



**TECHNICAL REVIEW AND EVALUATION
OF APPLICATION FOR
AIR QUALITY PERMIT NO. 66576**

Questar Southern Trails Pipeline Company

I. INTRODUCTION

This Class II operating permit is issued to Questar Southern Trails Pipeline Company, the Permittee, for the continued operation of a natural gas pipeline compressor station. This is a renewal of Air Quality Permit Number 54401.

A. Company Information

1. Facility Name: Mohave Valley Compressor Station
2. Facility Location: Latitude: 34.952364
Longitude: -114.536373
3. Mailing Address: Questar Southern Trails Pipeline Company
P.O. Box 45360
Salt Lake City, Utah 84145

B. Attainment Classification

The facility is located in an area designated as attainment/unclassified for all criteria pollutants.

II. PROCESS DESCRIPTION

The Mohave Valley Compressor Station is a natural gas booster station, compressing natural gas for transmission through an interstate pipeline transportation system. The compressor station consists of one natural gas compressor driven by a natural gas-fired 2,368 horsepower reciprocating internal combustion engine (RICE). The facility also includes an emergency generator driven by one 770 horsepower natural gas-fired emergency RICE. The emergency generator is utilized when commercial power is not available.

There are no air pollution control equipment or emission monitoring devices on either engine.

III. EMISSIONS

The facility wide potential to emit (PTE) criteria pollutants and hazardous air pollutants (HAP) have been calculated using emission factors provided by the engine manufacturers and as published by the Environmental Protection Agency (EPA) in AP 42, Fifth Edition, Volume I, Chapter 3: Stationary Internal Combustion Sources. PTE has been calculated based on continuous operation (8,760 hours per year), of the compressor engine; and 500 hours per year of the emergency generator engine.



**Table 1 – Facility Wide Emissions
(tons per year)**

| Pollutant | Compressor Engine 2,368 Horsepower 8,760 hours/year | Emergency Engine 770 Horsepower 500 hours/year | Total |
|-------------------|---|--|-------|
| CO | 57.17 | 0.65 | 57.81 |
| NO _x | 16.01 | 6.96 | 22.97 |
| VOC | 15.09 | 0.16 | 15.25 |
| HAP | 3.25 | 0.08 | 3.33 |
| PM ₁₀ | 0.70 | 0.03 | 0.73 |
| PM _{2.5} | 0.70 | 0.03 | 0.73 |
| SO ₂ | 0.04 | 0.0008 | 0.04 |

IV. MINOR NEW SOURCE REVIEW

This renewal permit includes the removal of the 250 hours per year operating limit on the emergency engine. The revised potential to emit is based on 500 hours of annual operation of the emergency engine (as per EPA guidance provided in the 1995 Seitz Memo). This increase in hours of operation does not meet the definition of a modification and the increase in potential to emit based on 500 hours per year versus 250 hours per year is less than the permitting exemption threshold for all minor new source review pollutants. Therefore removal of the 250 hours per limit does not trigger minor new source review.

V. APPLICABLE REGULATIONS

Table 2 displays the applicable requirements for each permitted piece of equipment along with an explanation of why the requirement is applicable.

Table 2: Verification of Applicable Regulations

| Unit | Control Device | Rule | Discussion |
|--------------------------------|----------------|--|---|
| MV001 – Natural gas-fired RICE | None | A.A.C. R18-2-719, and 40 CFR 63 Subpart ZZZZ | Standards of Performance applicable to Existing Stationary Rotating Machinery (719), and National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (Subpart ZZZZ). 40 CFR 60 Subpart JJJJ is not applicable because the emission unit is an existing source, with construction commenced prior to July 11, 2005. |



| Unit | Control Device | Rule | Discussion |
|---|---|---|---|
| MV003 – Natural gas-fired Emergency RICE | None | A.A.C. R18-2-719, and 40 CFR 63 Subpart ZZZZ | Standards of Performance applicable to Existing Stationary Rotating Machinery (719), and National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (Subpart ZZZZ). 40 CFR 60 Subpart JJJJ is not applicable because the emission unit is an existing source, with construction commenced prior to July 11, 2005. |
| Fugitive dust sources | Water Trucks Dust Suppressants | A.A.C. R18-2 Article 6 A.A.C. R18-2-702 | These standards are applicable to all fugitive dust sources at the facility. |
| Mobile sources | None | A.A.C. R18-2-801 | These are applicable to off-road mobile sources, which either move while emitting air pollutants or are frequently moved during the course of their utilization. |
| Abrasive Blasting | Wet blasting; Dust collecting equipment; Other approved methods | A.A.C. R-18-2-702 A.A.C. R-18-2-726 | These standards are applicable to any abrasive blasting operation. |
| Spray Painting | Enclosures | A.A.C. R18-2-702 A.A.C. R-18-2-727 | This standard is applicable to any spray painting operation. |
| Demolition/renovation operations | N/A | A.A.C. R18-2-1101.A.8 | This standard is applicable to any asbestos related demolition or renovation operations. |

VI. PREVIOUS PERMIT CONDITIONS

Permit No. 54401 was issued on, January 17, 2013 for the continued operation of this facility. Table 3 below illustrates if a section in Permit No. 66576 was revised or deleted.

**Table 3: Permit No. 66576**

| Section No. | Determination | | Comments |
|--------------|---------------|--------|--|
| | Revised | Delete | |
| Attachment A | | | |
| All | X | | General Provisions - Revised to represent most recent template language. |
| Attachment B | | | |
| I | X | | Added ALT-082 opacity measurement option and consolidated opacity monitoring procedures into a facility-wide condition. |
| II.B.2.a | X | | Added flexibility to documentation of lower heating value of natural gas fuel. |
| II.C.2 | X | | Streamlined, (opacity procedures now in facility-wide section). |
| II.D.2 | X | | Added flexibility to documentation of lower heating value of natural gas fuel. |
| II.E | | X | The NO _x emission limit and performance testing requirements were removed since there was no regulatory basis for the limitation. Additionally, based upon the review of past performance testing the results demonstrated compliance with the emission limits. |
| II.F | | X | The CO emission limit and performance testing requirements were removed since there was no regulatory basis for the limitation. Additionally, based upon the review of past performance testing the results demonstrated compliance with the emission limits. |
| II.G | X | | Revised entire subsection to rules applicable to remote status engine. |
| III.A.2.b | | X | Removed requirement limiting emergency engine to 250 hours per year (Changed permit status from synthetic minor to true minor). Based upon EPA guidance an emergency generator can be inherently assumed to be limited to 500 hours operation, and as such no limitation needs to be included in the permit. |
| III.B.2 | X | | Added flexibility to documentation of lower heating value of natural gas fuel. |
| III.C.2 | X | | Streamlined, (opacity procedures now in facility-wide section). |
| III.D.2.a | X | | Added flexibility to documentation of lower heating value of natural gas fuel. |
| III.E | X | | Streamlined entire subsection to only those rules currently applicable. |
| IV.B.2 | | X | Condition not applicable to this facility. |
| IV.B.3.b | X | | Streamlined, (opacity procedures now in facility-wide section). |



VII. MONITORING REQUIREMENTS

A. Non-Emergency RICE (MV001)

1. The Permittee is required to monitor daily, and keep a record of the lower heating value and sulfur content of the natural gas fuel.
2. The Permittee is required to conduct a monthly survey of visible emissions from the engine.

B. Emergency RICE (MV003)

1. The Permittee is required to keep a record of monthly hours of operation of the emergency engine and at the end of each month calculate a rolling 12-month total.
2. The Permittee is required to monitor daily, and keep a record of the lower heating value and sulfur content of the natural gas fuel.
3. The Permittee is required to conduct a monthly survey of visible emissions from the engine.

C. Fugitive Dust

1. The Permittee is required to keep record of the dates and types of dust control measures employed.
2. The Permittee is required to conduct a monthly survey of visible emissions from fugitive dust sources.

D. Mobile Sources

The Permittee is required to keep records of all emission related maintenance performed on the mobile sources.

E. Periodic Activities

1. The Permittee is required to record the date, duration and pollution control measures of any abrasive blasting project.
2. The Permittee is required to record the date, duration, quantity of paint used, any applicable MSDS, and pollution control measures of any spray painting project.
3. The Permittee is required to maintain records of all asbestos related demolition or renovation projects. The required records include the "NESHAP Notification for Renovation and Demolition Activities" form and all supporting documents.

VIII. COMPLIANCE HISTORY

One field inspection, five performance tests and ten file/report reviews have been completed for this facility during the term of the previous permit. All performance tests demonstrated compliance to the respective permit conditions. Two permit deviations with no excess emissions were noted during the permit term; each was quickly resolved with corrective action taken by the source and no compliance enforcement action was required.



IX. LIST OF ABBREVIATIONS

| | |
|-------------------|---|
| A.A.C. | Arizona Administrative Code |
| ARS | Arizona Revised Statute |
| CFR | Code of Federal Regulations |
| CO | carbon monoxide |
| EPA | Environmental Protection Agency |
| HAP | hazardous air pollutant |
| NESHAP | National Emissions Standards for Hazardous Air Pollutants |
| NO _x | nitrogen oxide |
| NSPS | New Source Performance Standards |
| PM ₁₀ | particulate matter nominally less than 10 micrometers |
| PM _{2.5} | particulate matter nominally less than 2.5 micrometers |
| PTE | potential to emit |
| RICE | reciprocating internal combustion engine |
| SO ₂ | sulfur dioxide |
| TPY | ton(s) per year |
| VOC | volatile organic compound |