



west virginia department of environmental protection

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

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

ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: R13-3032
Plant ID No.: 107-00100
Applicant: Columbia Gas Transmission, LLC (Columbia)
Facility Name: Rockport Compressor Station
Location: Rockport, Wood County
NAICS Code: 486210 (Pipeline Transportation of Natural Gas)
Application Type: Construction
Received Date: December 26, 2012 (Application Resubmittal March 19, 2013)
Engineer Assigned: Jerry Williams, P.E.
Fee Amount: \$4,500.00
Date Received: December 26, 2012
Complete Date: April 10, 2013
Due Date: July 9, 2013
Applicant Ad Date: March 19, 2013
Newspaper: *The Parkersburg News and Sentinel*
UTM's: Easting: 452.25 km Northing: 4,324.39 km Zone: 17
Description: Proposal to replace three (3) existing engines at the facility with two (2) new engines. Additionally one (1) fuel gas heater, one (1) emergency generator, and 40 catalytic space heaters will be installed. These changes result in this facility becoming a minor source not subject to 45CSR30. After the submittal of the application on December 26, 2012, Columbia added 40 catalytic space heaters to the proposed application. Therefore, this application was resubmitted on March 19, 2013 to accommodate these changes. Columbia was required to republish their Class I legal advertisement (Notice of Application) to account for these changes.

DESCRIPTION OF PROCESS

The following process description was taken from Permit Application R13-3032:

This station is a storage and transmission compressor station utilized to inject and withdraw natural gas from an existing storage field for existing natural gas transmissions lines. The proposed project will replace the three (3) existing Cooper Bessemer TT-DA horizontal compressor engines with two (2) new Caterpillar 3606 LE compressor engines with catalysts. Additionally, a new 0.15 million British Thermal Units per hour (MMBtu/hr) water bath fuel gas heater will be installed to maintain fuel gas temperatures feeding the new Caterpillar compressor engines. The existing Roiline L4000 emergency generator will be replaced with a new Waukesha VGF184L emergency generator and the existing Wisconsin 4H4DIA air compressor will be removed and replaced with an electric driven screw compressor. Forty (40) Bruest model 24-72 catalytic space heaters, each with a maximum heat input of 0.072 MMBTU/hr will also be added to the station.

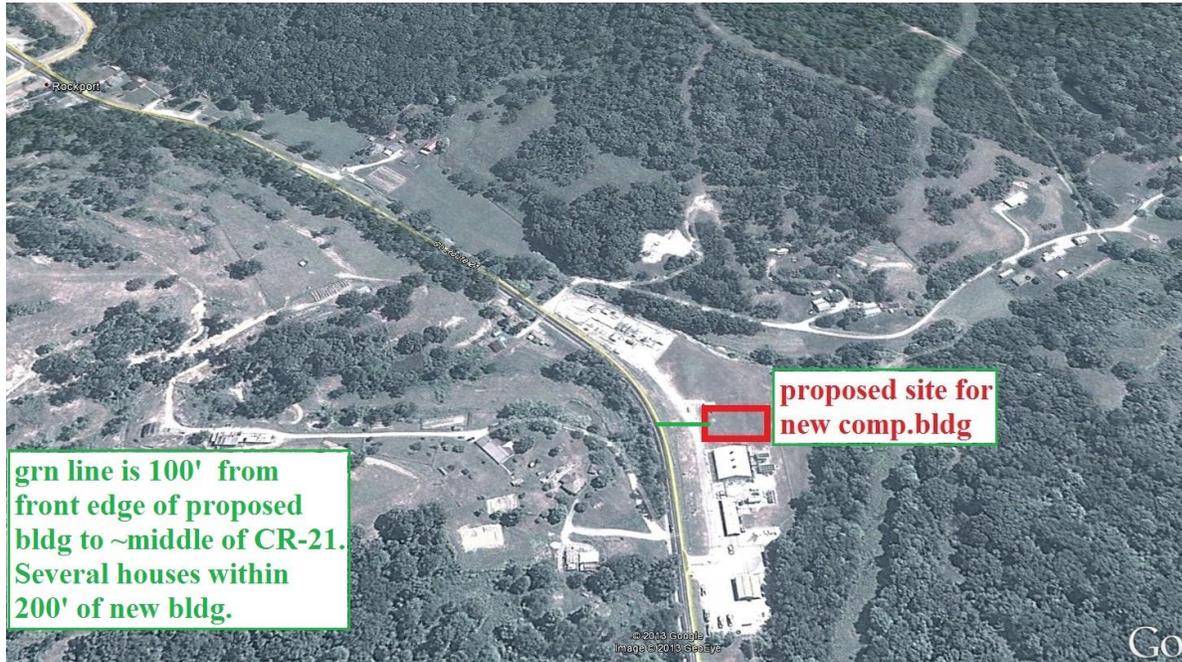
Additional equipment at the facility, which will not be affected by this project, consists of a comfort heating boiler (3.2 MMBtu/hr), two (2) water bath line heaters (1.75 MMBtu/hr and 0.25 MMBtu/hr), and nine (9) storage tanks housing pipeline liquids, methanol, lube oils, used oils, and basement waste water.

Emissions for the facility have been revised, taking into account the changes in emissions from the replacement engines, new fuel gas heater, replacement emergency generator and removal of the air compressor engine. These changes make the facility a minor source under 45CSR30.

This facility currently operates under a Title V (45CSR30) Operating Permit. The most recent renewal (R30-10700100-2012) was issued on October 31, 2012 and has an effective date of November 14, 2012. At the time of the issuance of the Title V Operating Permit Renewal this facility had the potential to emit 340.46 tons of Nitrogen Oxides per year and 131.91 tons of Carbon Monoxide per year. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, they were required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30. The equipment that was permitted under the Title V Operating Permit was grandfathered and not required to be permitted under a 45CSR13 permit. However, due to the proposed changes with this application, Columbia is required to obtain a 45CSR13 construction permit for this activity, and will no longer be subject to 45CSR30.

SITE INSPECTION

A site inspection was conducted on February 20, 2013 by Doug Hammell of the WVDEP DAQ Enforcement Section. The facility was found to be operating in compliance at that time.



ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Emissions associated with this construction application consist of the combustion emissions from two (2) natural gas fired compressor engines (E04, E05), one (1) fuel gas heater (H3), one (1) emergency generator (G2), two (2) line heaters (H1, H2), one (1) boiler (BL2), and fugitive emissions (FUG). The following table indicates which methodology was used in the emissions determination:

Emission Point ID#	Process Equipment	Calculation Methodology
E04, E05	1,775 hp Caterpillar G3606 LE Compressor Engines w/ Oxidation Catalyst	Manufacturer's Data, EPA AP-42 Emission Factors
G2	440 HP (425 kW) Waukesha VFG Emergency Generator	Manufacturer's Data, EPA AP-42 Emission Factors
H3	0.15 MMBtu/hr Fuel Gas Heater	EPA AP-42 Emission Factors
H1	1.75 MMBtu/hr Line Heater	EPA AP-42 Emission Factors
H2	0.25 MMBtu/hr Line Heater	EPA AP-42 Emission Factors
BL2	3.2 MMBtu/hr Boiler	EPA AP-42 Emission Factors
SH1	40 – 0.072 MMBTU/hr Catalytic Space Heaters	Manufacturer's Data, EPA AP-42 Emission Factors

Fugitive emissions for the facility are based on calculation methodologies presented in GRI-HAPCalc 3.0 which utilizes EPA average emission factors for connections, flanges, open-ended lines, pumps and valves.

The following table indicates the control device efficiencies that are required for this facility:

Emission Unit	Pollutant	Control Device	Control Efficiency
1,775 hp Caterpillar G3606 LE Compressor Engines w/ Emit Catalyst (E04, E05)	Carbon Monoxide	Oxidation Catalyst	93 %
	Volatile Organic Compounds		50 %
	Formaldehyde		76 %

Maximum controlled point source emissions were calculated by Columbia and checked for accuracy by the writer and are summarized in the table below.

Emission Point ID#	Source	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (tpy)
E04 E05 each	1,775 hp Caterpillar G3606LE Compressor Engines	Nitrogen Oxides	2.74	12.00
		Carbon Monoxide	0.75	3.29
		Particulate Matter-10	0.14	0.59
		Sulfur Dioxide	<0.01	0.03
		Volatile Organic Compounds	1.23	5.39
		Formaldehyde	0.24	1.05
		Total HAPs	0.39	1.67
		Carbon Dioxide Equivalent	1,728.08	7,568.99
G2	440 hp Waukesha VGF18GL Emergency Generator	Nitrogen Oxides	1.94	0.49
		Carbon Monoxide	1.26	0.32
		Particulate Matter-10	0.03	0.01
		Sulfur Dioxide	0.18	0.05
		Volatile Organic Compounds	0.25	0.06
		Formaldehyde	0.16	0.04
		Total HAPs	0.19	0.05
		Carbon Dioxide Equivalent	414.00	103.50

SH1	40 – 0.072 MMBTU/hr Catalytic Space Heaters	Nitrogen Oxides	0.29	1.24
		Carbon Monoxide	0.24	1.04
		Particulate Matter-10	0.02	0.10
		Sulfur Dioxide	0.17	0.72
		Volatile Organic Compounds	0.02	0.07
		Formaldehyde	<0.01	<0.01
		Total HAPs	<0.01	<0.01
		Carbon Dioxide Equivalent	340.88	1,493.04
H3	0.15 MMBtu/hr Fuel Gas Heater	Nitrogen Oxides	0.02	0.07
		Carbon Monoxide	0.02	0.06
		Particulate Matter-10	<0.01	<0.01
		Sulfur Dioxide	<0.01	0.04
		Volatile Organic Compounds	<0.01	<0.01
		Formaldehyde	<0.01	<0.01
		Total HAPs	<0.01	<0.01
		Carbon Dioxide Equivalent	17.65	77.29
H1	1.75 MMBtu/hr Line Heater	Nitrogen Oxides	0.17	0.75
		Carbon Monoxide	0.14	0.63
		Particulate Matter-10	<0.01	0.01
		Sulfur Dioxide	<0.01	0.01
		Volatile Organic Compounds	<0.01	0.04
		Formaldehyde	<0.01	<0.01
		Total HAPs	<0.01	<0.01
		Carbon Dioxide Equivalent	206.50	904.47
H2	0.25 MMBtu/hr Line Heater	Nitrogen Oxides	0.03	0.11
		Carbon Monoxide	0.03	0.09
		Particulate Matter-10	<0.01	<0.01
		Sulfur Dioxide	<0.01	<0.01
		Volatile Organic Compounds	<0.01	0.01
		Formaldehyde	<0.01	<0.01
		Total HAPs	<0.01	<0.01

		Carbon Dioxide Equivalent	29.50	129.21
BL2	3.2 MMBtu/hr Boiler	Nitrogen Oxides	0.33	1.46
		Carbon Monoxide	0.28	1.23
		Particulate Matter-10	<0.01	0.03
		Sulfur Dioxide	<0.01	0.01
		Volatile Organic Compounds	0.02	0.08
		Formaldehyde	0.01	0.04
		Total HAPs	0.01	0.04
		Carbon Dioxide Equivalent	377.60	1,653.89
Storage Tanks	Storage Tanks	Volatile Organic Compounds	19.14	0.58

The following table indicates that storage tanks that exist at the facility:

Emission Unit ID	Emission Point ID	Emission Unit Description	Design Capacity
A07	A07	Pipeline Liquids Storage Tank	8,000 gal
A08	A08	Pipeline Liquids Storage Tank	8,000 gal
A09	A09	Pipeline Liquids Storage Tank	8,000 gal
A10	A10	Lube Oil Storage Tank	8,000 gal
A11	A11	Methanol Storage Tank	5,000 gal
A12	A12	Methanol Storage Tank	550 gal
A15	A15	Pipeline Liquids Storage Tank	8,000 gal
A16	A16	Lube Oil Storage Tank	8,000 gal
A17	A17	Lube Oil Storage Tank	5,000 gal
A18	A18	Pipeline Liquids Storage Tank	5,000 gal
A19	A19	Ethylene Glycol Storage Tank	2,000 gal
A20	A20	Ethylene Glycol Storage Tank	2,000 gal
A21	A21	Waste Fluid (Floor Drains) Storage Tank	2,000 gal

The following table indicates the existing potential to emit (PTE), emissions reduction for equipment removed, emissions increase for the new equipment, and the net change in PTE in tons/year (tpy):

Pollutant	Current Facility PTE (tpy)	Emissions Reduction from Equipment Removal (tpy)	Emissions Increase from New Equipment (tpy)	Net Change in PTE (tpy)
Carbon Monoxide	131.91	129.96	7.99	-121.97
Nitrogen Oxides	340.46	338.15	25.79	-312.36
Particulate Matter-10	1.92	1.88	1.30	-0.58
Sulfur Dioxide	0.16	0.14	0.80	0.66
Volatile Organic Compounds	7.47	5.86	11.02	5.16
Carbon Dioxide Equivalent	11,554	8,858	20,024	11,176
Total HAPs	5.66	5.61	3.39	-2.22

The following table indicates Columbia's new potential to emit (PTE). These emissions are associated with the existing equipment, proposed engines and making the temporary engine permanent:

Pollutant	Maximum Annual Emissions (tpy)
Carbon Monoxide	9.94
Nitrogen Oxides	28.10
Particulate Matter-10	1.33
Sulfur Dioxide	0.83
Volatile Organic Compounds	12.63
Carbon Dioxide Equivalent	22,693
Total HAPs	3.41

REGULATORY APPLICABILITY

Unless otherwise stated WVDEP DAQ did not determine whether the permittee is subject to an area source air toxics standard requiring Generally Achievable Control Technology (GACT) promulgated after January 1, 2007 pursuant to 40 CFR 63, including the area source air toxics provisions of 40 CFR 63, Subpart ZZZZ.

The following rules apply to the facility:

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

The purpose of 45CSR2 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) million B.T.U.'s per hour 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.

The individual heat input of the fuel gas heater, line heaters, catalytic space heaters and boiler are below 10 MMBTU/hr. Therefore, these units are exempt from the aforementioned sections of 45CSR2.

Columbia would also be subject to the opacity requirements in 45CSR2, which is 10% opacity based on a six minute block average.

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

The purpose of 45CSR10 is to establish emission limitations for sulfur dioxide which are discharged from fuel burning units. 45CSR10 states that any fuel burning unit that has a heat input under ten (10) million B.T.U.'s per hour is exempt from sections 3 (weight emission standard), 6 (registration), 7 (permits), and 8 (testing, monitoring, recordkeeping, reporting). 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.

The individual heat input of the fuel gas heater, line heaters, catalytic space heaters and boiler are below 10 MMBTU/hr. Therefore, these units are exempt from the aforementioned sections of 45CSR10.

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 Columbia exceeds the regulatory emission threshold for criteria pollutants of 6 lb/hr and 10 ton/year, and they are also subject to a substantive requirement of an emission control rule promulgated by the Secretary (40CFR60 Subparts JJJJ and OOOO).

Columbia paid the appropriate application fee and published the required legal advertisement for a construction permit application.

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

45CSR16 applies to this source by reference of 40CFR60, Subparts JJJJ and OOOO. These requirements are discussed under that rule below.

45CSR22 (Air Quality Management Fee Program)

Columbia is not subject to 45CSR30. The Rockport Compressor Station is subject to 40CFR60 Subparts JJJJ and OOOO, however they are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided they are not required to obtain a permit for a reason other than their status as an area source.

Emissions for the facility have been revised, taking into account the reduction of emissions from the replacement engines. With the replacement engines in place and the older units shut down permanently, the facility will become a minor source under Title V and also drop below the PSD threshold.

Columbia is required to pay the appropriate annual fees and keep their Certificate to Operate current.

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

40CFR60 Subpart JJJJ is applicable to owners and operators of new stationary spark ignition internal combustion engines manufactured after July 1, 2007, for engines with a maximum rated power capacity greater than 500 hp.

The proposed 1,775 hp Caterpillar G3606LE compressor engines (E07-E10) will be subject to the following emission limits: NO_x – 1.0 g/hp-hr (3.92 lb/hr); CO – 2.0 g/hp-hr (7.83 lb/hr); and VOC – 0.7 g/hp-hr (2.74 lb/hr). Based on the manufacturer's specifications for these engines, the emission standards will be met.

The proposed 1,340 hp Caterpillar G3516 TALE compressor engine (TE02) will be subject to the following emission limits: NO_x – 2.0 g/hp-hr (5.90 lb/hr); CO – 4.0 g/hp-hr (11.81 lb/hr); and VOC – 0.7 g/hp-hr (2.95 lb/hr). Based on the manufacturer's specifications for these engines, the emission standards will be met.

In addition, the proposed engines are not certified by the manufacturer to meet the emission standards listed in 40CFR60 Subpart JJJJ. Therefore, Columbia will be required to conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or three (3) years, whichever comes first, to demonstrate compliance.

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

EPA published in the Federal Register new source performance standards (NSPS) and air toxics rules for the oil and gas sector on August 16, 2012. 40CFR60 Subpart OOOO establishes emission standards and compliance schedules for the control of volatile organic compounds (VOC) and sulfur dioxide (SO₂) emissions from affected facilities that commence construction, modification or reconstruction after August 23, 2011. The following affected sources which commence construction, modification or reconstruction after August 23, 2011 are subject to the applicable provisions of this subpart:

- a. Each gas well affected facility, which is a single natural gas well.

There are no gas wells at this facility. Therefore, all requirements regarding gas well affected facilities under 40 CFR 60 Subpart OOOO would not apply.

- b. 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. For the purposes of this subpart, your centrifugal compressor is considered to have commenced construction on the date the compressor is installed (excluding relocation) at the facility. 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.

There are no centrifugal compressors at the Rockport Compressor Station. Therefore, all requirements regarding centrifugal compressors under 40 CFR 60 Subpart OOOO would not apply.

- c. 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. For the purposes of this subpart, your reciprocating compressor is considered to have commenced construction on the date the compressor is installed (excluding relocation) at the facility. 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.

There are reciprocating internal combustion engines located at the Rockport Compressor Station that were constructed after August 23, 2011. Therefore, the requirements regarding reciprocating compressors under 40 CFR 60 Subpart OOOO would apply. Columbia would be required to perform the following:

- Replace the reciprocating compressor rod packing at least every 26,000 hours of operation or 36 months.
- Demonstrate initial compliance by continuously monitoring the number of hours of operation or track the number of months since the last rod packing replacement.
- Submit the appropriate start up notifications.
- Submit the initial annual report for the reciprocating compressors.
- Maintain records of hours of operation since last rod packing replacement, records of the date and time of each rod packing replacement, and records of deviations in cases where the reciprocating compressor was not operated in compliance.

d. Pneumatic Controllers

- 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 which commenced construction after August 23, 2011, and is located between the wellhead and the point of custody transfer to the natural gas transmission and storage segment and not located at a natural gas processing plant.
- Each pneumatic controller affected facility, which is a single continuous bleed natural gas-driven pneumatic controller which commenced construction after August 23, 2011, and is located at a natural gas processing plant.

There are no applicable pneumatic controllers which commenced construction after August 23, 2011. Therefore, all requirements regarding pneumatic controllers under 40 CFR 60 Subpart OOOO would not apply.

e. 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.

40CFR60 Subpart OOOO defines a storage vessel as a unit that is constructed primarily of nonearthen materials (such as wood, concrete, steel, fiberglass, or plastic) which provides structural support and is designed to contain an accumulation of liquids or other materials. The following are not considered storage vessels:

- Vessels that are skid-mounted or permanently attached to something that is mobile (such as trucks, railcars, barges or ships), and are intended to be located at a site for less than 180 consecutive days. If the source does not

keep or are not able to produce records, as required by §60.5420(c)(5)(iv), showing that the vessel has been located at a site for less than 180 consecutive days, the vessel described herein is considered to be a storage vessel since the original vessel was first located at the site.

- Process vessels such as surge control vessels, bottoms receivers or knockout vessels.
- Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere.

This rule requires that the permittee determine the VOC emission rate for each storage vessel affected facility utilizing a generally accepted model or calculation methodology within 30 days of startup, and minimize emissions to the extent practicable during the 30 day period using good engineering practices. For each storage vessel affected facility that emits more than 6 tpy of VOC, the permittee must reduce VOC emissions by 95% or greater within 60 days of startup. The compliance date for applicable storage vessels is October 15, 2013.

The storage vessels located at the Rockport Compressor Station were installed prior to August 23, 2011 and have the potential to emit to less than 6 tpy of VOC. Therefore, Columbia is not required by this section to reduce VOC emissions by 95%.

- f. The group of all equipment, except compressors, within a process unit is an affected facility.
- Addition or replacement of equipment for the purpose of process improvement that is accomplished without a capital expenditure shall not by itself be considered a modification under this subpart.
 - Equipment associated with a compressor station, dehydration unit, sweetening unit, underground storage vessel, field gas gathering system, or liquefied natural gas unit is covered by §§60.5400, 60.5401, 60.5402, 60.5421 and 60.5422 of this subpart if it is located at an onshore natural gas processing plant. Equipment not located at the onshore natural gas processing plant site is exempt from the provisions of §§60.5400, 60.5401, 60.5402, 60.5421 and 60.5422 of this subpart.
 - The equipment within a process unit of an affected facility located at onshore natural gas processing plants and described in paragraph (f) of this section are exempt from this subpart if they are subject to and controlled according to subparts VVa, GGG or GGGa of this part.

The Rockport Compressor Station is not a natural gas processing plant. Therefore, Leak Detection and Repair (LDAR) requirements for onshore natural gas processing plants would not apply.

- g. Sweetening units located at onshore natural gas processing plants that process natural gas produced from either onshore or offshore wells.
- Each sweetening unit that processes natural gas is an affected facility; and
 - Each sweetening unit that processes natural gas followed by a sulfur recovery unit is an affected facility.
 - Facilities that have a design capacity less than 2 long tons per day (LT/D) of hydrogen sulfide (H₂S) in the acid gas (expressed as sulfur) are required to comply with recordkeeping and reporting requirements specified in §60.5423(c) but are not required to comply with §§60.5405 through 60.5407 and paragraphs 60.5410(g) and 60.5415(g) of this subpart.
 - Sweetening facilities producing acid gas that is completely reinjected into oil-or-gas-bearing geologic strata or that is otherwise not released to the atmosphere are not subject to §§60.5405 through 60.5407, 60.5410(g), 60.5415(g), and 60.5423 of this subpart.

There are no sweetening units at the Rockport Compressor Station. Therefore, all requirements regarding sweetening units under 40 CFR 60 Subpart OOOO would not apply.

The following rules do not apply to the facility:

45CSR30 (Requirements for Operating Permits)

Columbia will no longer be subject to 45CSR30. The Rockport Compressor Station is subject to 40CFR60 Subparts JJJJ and OOOO, however they are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided they are not required to obtain a permit for a reason other than their status as an area source.

40CFR60 Subpart KKK (Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants)

40CFR60 Subpart KKK applies to onshore natural gas processing plants that commenced construction after January 20, 1984, and on or Before August 23, 2011. The Rockport Compressor Station is not a natural gas processing facility, therefore, Columbia is not subject to this rule.

45CSR14 (Permits for Construction and Major Modification of Major Stationary Sources of Air Pollutants)

45CSR19 (Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution which Cause or Contribute to Nonattainment)

The Rockport Compressor Station is located in Wood County, which is a non-attainment county for PM_{2.5}. PM_{2.5} is also known as a precursor for Sulfur Dioxide and Nitrogen Oxides, therefore the Rockport Compressor Station is potentially applicable to 45CSR19.

PSD Applicability Determination

The Rockport Compressor Station is an existing Major Stationary Source with respect to PSD because they have actual emissions of nitrogen oxides in excess of 250 tons per year. The Rockport Compressor Station is not one of the listed 28 major stationary sources whose emissions threshold is 100 tpy as defined in 40CFR52.21(b)(1)(i) and 45CSR14 Section 2.43. In order for a project to become subject to PSD review, the major stationary source must have a significant emissions increase from the project **and** a significant net emissions increase as calculated over the 5 year contemporaneous period. The first step is to determine if the proposed project results in a significant emissions increase utilizing the calculation procedures in 45CSR14 (Permits for Construction and Major Modification of Major Stationary Sources for the Prevention of Significant Deterioration of Air Quality) Section 3.4. The procedure for calculating whether a significant emissions increase will occur depends on the type of emissions units being modified. The procedure for calculating whether a significant net emissions increase will occur at the major stationary source, which is the second step in the process, is contained in 45CSR14 Section 2.46. Regardless of any such preconstruction projections, a major modification results if the project causes a significant emissions increase and a significant net emissions increase.

In determining whether a significant emissions increase occurs, 45CSR14 provides two (2) ways to make that determination. These calculations are based on whether or not it is an existing emissions unit or a new emissions unit.

45CSR14 Section 2.27 defines an ‘emissions unit’ as any part of a stationary source that emits or would have the potential to emit any regulated NSR pollutant and includes an electric utility steam generating unit as defined in subsection 2.25. For the purposes of this rule, there are two types of emissions units as described in subdivisions 2.27.a and 2.27.b.

2.27.a. A new emissions unit is any emissions unit that is (or will be) newly constructed and that has existed for less than 2 years from the date such emissions unit first operated.

2.27.b. An existing emissions unit is any emissions unit that does not meet the requirements in subdivision 2.27.a. A replacement unit, as defined in subsection 2.68, is an existing emissions unit.

Because Rockport Compressor Station is an existing source they will fall under 2.27.b.

Therefore, since emissions units at Rockport Compressor Station would be considered new units, 45CSR14 Section 3.4.d states that an Actual-to-Potential test would be utilized. A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the potential to emit (as defined in subsection 2.58) and the baseline actual emissions (as defined in subdivisions 2.8.a and 2.8.b), for each existing emissions unit, equals or exceeds the significant amount of that pollutant (as defined in subsection 2.74).

The first step is to determine whether or not the proposed project results in a significant emissions increase utilizing the Actual-to-Potential test. The result of that test will be compared to PSD Significant Emission Rates (SER) to determine PSD applicability. If the resultant emissions are below the PSD SER then the project is not subject to PSD review. If the project's emissions are greater than the PSD SER then all contemporaneous increases and decreases must be examined to determine if the project is subject to PSD Review. The potential to emit from the emissions units associated with this project were based on the proposed engines.

The following table indicates what Rockport Compressor Station's potential emissions increase would be with the installation of the compressor engines:

Pollutant	Emissions increase associated with this modification (tpy)	PSD SER (tpy)	Subject to PSD Review (Y or N)
NO _x	25.79	40	N
CO	7.99	100	N
SO ₂	0.80	40	N
PM ₁₀	1.30	15	N
VOC	11.02	100	N
CO _{2e}	20,024	75,000	N

As shown in the table above, no pollutant exceeds the SER. Therefore, it is not necessary to calculate the net emissions increase over a 5 year contemporaneous period.

Final Conclusion

Because there was not an emissions increase above the PSD SER, PSD review is not required.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

There will be small amounts of various non-criteria regulated pollutants emitted from the combustion of natural gas. However, due to the concentrations emitted, detailed toxicological information is not included in this evaluation.

AIR QUALITY IMPACT ANALYSIS

Modeling was not required of this source due to the fact that the facility is not subject to 45CSR14 (Permits for Construction and Major Modification of Major Stationary Sources of Air Pollutants) as seen in the table listed in the Regulatory Discussion Section.

SOURCE AGGREGATION

“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.

The Rockport Compressor Station is located in Wood County and will be operated by Columbia.

1. The Rockport Compressor Station will operate under SIC code 4922 (Pipeline Transportation of Natural Gas). There are other compressor stations operated by Columbia that share the same two-digit major SIC code of 49 for natural gas transmission. Therefore, the Rockport Compressor Station does share the same SIC code as other Columbia compressor stations.
2. “Contiguous or Adjacent” determinations are made on a case by case basis. These determinations are proximity based, and it is important to focus on this and whether or not it meets the common sense notion of a plant. The terms “contiguous” or “adjacent” are not defined by USEPA. Contiguous has a dictionary definition of being in actual contact; touching along a boundary or at a point. Adjacent has a dictionary definition of not distant; nearby; having a common endpoint or border.

There are no Columbia properties in question that are considered to be on contiguous or adjacent property with the Rockport Compressor Station.

3. The proposed Rockport Compressor Station is not under common control with any facilities in question.

Because the facilities are not considered to be on contiguous or adjacent properties and not under common control, the emissions from the Rockport Compressor Station should not be aggregated with other facilities in determining major source or PSD status.

MONITORING OF OPERATIONS

Columbia will be required to perform the following monitoring:

1. Monitor and record quantity of natural gas consumed for all fuel combustion sources.
2. Monitor all applicable requirements of 40CFR60 Subparts JJJJ and OOOO.

Columbia will be required to perform the following recordkeeping:

1. Maintain records of the amount of natural gas consumed and hours of operation for all fuel combustion sources.
2. Maintain records of testing conducted in accordance with the permit. Said records shall be maintained on-site or in a readily accessible off-site location
3. Maintain the corresponding records specified by the on-going monitoring requirements of and testing requirements of the permit.
4. Maintain a record of all potential to emit (PTE) HAP calculations for the entire facility. These records shall include the natural gas compressor engines and ancillary equipment.
5. Maintain records of all applicable requirements of 40CFR60 Subparts JJJJ and OOOO.
6. The records shall be maintained on site or in a readily available off-site location maintained by Columbia for a period of five (5) years.

RECOMMENDATION TO DIRECTOR

The information provided in the permit application indicates that Columbia meets all the requirements of applicable regulations. Therefore, impact on the surrounding area should be minimized and it is recommended that the Rockport Compressor Station should be granted a 45CSR13 construction permit for their facility.

Jerry Williams, P.E.
Engineer

Date