



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604**

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Phillips 66 Pipeline LLC, Cahokia, Illinois

FROM: Karyn DeFranco, Physical Scientist
AECAB (MN/OH)

THRU: Brian Dickens, Section Supervisor
AECAB (MN/OH)

TO: File

BASIC INFORMATION

Facility Name: Phillips 66 Pipeline LLC- East St. Louis Terminal

Facility Location: 3300 Mississippi Avenue, Cahokia, Illinois 62206

Date of Inspection: July 13th, 2022

EPA Inspector(s):

1. Karyn DeFranco, Physical Scientist
2. Tess Russell, Environmental Engineer

Other Attendees:

1. RJ Salter, Operations Supervisor, Phillips 66
2. Matthew Hartnett, St. Louis Area Superintendent, Phillips 66

Contact Email Address: Matthew.R.Hartnett@p66.com

Purpose of Inspection: To investigate compliance with the Clean Air Act, VOC emission limits, and tank requirements

Facility Type: Bulk storage tank facility

Regulations Central to Inspection: 40 C.F.R. Part 63 Subpart R and the Illinois State Implementation Plan (SIP)

Arrival Time: 1:30 pm

Departure Time: 5:32 pm

Inspection Type:

- ☒ Unannounced Inspection
- ☐ Announced Inspection

OPENING CONFERENCE

- ☒ Presented Credentials
- ☒ Stated authority and purpose of inspection
- ☐ Provided Small Business Resource Information Sheet
- ☒ Small Business Resource Information Sheet not provided. Reason: Not a Small Business.
- ☒ Provided CBI warning to facility

The following information was obtained verbally from Phillips 66 Pipeline LLC unless otherwise noted.

Process Description:

Phillips 66 Pipeline LLC (Phillips 66) East St. Louis Terminal (the Facility) is a bulk storage tank facility that receives product via pipeline and truck and distributes product via tank trucks and rail. The Facility receives product fed by one of four pipelines: the 'gold line', the 'explorer line', the 'buckeye line', and the 'blue line'. The gold line receives naphtha, gasoline, diesel, and jet fuel. The explorer line receives gasoline, diesel, and jet fuel. The buckeye line receives refined products and can be used to distribute gasoline, diesel, and jet fuel. The blue line receives highly volatile liquid (HVL) transmix, butane and propane. The Facility has 32 tanks and/or storage vessels. These tanks/storage vessels include fixed roof tanks, internal floating roof tanks, external floating roof tanks, seven additive tanks, ten propane bullets, one butane sphere and two butane bullets for blending and storage. The Facility also has six bay truck loading racks for gasoline, diesel, and jet fuel; two bay truck loading racks for ethanol; and one bay truck loading rack for propane, used seasonally.

The Facility operates several air pollution control devices including internal floating roofs and external floating roofs on several storage tanks, submerged loading pipes on fixed roof tanks, a thermal oxidation system (VCU), flare, and oil-water separator. 40 C.F.R. Part 63 Subpart R requires the Facility, among other things, to install, calibrate, certify, and maintain the VCU. The Facility controls air emissions from the gasoline, diesel, and kerosene truck loading racks with the VCU. The Facility controls air emissions from the propane and butane truck loading racks with the flare. The oil-water separator takes rain waters that accumulate in the truck loading racks, separates out the gasoline and debris contaminants, and sends the wastewater offsite for disposal. 40 C.F.R. Subpart R prohibits gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. This includes, but is not limited, to minimizing gasoline sent to open waste collection systems such as the oil-water separator. Pursuant to 40 C.F.R. Subpart R the Facility is required to perform monthly leak inspections of all equipment in gasoline service during the loading of a gasoline cargo tank. An initial attempt

to repair each detection of a liquid or vapor leak is required no later than 5 days after the leak is detected. Among other things, the Facility is also subject to Volatile Organic Compounds (VOC) emission limits from internal floating roof tanks.

Staff Interview:

- The Facility monitors the temperature of the VCU, as required by Part 63 Subpart R, and performs quarterly maintenance. Performance tests are conducted every five years on the VCU.
- Every storage tank has a vacuum breaker vent, among other things.
- The Facility no longer has a soil vapor extraction system (SVES) on site. It was used to rectify underground issues but has since been removed.
- In 2021, the Facility obtained the appropriate construction permit and used a portable flare to empty the butane sphere for its 20-year mandatory inspection.
- The trucks need the proper certifications, which are valid for one year, to be loaded or unloaded at the Facility's loading racks.
- The Facility does not currently perform any Method 21 LDAR to detect leaks.

TOUR INFORMATION

EPA Tour of the Facility: Yes

Data Collected and Observations:

EPA toured the Facility and viewed the truck loading racks and several tanks/storage vessels with an optical gas imaging (FLIR) camera to monitor for equipment leaks. EPA viewed emissions from every propane and transmix bullet, piping near the bullets, and the VCU y-strainer. Matthew Hartnett assumed the y-strainer had not been properly closed during the quarterly maintenance performed a few weeks before the inspection. EPA also viewed emissions at the loading connection of a truck's active loading process in the truck loading bay for gasoline. EPA took FLIR videos of each emissions point viewed. EPA requested documentation of addressing the leaks identified during the inspection.

Pursuant to 40 C.F.R. Part 63 Subpart R requirements, EPA requested, among other things, documents to review VCU parameters and performance, flare performance, tank and storage vessel inspections, and tank specification information.

EPA did not view the oil-water separator, but pursuant to 40 C.F.R. Part 63 Subpart R requirements EPA requested, among other things, documents pertaining to the oil-water separator throughput and parameters.

Photos and/or Videos: were taken during the inspection.

FLIR videos and digital images were taken. See Appendix A.

Field Measurements: were not taken during this inspection.

CLOSING CONFERENCE

- ☒ Provided U.S. EPA point of contact to the facility

Requested documents:

- Plant diagram;
- Tank Inventory list, including bullets (including tank number, capacity, vapor pressures, VOL storage, all vents and all vent pressure set points);
- Copy of the last tank inspection reports for all tanks and bullets;
- Copy of the last tank seal (roof) inspection reports for all tanks besides the bullets;
- Storage in each bullet on July 13th;
- All production throughput for the past 5 years;
- PRV set points on all bullets;
- Throughput of the oil-water separator (including hourly flowrate and vapor pressure) for the past 5 years;
- VCU parameter monitoring spreadsheet for the past 5 years;
- Copy of the last VCU performance test;
- Copy of the last Flare performance test;
- Copy of Semiannual reports for past 5 years;
- Internal air emissions calculations for the past 3 years (2019-2021);
- Copy of the 2021 log of LPG degas;
- The internally maintained spreadsheet of flare calculations, mentioned during the inspection (2020-June 2022); and
- Supporting documentation of addressing the leaks identified at the propane bullets and VCU during the 7/13 inspection.

Concerns: EPA expressed concerns about the emissions from the propane and transmix bullets, endcaps near the bullets, and the VCU y-strainer.

DIGITAL SIGNATURES

Report Author: **KARYN DEFRANCO**
Digitally signed by KARYN DEFRANCO
Date: 2022.09.06 07:47:24 -05'00'

Section Supervisor: **Brian Dickens**
Digitally signed by Brian Dickens
Date: 2022.09.06 16:01:38 -05'00'

Facility Name: Phillips 66 Pipeline LLC
Facility Location: 3300 Mississippi Ave, Cahokia, IL
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APPENDICES AND ATTACHMENTS

- 1.* Appendix A: Digital Image Log

Facility Name: Phillips 66 Pipeline LLC
Facility Location: 3300 Mississippi Ave, Cahokia, IL
Date of Inspection: July 13, 2022

APPENDIX A: DIGITAL IMAGE LOG

1. Inspector Name: Tess Russell	2. Archival Record Location: <i>Enf_Phillips66Cahokia_IL_22_InspRep</i>
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Digital Image Log			
Image Number	File Name	Date and Time	Description of Image
1	IMG_0063.JPG	2022:07:13 16:37:45	Picture of where emissions seen on FLIR for bullet #6009 manway
2	IMG_0064.JPG	2022:07:13 16:37:54	Picture of where emissions seen on FLIR of bullet #6009 manway
3	IMG_0065.JPG	2022:07:13 17:04:43	Picture of where emissions seen on FLIR for bullet #6004 PSV
4	IMG_0066.JPG	2022:07:13 17:11:53	Picture of where emissions seen on FLIR of end caps near "Tin man"
5	IMG_0067.JPG	2022:07:13 17:53:13	Picture of y-strainer on VCU where emissions seen on FLIR
6	IMG_0068.JPG	2022:07:13 17:53:34	Picture of y-strainer on VCU where emissions seen on FLIR

Digital Video (FLIR) Log			
Image Number	File Name	Date and Time	Description of Image
1	MOV_0388.mp4	7/13/2022 15:50	Video taken by accident; No emission units in video
2	MOV_0389.mp4	7/13/2022 16:04	Emissions from Tank 2002 from car tour
3	MOV_0390.mp4	7/13/2022 16:07	Emissions from bullet #6003-6010 from car tour
4	MOV_0391.mp4	7/13/2022 16:10	Emissions from VCU from car tour
5	MOV_0392.mp4	7/13/2022 16:21	Emissions from bullet #6013 level indicator PSC-131
6	MOV_0394.mp4	7/13/2022 16:24	Emissions from bullet #6012 equalization line packing valve
7	MOV_0395.mp4	7/13/2022 16:26	Emissions from bullet #6011 equalization line packing valve
8	MOV_0396.mp4	7/13/2022 16:31	
9	MOV_0397.mp4	7/13/2022 16:32	Emissions from bullet #6010 equalization line packing valve

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10	MOV_0398.mp4	7/13/2022 16:35	Emissions from bullet #6009 top manway connecting tank to PSVs (PSV-91 and PSV-92)
11	MOV_0399.mp4	7/13/2022 16:37	Emissions from bullet #6009 PSV-92
12	MOV_0400.mp4	7/13/2022 16:41	Emissions from bullet #6009 manway
13	MOV_0401.mp4	7/13/2022 16:44	Emissions from bullet #6008 manway (front)
14	MOV_0402.mp4	7/13/2022 16:44	Emissions from bullet #6008 level indicator valve
15	MOV_0403.mp4	7/13/2022 16:46	Emissions from bullet #6008 manway (side)
16	MOV_0404.mp4	7/13/2022 16:48	Emissions from bullet #6007 PSV-72
17	MOV_0405.mp4	7/13/2022 16:51	Emissions from bullet #6007 level indicator
18	MOV_0406.mp4	7/13/2022 16:53	Emissions from bullet #6006 level indicator
19	MOV_0407.mp4	7/13/2022 16:56	Emissions from bullet #6006 flange of equalizer line
20	MOV_0408.mp4	7/13/2022 16:58	Emissions from bullet #6005 manway for PSV-51 and PSV-52
21	MOV_0409.mp4	7/13/2022 16:59	Emissions from bullet #6004 PSV-41
22	MOV_0410.mp4	7/13/2022 17:05	Emissions from bullet #6003 flange of equalizer line
23	MOV_0411.mp4	7/13/2022 17:07	Emissions from bullet #6003
24	MOV_0412.mp4	7/13/2022 17:12	Emissions from end caps next to "Tin man" near bullets
25	MOV_0413.mp4	7/13/2022 17:44	Video of truck loading gasoline product on Bay #3
26	MOV_0414.mp4	7/13/2022 17:53	Emissions from VCU y-strainer