Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone (304) 926-0475
Fax (304) 926-0479

west virginia department of environmental protection

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

# G70-B GENERAL PERMIT ENGINEERING EVALUATION

**PREVENTION AND CONTROL OF AIR POLLUTION IN REGARD TO THE CONSTRUCTION, MODIFICATION, RELOCATION, ADMINISTRATIVE UPDATE AND OPERATION OF NATURAL GAS PRODUCTION FACILITIES LOCATED AT THE WELL SITE**

| | |
|---|---|
| APPLICATION NO.: G70-B**085B** | FACILITY ID: **095-00049** |

- ☐ CONSTRUCTION
- ☒ MODIFICATION
- ☐ RELOCATION
- ☐ CLASS I ADMINISTRATIVE UPDATE
- ☐ CLASS II ADMINISTRATIVE UPDATE

## BACKGROUND INFORMATION

Name of Applicant (as registered with the WV Secretary of State's Office): Antero Resources Corporation

Federal Employer ID No. (FEIN): 80-0162034

Applicant's Mailing Address: 1615 Wynkoop Street

| City: Denver | State: CO | ZIP Code: 80202 |
|---|---|---|

Facility Name: Coastal 1 Well Pad

Operating Site Physical Address: 2310 Braden Hill Road
If none available, list road, city or town and zip of facility.

| City: Jacksonburg, WV | Zip Code: 26377 | County: Tyler |
|---|---|---|

Latitude & Longitude Coordinates (NAD83, Decimal Degrees to 5 digits):
Latitude: 39.42352
Longitude: -80.73415

| | |
|---|---|
| SIC Code: 1311<br>NAICS Code: 211111 | Date Application Received:<br>February 17, 2016 |
| Fee Amount: $1,500 | Date Fee Received: February 18, 2016 |
| Applicant Ad Date: February 24, 2016 | Newspaper: Tyler Star News |
| Date Application Complete: March 7, 2016 | Due Date of Final Action: April 21, 2016 |

Engineer Assigned: Caraline Griffith

Description of Permitting Action: Installation of two (2) Cimarron enclose combustors and five (5) line heaters.

## PROCESS DESCRIPTION

The following process description was taken from Registration Application G70-B085B:

A mixture of condensate and entrained gas from the five (5) wells enters the facility through a series of line heaters (LH001-005) sand gas production unit (GPU) heaters (GPU001-005) which are 3-phase separators where the gas, condensate, and produced water are separated. The line heaters and GPUs are fueled by a slip stream of the separated gas. The separated gas from the three phase separators is metered and sent to the sales gas pipeline. The separated water flows to the produced water storage tanks (TANKPW001-002). The separated condensate is then sent to two phase low pressure separators where gas is further separated. The separated gas is routed to the compressor (ENG001), compressed, and is then metered and sent to the sales gas line. The condensate from the two phase separators flows to the condensate storage tanks (TANKCOND001-010). The line heaters are only used during the first several months from start of production and will be removed once production has normalized.

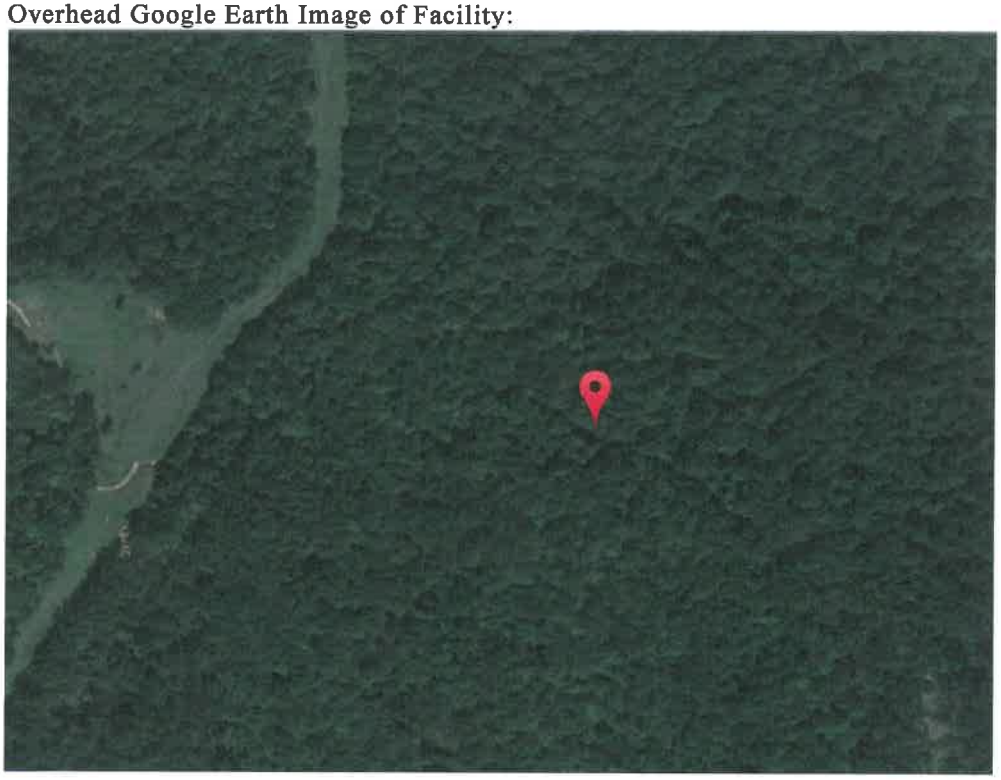
The facility has ten (10) tanks (TANKCOND001-010) on site to store condensate and two (2) tanks (TANKPW001-002) to store produced water prior to removal from the site. The flashing, working, and breathing losses form the tanks are routed to p to three enclosed combustors (EC001-003) to control the emissions. The enclosed combustor that will be used to control emissions is designed to achieve a VOC destruction efficiency of 98%.

Condensate and produced water are transported offsite on an as needed basis via tanker truck. Truck loading connections are in place to pump condensate (L001) and produced water (L002) from the storage tanks into tanker trucks. Emissions form the loading operations are vented to the atmosphere.

Emissions from the facility's emission sources were calculated using the extended analysis of the condensate and gas from Sweeney 2H, one of the wells in the Forest Well Pad. The extended analyses are considered representative of the materials from Coastal 1 Well Pad, being in the same Marcellus rock formation.

## SITE INSPECTION

Site Inspection Date: February 25, 2016
Site Inspection Conducted By: Douglas Hammell
Results of Site Inspection: No changes from previous site checks. Site good for well pad construction and modifications.
Did Applicant meet Siting Requirements? Yes
If applicable, was siting criteria waiver submitted? NA
Directions to Facility: From Clarksburg, head west on US50 W for approximately 16 miles. Turn right onto Tarklin Run for approximately 150 feet, then turn left onto Old US-50 and continue for 0.2 miles. Take the first right onto Big Flint Road and continue for 11.6 miles. Turn left onto WV-23W and continue for 1.1 miles. Turn right onto Braden Hill Road and continue for 0.2 miles. Stay left at the fork to continue on Braden Hill Road (WV Route 64) for approximately 2.2 miles. Haul road entrance for Coastal 1 Pad will be on the right.
Overhead Google Earth Image of Facility:



## ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

The following table indicates which methodology was used in the emissions determination:

| Emission Unit ID# | Process Equipment | Calculation Methodology (e.g. ProMax, GlyCalc, mfg. data, AP-42, etc.) |
|---|---|---|
| GPU001-GPU005 | Five (5) Gas Production Units | AP-42 |
| LH001-LH005 | Five (5) Line Heaters | AP-42 |
| F001 | Fugitives | AP-42, EE |
| TANKCOND001-010 | Ten (10) Condensate Tanks | ProMax |
| TANKPW001-002 | Two (2) Produced Water Tanks | ProMax |
| L001 | Loading (Condensate) | AP-42 |
| L002 | Loading (Produced Water) | AP-42 |
| HR001 | Haul Truck | AP-42, EE |
| EC001-EC003 | Enclosed Combustors | AP-42 |
| PCV | Pneumatic CV | AP-42 |
| ENG001 | Compressor Engine | AP-42 |

The total facility PTE for the facility (including fugitive emissions) is shown in the following table:

| Pollutant | Facility Wide PTE (tons/year) | PTE Change for Modification (tons/year) |
|---|---|---|
| Nitrogen Oxides | 7.95 | +3.53 |
| Carbon Monoxide | 30.24 | +2.96 |
| Volatile Organic Compounds | 16.01 | +2.12 |
| Particulate Matter | 1.31 | -1.33 |
| Particulate Matter-10/2.5 | 1.31 | -1.33 |
| Sulfur Dioxide | 0.03 | +0.01 |
| Formaldehyde | 0.03 | +0.03 |
| Total HAPs | 1.01 | +0.10 |
| Carbon Dioxide Equivalent | 9,001.29 | +3,856.84 |

Maximum detailed controlled point source emissions were calculated by the applicant and checked for accuracy by the writer and are summarized in the table on the next page.

**APPLICANT:** Antero Resources Corporation **FACILITY NAME:** Coastal 1 Pad **G70-B085B**

| Emission Point ID# | $NO_x$ | | CO | | VOC | | $SO_2$ | | $PM_{10}$ | | $PM_{2.5}$ | | GHG ($CO_2e$) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | lb/hr | tpy | lb/hr | tpy | lb/hr | tpy | lb/hr | tpy | lb/hr | tpy | lb/hr | tpy | lb/hr | lb/hr |
| HR001 | -- | -- | -- | -- | -- | -- | -- | -- | 2.36 | 0.81 | -- | -- | -- | -- |
| PCV | -- | -- | -- | -- | 0.06 | 0.25 | -- | -- | -- | -- | -- | -- | 4.52 | 19.78 |
| F001 | -- | -- | -- | -- | 1.89 | 8.29 | -- | -- | -- | -- | -- | -- | 40.47 | 177.25 |
| ENG001 | 0.32 | 1.38 | 5.64 | 24.72 | 0.01 | 0.03 | <0.01 | <0.01 | <0.01 | 0.01 | <0.01 | 0.01 | 27.78 | 121.66 |
| GPU001-GPU005 | 0.60 | 2.63 | 0.51 | 2.21 | 0.03 | 0.14 | <0.01 | 0.02 | 0.05 | 0.20 | 0.05 | 0.20 | 721.70 | 3161.03 |
| LH001-LH005 | 0.80 | 3.51 | 0.67 | 2.95 | 0.04 | 0.19 | <0.01 | 0.02 | 0.06 | 0.27 | 0.06 | 0.27 | 962.26 | 4214.71 |
| L001 | -- | -- | -- | -- | 6.28 | 1.19 | -- | -- | -- | -- | -- | -- | 2.45 | 0.43 |
| L002 | -- | -- | -- | -- | <0.01 | <0.01 | -- | -- | -- | -- | -- | -- | 0.98 | 0.37 |
| EC001-EC003 | 0.10 | 0.42 | 0.08 | 0.36 | 1.34 | 5.88 | <0.01 | <0.01 | 0.01 | 0.03 | 0.01 | 0.02 | 298.19 | 1306.06 |
| TOTAL | 1.82 | 7.95 | 6.90 | 30.24 | 9.65 | 16.01 | 0.01 | 0.04 | 2.48 | 1.31 | 0.12 | 0.50 | 2058.35 | 9001.29 |

**APPLICANT:** Antero Resources Corporation **FACILITY NAME:** Coastal 1 Pad **G70-B085B**

| Emission Point ID# | Formaldehyde | | Benzene | | Toluene | | Ethylbenzene | | Xylenes | | Hexane | | Total HAPs | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | lb/hr | tpy | lb/hr | tpy | lb/hr | tpy | lb/hr | tpy | lb/hr | tpy | lb/hr | tpy | lb/hr | lb/hr |
| HR001 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| PCV | -- | -- | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.01 | 0.03 | 0.01 | 0.03 |
| F001 | -- | -- | <0.01 | <0.01 | 0.01 | 0.04 | 0.02 | 0.07 | 0.04 | 0.16 | 0.10 | 0.44 | 0.16 | 0.71 |
| ENG001 | <0.01 | 0.02 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.02 |
| GPU001-GPU005 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | -- | -- | <0.01 | <0.01 | 0.01 | 0.05 | 0.01 | 0.05 |
| LH001-LH005 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | -- | -- | <0.01 | <0.01 | 0.01 | 0.06 | 0.02 | 0.07 |
| L001 | -- | -- | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.01 | <0.01 |
| L002 | -- | -- | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| EC001-EC003 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.01 | <0.01 | <0.01 | <0.01 | 0.01 | 0.02 | 0.11 | 0.03 | 0.13 |
| TOTAL | 0.01 | 0.03 | <0.01 | 0.01 | 0.01 | 0.04 | 0.02 | 0.07 | 0.04 | 0.17 | 0.15 | 0.69 | 0.24 | 1.01 |

## REGULATORY APPLICABILITY

**45CSR2 (Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers)**

The purpose of 45CSR2 (Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers) is to establish emission limitations for smoke and particulate matter which are discharged from fuel burning units.

45CSR2 states that any fuel burning unit that has a heat input under ten (10) MMBTU/hr is exempt from Sections 4 (weight emission standard), 5 (control of fugitive particulate matter), 6 (registration), 8 (testing, monitoring, recordkeeping, reporting) and 9 (startups, shutdowns, malfunctions). However, failure to attain acceptable air quality in parts of some urban areas may require the mandatory control of these sources at a later date. If the individual heat input of all of the proposed fuel burning units are below 10 MMBTU/hr, these units are exempt from the aforementioned sections of 45CSR2. However, the registrant would be subject to the opacity requirements in 45CSR2, which is 10% opacity based on a six minute block average. Fuel burning units greater than 10 MMBTU/hr are ineligible for registration under General Permit G70-B

| Emission Unit ID# | Emission Unit Description | Maximum Design Heat Input (MDHI) (MMBTU/hr) |
|---|---|---|
| GPU001 | Gas Production Unit | 1.5 |
| GPU002 | Gas Production Unit | 1.5 |
| GPU003 | Gas Production Unit | 1.5 |
| GPU004 | Gas Production Unit | 1.5 |
| GPU005 | Gas Production Unit | 1.5 |
| LH001 | Line Heater | 2.0 |
| LH001 | Line Heater | 2.0 |
| LH001 | Line Heater | 2.0 |
| LH001 | Line Heater | 2.0 |
| LH001 | Line Heater | 2.0 |

**45CSR6 (To Prevent and Control Air Pollution from the Combustion of Refuse)**

45CSR6 prohibits open burning, establishes emission limitations for particulate matter, and establishes opacity requirements. Sources subject to 45CSR6 include completion combustion devices, enclosed combustion devices, and flares.

The facility-wide requirements of the general permit include the open burning limitations §§45-6-3.1 and 3.2.

All completion combustion devices, enclosed combustion devices, and flares are subject to the particulate matter weight emission standard set forth in §45-6-4.1; the opacity requirements in §§45-6-4-3 and 4-4; the visible emission standard in §45-6-4.5; the odor standard in §45-6-4.6; and, the testing standard in §§45-6-7.1 and 7.2.

Enclosed combustion control devices and flares that are used to comply with emission standards of NSPS, Subpart OOOO are subject to design, operational, performance, recordkeeping and reporting requirements of the NSPS regulation that meet or exceed the requirements of 45CSR6.

| Emission Unit ID# | Maximum Design Heat Input (MDHI) (MMBTU/hr) | Subject to Weight Emission Standard? | Control Efficiency Claimed by Registrant | Provide Justification how 45CSR6 is met. |
|---|---|---|---|---|
| EC001 | 12.0 | X Yes ☐ No | 98% | Assuming a density of 0.044 lb/scf, the allowable emission limit for this enclosed combustor is 0.65 lb/hr. The amount emitted by EC001 is <0.01. |
| EC002 | 12.0 | X Yes ☐ No | 98% | Assuming a density of 0.044 lb/scf, the allowable emission limit for this enclosed combustor is 0.65 lb/hr. The amount emitted by EC002 is <0.01. |
| EC003 | 12.0 | X Yes ☐ No | 98% | Assuming a density of 0.044 lb/scf, the allowable emission limit for this enclosed combustor is 0.65 lb/hr. The amount emitted by EC003 is <0.01. |

**45CSR10 (To Prevent and Control Air Pollution from the Emission of Sulfur Oxides)**

45CSR10 establishes emission limitations for $SO_2$ emissions which are discharged from stacks of fuel burning units. A "fuel burning unit" means and includes any furnace, boiler apparatus, device, mechanism, stack or structure used in the process of burning fuel or other combustible material for the primary purpose of producing heat or power by indirect heat transfer. Sources that meet the definition of "Fuel Burning Units" per 45CSR10-2.8 include GPUs, in-line heaters, heater treaters, and glycol dehydration unit reboilers.

Fuel burning units less than 10 MMBtu/hr are exempt. The sulfur dioxide emission standard set forth in 45CSR10 is generally less stringent than the potential emissions from a fuel burning unit for natural gas. The $SO_2$ emissions from a fuel burning unit will be listed in the G70-B permit registration at the discretion of the permit engineer on a case-by-case basis. Issues such as non-attainment designation, fuel use, and amount of sulfur dioxide emissions will be factors used in this determination. Fuel burning units greater than 10 MMBTU/hr are ineligible for registration under General Permit G70-B

Fuel burning units burning natural gas are exempt from Section 8 (Monitoring, Recording and Reporting) as well as interpretive rule 10A. The G70-B eligibility requirements exclude from eligibility any fuel burning unit that does not use natural gas as the fuel; therefore, there are no permit conditions for 45CSR10.

| Emission Unit ID# | Emission Unit Description | Maximum Design Heat Input (MDHI) (MMBTU/hr) |
|---|---|---|
| GPU001 | Gas Production Unit | 1.5 |
| GPU002 | Gas Production Unit | 1.5 |
| GPU003 | Gas Production Unit | 1.5 |
| GPU004 | Gas Production Unit | 1.5 |
| GPU005 | Gas Production Unit | 1.5 |
| LH001 | Line Heater | 2.0 |
| LH001 | Line Heater | 2.0 |
| LH001 | Line Heater | 2.0 |
| LH001 | Line Heater | 2.0 |
| LH001 | Line Heater | 2.0 |

**45CSR13 (Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, and Procedures for Evaluation)**

45CSR13 applies to this source due to the fact that the applicant is defined as a "stationary source" under 45CSR13 Section 2.24.b. *Stationary source* means, for the purpose of this rule, any building, structure, facility, installation, or emission unit or combination thereof, excluding any emission unit which meets or falls

below the criteria delineated in Table 45-13B which: (a) is subject to any substantive requirement of an emission control rule promulgated by the Secretary; (b) discharges or has the potential to discharge more than six (6) pounds per hour and ten (10) tons per year, or has the potential to discharge more than 144 pounds per calendar day, of any regulated air pollutant; (c) discharges or has the potential to discharge more than two (2) pounds per hour or five (5) tons per year of hazardous air pollutants considered on an aggregated basis; (d) discharges or has the potential to discharge any air pollutant(s) listed in Table 45-13A in the amounts shown in Table 45-13A or greater; or, (e) an owner or operator voluntarily chooses to be subject to a construction or modification permit pursuant to this rule, even though not otherwise required to do so. 45CSR13 has an original effective date of June 1, 1974.

The applicant meets the definition of a stationary source because (check all that apply):

☒ Subject to a substantive requirement of an emission control rule promulgated by the Secretary.
☒ Discharges or has the potential to discharge more than six (6) pounds per hour and ten (10) tons per year, or has the potential to discharge more than 144 pounds per calendar day, of any regulated air pollutant.
☐ Discharges or has the potential to discharge more than two (2) pounds per hour or five (5) tons per year of hazardous air pollutants considered on an aggregated basis.
☐ Discharges or has the potential to discharge any air pollutant(s) listed in Table 45-13A in the amounts shown in Table 45-13A or greater.
☐ Voluntarily chooses to be subject to a construction or modification permit pursuant to this rule, even though not otherwise required to do so.

General Permit G70-B Registration satisfies the construction, modification, relocation and operating permit requirements of 45CSR13. General Permit G70-B sets forth reasonable conditions that enable eligible registrants to establish enforceable permit limits.

Section 5 of 45CSR13 provides the permit application and reporting requirements for construction of and modifications to stationary sources. No person shall cause, suffer, allow or permit the construction, modification, relocation and operation of any stationary source to be commenced without notifying the Secretary of such intent and obtaining a permit to construct, modify, relocate and operate the stationary source as required in the rule or any other applicable rule promulgated by the Secretary.

If applicable, the applicant meets the following (check all that apply):

☐ Relocation
☒ Modification
☐ Class I Administrative Update (45CSR13 Section 4.2.a)
☐ Class II Administrative Update (45CSR13 Section 4.2.b)

**45CSR16 (Standards of Performance for New Stationary Sources Pursuant to 40 CFR Part 60)**

45CSR16 applies to all registrants that are subject to any of the NSPS requirements described in more detail in the Federal Regulations section. Applicable requirements of NSPS, Subparts IIII, JJJJ and OOOO are included in General Permit G70-B.

The applicant is subject to:
☐ 40CFR60 Subpart IIII
☒ 40CFR60 Subpart JJJJ
☒ 40CFR60 Subpart OOOO

**45CSR22 (Air Quality Management Fee Program)**

45CSR22 is the program to collect fees for certificates to operate and for permits to construct or modify sources of air pollution. 45CSR22 applies to all registrants. The general permit fee of $500 is defined in 45CSR13. In addition to the application fee, all applicants subject to NSPS requirements or NESHAP requirements shall pay additional fees of $1,000 and $2,500, respectively.

Registrants are also required to obtain and have in effect a valid certificate to operate in accordance with 45CSR22 §4.1. The fee group for General Permit G70-B is 9M (all other sources) with an annual operating fee of $200.

Antero paid the $500 application fee and the $1000 NSPS fee.

**40CFR60 Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines)**

Subpart IIII sets forth non-methane hydrocarbon (NMHC), hydrocarbon (HC), nitrogen oxides (NOx), carbon monoxide (CO), and particulate matter (PM) emission limits, fuel requirements, installation requirements, and monitoring requirements based on the year of installation of the subject internal combustion engine. The provisions for stationary compression ignition (CI) internal combustion engines for owners or operators of this Subpart have been included in General Permit G70-B, Section 13. The following CI engines are subject to this section:

| Emission Unit ID# | Engine Description (Make, Model) | Engine Size (HP) | Date of Manufacture | Provide Justification how 40CFR60 Subpart IIII is met. |
|---|---|---|---|---|
| | | | | ☐ Met Emission Standard<br>☐ Certified Engine |

**40CFR60 Subpart JJJJ (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines)**

Subpart JJJJ sets forth nitrogen oxides (NOx), carbon monoxide (CO), and volatile organic compound (VOC) emission limits, fuel requirements, installation requirements, and monitoring requirements based on the year of installation of the subject internal combustion engine. The provisions for stationary spark ignition (SI) internal combustion engines for owners or operators of this Subpart have been included in General Permit G70-B, Section 13.

| Emission Unit ID# | Engine Description (Make, Model) | Engine Size (HP) | Date of Manufacture | Provide Justification how 40CFR60 Subpart JJJJ is met. |
|---|---|---|---|---|
| ENG001 | Kubota DG972-E2 | 24 | 2014 | ☐ Met Emission Standard<br>☒ Certified Engine |

**40CFR60, Subpart OOOO (Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution)**

EPA published its New Source Performance Standards (NSPS) and air toxics rules for the oil and gas sector on August 16, 2012. EPA published final amendments to the Subpart on September 23, 2013.

40CFR60 Subpart OOOO establishes emission standards and compliance schedules for the control of volatile organic compounds (VOC) and sulfur dioxide ($SO_2$) emissions from affected facilities that commence construction, modification or reconstruction after August 23, 2011. The affected sources which commence construction, modification or reconstruction after August 23, 2011 are subject to the applicable provisions of this Subpart as described below:

***Gas well affected facilities are included in General Permit G70-B in Section 5.0.***
Are there any applicable gas well affected facilities? X Yes ☐ No
If Yes, list.

| API number(s) for each Gas Well at this facility | Date the Gas Well was drilled or re-fractured |
|---|---|
| 47-095-021880000 | 2016 |
| 47-095-021890000 | 2016 |
| 47-095-021870000 | 2016 |
| 47-095-021790000 | 2016 |
| 47-095-021800000 | 2016 |

***Centrifugal compressor affected facilities are included in General Permit G70-B, Section 11.0.***
Are there any applicable centrifugal compressor affected facilities not located at the well site?
☐ Yes X No
If Yes, list.

| Engine Description (Make, Model) |
|---|
| |

Each centrifugal compressor affected facility, which is a single centrifugal compressor using wet seals that is located between the wellhead and the point of custody transfer to the natural gas transmission and storage segment. A centrifugal compressor located at a well site, or an adjacent well site and servicing more than one well site, is not an affected facility under this Subpart.

***Reciprocating compressor affected facilities are included in General Permit G70-B, Section 12.0.***
Are there any applicable reciprocating compressor affected facilities not located at the well site?
☐ Yes X No
If Yes, list.

| Engine Description (Make, Model) |
|---|
| |

Each reciprocating compressor affected facility, which is a single reciprocating compressor located between the wellhead and the point of custody transfer to the natural gas transmission and storage segment. A reciprocating compressor located at a well site, or an adjacent well site and servicing more than one well site, is not an affected facility under this subpart.

***Pneumatic controllers affected facilities are included in General Permit G70-B, Section 10.0.***
Are there any applicable pneumatic controller affected facilities? ☐ Yes X No

For the natural gas production segment (between the wellhead and the point of custody transfer to the natural gas transmission and storage segment and not including natural gas processing plants), each pneumatic controller affected facility, which is a single continuous bleed natural gas-driven pneumatic controller operating at a natural gas bleed rate greater than 6 scfh.

***Requirements for storage vessel affected facilities are included in General Permit G70-B, Section 7.0. Determination of storage vessel affected facility status is included in Section 6.0 of General Permit G70-B.***
Are there any applicable storage vessel affected facilities? ☐ Yes X No
If No, list any emission reduction devices and control efficiencies used to avoid 40CFR60 Subpart OOOO.

Three enclosed combustors

If Yes, list.

| Emission Unit ID# | Storage Vessel Description | SV Size (gal) | Provide Justification how 40CFR60 Subpart OOOO is met. |
|---|---|---|---|
| | | | |

Each storage vessel affected facility, which is a single storage vessel located in the oil and natural gas production segment, natural gas processing segment or natural gas transmission and storage segment, and has the potential for VOC emissions equal to or greater than 6 tpy as determined according to this section by October 15, 2013 for Group 1 storage vessels and by April 15, 2014, or 30 days after startup (whichever is later) for Group 2 storage vessels. A storage vessel affected facility that subsequently has its potential for VOC emissions decrease to less than 6 tpy shall remain an affected facility under this subpart.

**40CFR63 Subpart HH (National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities)**

This Subpart applies to owners and operators of each triethylene glycol (TEG) dehydration unit that are located at oil and natural gas production facilities. Only areas source requirements are included in General Permit G70-B, as defined in §63.761.

For area source applicability, the affected source includes each trietheylene glycol (TEG) dehydration unit located at a facility that meets the criteria specified in §63.760(a).

Glycol dehydration unit(s) are included in General Permit G70-B, Section 15.0.

Are there any TEG dehydration unit(s) at this facility? ☐ Yes X No

Are the TEG dehydration unit(s) located within an Urbanized Area (UA) or Urban Cluster (UC)?
☐ Yes ☐ No

Are the glycol dehydration unit(s) exempt from 40CFR63 Section 764(d)? ☐ Yes ☐ No

If Yes, answer the following questions:

The actual annual average flowrate of natural gas to the glycol dehydration unit(s) is less than 85 thousand standard cubic meters per day, as determined by the procedures specified in §63.772(b)(1) of this Subpart. ☐ Yes ☐ No

The actual average emissions of benzene from the glycol dehydration unit process vent(s) to the atmosphere are less than 0.90 megagram per year (1 ton per year), as determined by the procedures specified in §63.772(b)(2) of this Subpart. ☐ Yes ☐ No

**40CFR63 Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines)**

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This Subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations. This section reflects EPA's final amendments to 40 CFR part 63, Subpart ZZZZ that were issued on January 15, 2013 and published in the Federal Register on January 30, 2013.

WVDEP DAQ has delegation of the area source air toxics provisions of this Subpart requiring Generally Achievable Control Technology (GACT). The provisions of this Subpart have been included in this general permit under Section 13.0.

| Emission Unit ID# | Engine Description (Make, Model) | Engine Size (HP) | Date of Manufacture | New or Existing under 40CFR63 Subpart ZZZZ? | Provide Justification how 40CFR63 Subpart ZZZZ is met. |
|---|---|---|---|---|---|
| ENG001 | Kubota DG972-E2 | 24 | 2014 | New | Meets requirements under Subpart JJJJ |

Are there any engines that fall in the window of being new under 40CFR60 Subpart ZZZZ but manufactured before the applicability date in 40CFR60 Subpart JJJJ? ☐ Yes X No

If so, list the engines:

## SOURCE AGGREGATION DETERMINATION

"Building, structure, facility, or installation" is defined as all the pollutant emitting activities which belong to the same industrial grouping, are located on one or more contiguous and adjacent properties, and are under the control of the same person.

Are there surrounding wells or compressor stations under "common control" of the applicant?
X Yes ☐ No

Are the properties in question located on "contiguous or adjacent" properties?
☐ Yes X No

Are there surrounding facilities that share the same two (2) digit SIC code?
X Yes ☐ No

***Final Source Aggregation Decision.***
☒ Source not aggregated with any other source.
☐ Source aggregated with another source. List Company/Facility Name:

## RECOMMENDATION TO DIRECTOR

The information provided in the permit application, including all supplemental information received, indicates the applicant meets all the requirements of applicable regulations and the applicant has shown they meet the eligibility requirements of General Permit G70-B. Therefore, impact on the surrounding area should be minimized and it is recommended that the facility should be granted registration under General Permit G70-B.

Permit Engineer Signature: Caraline Griffith
Name and Title: Caraline Griffith
Date: March 25, 2016