

STATEMENT OF BASIS

For the issuance of Draft Air Permit #1868-AGP-000 AFIN: Statewide

1. PERMITTING AUTHORITY:
Division of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317
2. APPLICANT:

Qualifying Natural Gas Compression Stations
3. PERMIT WRITER:

Jacob Allen
4. NAICS DESCRIPTION AND CODE:

NAICS Description:
NAICS Code:
5. SUBMITTALS:

| Date of Submittal | Type of Permitting Action (New, Renewal, Modification, Deminimis/Minor Mod, or Administrative Amendment) | Short Description of Any Changes That Would Be Considered New or Modified Emissions |
|-------------------|---|---|
| Not Applicable | Renewal | None |

6. REVIEWER'S NOTES:

This permit is a renewal of Air Permit #1868-AGP-000 for certain minor source Natural Gas Compression Stations in Arkansas (referred to as either the "General Permit" or "GP"). Changes to the general permit include: A condition allowing the facility to submit the serial number for the NOI engine form at a later date. Applicable regulations will also be updated to reflect the change wording of "regulation" to rule". General Condition #23 was added which states NOI must be submitted online unless approved to do so through paper. There are no permitted emission changes.

7. COMPLIANCE STATUS:

The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues.

Not Applicable – This is a General Permit.

8. PSD/GHG APPLICABILITY:

a) Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? N
If yes, were GHG emission increases significant? N

b) Is the facility categorized as a major source for PSD? N

- *Single pollutant ≥ 100 tpy and on the list of 28 or single pollutant ≥ 250 tpy and not on list*

If yes for 8(b), explain why this permit modification is not PSD.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

| Source | Pollutant | Regulation (NSPS, NESHAP or PSD) |
|--|---|-------------------------------------|
| Stationary Spark Ignition Engines | CO, NO _x , SO ₂ , VOC | 40 C.F.R. Part 60 JJJJ |
| Reciprocating Internal Combustion Engines | HAP | 40 C.F.R. Part 63 ZZZZ |
| Amine Sweeteners | H ₂ S | 40 C.F.R. 60 Subpart LLL |
| TEG Dehydrator | Benzene | 40 C.F.R. Part 63 Subpart HH |
| Pneumatic Controllers, Reciprocating Compressors | VOC | 40 C.F.R. Part 60 Subpart OOOO |
| | | 40 C.F.R. Part 60 Subpart OOOOa |
| Steam Generating Reboilers | PM, SO ₂ | 40 C.F.R. Part 60 Subpart Dc |
| Stationary Gas Turbines | SO ₂ | 40 C.F.R. Part 60 Subpart GG |
| Stationary Combustion Turbines | NO _x , SO ₂ | 40 C.F.R. Part 60 Subpart KKKK |
| Gasoline Storage Tanks | HAP | 40 C.F.R. Part 63 Subpart CCCCCC |

10. COMPLIANCE ASSURANCE MONITORING (CAM) – TITLE V PERMITS ONLY:

List sources potentially subject to CAM because they use a control device to achieve compliance and have pre-control emissions of at least 100 percent of the major source level. List the pollutant of concern and a brief summary of the CAM plan (temperature monitoring, CEMs, opacity monitoring, etc.) and frequency requirements of § 64.

| Source | Pollutant Controlled | Cite Exemption or CAM Plan Monitoring and Frequency |
|--------|----------------------|---|
| N/A | | |

11. EMISSION CHANGES AND FEE CALCULATION:

| Plantwide Permitted Emissions (tons/yr) | | | |
|---|-----------------|-------------|--------|
| Pollutant | Previous Permit | This Permit | Change |
| PM | 10 | 10 | 0 |
| PM ₁₀ | 10 | 10 | 0 |
| SO ₂ | 25 | 25 | 0 |
| VOC | 95 | 95 | 0 |
| CO | 95 | 95 | 0 |
| NO _x | 95 | 95 | 0 |
| H ₂ S | 2.37 | 2.37 | 0 |
| HAPs | 23.75 | 23.75 | 0 |

12. AMBIENT AIR EVALUATIONS:

The following are results for ambient air evaluations or modeling.

a) NAAQS

A NAAQS evaluation is not required under the Arkansas State Implementation Plan, National Ambient Air Quality Standards, Infrastructure SIPs and NAAQS SIP per Ark. Code Ann. § 8-4-318, dated March 2017 and the DEQ Air Permit Screening Modeling Instructions.

b) Non-Criteria Pollutants:

No emissions changes compared to the previous general permit renewal. PAER/PAIL analysis taken from the 2015 renewal of the general permit.

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Department has deemed the PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m³), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

| Pollutant | TLV (mg/m ³) | PAER (lb/hr) = 0.11 × TLV | Proposed lb/hr | Pass? |
|------------------|-----------------------------|------------------------------|----------------|-------|
| Acrolein | 0.23 | 0.03 | 5.38E-2 | N |
| Hydrogen Sulfide | 7.5 | 0.82 | 0.54 | Y |

2nd Tier Screening (PAIL)

AERMOD air dispersion modeling was performed on the estimated hourly emissions from the following sources, in order to predict ambient concentrations beyond the property boundary. The Presumptively Acceptable Impact Level (PAIL) for each compound has been deemed by the Department to be one one-hundredth of the Threshold Limit Value as listed by the ACGIH.

| Pollutant | PAIL (µg/m ³) = 1/100 of Threshold Limit Value | Modeled Concentration (µg/m ³) | Pass? |
|-----------|---|---|-------|
| Acrolein | 2.3 | 2.09 | Y |

c) H₂S Modeling:

A.C.A. §8-3-103 requires hydrogen sulfide emissions to meet specific ambient standards. Many sources are exempt from this regulation, refer to the Arkansas Code for details.

Is the facility exempt from the H₂S Standards

Y

If exempt, explain: 40 CFR Part LLL

13. CALCULATIONS:

| SN | Emission Factor Source (AP-42, testing, etc.) | Emission Factor (lb/ton, lb/hr, etc.) | Control Equipment | Control Equipment Efficiency | Comments |
|---------------|---|--|----------------------|------------------------------------|---|
| All | H ₂ S - 40 CFR 60 LLL | 2.4 tons per year | None | | Based on 2 long tons per year H ₂ S expressed as S |
| All others | AP-42 Chapter 3.2, dated 7/00 | AP-42 Chapter 3.2, dated 7/00 | None | | |

14. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

| SN | Pollutants | Test Method | Test Interval | Justification |
|---|-------------------------------|---|------------------------|---|
| ½ of each type | CO, NO _x | 10, 7E | 5 years | Dept. Practice |
| Engines | CO, NO _x | 10, 7E | Initial then Yearly | NSPS JJJJ for uncertified engines |
| Natural Gas | Sulfur | Draeger Tube | 3 years | Compliance with SO ₂ limits |
| Existing non remote 500 HP 4SLB and 4SRB engines | CO, Formaldehyde or THC | ASTM D6522-00 (Reapproved 2005)abc (heated probe not necessary) or Method 10 of 40 CFR part 60, appendix A-4 or 1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03, a) provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130 or 1) Method 25A, reported as propane, of 40 CFR part 60, appendix A | Initial | Initial compliance |
| Existing non remote 500 HP 4SLB and 4SRB engines | CO | ZZZZ Appendix A | Annual | ZZZZ Annual compliance |

| SN | Pollutants | Test Method | Test Interval | Justification |
|--------------------------------|---------------------|-------------|---------------|----------------------------|
| Stationary Gas Turbines | NO _x | § 60.8 | Initial | GG/KKKK Initial Compliance |
| Stationary Combustion Turbines | | | | |
| Stationary Combustion Turbines | NO _x | § 60.4400 | Annual | KKKK Annual Compliance |
| ½ of each type | CO, NO _x | 10, 7E | 5 years | Dept. Practice |

15. MONITORING OR CEMS:

The permittee must monitor the following parameters with CEMS or other monitoring equipment (temperature, pressure differential, etc.)

| SN | Parameter or Pollutant to be Monitored | Method (CEM, Pressure Gauge, etc.) | Frequency | Report (Y/N) |
|--|--|------------------------------------|------------------|--------------|
| Existing non remote 500 HP 4SLB and 4SRB engines | Catalyst Temperature | Thermocouple | Every 15 minutes | N |

16. RECORDKEEPING REQUIREMENTS:

The following are items (such as throughput, fuel usage, VOC content, etc.) that must be tracked and recorded.

| SN | Recorded Item | Permit Limit | Frequency | Report (Y/N) |
|-----------------|---|---|------------------------------|--------------|
| Amine Sweetener | H ₂ S | Design Capacity of 2 long tons expressed as S | Initial and at changes | N |
| TEG Dehydrator | Benzene | 1.66 tpy | Monthly | N |
| Engines | List of engines | Subject to NSPS JJJJ and model year | Initial and at engine change | N |
| Engines | Records required by JJJJ | N/A | Annual | N |
| Engines | Initial and annual remote status determination for ZZZZ | N/A | Annual | Y |

| SN | Recorded Item | Permit Limit | Frequency | Report (Y/N) |
|---|-----------------------------------|---|------------------------|--------------|
| Non remote 4SLB and 4SRB Engines | Compliance report for ZZZZ | N/a | Semiannually | Y |
| Emergency Engines | Hours of Operation | 50 hrs per year | | |
| Emergency that operate or are contractually obligated to be available for more than 15 hours per year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) or that operate for the purposes specified in § 63.6640(f)(4)(ii) | Compliance report for ZZZZ | N/a | Annually | Y |
| Reciprocating Compressors Pneumatic Controllers | Records required by OOOO or OOOOa | N/a | Annual | N |
| Steam Generating Reboilers | Fuel Combusted | N/a | Daily | N |
| Stationary Gas Turbines | Records required by GG | N/a | Annual | N |
| Stationary Combustion Turbines | Records required by KKKK | N/a | Annual | N |
| Gasoline Storage Containers | Throughput | 10,000 Gallons of gasoline per month | Monthly | N |
| Amine Sweetener | H ₂ S | Design Capacity of 2 long tons expressed as S | Initial and at changes | N |

17. OPACITY:

| SN | Opacity | Justification for limit | Compliance Mechanism |
|--------------------------------|---------|----------------------------------|-------------------------------------|
| Natural gas combustion engines | 5 | Guidance for natural gas engines | Burning natural gas/upon inspection |

18. DELETED CONDITIONS:

| Former SC | Justification for removal |
|-----------|---------------------------|
| | N/A |

19. GROUP A INSIGNIFICANT ACTIVITIES:

The insignificant activities will be detailed in the Notice of Intent.

20. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

The following is a list of all active permits voided/superseded/subsumed by the issuance of this permit.

| Permit # |
|-------------------------------|
| All Previously Issued Permits |