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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.:	R13-3284
Plant ID No.:	009-00128
Applicant:	Sunoco Pipeline, L.P. (SPLP)
Facility Name:	Follansbee Station
Location:	Wellsburg, Brooke County
NAICS Code:	493190
Application Type:	Construction
Received Date:	December 7, 2015
Engineer Assigned:	Jerry Williams, P.E.
Fee Amount:	$1,000.00
Date Received:	December 7, 2015
Complete Date:	December 30, 2015
Due Date:	March 29, 2016
Applicant Ad Date	December 11, 2015
Newspaper:	*The Brooke County Review*
UTM's:	Easting: 538.832 km Northing: 4,454.012 km Zone: 17
Latitude:	40.235645
Longitude:	-80.543506
Description:	Construction of a natural gas maintenance station consisting of product meters, control valves, filtration equipment, enclosed flare and associated piping.

Promoting a healthy environment.

NON-CONFIDENTIAL

DESCRIPTION OF PROCESS

The following process description was taken from Permit Application R13-3284:

SPLP proposes to construct and operate a support maintenance station that will consist of product meters, control valves, filtration equipment, enclosed flare and associated piping. Products (e.g., propane and butane) will flow through the facility utilizing a single pipeline and connected to SPLP's ME2 pipeline.

The facility will result in added equipment and components to enhance the transportation of the NGLs through the pipeline, which consist of the following:

- One (1) gas chromatograph (GC)
- One (1) filter
- One (1) prover
- One (1) enclosed flare
- Miscellaneous fugitive equipment components

The specific emission sources consist of continuous emission sources, maintenance activity emissions, control equipment, fugitive dust emissions, and fugitive sources (e.g., leaks from valves, flanges, and other miscellaneous component types). The vapors associated with the GC, relief valves, and maintenance activities will be captured and directed to the enclosed flare for control of volatile organic compounds (VOCs). The following table provides a list of those sources:

Equipment	**Rating/Size**	**Quantity**
Continuous Emission Sources		
Gas Chromatograph	0.11 scf/hr	1
Relief Valves to Flare Header	0.002 scf/hr	9
Pilot Fuel	22 scf/hr	1
Maintenance Emission Sources		
Filter	49.48 ft^3	1
Prover	5.35 ft^3	1

The GC will be operated on a continuous basis sampling the NGLs in the pipeline for quality assurance/quality control (QA/QC) purposes. Vapors associated with the analysis of the NGLs will be captured and directed to an enclosed flare for control of VOCs.

The proposed enclosed flare will be a John Zink Company LLC 4 foot by 30 foot enclosed ZTOF Production Flare with a maximum heat input rating of 10 million British thermal units per hour (MMBTU/hr). The enclosed flare will be used to control VOC emissions associated with the GC and maintenance operations. The design destruction efficiency of the flare is 98% based upon the vendor's performance guarantee. Intermittent emissions will result from maintenance activities and these vapors will be captured and sent to the flare. Additional equipment associated with the enclosed flare will consist of an approximate 1,000 gallon propane storage tank, providing fuel for the pilot flame. The propane storage tank is pressurized.

During normal operation of the facility, emissions will be comprised of very minor emissions from the GC, pilot fuel and relief valve valve-seat emissions.

SITE INSPECTION

A site inspection was conducted on December 15, 2015 by Al Carducci of the DAQ Enforcement Section. According to Mr. Carducci, the site is appropriate for the facility.

Directions as given in the permit application are as follows:

From WV-88, turn onto McAdoo Ridge Road (1.6 miles). Turn left toward Whitetail Ridge. Take a slight right (0.4 miles) and continue right until reaching the station.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Emissions associated with this facility consist of the continuous vapors captured from the operation of the GC, pilot fuel, and relief valves; vapors captured from maintenance activities that are associated with the filter, prover, and other maintenance activities that may occur; enclosed flare for controlling VOC emissions; fugitive dust emissions from an unpaved access road; and fugitive emissions resulting from leaks from valves, flanges, seals, relief valves and other miscellaneous component types. The vapors associated with the continuous emissions and maintenance activities will be captured and directed to the enclosed flare for control of VOC emissions.

The emission calculations are based on the facility operating 8,760 hours per year. The NGLs being sent through the system will consist of 17,000 barrels per day (BPD) of butane and 35,500 BPD of propane. Based on a representative analysis of each NGL; butane consists of 100% by weight VOCs and propane has an estimated VOC content of 98.6% by weight. The following table indicates the calculation methodology used for each piece of equipment:

Process Equipment	**Calculation Methodology**
Gas Chromatograph	Manufacturer's Data
Relief Valve Valve-Seats	USEPA's Protocol for Equipment Leak Emission Estimates and a representative NGL analysis
Maintenance Activities (Filter, Prover)	Engineering Estimate
Enclosed Flare	EPA AP-42 Emission Factors
Fugitive Emissions	USEPA's Protocol for Equipment Leak Emission Estimates and a representative NGL analysis
Haulroad Emissions	EPA AP-42 Emission Factors

The total facility PTE for the Follansbee Station is shown in the following table:

Pollutant	**R13-3284 PTE (tons/year)**
Nitrogen Oxides	0.02
Carbon Monoxide	0.11
Volatile Organic Compounds	0.45
Particulate Matter-10	<0.01
Sulfur Dioxide	<0.01
Total HAPs	<0.01
Carbon Dioxide Equivalent	51

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

Sunoco Pipeline, L.P. – Follansbee Station (R13-3284)

Emission Point ID#	Source	NO_x		CO		VOC		PM-10		SO_2		Total HAPs		CO2e
		lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	ton/year
F-9708	Enclosed Flare	0.68	0.02	3.12	0.11	9.48	0.26	<0.01	<0.01	0.03	<0.01	<0.01	<0.01	51
Total Point Source		**0.68**	**0.02**	**3.12**	**0.11**	**9.48**	**0.26**	**<0.01**	**<0.01**	**0.03**	**<0.01**	**<0.01**	**<0.01**	**51**
FE-01	Fugitives	0.00	0.00	0.00	0.00	0.04	0.19	0.00	0.00	0.00	0.00	<0.01	<0.01	0
Fugitive	Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.68	0.00	0.00	0.00	0.00	0
Total Fugitive		**0.00**	**0.00**	**0.00**	**0.00**	**0.04**	**0.19**	**0.15**	**0.68**	**0.00**	**0.00**	**0.00**	**0.00**	**0**
Total Sitewide		**0.68**	**0.02**	**3.12**	**0.11**	**9.52**	**0.45**	**<0.01**	**<0.01**	**0.03**	**<0.01**	**<0.01**	**<0.01**	**51**

REGULATORY APPLICABILITY

The following rules apply to the facility:

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

The purpose of this rule is to prevent and control air pollution from combustion of refuse.

SPLP has one (1) flare at the facility. The flare is subject to section 4, emission standards for incinerators. The flare has negligible hourly particulate matter emissions. Therefore, the facility's flare should demonstrate compliance with this section. The facility will demonstrate compliance by maintaining records of the amount of natural gas consumed by the flare and the hours of operation. The facility will also monitor the flame of the flare and record any malfunctions that may cause no flame to be present during operation.

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)

A 45CSR13 construction permit applies to this source due to the fact that the flare is subject to a substantive requirement under 45CSR6.

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

45CSR22 (Air Quality Management Fee Program)

SPLP is not subject to 45CSR30. SPLP is required to pay the appropriate annual fees and keep their Certificate to Operate current.

The following rules do not apply to the facility:

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 Follansbee Station is located in Brooke County, which is an attainment county for all criteria pollutants, therefore the Follansbee Station is not applicable to 45CSR19.

As shown in the following table, SPLP is not a major source subject to 45CSR14 or 45CSR19 review. According to 45CSR14 Section 2.43.e, fugitive emissions are not included in the major source determination because it is not listed as one of the source categories in Table 1. Therefore, the fugitive emissions are not included in the PTE below.

Pollutant	**PSD (45CSR14) Threshold (tpy)**	**NANSR (45CSR19) Threshold (tpy)**	**Follansbee PTE (tpy)**	**45CSR14 or 45CSR19 Review Required?**
Carbon Monoxide	250	NA	0.11	No
Nitrogen Oxides	250	NA	0.02	No
Sulfur Dioxide	250	NA	<0.01	No
Particulate Matter 2.5	250	NA	<0.01	No
Ozone (VOC)	250	NA	0.45	No

40CFR60 Subpart Kb (Standards of Performance for VOC Liquid Storage Vessels)

40CFR60 Subpart Kb does not apply to storage vessels with a capacity less than 75 cubic meters. The largest tank that SPLP has proposed to install is 2.58 cubic meters. Therefore, SPLP would not be subject to this rule.

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 (SO_2) emissions from affected facilities that commence construction, modification or reconstruction after August 23, 2011. The Follansbee Station does not have any equipment that is considered an affected facility under this rule.

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.

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

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 Follansbee Station is located in Brooke County and will be operated by SPLP.

1. The Follansbee Station will operate under SIC code 4922 (Pipeline Transportation of Natural Gas). There are other compressor stations operated by SPLP that share the same two-digit major SIC code of 49 for natural gas transmission. Therefore, the Follansbee Station does share the same SIC code as other SPLP 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 SPLP properties in question that are considered to be on contiguous or adjacent property with the Follansbee Station.

3. Common control. SPLP does not own or operate any other facilities in West Virginia.

Because the facility is not under common control or considered to be on contiguous or adjacent properties with another facility, the emissions from the Follansbee Station should not be aggregated with other facilities in determining major source or PSD status.

MONITORING OF OPERATIONS

SPLP will be required to perform the following monitoring:

- Monitor and record quantity of NGL throughput.
- Monitor the presence of the flare pilot flame with a thermocouple or equivalent.

SPLP will be required to perform the following recordkeeping:

- Maintain records of the amount of NGL throughput.
- 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
- Maintain the corresponding records specified by the on-going monitoring requirements of and testing requirements of the permit.
- Maintain records of the visible emission opacity tests conducted per the permit.
- Maintain records of the flare design evaluation.
- The records shall be maintained on site or in a readily available off-site location maintained by SPLP for a period of five (5) years.

RECOMMENDATION TO DIRECTOR

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

Jerry Williams, P.E.
Engineer

JAN 21, 2016
Date