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G70-D 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-D**240**	FACILITY ID: **095-00075**

- [x] 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: Ritchie Petroleum Well Pad

Operating Site Physical Address: 3225 Haddox Run Road
If none available, list road, city or town and zip of facility.
City: Pennsboro Zip Code: 26415 County: Tyler

Latitude & Longitude Coordinates (NAD83, Decimal Degrees to 5 digits):
Latitude: 39.35913
Longitude: -80.97581

SIC Code: 1311 NAICS Code: 211111	Date Application Received: February 16, 2017
Fee Amount: $1,500.00	Date Fee Received: February 16, 2017
Applicant Ad Date: February 14, 2017	Newspaper: The Tyler Star News
Date Application Complete: March 8, 2017	Due Date of Final Action: April 28, 2017

Engineer Assigned: Richard A. Boehm, P.E.

Description of Permitting Action: New construction of a natural gas and oil production facility.

PROCESS DESCRIPTION

The following process description was taken from Registration Application G70-D240:

A mixture of condensate, water, and entrained gas from the condensate and gas wells enters the facility through a series of line heaters (LH001-012) and gas production units (GPU001-GPU012). GPUs 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 gas from the three phase separators is metered and sent to the sales gas pipeline. The water flow to the produced water storage tanks (TANKPW001-004). The condensate is then sent to two phase low pressure separators where gas is separated. The gas is routed to the high pressure VRU driven by gas fueled engines (ENG001-008), compressed, metered and sent to the sales gas line. The condensate from the two phase separators then flows to the vapor recovery towers (VRT001-004) where gas is further separated. Gas from the VRTs is recovered via a low pressure VRU driven by gas fueled engine (ENG009-011), compressed, metered and sent to the sales gas line through the high pressure compressors. The condensate from the VRTs flows to the condensate storage tanks (TANKSCOND001-010). 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 four (4) tanks (TANKPW001-004) to store produced water prior to removal from the site. The flashing, working and breathing losses from the tanks are routed to four enclosed combustors (EC001-004) to control the emissions. The enclosed combustors that will be used to control emissions are designed to achieve a VOC destruction efficiency of 98 percent.

Condensate and produced water are transported off site 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 from the loading operations are vented to the atmosphere.

Emissions from the facility's emission sources were calculated using the extended condensate from Freeland 2H well in Hartley East Well Pad and gas analysis from Musgrave 2H well in Walnut Well Pad. The extended condensate analysis is considered representative of the materials from Ritchie Petroleum Well Pad, being in the same Marcellus rock formation.

SITE INSPECTION

Site Inspection Date: March 14, 2017
Site Inspection Conducted By: James Robertson

Results of Site Inspection: The pad is located high on top of a hill overlooking Haddox Run Road. Wells have been drilled and the site is graveled, but there is no equipment at the site. The wells have not been fracked. The area is fairly remote, with only scattered houses located along Haddox Run. All houses are well over 300' from the site. I saw no other structures near the pad that would disqualify this site for a General Permit. In my opinion, this site is suitable for a General Permit.

Did Applicant meet Siting Requirements? Yes
If applicable, was siting criteria waiver submitted? N/A

Directions to Facility: Directions to the facility: From Pennsboro, head southeast on Collins Ave toward Broadway St for 52 ft, continue onto Main St for 305 ft, turn right onto Wells Ave for 0.1 mi. 1st St turns slightly right and becomes WV-74 N/Mountain Dr. Drive 3 mi, turn left onto Bonds Creek Rd for 2.1 mi, turn right onto Farley Run Rd for 0.9 mi. Make left onto Brush Run Rd for 2.3 mi. Make a sharp right onto Rickey Run for 1.3 mi

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.)
GPU001-012	(12) GPU Heaters	AP-42
LH001-012	(12) Line Heaters	AP-42
TANKCOND001-010	(10) Condensate Tanks	ProMax & Tanks
TANKPW001-004	(4) Produced Water Tanks	ProMax & Tanks
L001	Condensate Truck Loading	AP-42
L002	Produced Water Truck Loading	AP-42
EC001-004	(4) Enclosed Combustors	AP-42
ENG001-008	(8) High Pressure VRU Engines	Manufacturer Data / AP-42
ENG009-011	(3) Low Pressure VRU Engines	Manufacturer Data / AP-42
F001	Fugitive Emissions	AP-42

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

Pollutant	Facility Wide PTE (tons/year)	PTE Change for Modification (tons/year)
Nitrogen Oxides	27.03	N/A
Carbon Monoxide	74.17	N/A
Volatile Organic Compounds	73.01	N/A
Particulate Matter	4.86	N/A
Particulate Matter-10/2.5	4.86	N/A
Sulfur Dioxide	0.11	N/A
Formaldehyde	0.65	N/A
Total HAPs	9.76	N/A
Carbon Dioxide Equivalent	27,686.27	N/A

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:** Ritchie Well Pad **G70-D240**

Emission Point ID#	NO_x		CO		VOC		SO_2		PM_{10}		$PM_{2.5}$		Methane		GHG (CO_2e)	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
GPU001-012	1.45	6.35	1.22	5.33	0.08	0.35	0.01	0.04	0.11	0.48	0.11	0.48	0.08	0.34	1738.68	7615.40
LH001-012	1.93	8.46	1.62	7.10	0.11	0.47	0.01	0.05	0.15	0.64	0.15	0.64	--	--	2318.23	10153.86
TANKCOND001-010	--	--	--	--	5.93	25.95	--	--	--	--	--	--	--	--	--	--
TANKPW001-004	--	--	--	--	0.14	0.60	--	--	--	--	--	--	--	--	--	--
L001	--	--	--	--	29.66	44.70	--	--	--	--	--	--	0.06	0.09	1.58	2.38
L002	--	--	--	--	0.001	0.01	--	--	--	--	--	--	0.04	0.19	0.96	5.08
EC001-004	2.10	9.21	9.55	41.85	TANKS	TANKS	0.00	0.00	0.03	0.14	0.02	0.11	0.73	3.19	1320.43	5783.47
ENG001-011	0.69	3.01	4.54	19.88	0.21	0.93	0.004	0.02	0.07	0.30	0.07	0.30	1.65	7.22	829.49	3633.17
F001	--	--	--	--	4.27	18.72	--	--	0.46	1.77	0.00	0.00	4.06	17.78	112.54	492.90
TOTAL	6.17	27.03	16.93	74.17	36.12	73.01	0.02	0.11	0.82	3.33	0.35	1.53	6.62	28.81	6321.91	27686.27

APPLICANT: Antero Resources Corporation **FACILITY NAME:** Ritchie Well Pad **G70-D240**

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	tpy
GPU001-012	0.001	0.005	--	--	--	--	--	--	--	--	--	--	0.03	0.12
LH001-012	0.001	0.01	--	--	--	--	--	--	--	--	--	--	0.04	0.16
TANKCOND001-010	--	--	--	--	--	--	--	--	--	--	--	--	0.57	2.52
TANKPW001-004	--	--	--	--	--	--	--	--	--	--	--	--	0.00	0.00
L001	--	--	0.01	0.01	0.015	0.02	0.01	0.01	0.01	0.02	2.63	3.96	2.67	4.02
L002	--	--	--	--	--	--	--	--	--	--	--	--	0.00	0.00
EC001-004	--	--	0.002	0.01	0.01	0.03	0.002	0.01	0.01	0.02	0.56	2.45	TANKS	TANKS
ENG001-011	0.15	0.64	0.01	0.05	0.004	0.02	0.00	0.00	0.001	0.01	0.00	0.00	0.16	0.72
F001	0.00	0.00	0.00	0.01	0.02	0.11	0.02	0.10	0.07	0.30	0.37	1.64	0.51	2.22
TOTAL	0.15	0.65	0.02	0.08	0.05	0.18	0.03	0.12	0.09	0.35	3.56	8.05	3.98	9.76

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-D

Emission Unit ID#	Emission Unit Description	Maximum Design Heat Input (MDHI) (MMBTU/hr)
GPU001-012	(12) GPU Heaters	1.50 Each
LH001-012	(12) Line Heaters	2.00 Each

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.
EC001-004	7.7 Each	☒ Yes ☐ No	98	Assuming 20,000 BTU/lb, the allowable PM emissions are 1.05 lb/hr. Using AP-42, the PM emissions were calculated to be less than 0.01 lb/hr.

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-D 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-D

Fuel burning units burning natural gas are exempt from Section 8 (Monitoring, Recording and Reporting) as well as interpretive rule 10A. The G70-D 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)
GPU001-012	(12) GPU Heaters	1.50 Each
LH001-012	(12) Line Heaters	2.00 Each

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-D Registration satisfies the construction, modification, relocation and operating permit requirements of 45CSR13. General Permit G70-D 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):

☒ Construction
☐ 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-D.

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

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-D is 9M (all other sources) with an annual operating fee of $200.

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-D, 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.
N/A				☐ Met Emission Standard ☐ 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-D, Section 13.

Emission Unit ID#	Engine Description (Make, Model)	Engine Size (HP)	Date of Manufacture	Provide Justification how 40CFR60 Subpart JJJJ is met.
ENG001-011	(11) Ford MSG-425, 2.5L	76	2017	☐ Met Emission Standard ☒ Certified Engine

40CFR60, Subpart OOOO (Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution for which Construction, Modification or Reconstruction Commenced after August 23, 2011, and on or before September 18, 2015)

EPA published its New Source Performance Standards (NSPS) and air toxics rules for the oil and gas sector on August 16, 2012. EPA published amendments to the Subpart on September 23, 2013 and June 3, 2016.

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 and on or before September 18, 2015. The affected sources which commence construction, modification or reconstruction after August 23, 2011 and on or before September 18, 2015 are subject to the applicable provisions of this Subpart as described below:

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

API Number	Date of Flowback	Date of Well Completion	Green Completion and/or Combustion Device	Subject to OOOO?

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.

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-D, Section 10.0.
Are there any applicable pneumatic controller affected facilities? ☐ Yes ☒ 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-D, Section 7.0. Determination of storage vessel affected facility status is included in Section 6.0 of General Permit G70-D.
Are there any applicable storage vessel affected facilities? ☐ Yes ☒ No
If No, list any emission reduction devices and control efficiencies used to avoid 40CFR60 Subpart OOOO.
(4) Enclosed Combustors, 7.7 MMBtu/hr Each, 98% Control

If Yes, list.

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

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.

40CFR60, Subpart OOOOa (Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution for which Construction, Modification or Reconstruction Commenced after September 18, 2015)

EPA published its New Source Performance Standards (NSPS) and air toxics rules for the oil and gas sector on August 16, 2012. EPA published amendments to the Subpart on September 23, 2013 and June 3, 2016.

40CFR60 Subpart OOOOa establishes emission standards and compliance schedules for the control of the pollutant greenhouse gases (GHG). The greenhouse gas standard in this subpart is in the form of a limitation on emissions of methane from affected facilities in the crude oil and natural gas source category that commence construction, modification or reconstruction after September 18, 2015. This subpart also 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 September 18, 2015. The effective date of this rule is August 2, 2016.

For each well site, the registrant must reduce GHG (in the form of a limitation on emissions of methane) and VOC emissions by complying with fugitive emissions monitoring as required in §60.5397a and the alternative means of emission limitations in §60.5398a.

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

API Number	Date of Flowback	Date of Well Completion	Green Completion and/or Combustion Device	Subject to OOOOa?
47-095-02397-00	06/21/2018	1/1/2018	Green	OOOOa
47-095-02391-00	06/21/2018	1/1/2018	Green	OOOOa
47-095-02392-00	06/21/2018	1/1/2018	Green	OOOOa
47-095-02385-00	06/21/2018	1/1/2018	Green	OOOOa
47-095-02386-00	06/21/2018	1/1/2018	Green	OOOOa
47-095-02387-00	06/21/2018	1/1/2018	Green	OOOOa
47-095-02388-00	06/21/2018	1/1/2018	Green	OOOOa
47-095-02389-00	06/21/2018	1/1/2018	Green	OOOOa
47-095-02390-00	06/21/2018	1/1/2018	Green	OOOOa
47-095-02320-00	06/21/2018	1/1/2018	Green	OOOOa
47-095-02398-00	06/21/2018	1/1/2018	Green	OOOOa
47-095-02399-00	06/21/2018	1/1/2018	Green	OOOOa

Each centrifugal compressor affected facility, which is a single centrifugal compressor using wet seals. 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.

Each reciprocating compressor affected facility, which is a single reciprocating compressor. 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-D, Section 10.0.
Are there any applicable pneumatic controller affected facilities? ☐ Yes ☒ No

Each pneumatic controller affected facility not located at a natural gas processing plant, 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-D, Section 7.0.
Are there any applicable storage vessel affected facilities? ☐ Yes ☒ No
If No, list any emission reduction devices and control efficiencies used to avoid 40CFR60 Subpart OOOO.
(4) Enclosed Combustors, 7.7 MMBtu/hr Each, 98% Control

If Yes, list.

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

Each storage vessel affected facility, which is a single storage vessel with the potential for VOC emissions equal to or greater than 6 tpy as determined according to this section.

Fugitive Emissions GHG and VOC Standards affected facilities are included in General Permit G70-D in Section 12.0.

Did the registrant commence construction, modification, or reconstruction of the well site after September 18, 2015 and is subject to §60.5397a? ☒ Yes ☐ No

For the purposes of §60.5397a, a "modification" to a well site occurs when a new well is drilled at an existing well site, a well at an existing well site is hydraulically fractured, or a well at an existing well site is hydraulically refractured.

A well site that only contains one or more wellheads is not an affected facility under this subpart. The affected facility status of a separate tank battery surface site has no effect on the affected facility status of a well site that only contains one or more wellheads.

Requirements for pneumatic pump affected facilities are included in General Permit G70-D, Section 16.0.

Are there any applicable pneumatic pump affected facilities at the well site? ☐ Yes ☒ No

If Yes, list.

Pneumatic Pump Description (Make, Model)
N/A

Each pneumatic pump affected facility at the well site, which is a single natural gas-driven diaphragm pump. A single natural gas-driven diaphragm pump that is in operation less than 90 days per calendar year is not an affected facility under this subpart as well as the required records are kept.

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-D, 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-D, Section 15.0.

Are there any TEG dehydration unit(s) at this facility? ☐ Yes ☒ 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.
ENG001-011	(11) Ford MSG-425	76	2017	New	JJJJ Certified

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 ☒ No

If so, list the engines: N/A

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.

Is there equipment and/or activities used for onshore oil and natural gas production that are located on the same site, or on sites that share equipment and are within ¼ mile of each other?
☐ Yes ☒ No
Is this equipment and/or activities under "common control"?
☒ Yes ☐ No
Do these facilities share the same two (2) digit SIC code?
☒ 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-D. Therefore, impact on the surrounding area should be minimized and it is recommended that the facility should be granted registration under General Permit G70-D.

Permit Engineer Signature: _____
Name and Title: Richard A. Boehm, P.E. - Engineer
Date: April 14, 2017