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**GENERAL PERMIT REGISTRATION APPLICATION
ENGINEERING EVALUATION / FACT SHEET**

BACKGROUND INFORMATION

Registration No.: G70-A181
Plant ID No.: 109-00189
Applicant: Enervest Operating, LLC
Facility Name: WPHC-214 Station
Location: Ravencliff, Wyoming County, WV
SIC Code: 1311
NAICS Code: 211111
Application Type: Construction
Received Date: October 19, 2015
Engineer Assigned: Thornton E. Martin Jr.
Fee Amount: \$4,000.00
Date Received: October 21, 2015
Complete Date: November 24, 2015
Applicant Ad Date: October 08, 2015
Newspaper: *The Register-Herald*
UTM's: Easting: 417.6245 km Northing: 4,567.9798 km Zone: 17
Description: Construction and operation of a natural gas production facility near Ravencliff, Wyoming County, West Virginia.

INTRODUCTION

The WPHC-214 natural gas production site consists of two (2) coal-bed methane natural gas wells. Natural gas and produced water is extracted from underground deposits. The natural gas will be transported from the wells to on-site compression for delivery to the gas sales line. The produced water is removed from site by tanker trucks, on an as needed basis.

The applicant seeks to authorize the operation of:

- One (1) 145 bhp Caterpillar natural gas compressor engine;
- One (1) 24 bhp Kubota natural gas powered pump jack engine;
- One (1) 65 bhp Arrow natural gas powered pump jack engine;
- Two (2) 50 barrel (bbl) produced water tanks;
- One (1) 40 bbl produced water tank;
- Two (2) 210 bbl produced water tanks;
- One (1) Tank Truck Loading Operation

DESCRIPTION OF PROCESS

The WPHC-214 well site operates as a coal-bed methane well. Incoming raw natural gas from the two (2) wells is first routed through the separator where produced water and gas separation occurs. Natural gas from the wells is routed to one (1) 145 bhp Caterpillar G3306NA (S01) natural gas power compressor engine for compression and delivery to the sales line. The compressor engine (S01) is a spark ignition internal combustion engine that was manufactured in 1990 and has not undergone modification or reconstruction.

Water realized at coal-bed methane wells differ from produced fluids in shale gas formations. The presence of coal seams can cause a perched water table, depending on the depth of the formation, permeability to the formation and porosity of the coal seam. Based upon these factors, coal-bed methane wells can realize large amounts of water. It is important to note that the realized water at a coal-bed methane well is not the same as a reservoir fluid or brine water.

Produced water at the WPHC-214 B site is routed to one (1) of two (2) produced water storage tanks (S04 & S05). At the WPHC-214 C site, produced water is routed to one (1) of two (2) produced water storage tanks (S06 & S07). At the WPHC well head compressor, another produced water storage tank (S08) is operated to remove any additional fluids entrained within the gas. Fluids from each of these storage tanks are removed from the site by tanker trucks. Tanks unloading operations are uncontrolled at the WPHC-214 natural gas production facility.

Natural gas powered pump jacks (S02 & S03) are utilized at the site to overcome the hydrostatic head pressure within the well casing. The Kubota DG972 (S02) natural gas power pump jack engine is a 4 stroke lean burn Spark Ignition (SI) Internal Combustion Engine (ICE) rated at 24 bhp, manufactured in 2014 and has not been reconstructed or modified. The Arrow L-795 (S03) natural gas power pump jack engine was an existing engine at the time Enervest acquired the assets. It is a Spark Ignition (SI) Internal Combustion Engine (ICE) rated at 65 bhp, was manufactured in December 2003 and has not been reconstructed or modified.

During normal operations, the reservoir pressure of the coal-bed is not high enough to allow gas and water to flow through the water column that continuously exists within the well. In order to realize a sustainable gas supply, these pump jacks extract the water column from the well, reducing the hydrostatic head generated by the water column and allowing the methane gas to flow to the surface. The separators operated at the well site are set at or near atmospheric pressure. Produced water is transported to storage tanks under gravity flow from the separators. The lack of a pressure differential between the separators and the fluid tanks makes it infeasible for flashing emissions to be realized at the tanks for this well site. In order to quantify emissions from the tank operations, Enervest has included EPA Tanks simulations that makes an assumption that 1 percent (1%) of condensate is realized at the tanks. The Applicant asserts that this is a conservative estimation based upon imperfect fluid separation.

DESCRIPTION OF FUGITIVE EMISSIONS

Sources of fugitive emissions include loading operations, haul road emissions and equipment leaks. These fugitive emission sources cannot reasonably be controlled by air pollution control devices. Fugitive emissions were calculated using AP-42 factors and 40CFR98 Subpart W factors and equipment counts. Routine equipment leaks are assumed to be occurring continuously throughout the year. Loading operations and haul road emissions only occur when tanker trucks are onsite.

Leak sources associated with this construction application are summarized in the table below.

Table 1: Leak Sources

Source	Pollutant	Number of Source Components	Estimated Annual Emission Rate (lb/yr)
Pumps	Light Liquid VOC	--	--
	Heavy Liquid VOC	--	--
	Non-VOC	--	--
Valves	Gas VOC	42	8,320
	Light Liquid VOC	--	--
	Heavy Liquid VOC	--	--
	Non-VOC	--	--
Safety Relief Valves	Gas VOC	0	2
	Non-VOC	--	--
Open-ended Lines	VOC	1	440
	Non-VOC	--	--
Sampling Connections	VOC	--	--
	Non-VOC	--	--
Compressors	VOC	--	--
	Non-VOC	--	--
Flanges	VOC	178	3,920
	Non-VOC	--	--
Other	VOC	--	--
	Non-VOC	--	--

SITE INSPECTION

Every oil and gas well permitted in West Virginia since 1929 has been issued an API (American Petroleum Institute) number. The API is used by agencies to identify and track oil and gas wells.

The API number has the following format: 047-001-00001

Where:

- 047 = State Code. The state code for WV is 047.
- 001 = County Code. County codes are odd numbers, beginning with 001 (Barbour) and continuing to 109 (Wyoming).
- 00001 = Well number. Each well will have a unique well number.

The API number(s) for each NG well at this facility as provided in the well completion notification and as provided to the WVDEP Office of Oil and Gas for the well permit are as follows: 047-109-02900 and 047-109-02901.

A site inspection was not conducted by the writer at the time of this application. The Applicant has met the specific criteria and siting requirements for a Class II General Permit G70-A Registration to Construct.

Directions provided for the WPHC-214 Station are as follows:

From Bolt, WV: From WV-99 W, turn left onto Bolt Road / Raven Cliff Road. Travel 1.3 miles where the road becomes Farmers Lane and then immediately Through Fork Road. After 4.1 miles, Through Fork Road becomes Ravencliff Road. Travel 1.9 miles and turn right onto Glen Fork Road. After 0.6 miles, take a sharp right on Co. Hwy 1/1. A dirt access road off of Youth Camp Road is used to access the remote facility.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Emissions associated with this construction application are summarized in the table below.

Table 2: Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed/ Modified	Design Capacity	Type and Date of Change	Control Device
S01	E01	Caterpillar G3306NA, Mfg. 1990	2015	145 bhp	New	N/A
S02	E02	Kubota DG972, Mfg. 2014	2015	24 bhp	Existing	N/A
S03	E03	Arrow L-795, Mfg. 2003	Prior to 2012 Acquisition	65 bhp	Existing	N/A
S04	E04	Produced Water Tank	Pre-August 2011	40 bbl	Existing	N/A
S05	E05	Produced Water Tank	Pre-August 2011	210 bbl	Existing	N/A
S06	E06	Produced Water Tank	Pre-August 2011	50 bbl	Existing	N/A
S07	E07	Produced Water Tank	Pre-August 2011	210 bbl	Existing	N/A
S08	E08	Produced Water Tank	Pre-August 2011	50 bbl	Existing	N/A
S09	E09	Tank Truck Loading Operations	Pre-August 2011	560 bbl/day	Existing	N/A

Emissions Summary

Based on the Applicants' estimation methodology (Manufacturers Specifications, AP-42, EPA Tanks 4.0.9d software) which is determined to be appropriate, the PTE of the WPHC-214 natural gas production facility is given in the following tables:

Table 3: Facility-Wide Aggregate Hourly (lb/hr) Criteria Pollutant/GHG PTE Summary.

Source	CO	NO _x	PM _{2.5} ⁽¹⁾	SO ₂	VOCs	HAPs	CO _{2e}
Caterpillar G3306NA (S01)	0.450	7.710	0.010	<0.001	0.050	0.080	157.46
Kubota DG972 (S02)	0.070	0.890	<0.001	<0.001	0.030	0.010	29.16
Arrow L-795 (S03)	0.280	2.270	0.030	<0.001	0.090	0.040	95.71
Produced Water Tank 50 bbl (S08)	--	--	--	--	0.760	--	--
Produced Water Tank 50 bbl (S06)	--	--	--	--	0.760	--	--
Produced Water Tank 40 bbl (S05)	--	--	--	--	0.030	--	--
Produced Water Tank 210 bbl (S04)	--	--	--	--	0.140	--	--
Produced Water Tank 210 bbl (S07)	--	--	--	--	0.120	--	--
Equipment Leaks	--	--	--	--	0.010	<0.001	1.45
Fugitives from Hauling	--	--	5.803	--	--	--	--
Truck Loading (S09)	--	--	--	--	<0.001	<0.001	0.00
Facility-Wide Totals →	0.800	10.870	5.844	0.003	1.991	0.132	283.78

(1) Conservatively, all particulate matter emissions are assumed to be less than 2.5 microns. Includes condensables.

Table 4: Facility-Wide Aggregate Annual (ton/yr) Criteria Pollutant/GHG PTE Summary.

Source	CO	NO _x	PM _{2.5} ⁽¹⁾	SO ₂	VOCs	HAPs	CO ₂ e
Caterpillar G3306NA (S01)	1.960	33.760	0.050	0.003	0.220	0.330	689.66
Kubota DG972 (S02)	0.300	3.890	0.010	<0.001	0.110	0.050	127.70
Arrow L-795 (S03)	1.210	9.930	0.010	0.002	0.380	0.180	419.23
Produced Water Tank 50 bbl (S08)	--	--	--	--	0.170	--	--
Produced Water Tank 50 bbl (S06)	--	--	--	--	0.170	--	--
Produced Water Tank 40 bbl (S05)	--	--	--	--	0.140	--	--
Produced Water Tank 210 bbl (S04)	--	--	--	--	0.610	--	--
Produced Water Tank 210 bbl (S07)	--	--	--	--	0.620	--	--
Equipment Leaks	--	--	--	--	0.050	0.002	6.34
Fugitives from Hauling	--	--	0.550	--	--	--	--
Truck Loading (S09)	--	--	--	--	0.020	<0.001	0.01
Facility-Wide Totals →	3.470	47.580	0.620	0.006	2.490	0.563	1,242.94

(1) Conservatively, all particulate matter emissions are assumed to be less than 2.5 microns. Includes condensables.

Table 5: Facility-Wide Aggregate Annual (ton/yr) Speciated HAP PTE Summary⁽¹⁾

Pollutant	ton/yr
Formaldehyde	0.54400
Benzene	0.01100
Toluene	0.00600
Ethylbenzene	<0.001
Xylene	<0.001
Total HAPs	0.56300

(1) As the PTE of all individual HAPs are less than 10 TPY and the PTE of total HAPs is less than 25 TPY, the WPHC-214 Natural gas production facility is defined as a minor (area) source of HAPs for purposes of 40 CFR 61, 40CFR63, and Title V.

REGULATORY APPLICABILITY

The proposed Enervest natural gas production facility is subject to substantive requirements in the following state and federal air quality rules and regulations: 45CSR6, 45CSR13, 40 CFR 60 Subpart JJJJ, 40 CFR 60 Subpart OOOO and 40 CFR 63 Subpart ZZZZ. Each applicable rule (and ones that have reasoned non-applicability), and Enervest's compliance therewith, will be discussed in detail below.

45CSR2 *To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers - (NON APPLICABILITY)*

No indirect heat exchangers that combust natural gas will be operated or installed at the WPHC-214 site.

45CSR4 *To Prevent and Control the Discharge of Air Pollutants into the Air Which Causes or Contributes to an Objectionable Odor*

Operations conducted at the WPHC-214 facility are subject to this requirement. Based on the nature of the process at the site, the presences of objectionable odors is unlikely.

45CSR6 *To Prevent and Control Particulate Air Pollution from Combustion of Refuse - (NON APPLICABILITY)*

The WPHC-214 site does not combust refuse.

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

The only potential applicability of 45CSR10 to the WPHC-214 natural gas production facility is the limitations on fuel burning units. Natural gas combustion devices will be operated in accordance with the sulfur dioxide concentration limitation. Pipeline quality natural gas will only be used at the WPHC-214 facility.

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*

The construction of the WPHC-214 natural gas production facility has an uncontrolled potential to emit, in excess of six (6) lbs/hour and ten (10) TPY of a regulated pollutant, therefore, pursuant to §45-13-2.24, the facility is defined as a “stationary source” under 45CSR13 using that definition. Pursuant to §45-13-5.1, “[n]o person shall cause, suffer, allow or permit the construction . . . and operation of any stationary source to be commenced without . . . obtaining a permit to construct.” Therefore, Enervest is required to obtain a permit or register with an appropriate general permit under 45CSR13 for the construction and operation of the natural gas production facility .

As required under §45-13-8.3 (“Notice Level A”), Enervest placed a Class I legal advertisement in a “newspaper of general circulation in the area where the source is . . . located.” The ad ran on October 08, 2015 in *The Register-Herald* and the affidavit of publication for this legal advertisement was submitted with the application on October 19, 2015.

45CSR14 *Permits for Construction and Major Modification of Major Stationary Sources for the Prevention of Significant Deterioration of Air Quality - (NON APPLICABILITY)*

The facility-wide potential-to-emit of the WPHC-214 natural gas production facility (see Table 4 above) is below the levels that would define the source as “major” under 45CSR14, Section 2.43 and, therefore, the construction evaluated herein is not subject to the provisions of 45CSR14.

Potential Source Aggregation

The WPHC-214 facility will be located in Wyoming County, WV and operated by Enervest. Stationary sources of air pollutants may require aggregation of total emission levels to evaluate the potential applicability of Title I, Parts C and D preconstruction permitting programs and the Title V operating permit program if these sources share the same industrial grouping, are operating under common control, and are classified as contiguous or adjacent facilities. Enervest will operate the WPHC-214 facility with the same industrial grouping as nearby facilities and some of these facilities are under common control. Enervest is subject to the aggregation of stationary emissions for two wellhead locations and one compressor location since these facilities meet the definition of contiguous or adjacent facilities. Enervest is not subject to further aggregation because any additional sites to be considered do not meet the definition of contiguous or adjacent facilities.

The WPHC-214 facility will operate under SIC code 1311 (Crude Petroleum and Natural Gas Extraction). There are surrounding wells and compressor stations operated by Enervest that share the same two-digit major SIC code 13 for Crude Petroleum and Natural Gas Extraction. Therefore, the WPHC-214 pad does share the same SIC codes as the surrounding wells and compressor stations.

Enervest is the sole operator of the WPHC-214 site. Other production sites or compressor stations are operated by Enervest in the area. Therefore, Enervest does qualify as having nearby operations under common control.

The WPHC-214 natural gas production site is comprised of two (2) stand-alone wellheads and one (1) production compressor engine. These nearby sites are expected to meet the definition of adjacent properties since they are located within 1/4 mile of the centralized compressor site. Other Enervest operated sites in the area do not meet the definition of contiguous or adjacent properties since they are not located within 1/4 mile of the WPHC-214 site, do not share common boundaries and do not have intermingled processes.

Based on the above reasoning, Enervest is only subject to the aggregation of stationary emission sources at the WPHC-214 natural gas production site.

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

45CSR16 applies to this source because the Kubota DG972 (S02) engine is subject to 40CFR60 Subpart JJJJ.

45CSR22 Air Quality Management Fee Program

This facility is a minor source and not subject to 45CSR30. Enervest Operating, LLC is required to keep their Certificate to Operate current.

45CSR30 Requirements for Operating Permits - (NON APPLICABILITY)

45CSR30 provides for the establishment of a comprehensive air quality permitting system consistent with the requirements of Title V of the Clean Air Act. The proposed facility does not meet the definition of a "major source under § 112 of the Clean Air Act" as outlined under §45-30-2.26 and clarified (fugitive policy) under 45CSR30b. However, as the facility is subject to a New Source Performance Standard (NSPS) - 40 CFR 60, Subpart JJJJ and 40 CFR 60, Subpart OOOO - the facility would, in most cases, be subject to Title V as a "deferred source." However, pursuant to §60.5370©, as a non-major source (see Table 4), Enervest is not required to obtain a Title V permit for the proposed facility. Therefore, the WPHC-214 natural gas production facility is not subject to 45CSR30.

40CFR60 Subpart Kb Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 - (NON APPLICABILITY)

Pursuant to §60.110b, 40 CFR 60, Subpart Kb applies to "each storage vessel with a capacity greater than or equal to 75 cubic meters (m³) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984." The

storage tanks located at the WPHC-214 facility are 8,820 gallons, or 34 m³ or less. Therefore, Subpart Kb does not apply to the storage tanks.

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

The facility has a 24 hp reciprocating combustion engine installed onsite. The engine was manufactured in 2014 and installed in 2015. The facility will be subject to the requirements of 40CFR§60.4230(4)(iii), owners and operators of stationary SI ICE that commence construction after June 12, 2006, where the stationary SI ICE are manufactured on or after July 2008, for engines with a maximum engine power less than 500 HP.

The engine is required to meet the following emission standards of 40CFR§60.4233(a), which states that owners and operators of stationary SI ICE with a maximum engine power less than or equal to 25 HP manufactured on or after July 1, 2008, must comply with the emission standards in §60.4231(a) for their stationary SI ICE.

§60.4231(a) states that stationary SI internal combustion engine manufacturers must certify their stationary SI ICE with a maximum engine power less than 25 HP manufactured after July 1, 2008 to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 1054, as follows:

If engine displacement is * * *	and manufacturing dates are * * *	the engine must meet emission standards and related requirements for nonhandheld engines under * * *
(1) below 225 cc	July 1, 2008 to December 31, 2011	40 CFR part 90.
(2) below 225 cc	January 1, 2012 or later	40 CFR part 1054.
(3) at or above 225 cc	July 1, 2008 to December 31, 2010	40 CFR part 90.
(4) at or above 225 cc	January 1, 2011 or later	40 CFR part 1054.

The engine at the facility has a displacement of 0.962L or 962 ml or 962 cc and the manufacturing date is 2013. Therefore, from the table above, the facility will have to demonstrate compliance with 40 CFR part 1054.

- HC + Nox = 8.0 g / KW-hr
- Enervest will comply with this limitation by keeping a maintenance plan and records of conducted maintenance to demonstrate compliance, as required by §60.4243(a)(2)(I).

40 CFR 60, Subpart OOOO Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution - (NON APPLICABILITY)

This facility was in operation prior to August 23, 2011 and no construction, modification or reconstruction has taken place that would impact affected facilities status. The natural gas-fired RICE engine to be located at the well site is conditionally exempt from compressor affected facility status. Based upon this information, this facility does not qualify as an affected facility under this Rule.

This subpart establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major or area sources of HAP emissions.

Caterpillar G3306NA Compressor Engine:

The engine was manufactured in June of 1990 and has not been reconstructed or modified. The engine qualifies as a 4 stroke rich burn Spark Ignition (SI Internal Combustion Engine (ICE)). The engine is not classified as a black start or emergency engine. With a brake horsepower rating of 145, this engine is subject to the requirements of 63.6603(a) as outlined in Table 2d.10. The requirements for non-emergency, non-black start 4SRB stationary RICE with less than 500 hp are as follows:

- Change oil and filter every 1,440 hours of operation or annually, whichever comes first;
- Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first and replace as necessary; and
- Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first and replace as necessary.

Arrow L-795 Pump Jack Engine:

The engine was manufactured in December of 2003 and has not been reconstructed or modified. The engine qualifies as a 2 stroke lean burn Spark Ignition (SI Internal Combustion Engine (ICE)). The engine is not classified as a black start or emergency engine. With a brake horsepower rating of 65, this engine is subject to the requirements of 63.6603(a) as outlined in Table 2d.6. The requirements for non-emergency, non-black start 2SLB stationary RICE are as follows:

- Change oil and filter every 4,320 hours of operation or annually, whichever comes first;
- Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first and replace as necessary; and
- Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first and replace as necessary.

Kubota DG972 Pump Jack Engine:

The engine is located at an area source of HAP, constructed after June 12, 2006. The engine is required to meet the requirements of 40 CFR part 60, subpart JJJJ (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines). No further requirements apply for such engines under this part.

TOXICITY ANALYSIS OF NON-CRITERIA REGULATED POLLUTANTS

This section provides an analysis for those regulated pollutants that may be emitted from the WPHC-214 natural gas production facility and that are not classified as “criteria pollutants.” Criteria pollutants are defined as Carbon Monoxide (CO), Lead (Pb), Oxides of Nitrogen (NO_x), Ozone, Particulate Matter (PM), Particulate Matter less than 10 microns (PM₁₀), Particulate Matter less than 2.5 microns (PM_{2.5}), and Sulfur Dioxide (SO₂). These pollutants have National Ambient Air Quality Standards (NAAQS) set for each that are designed to protect the public health and welfare. Other pollutants of concern, although designated as non-criteria and without national concentration standards, are regulated through various federal programs designed to limit their emissions and public exposure. These programs include federal source-specific Hazardous Air Pollutants (HAPs) standards promulgated under 40 CFR 61 (NESHAPS) and 40 CFR 63 (MACT). Any potential applicability to these programs were discussed above under REGULATORY APPLICABILITY.

The majority of non-criteria regulated pollutants fall under the definition of HAPs which, with some revision since, were 188 compounds identified under Section 112(b) of the Clean Air Act (CAA) as pollutants or groups of pollutants that EPA knows or suspects may cause cancer or other serious human health effects. Enverest included the following HAPs as emitted in substantive amounts in their emissions estimate: Formaldehyde, Benzene, Toluene, Ethylbenzene, and Xylenes. The following table lists each HAP’s carcinogenic risk (as based on analysis provided in the Integrated Risk Information System (IRIS)):

Table 6: Potential HAPs - Carcinogenic Risk

HAPs	Type	Known/Suspected Carcinogen	Classification
Formaldehyde	VOC	Yes	Category B1 - Probable Human Carcinogen
Benzene	VOC	Yes	Category A - Known Human Carcinogen
Toluene	VOC	No	Inadequate Data
Ethylbenzene	VOC	No	Category D - Not Classifiable
Xylenes	VOC	No	Inadequate Data

All HAPs have other non-carcinogenic chronic and acute effects. These adverse health effects may be associated with a wide range of ambient concentrations and exposure times and are influenced by source-specific characteristics such as emission rates and local meteorological conditions. Health impacts are also dependent on multiple factors that affect variability in humans such as genetics, age, health status (e.g., the presence of pre-existing disease) and lifestyle. As stated previously, *there are no federal or state ambient air quality standards for these specific chemicals*. For a complete discussion of the known health effects of each compound refer to the IRIS database located at www.epa.gov/iris.

AIR QUALITY IMPACT ANALYSIS

The estimated maximum emissions from the proposed WPHC-214 natural gas production facility are less than applicability thresholds that would define the proposed facility as a “major stationary source” under 45CSR14 and, therefore, no air quality impacts modeling analysis was required. Additionally, based on the nature of the proposed construction, modeling was not required under 45CSR13, Section 7.

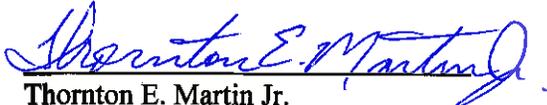
MONITORING, COMPLIANCE DEMONSTRATIONS, REPORTING, AND RECORDING OF OPERATIONS

The following substantive monitoring, compliance demonstration, and record-keeping requirements (MRR) are required under the G70-A General Permit:

- For each gas well affected facility, compliance must be demonstrated by submitting reports of this permit and maintaining the records for each completion operation. Reporting requirements are defined in Section 5.4.1 of the general permit;
- Monitor on a monthly and yearly basis the aggregate throughput for the storage tanks;
- Monitor on a monthly and yearly basis the actual emissions from the storage tanks;
- Monitor on a monthly and yearly basis the emissions from each storage tank is below 6 tpy;
- Monitor on a monthly and yearly basis the amount of natural gas consumed in the heaters and the hours of operation;
- At the request of the Director, conduct Method 9 emission observations for the purpose of demonstrating compliance with 45CSR§2-3.1;
- Monitor the throughput on a monthly and yearly basis of the truck loading facility;
- Monitor the presence of the pilot flame using a thermocouple or any other equivalent device to detect the presence of a flame when emissions are vented to it once per calendar month;
- Conduct an initial visible emission check of the vapor combustor within 180 days of start-up to demonstrate compliance with 45CSR§6. Visible emission checks shall be in accordance with Method 22; and
- Maintain a closed vent system in accordance with Section 6.1.9. Initial inspect closed vent system within 180 days after startup and annually inspection after startup.

RECOMMENDATION TO DIRECTOR

The information provided in permit application G70-A181 indicates that compliance with all applicable state and federal air quality regulations will be achieved. Therefore, I recommend to the Director the issuance of General Permit Registration G70-A181 to Enervest Operating, LLC for the construction and operation of the WPHC-214 natural gas production facility located near Ravenscliff, Wyoming County, WV.



Thornton E. Martin Jr.
Permit Engineer

November 24, 2015
Date