EVALUATION FOR A CHANGE OF CONDITIONS TO PERMITS TO OPERATE LOADING RACKS AND VAPOR RECOVERY UNITS

COMPANY NAME
Phillips 66 Pipeline, LLC

Facility ID# 171326

MAILING ADDRESS
13500 S. Broadway Ave.
Los Angeles, CA 90061

EQUIPMENT ADDRESS
13500 S. Broadway Ave.
Los Angeles, CA 90061

EQUIPMENT DESCRIPTION

APPLICATION NUMBER 576568
BULK LOADING RACK NO. 1, CONSISTING OF:
(See Draft Permit)

APPLICATION NUMBER 576569
BULK LOADING RACK NO. 2, CONSISTING OF:
(See Draft Permit)

APPLICATION NUMBER 576570
BULK LOADING RACK NO. 3, CONSISTING OF:
(See Draft Permit)

APPLICATION NUMBER 576571
BULK LOADING RACK NO. 4, CONSISTING OF:
(See Draft Permit)

APPLICATION NUMBER 576572
BULK LOADING RACK NO. 5, CONSISTING OF:
(See Draft Permit)

APPLICATION NUMBER 576573
BULK LOADING RACK NO. 6, CONSISTING OF:
(See Draft Permit)

APPLICATION NUMBER 576574
AIR POLLUTION CONTROL SYSTEM NO. 1, CONSISTING OF:
(See Draft Permit)

APPLICATION NUMBER 576575
AIR POLLUTION CONTROL SYSTEM NO. 2, CONSISTING OF:
(See Draft Permit)

BACKGROUND

Phillips 66 operates a petroleum product bulk loading facility (Facility ID 171326) located at 13500 S. Broadway Ave, Los Angeles, CA. This facility is a non-RECLAIM, Title V major source. The facility stores gasoline and distillate products in storage tanks and loads the products from six loading racks in to tank trucks for delivery to gasoline service stations. As the product is loaded in to the tanker trucks, the displaced vapor is routed back to two carbon vapor recovery units where it is adsorbed, then it re-enters the liquid phase by an absorption process.

Application Numbers 576568 - 576575 were filed on July 2, 2015 for Change of Conditions to six loading racks and two air pollution control systems. Each of these permit applications is for a change of conditions requesting to remove the wording which limits loading to four loading lanes when only one air pollution control device is in operation. This wording appears in Condition Number 6 for each of the six loading racks and in Condition Number 5 for each of the air pollution control systems (APCS). Prior to submission it was agreed that these applications would be processed as full fee on the first application and at a 50% discount on the remaining applications, as the condition on each application is identical.

After researching previous permit applications (see A/N 421039) it has been determined that the restriction to only four lanes of loading while one APCS is in operation was due to the opening of a pressure relief valve (PRV) upstream of the APCS which occurred while attempting a source test at the facility. During an engineering field evaluation it was noted that the pressure in the system did not exceed 18 inches of water column with only one APCS running while four loading lanes were in operation. Based upon this field evaluation the permit condition to limit to four lanes was placed on the permit to prevent the PRV's from opening due to back pressure above the Rule 462 threshold of 18 inches of water column. Phillips 66 has since installed a backpressure monitoring system that will shut down loading at 14 inches of water column. This eliminates the possibility of atmospheric venting from the safety valve set at 18 inches of water column.

The backpressure monitoring system was commissioned in January 2014. The system is comprised of Rosemount pressure transmitters installed immediately downstream of each vapor recovery arm, upstream of the common header. The system is locally and remotely monitored via an existing Allen Bradley control network and a human machine interface in the control room. The instantaneous pressure reading is monitored, trended, and archived using Rockwell's human machine interface software/workstation. The controls are set such that in the event that the backpressure reaches 14 inches of water column, a rack shut down is executed automatically for all six loading racks. Following a shutdown a manual intervention by an operator to reset the system is required. An SAP work order system is utilized to issue annual work orders to calibrate the pressure transmitters and gauges. The applicant has indicated that the pressure sensors have a range of 0-30 inches of water and have an accuracy of +/- 0.04%. Manual pressure gauges are also located on each vapor recovery arm and are routinely checked. Since its installation there have not been any shutdowns due to pressure exceedances.

In the process of converting A/N 473608 for Air Pollution Control System (APCS) No. 1 and A/N 473622 for APCS No. 2 from PC to PO a permit condition which outlines the non-methane hydrocarbon (NMHC) concentration limits expressed in percentages were inadvertently removed from the permits. The VOC permit limit of 0.08 lbs/1000 gallons per Rule 462 remained on the permit. In order for the permit to be enforceable by compliance staff it is important that the NMHC limits are in place on the permit. The applicant has also stated that although not currently listed on the permit the concentration limits, they are what they use as their limits. The condition for these limits will therefore be placed back on the Permit to Operate for each APCS. Please reference the original engineering evaluations for the basis of these limits.

The predominant rules applicable to this project are Rule 462, Rule 1303, Rule 1401, and Regulation XXX.

NOV/NC HISTORY

A review of compliance records did not show any Notices to Comply (NC) or complaints for this facility (ID 171326 in the past two years. A Notice of Violation (NOV) was issued on 9-29-2015. The facility submitted a deviation report to the district stating that continuous monitoring system (CMS) #2 was not collecting data between the dates of 12/05/2014 and 12/09/2014. NOV P59385 was issued for operating a CMS contrary to the requirements of the facilities Title V Permit to Operate. Specifically this was operating the CMS contrary to the Rule 462 compliance plan requirements and compliance plan conditions 2, 7, and 10. No additional compliance issues were noted in the most recent equipment list inspection report past the reported downtime dates highlighted above.

PROCESS PARAMETERS & ASSOCIATED EMISSIONS

The loading racks and vapor recovery systems are nearly 100% efficient with the exception of fugitive component leaks that occur about pumps, valves, flanges, and connections within the system. The applicant has stated that each rack has added the following components downstream of each vapor recovery arm; a flanged pressure transmitter (counted as a meter), and ½" tubing. Each bulk loading rack has two vapor recovery arms and subsequently double the components listed were then added for each rack. A summary of the new components and associated emissions are shown in Table 1 below using standard established CAPCOA emission factors for fugitive components for one rack, these emissions increases will be the same for each rack since they all use the same equipment.

Source Unit		Service	No. Of New Components	Correlation Equation Factor 500 ppm Screening Value (lbs/yr)	Current Emissions Based on Correlation 500 ppm Screening Value (lbs/yr)
Valves	Sealed Bellows	All	-	0.00	-
	SCAQMD Approved I&M Program	Gas / Vapor	-	4.55	-
		Light Liquid (4)	-	4.55	-
		Heavy Liquid (5)	-	4.55	-
		> 8 inches	-	0.00	-
Pumps	Sealless Type	Light Liquid (4)	-	46.83	-
	Double Mechanical Seals or Equivalent Seals	Light Liquid (4)	-	46.83	-
	Single Mechanical Seals	Heavy Liquid (5)	-	46.83	-
Compressors		Gas / Vapor	-	9.09	-
Flanges (ANSI 16.5-1988)		All	-	6.99	-
Connectors		All	4	2.86	11.45
Pressure Relief Valves		All	-	0.00	-
or Seal Pot		All	-	9.09	-
Other (including fittings, hatches, sight-glasses, and meters)		All	4	9.09	36.36
Total Emissions		lbs/year			**47.80**
		lbs/day			**0.13**
*Based on 24 Hour day		lbs/hr*			**0.01**

-1 Any component currently installed prior to the modification.

-2 Any component to be removed due to modification.

-3 Any new component proposed to be installed due to the modification; this also includes new components to be installed to replace existing components.

-4 Light liquid and gas/liquid streams: Liquid or gas/liquid stream with a vapor pressure greater than that of kerosene (>0.1 psia @ 100°F or 689 Pa @ 38°C), based on the most volatile class present at 20% by volume. - used single mechanical seal EF

-5 Heavy Liquid: streams with a vapor pressure equal to or less than that of kerosene (< 0.1 psia @ 100°F or 689 Pa @ 38°C), based on the most volatile class present at 20% by volume.

Current A/N	Emissions Increase R1 - R2 (lbs/hr)	Previous A/N	Previous Permit No.	NSR R1 Emissions (lbs/hr)	NSR R2 Emissions (lbs/hr)	Post Modification R1 Emissions (lbs/hr)	Post Modification R2 Emissions (lbs/hr)
576568	0.01	536650	G25398	251.25	2.01	251.26	2.02
576569	0.01	536651	G25399	251.25	2.01	251.26	2.02
576570	0.01	536655	G25400	251.25	2.01	251.26	2.02
576571	0.01	536656	G25401	251.25	2.01	251.26	2.02
576572	0.01	536658	G25402	251.25	2.01	251.26	2.02
576573	0.01	536659	G25403	251.25	2.01	251.26	2.02
576574	0.00	540219	G28976	0.00	0.00	0.00	0.00
576575	0.00	540221	G28977	0.00	0.00	0.00	0.00

Emissions from this project have added together for the purpose of emission offsets. Based on the fugitive components for the six racks the emissions are as follows:

R_2 = 0.13 lbs/day x 6 racks = 0.78 lbs/day x 1.2 factor = 0.936 lbs/day = 1 lb of VOC offsets required.

In order to process the offsets in the NSR system all emissions will be entered on the first application with the remaining applications entered as zero. Once approved in the system the emissions will be updated to reflect the actual increase for each of the six loading racks as summarized above.

TOXICS EMISSIONS

A 1401 Risk Assessment was performed for toxic compounds found in gasoline using the gasoline composition based on the following percentages by weight and emissions rate:

Benzene – 1% x 0.01 lbs/hr = 0.0001 lbs/hr
Toluene – 10% x 0.01 lbs/hr = 0.001 lbs/hr
Ethyl Benzene – 2% x 0.01 lbs/hr = 0.0002 lbs/hr
Xylene – 10% x 0.01 lbs/hr = 0.001 lbs/hr

Each loading rack (A/N 576568-576573) has the same associated toxics emissions increase, because each application is considered separately for the HRA only one assessment has been performed for simplicity. The vapor recovery systems (A/N 576574-576575) had no increase in emissions, and therefore no increase in risk. Using this data, compliance was shown in the Tier II Screening Risk Assessment Report (see copy of report in this file).

RULES EVALUATION

Rule 212

There are no schools within 1000 feet of emission source; VOC emissions are less than the Rule 212(g) threshold of 30 lbs/day; and the MICR is less than 1 in one million, therefore no public notice is required.

Rule 401

Visible emissions are not expected from the proper operation of this equipment.

Rule 402
This facility is in a commercial area with remote neighboring businesses and residences. With proper operation no nuisance complaints are expected.

Rule 462
This is a Class A facility VOC emissions are less than 0.08 lbs/1000 gallons of organic liquid loaded. Facility has a Continuous Monitoring System in place. Continued compliance with this rule is expected.

Rule 1173
Rule 1173 is not applicable to petroleum bulk loading facilities. Fugitive emissions increases from this project are less than 1 lb/day for each application, so this is also not applicable as a BACT requirement.

Reg. XIII

BACT – Rule 1303(a)
The emissions increases associated with the installation and operation of pressure monitoring system result from fugitive component losses and increases are estimated at 0.17 lbs per day for each loading rack permit unit, vapor recovery unit emissions increases are 0.00 lbs per day. BACT, which is compliance with Rule 1173 for fugitives, is not required for the components of the pressure monitoring systems.

Modeling – 1303(b)(1)
Modeling for VOCs not required.

Offsets – 1304(d)(1)(a)
Facility emissions are greater than 4 tons per year. Offsets are required because emissions increase for the project is 0.78 lbs/day for the loading racks and VRU's. The one lb of VOC offsets required will be from an existing ERC certificate in the system which currently has a balance of 2 lbs.

General – Rule 1303(b)(4)
The facility is in compliance with all applicable Rules and Regulations of the District.

Statewide Compliance – Rule 1303(b)(5)(B)
The company has provided a letter verifying that all facilities within the state are in compliance or on schedule for compliance.

Rule 1401
MICR is less than 1 in one million and all Hazard Indices are less than 1.0 for each loading rack and VRU. Permit unit complies.

Regulation XX
This facility is not a RECLAIM facility.

Regulation XXX
This is a Title V major source. The change of conditions is considered a de minimus significant permit revision because the emissions increase is less than 30 lbs per day.

40 CFR 60 Subpart XX – Standard of Performance for Bulk Gasoline Terminals

Subpart XX applies to bulk loading terminals that load or receive more than 19,997.66 gallons per day of gasoline. Phillips 66 is classified as a Class A facility since it loads more than 20,000 gallons per day of organic liquids. Therefore this subpart applies.

The emissions limit at loading terminals is 35 milligrams per liter (0.29 lb per 1000 gallons) of gasoline loaded. This limit is less stringent than the SCAQMD's Rule 462 that requires an emission limit of 0.08 lb/1000 gallons of gasoline loaded. Compliance is expected.

40 CFR 63 Subpart R – National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations)
Phillips 66 Pipeline is not a major source of HAP's thus it is only subject to the minor source requirements (recordkeeping) of this subpart in the facility-wide condition in Section D with supporting conditions in Section J of the Title V permit. Continued compliance is expected.

40 CFR 63 Subpart BBBBBB – (Gasoline Terminals and Pipeline Breakout Stations)
As a minor source under Subpart R, this facility is required to comply with this subpart as required by a facility-wide condition in Section D with supporting conditions in Section J of the Title V permit. Continued compliance is expected.

CEQA
The CEQA Applicability Form (400-CEQA) indicates that the project does not have any potential impacts that require the preparation of a CEQA document.

RECOMMENDATIONS
Issue a PO in Section D of the Title V permit for a change of permit condition to each of the loading racks and VRU's and submit to EPA for 45 day review as a de minimus significant permit revision.