

B. Operating Capacity and Schedule

The operating schedule at the facility is not limited and the facility and equipment is permitted for operation 7 days/week, 24 hours a day, 365 days a year. The emergency generator will be limited to operation for maintenance and readiness testing, and non-emergency operation in accordance with the federal regulations for emergency engines. There are no limits for the engine for emergency operation.

C. Air Pollution Control Equipment

There are no post combustion controls associated with the permitted equipment and operations.

III. REGULATORY HISTORY

None. This is a new source.

IV. EMISSIONS ESTIMATES

Emission estimates for the facility were derived using manufacturer’s predicted emission performance data, enforceable emission limits, or US EPA Air Pollutant Emission Factors in AP-42. The following table outlines the facility’s potential to emit pollutants.

Potential to Emit, tons/year ¹										
Conventional or Criteria Air Pollutant								HAP(s)		GHG
PM _{2.5}	PM ₁₀	PM	NO _x	VOC	CO	SO ₂	Lead	Total	Single (Formaldehyde)	CO _{2e} ²
3.65	3.65	3.65	32.24	18.66	33.95	1.83	Negligible	0.68	0.49	63,153

¹ Potential to emit based on gas turbine operation for 8760 hours/year and 500 hours/year of emergency generator operation.

² GHG includes CO₂, N₂O, and CH₄. Emissions are based on CO₂ equivalent (CO_{2e}). No hydrofluorocarbon, perfluorocarbon, or sulfur hexafluoride emissions are expected from any of the equipment.

Note: Estimates of fugitive emissions from the collection of fugitive emissions components are not included in above estimates for purposes of determining the source is not a major source, since this a non-categorical source in accordance with PCC 17.04.340.A (128.c). See application for fugitive emission estimates.

V. APPLICABLE REQUIREMENTS

40 CFR, Part 60 Standards of Performance for New Stationary Sources (NSPS)

- Subpart A General Provisions
- Subpart KKKK NSPS for Stationary Combustion Turbines
- Subpart JJJJ NSPS for Stationary Spark Ignition Internal Combustion Engines
- Subpart OOOOa NSPS for Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced After September 18, 2015.
- Appendix A Test Methods

40 CFR, Part 63 National Emission Standards for Hazardous Air Pollutants for Source Categories (NESHAP)

Subpart A	General Provisions
Subpart ZZZZ	NESHAP for Stationary Reciprocating Internal Combustion Engines

40 CFR 63.6590(c) provides exemptions for stationary RICE that are subject to regulations under 40 CFR Part 60. Specifically, it states that stationary RICE that meets any of the criteria in 40 CFR 63.6590(c) (1) through (7) must meet the requirements of 40 CFR Part 63 Subpart ZZZZ by meeting the requirements of 40 CFR Part 60 Subpart JJJJ for spark ignition engines. No further requirements apply for such engines under this part. 40 CFR 63.6590(c) (1) is for new or reconstructed stationary RICE located at an area source of HAPs. A stationary RICE located at an area source of HAP emissions is new if construction of the stationary RICE is commenced on or after June 12, 2006.

The emergency generator is new stationary RICE located in an area source of HAPs. Because the emergency generator must meet the requirements of 40 CFR Part 60 Subpart JJJJ, no further requirements in 40 CFR Part 63 are applicable.

Pima County Code Title 17, Chapter 17.11 – General Provisions for Permits

Article I – Scope and Authority

- 17.11.010 Statutory Authority
- 17.11.020 Planning, Constructing, or Operating Without a Permit

Article II – General Provisions for Stationary Source Permits

- 17.11.060 Permit display or posting
- 17.11.120 Material permit condition
- 17.11.160 Test methods and procedures
- 17.11.210 Performance tests

Pima County Code Title 17, Chapter 17.13 – Individual and General Permits and Permit Revisions for Class II and Class III Permits

Article I – General Provisions

- 17.13.010 Application processing procedures for Class II and Class III permits
- 17.13.020 Permit contents for Class II and Class III permits

Article II – Permit Revisions, Renewals and Transfers for Class II and Class III Permits

- 17.13.100 Facility changes that require a permit revision for Class II and Class III permits
- 17.13.110 Procedures for certain changes that do not require a permit revision for Class II or Class III permits
- 17.13.130 Minor revisions for Class II or Class III permits
- 17.13.140 Significant revisions for Class II or Class III permits
- 17.13.150 Reopening, revocation, reissuance, or termination for Class II or Class III Permits

Article III – Emissions for Class II and Class III Sources

- 17.13.180 Annual Emissions Inventory Questionnaire for Class II or Class III permits
- 17.13.190 Excess Emissions reporting requirements for Class II or Class III permits

Article V – Fees for Class II, Class III, and General Permits

- 17.13.240 Fees related to Class II and Class III permits

Pima County Code Title 17, Chapter 17.14 – Activity Permits

- 17.14.040 Fugitive Dust Activity permits
- 17.14.060 Asbestos NESHAP activity permits
- 17.14.080 Open burning permits

Pima County Code Title 17, Chapter 17.16 – Emission Limiting Standards

Article I – General Provisions

- 17.16.010 Local rules and standards; Applicability of more than one standard
- 17.16.020 Noncompliance with applicable standards
- 17.16.030 Odor limiting standards

Article II – Visible Emission Standards

- 17.16.040 Standards and applicability (includes NESHAP)
- 17.16.050 Visibility limiting standard

Article III – Emissions from Existing and New Nonpoint Sources

- 17.16.055 General
- 17.16.070 Fugitive dust emissions standards for motor vehicle operation
- 17.16.080 Vacant lots and open spaces
- 17.16.090 Roads and streets
- 17.16.100 Particulate materials
- 17.16.110 Storage piles
- 17.16.450 Off-road machinery
- 17.16.470 Roadway and site cleaning machinery

Article IV – New and Existing Stationary Source Performance Standards

- 17.16.130 Applicability
- 17.16.230 Standards of performance for storage vessels for petroleum liquids
- 17.16.340 Standards of performance for stationary rotating machinery
- 17.16.400.A Organic solvents and other organic materials
- 17.16.430.F Standards of performance for unclassified sources

Pima County Code Title 17, Chapter 17.20 – Emissions Source Testing and Monitoring

- 17.20.010 Source sampling, monitoring and testing
- 17.20.040 Concealment of emissions

Pima County Code Title 17, Chapter 17.24 – Emission Source Recordkeeping and Reporting

- 17.24.020 Recordkeeping for compliance determination

VI. REQUIREMENTS SPECIFICALLY IDENTIFIED AS NON-APPLICABLE

- A.** NSPS Subpart GG, Standards of Performance for Stationary Gas Turbines does not apply to the source in accordance with the exemption found in NSPS Subpart KKKK §60.4305(b).
- B.** NESHAP Subpart YYYY, National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines does not apply to the source since the facility is not a major source.

- C. NESHAP Subpart HH, National Emission Standards for Hazardous Air Pollutants from Oil and Gas Production Facilities does not apply to the source, since the source is not proposing the installation of any triethylene glycol (TEG) dehydration units.
- D. The centrifugal compressor will use dry seals and therefore is not considered a centrifugal compressor affected facility in accordance 40 CFR §60.5365a(b) subject to the provisions in 40 CFR §60.5380a and associated requirements.

VII. PERMIT CONTENTS and APPLICABILITY DETERMINATIONS

A. Permit and Permit Summary:

Specific Conditions have been organized into permit sections specific to the equipment and emission source categories at the facility.

B. General Applicability (Section 1):

This Section of the permit incorporates provisions relating the statutory authority, permit classification, and provides a summary of the permitted facility sources and the organization of the permit sections.

C. Facility-Wide Operations (Section 2):

This Section incorporates facility wide provisions applicable to all sources at the facility and is also used to streamline provisions applicable to the specific sources and operations in other Sections of the permit. The facility-wide provisions include the following: Operating limitations, general control standards, materials handling standards, odor limiting standard, opacity standards, visibility limiting standard disposition of portable sources, and requirement to obtain applicable activity permits. This Section also includes the facility-wide provisions for monitoring, recordkeeping, reporting requirements, facility changes, and testing requirements.

D. NSPS Subpart KKKK for New Stationary Combustion Turbines (Section 3):

This Section incorporates applicable PCC and NSPS requirements and for the stationary combustion turbine found in PCC 17.16.340 and 40 CFR Part 60, Subpart KKKK, respectively. The specific applicability provision for stationary combustion turbines is included in Section 7.

The stationary gas turbine is subject to a NSPS Nitrogen Oxides Standard in accordance with 40 CFR §60.4320 and requires initial and subsequent performance testing to verify the nitrogen oxide emissions meet the standard. The stationary combustion turbine is limited to firing natural gas and therefore exempt from the sulfur dioxide emission standard in accordance with 40 CFR §60.4365, provided the Permittee maintains documentation of the natural gas characteristics in a current, valid purchase contract, tariff sheet or transportation contract, specifying that the total sulfur content for natural gas is 20 grains of sulfur or less per 100 standard cubic feet.

E. NSPS Subpart JJJJ for SI ICE (Emergency Designated Engines) (Section 4):

This Section incorporates specific Pima County and NSPS provisions for emergency designated spark ignition internal combustion engines.

F. NSPS Subpart OOOOa For Crude Oil and Natural Gas Facilities (Section 5)

This Section incorporates applicable federal standards that apply to the collection of fugitive emissions components at the compressor station. The regulation has been stayed until August 31, 2017. A severability clause for these provisions has been included should the subpart become unenforceable by the EPA as a result of future actions.

G. Fugitive Dust Requirements (Section 6)

Section 6 of the permit contains standards including reasonable precautions that apply to sources of fugitive dust or particulate matter, which due to a lack of an identifiable emission point or plume, are classified as nonpoint sources. These sources include but are not limited to equipment and activities employed during land clearing leveling, grading or trenching; motor vehicle operation on vacant lots and open areas; roads and streets; particulate material handling operations; and dust producing material storage piles.

H. Specific Applicability Provisions (Section 7):

This Section of the permit includes specific conditions on the applicability of permitted facility sources to the source categories, affected facilities, equipment, emission sources, installations, activities and operations at the facility and applicable operating limitations and requirements.

VIII. Periodic Monitoring

This is a Class II permit and as such does not include the mandatory submittal of a semiannual summary report of required monitoring or an annual compliance certification to the Control Officer. The permit requires the facility to maintain required periodic monitoring records and/or reports on site.

IX. Control Technology Determination

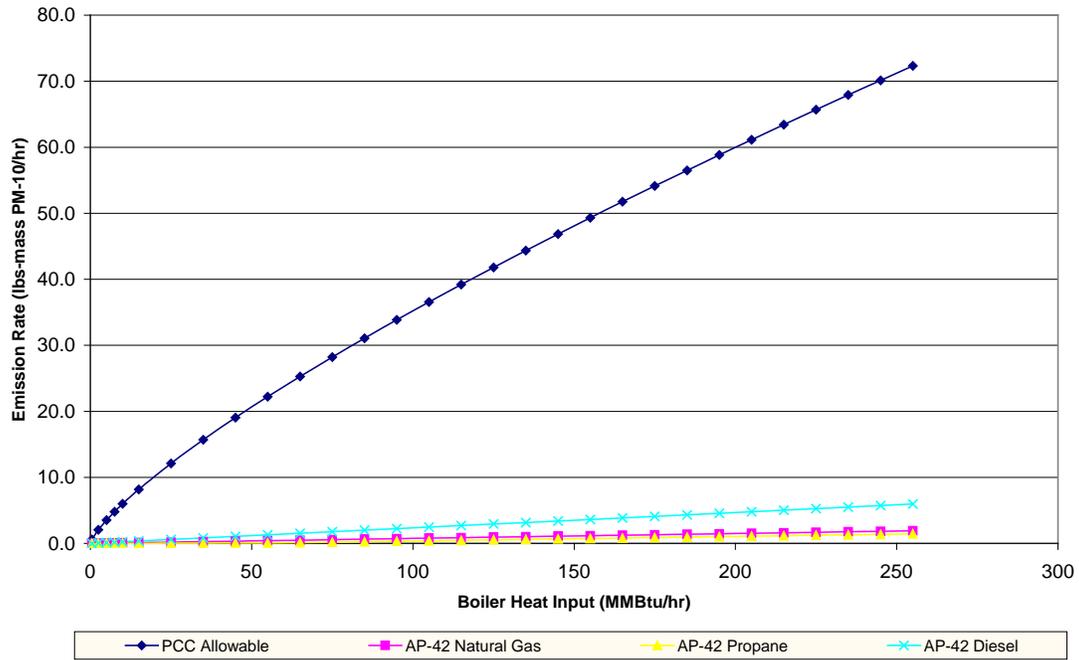
No control technologies needed to be determined; the source is not subject to RACT, BACT or LAER.

X. Exclusion of PCC Particulate Matter Discharge Rate Standards

The applicable PCC rules for the maximum particulate discharge rates may not be included in Class II area source permits as explained below.

- For particulate matter sources, the calculated maximum particulate matter discharge rate, as provided in Title 17, yields maximum rates that far exceed the emissions expected from most typical area sources. For example, a 200 ton/hour process source, which is typical for an average construction aggregate screening operation, would be limited to a maximum particulate matter discharge rate of 40.4 lb/hour or 177 tons/year. This maximum limit far exceeds estimated emissions from typical sources using EPA AP-42 emission factors and the source is far more likely to exceed opacity and visibility limiting standards well before reaching this limit.
- With regard to fuel burning equipment, PCC 17.16.165.C limits the emissions of particulate matter from commercial and industrial fossil-fuel fired equipment (including but not limited to boilers). This limit may not be included because allowable emissions are consistently over an entire order of magnitude higher than EPA AP-42 estimated potential emissions. The chart below, illustrates the point.

Comparison of Emissions of PM-10 for Boilers: PCC Allowable vs AP-42 Estimated



Comparative Chart of Allowable Particulate Emissions Under Pima County Code, Title 17, and Estimated Potential Emissions based on EPA AP-42 Estimates for External Combustion Sources. Allowable emissions are consistently over ten times estimated potential emissions. Therefore, it is not necessary to include the standard in the permit explicitly, but by reference in Attachment 1.

XI. Exclusion of PCC Sulfur Dioxide Emission Standards

Compliance with the fuel sulfur limitation requirements in the permit shall ensure compliance with the Sulfur Dioxide Standards of PCC 17.16.165.E and PCC 17.16.340.F; which limit the emission of SO₂ to 1.0 pound per million BTU of heat input when burning low sulfur fuel. To demonstrate continuous compliance with the sulfur content limitation, the Permittee is required to maintain documentation of the natural gas characteristics in a current, valid purchase contract, tariff sheet or transportation contract, specifying that the total sulfur content for natural gas is 20 grains of sulfur or less per 100 standard cubic feet.

The equipment specific sulfur content limitations in the permit allow for the omission of PCC 17.16.165.E and PCC 17.16.340.F. These rules are incorporated by reference in Attachment 1 of the permit.