

COMMONWEALTH OF PENNSYLVANIA
Department of Environmental Protection
Northwest Regional Office

January 6, 2020

SUBJECT: Review of State Only Operating Permit Renewal Application

Sunoco Pipeline L.P. Cramer Station

East Wheatfield Township, Indiana County
APS No. 865936, Authorization No. 1293393
Client 290687; Site 790725; Primary Facility 784152

TO: File: AQ/Facilities/FacOp/NM-32-00434

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THROUGH: Matthew Williams
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INTRODUCTION

On October 15, 2019, the Department received a State Only operating Permit (SOOP) renewal application for Sunoco Pipeline L.P. (SPLP) Cramer Station for their natural gas liquids pumping station located in East Wheatfield Township, Indiana County. The Cramer Station is part of a natural gas liquids pipeline project known as Mariner East Pipeline. The pipeline is used to transport liquid butane, propane, and ethane from southwest Pennsylvania to Marcus Hook Pennsylvania and other Eastern destinations. SPLP complied with the municipal notification requirements contained in 25 PA. Code §127.413 and the application fee requirements contained in 25 Pa. Code §127.703(b)(3). On October 24, 2019, the Department determined the application to be administratively complete per 25 Pa Code §127.421.

On or about March 24, 2014, the enclosed flare for this facility was exempted from pre-construction plan approval requirements in accordance with 25 Pa Code §127.14(d) and §127.14(a)(8)(#44). The Request for Determination of Requirement for Plan Approval / Operating Permit (RFD) application listed potential emissions from equipment leaks not exceeding 0.25 TPY VOC, 0.01 TPY NOx, and 0.2 TPY CO based on the worst case of flaring a maximum of 312,800 scf of pure butane per year. The exemption also indicated that all compression from the project will be electrically powered and provided by a public utility; the flare will be operated by the manufacturer's specifications and maintenance schedule. The Department determined that a SOOP was required to ensure that the sources and air cleaning devices are operated in accordance with manufacturer's recommendations and good operating practices. The facility is currently operating under the initial SOOP issued on April 27, 2015

with an expiration date of April 27, 2020. The conditions in the current SOOP ensure that the facility is a source of minor significance.

On December 1, 2016, the Department determined that the updated emissions estimates for this facility are exempt from plan approval requirements as a de minimis emission increase under 25 Pa Code §127.449. Emissions from this facility were recalculated based on as-built Piping and Instrumentation Diagrams (P&IDs) and updated emission factors. The de minimis emission increase resulted from this recalculation are -1.24 tpy NO_x, 0.04 tpy CO, and -0.26 tpy VOC. All permitted sources, control devices and conditions remain unchanged with this authorization.

On December 29, 2016, the Department received a SOOP modification for SPLP (Auth ID 1166698, APS 931746). The modification is to remove Section E, Group 01, Condition #004, *“Enclosed flare shall be equipped with a thermocouple to monitor flame temperature. Temperature of flame shall be continuously monitored and recorded.”* The current flare monitoring system consists of an electronic signal from the pilot flame detection device that is transmitted to the SCADA system. The signal indicates the presence or absence of the pilot flame. In the event of a pilot flame malfunction, the flare auto re-ignition is initiated. The Department is not willing to remove the monitoring requirement; however, Condition #004 is modified as follows, *“The enclosed flare shall be equipped with a continuous monitoring methodology. The pilot flame shall be continuously monitored and recorded.”* This modification is incorporated into this renewal permit.

Within the renewal application, the facility requested the change of Responsible Official and Permit Contact Person. The Responsible Official and Permit Contact Person has been changed from Matthew Gordon to Sean Marnell, Pipeline Operations Supervisor and Lauren Sion, Environmental Specialist.

SOURCES, CONTROL DEVICES and EMISSIONS

This facility consists of an electric pump and an enclosed flare. The electric mainline booster pump is a split case, multistage, centrifugal design. The mainline pump is used to maintain the pipeline system pressure. The mainline pump has two seals, one entering and one exiting the pump. A pump seal system captures emissions vented from the seals and are sent to the enclosed flare. The enclosed flare is a John Zink Company LLC with a maximum heat input rating of 10 MMBtu/hr. Propane is supplied by a pressurized storage tank as the pilot gas fuel rated at 0.053 MMBtu/hr (22 scf/hr). The manufacturer’s designed destruction and removal efficiency (DRE) is 98 percent. The flare is equipped with a pilot gas control system that includes a pressure regulator, a fail-close shutdown valve, a pressure indicator to monitor and assure operations, and an auto re-ignition system. The enclosed flare is used to destroy emissions resulting from pump seal leaks and emission resulting from pipeline cleaning and maintenance activities. Fugitive emissions not controlled by the flare consists of valve steams, flanges, and other components that have potential VOC emissions.

A 500-gallon pressurized propane storage tank is used to supply fuel to the flare pilot. There is no associated working or breathing losses from the pressurized tank.

Emissions from the facility are identified by three categories: standard operation, maintenance operation, and fugitive emissions. The standard operation includes emissions from the pilot flame, based on a propane fuel flow rate of 22 scf/hr, and the enclosed flare, based on a butane flow of 30 scf/hr and a VOC destruction efficiency of 98 percent. The maintenance operation assumes 6 events (blowdowns for maintenance) with a total release of 53,880 scf of gas per year. The fugitive emissions are based on the number of components (fittings, valves, and instruments) not controlled by the enclosed flare. Pigging operation is not performed at this site. Emission factors from AP-42 Chapter 13.5, 40 CFR 98, and EPA guidance for equipment leaks were used to calculate the annual potential emissions from this facility as summarized in Table 1.

Table 1: Annual Potential Emissions (TPY)				
	VOC	CO	NO _x	CO _{2e}
Standard Operation	0.541	0.207	0.0455	95.00
Maintenance Operation	0.080	0.030	0.0100	12.60
Fugitive Emissions	0.12	--	--	--
Total	0.74	0.24	0.06	107.60

APPLICABILITY ANALYSIS

SPLP is subject to the applicable requirements of PA Code Chapter 121 through 145 as specified in this operating permit renewal. Cramer Station does not have a Title V or Synthetic Minor permit and not considered to be a Midstream Oil and Gas Facility; therefore, the station is not subject to annual emission reporting of 25 Pa Code §§135.3 or 135.21.

NSPS from 40 CFR Part 60 Subparts K, Ka, and Kb – Volatile Organic Liquid Storage Vessels: These subparts apply to storage vessels with a capacity greater than or equal to 75 cubic meters that is used to store volatile organic liquids. The site consists of a 500-gallon propane storage tank that was installed in 2014. The tank is less than 75 cubic meters and in accordance with 40 CFR 60.110b(d)(2) the pressurized vessel is designed to operate in excess of 204.9 kPa and without emission to the atmosphere. Therefore, the requirements of these subparts do not apply.

NSPS from 40 CFR Part 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines was promulgated on July 11, 2006 and last updated on July 7, 2016. The engine at the Cramer Station is electric, not an internal combustion; therefore, the requirements of this subpart do not apply.

NSPS from 40 CFR Part 60 Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Combustion Engines was promulgated on January 18, 2008 and last updated on August 30, 2016. The engine at the Cramer Station is electric, not a spark ignition combustion; therefore, the requirements of this subpart do not apply.

NSPS from 40 CFR Part 60 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 was promulgated on August 16, 2012 and last updated on June 3, 2016. For this rule, an affected facility may be one of the following: gas well, centrifugal compressor, reciprocating compressor, pneumatic control, storage vessel or sweetening unit. Gas wells, reciprocating compressors, or sweetening units do not exist at the Cramer Station. A centrifugal compressor and pneumatic controllers do exist at the Cramer Station; however, the Station is not located between a wellhead and the point of custody transfer to the natural gas transmission and storage segment. The Station is equipped with a propane storage vessel to fuel the pilot flame of the enclosed flare. The propane storage vessel does not meet the definition of storage vessel within §60.5430, “*means a tank or other vessel that contains an accumulation of crude oil, condensate, intermediate hydrocarbon liquids, or produced water...*” the Cramer Station does not meet the list of affected facilities; therefore, the requirements of this subpart do not apply.

NSPS from 40 CFR Part 60 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 was promulgated on June 3, 2016 and last updated on March 12, 2018. The Cramer Station went into operation on May 15, 2015; therefore, the requirements of this subpart do not apply.

NESHAPS from 40 CFR Part 63 Subpart HH – National Emission Standards for Hazardous Pollutants from Oil and Natural Gas Production Facilities was promulgated on June 17, 1999 and last updated on August 16, 2012. For area sources, this rule applies to dehydration units located at natural gas production facilities. Cramer Station does not meet the definition of a natural gas production facility and does not operate a dehydration unit. The requirements of this subpart do not apply.

NESHAPS from 40 CFR Part 63 Subpart HHH – National Emission Standards for Hazardous Pollutants from Oil and Natural Gas Transmission and Storage Facilities was promulgated on June 17, 1999 and last updated on August 16, 2012. For this rule, natural gas transmission is defined in 63.1271 as, “the pipelines used for the long distance transport of natural gas...” Natural gas is defined in 63.1271 as, “a naturally occurring mixture of hydrocarbon gases found in geologic formations beneath the earth’s surface. The principle hydrocarbon constituent is methane.” Cramer Station is not a major source of HAPs and does not transport or store natural gas; therefore, the requirements of this subpart do not apply.

CONCLUSION and RECOMMENDATION:

A Full Compliance Evaluation (FCE) and Operating Permit Renewal Inspection was completed on December 20, 2019. Justin Rodgers, Air Quality Specialist performed the FCE. No violations were noted during the FCE.

In accordance with 25 PA Code §127.424 and §127.425, notice of intent to issue SOOP will be published in the Pennsylvania Bulletin for a 30-day public comment period. A draft permit will be submitted to SPLP for review as well as Scott Dyll, Air Quality Supervisor.

It is my recommendation that the renewal State Only Operating Permit for Sunoco Pipeline L.P. Cramer Station located in East Wheatfield Township, Indiana County, SOOP 32-00434, be issued. In addition, Auth Id 1166698 is incorporated into this renewal permit and will be “disposed” in eFACTS with the issuance of the renewal.