Commonwealth of Kentucky
Division for Air Quality

STATEMENT OF BASIS

Conditional Major, Operating
Permit: F-22-005
MPLX Terminals LLC - Lexington Terminal
Lexington, KY 40504
March 16, 2022
Hollie Delaney, Reviewer

SOURCE ID: 21-067-00031
AGENCY INTEREST: 1076
ACTIVITY: APE20210001

SOURCE DESCRIPTION:
MPLX Terminals LLC owns and operates a terminal in Lexington, Kentucky called MPLX Terminals LLC – Lexington Terminal (MPLX). The terminal receives product by pipeline, stores the product in tanks, and then loads the product to tank trucks for distribution.

The Lexington Terminal is a bulk storage facility that receives gasoline, fuel oil, and kerosene by pipeline and stores the products in above ground storage tanks (note that jet fuel is considered a subset of kerosene). Occasionally, a tank truck loaded with gasoline or other product may be returned and off-loaded into a storage tank. However, this is not a routine operation. Ethanol, additives, and diesel dye are received by tanker truck and are injected into the product at the loading racks. All products are shipped out by tank trucks, which are loaded at the loading racks. The facility also has a small oil-water separator and other miscellaneous equipment.

RENEWAL (APE20210001):
On August 10, 2021, the Division for Air Quality (Division) received the MPLX application for renewal of their Conditional Major Permit.

As part of this renewal, MPLX is updating their methodology for calculating the potential emissions from the tanks at the facility. In addition, the stack/plume parameters have been corrected based on information previously submitted by the facility.

OFF-PERMIT CHANGE (APE20170003):
On August 24, 2017, the Division received the MPLX application for an off-permit change. The facility is replacing Tank 821 – Gasoline Additive storage tank with Tank 837. The new tank is similarly sized (approximately 10,000 gallons) and will also be an insignificant activity.
**APPLICABLE REGULATIONS:**

401 KAR 63:002, Section 2(4)(cccc) 40 C.F.R. 63.11080 through 63.11100, Tables 1 through 3 (Subpart BBBBBB), National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities, applies to each area source bulk gasoline terminal, pipeline breakout station, pipeline pumping station, and bulk gasoline plant identified in 40 CFR 63.11081 (a)(1) through (4). MPLX has five storage tanks (825, 826, 827, 832 and 835) that are subject to the requirements of Subpart BBBBBB when storing Gasoline. The regulation does not apply when storing Distillate, Kerosene and/or Diesel, because by definition, Gasoline means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure (RVP) of 27.6 kPa (4 psia) or greater, which is used as a fuel for internal combustion engines and Distillate, Kerosene and Diesel have a maximum true vapor pressure less than 27.6 kPa (4 psia). The regulation does not apply when storing Ethanol because ethanol is not a petroleum distillate. The regulation does not apply when storing Transmix because Transmix is not used as a fuel for internal combustion engines.

401 KAR 60:005, Section 2(2)(r) 40 C.F.R. 60.110b through 60.117b (Subpart Kb), Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984, per 40 CFR 60.110b(a), the rule applies to storage vessels with capacities greater than 75 m³ (19,810 gal) that are used to store volatile organic liquids (VOL), and that commenced after July 23, 1984. Also, 40 CFR 60.110b(b) exempts storage vessels larger than 75 m³, but storing materials with maximum true vapor pressures (tvp) less than certain values. Tanks 832 and 835 are subject to this rule when storing Gasoline or Ethanol. These tanks use an internal floating roof to achieve compliance when storing Gasoline or Ethanol. This regulation does not apply to Tanks 832 and 835 when storing Distillate, Kerosene or Diesel because the maximum true vapor pressure of these liquids is less than or equal to 3.5 kPa (0.5 psi).

401 KAR 60:005, Section 2(2)(eee) 40 C.F.R. 60.500 through 60.506 (Subpart XX), Standards of Performance for Bulk Gasoline Terminals, applies to the gasoline loading operations. The exact date that Bay 1 commenced construction has not been determined. It could have been before the Subpart XX applicability date of December 17, 1980, but MPLX is not sure. In any event, there have likely been upgrades since December 1980 that decreased loading time. Therefore, MPLX has conservatively considered this rack to be subject to 40 CFR 60, Subpart XX. Also note that since the affected facility is defined as the total of all the loading racks, construction or modification of one bay would have brought all the bays under 40 CFR 60, Subpart XX.

**STATE-ORIGIN REQUIREMENT:**

401 KAR 63:020, Potentially hazardous matter or toxic substances, applies to each affected facility which emits or may emit potentially hazardous matter or toxic substances, provided that such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division. The requirements for 401 KAR 63:020 apply to the storage tanks that perform other services besides gasoline where they are not subject to 40 CFR 63, Subpart BBBBBB.
NON APPLICABLE REGULATIONS:
The following regulations were requested to be covered under a permit shield via APE20040002.

401 KAR 59:050, New storage vessels for petroleum liquids. Under Section 1(1) of the rule, a tank could be subject to the rule if it is located in either an urban ozone non-attainment area, or located at a major source of VOC emissions. Lexington isn’t nonattainment for ozone, and the terminal is not a major source of VOC emissions. Under Section 1(2) of the rule, tanks at non-major sources located in attainment areas could be subject to the rule if their storage capacity is greater than 40,000 gallons and they commenced between 1972 and 1984. The terminal has no tanks that fall within these ranges. Therefore, the rule does not apply.

401 KAR 59:101, New bulk gasoline plants. This rule does not apply since (1) the facility does not meet the definition of a bulk gasoline plant, (2) the facility commenced before the classification date of June 29, 1979, (3) the facility is not located in an ozone nonattainment area, and (4) the facility is not a major source.

401 KAR 61:050, Existing storage vessels for petroleum liquids. Under Section 2(1) of the rule, a tank is only subject to the rule if it is located in an ozone nonattainment area for any nonattainment classification except marginal. Lexington isn’t classified as an ozone nonattainment area. Therefore, the rule does not apply.

401 KAR 61:055, Existing loading facilities at bulk gasoline terminals. This facility is a bulk gasoline storage terminal. The plant receives gasoline via pipeline and dispenses gasoline using tank trucks for outgoing gasoline transfer operations. While the facility commenced before the classification date of June 29, 1979, it is not located in an ozone nonattainment area as defined in 401 KAR 51:010; and it is not a major source of volatile organic compounds (VOC). Therefore, this rule does not apply to this facility.

401 KAR 61:056, Existing bulk gasoline plants. This rule applies to facilities that use tank trucks, trailers, or other mobile non-marine vessels for both incoming and outgoing gasoline transfers. Lexington terminal receives gasoline by pipeline only. Therefore, this rule does not apply.

401 KAR 60:005, Section 2(2)(p) 40 C.F.R. 60.110 through 60.113 (Subpart K), Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978. No tanks at this facility were constructed between June 11, 1973 and May 19, 1978. Therefore this regulation does not apply.

401 KAR 60:005, Section 2(2)(q) 40 C.F.R. 60.110a through 60.115a (Subpart Ka), Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984. No tanks at this facility were constructed between May 18, 1978 and July 23, 1984. Therefore this regulation does not apply.

401 KAR 63:002, Section 2(4)(k) 40 C.F.R. 63.420 through 63.429, Table 1 (Subpart R), National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations). Per 40 CFR 63.420(a)(2) of the rule, the regulation applies only to facilities that are part of a major source of HAP emissions. The terminal is a minor HAP source, since maximum HAP emissions are significantly less than 22.5 ton/yr total HAP and 9 ton/yr individual HAP.
Therefore, the rule does not apply.

The following regulations do not apply:

401 KAR 63:002, Section 2(4)(ddddd) 40 C.F.R. 63.11110 through 63.11132, Tables 1 through 3 (Subpart CCCCCC), National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities, is applicable to each gasoline dispensing facility (GDF) that is located at an area source. According to the definition in 40 CFR 63.11132, GDF means any stationary facility which dispenses gasoline into the fuel tank of a motor vehicle, motor vehicle engine, nonroad vehicle, or nonroad engine, including a nonroad vehicle or nonroad engine used solely for competition. These facilities include, but are not limited to, facilities that dispense gasoline into on- and off-road, street, or highway motor vehicles, lawn equipment, boats, test engines, landscaping equipment, generators, pumps, and other gasoline-fueled engines and equipment. MPLX is a bulk gasoline terminal that does not have GDF on-site; therefore, the requirements of this subpart do not apply.

401 KAR 59:095, New oil-effluent water separators, and 401 KAR 61:045, Existing oil-effluent water separators. Under Section 1(1) and (2) of these rules, oil-water separators could be subject to the rule if they are located in either an urban ozone non-attainment area, or located at a major source of VOC emissions. Lexington is attainment for ozone, and the terminal is not a major source of VOC emissions. Therefore, these rules do not apply.

401 KAR 63:031, Leaks from gasoline tank trucks. The source does not load gasoline into gasoline tank trucks, as a defined affected facility, in a county or portion of a county designated ozone nonattainment under 401 KAR 51:010. Therefore, the requirements of this rule do not apply to this source. This notwithstanding, the permittee shall comply with the requirements of 40 CFR 60, Subpart XX, including vapor tightness requirements for gasoline tank truck loading, as specified in the permit.

**COMMENTS:**
A vapor recovery unit (VRU) is the primary control for truck-loading emissions. Vapors vented during loading are adsorbed onto an activated carbon bed. When the bed becomes saturated, it is regenerated. Regeneration is achieved by absorbing the recovered gasoline vapors off of the beds with liquid gasoline. The VRU has two beds. One carbon bed removes gasoline vapors while the other bed is being regenerated. After a period of time, the beds will switch.

On occasion the VRU may need to be down for maintenance. Because emissions control is required by 40 CFR 60, Subpart XX, MPLX has the ability to use backup control devices in order to eliminate long term interruptions of terminal loading operations. The backup emission control is a portable vapor destruction unit (VDU) owned by MPLX. MPLX owns several of these portable VDU (thermal oxidizers or flares), which are regularly tested and maintained by the company for use as backup emission controls at their terminals. The September 9, 2005 letter from MPLX to the Division included documentation that these units will also meet the Subpart XX control requirements.
The source consists of the following significant emission units:

(a) Tanks:

<table>
<thead>
<tr>
<th>EP No.</th>
<th>Tank No.</th>
<th>Contents Description</th>
<th>Capacity (gal)</th>
<th>Tank Type</th>
<th>Date Commenced</th>
<th>Applicable Rules or Exemptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>825</td>
<td>Gasoline</td>
<td>1,608,810</td>
<td>Internal floating roof</td>
<td>1963</td>
<td>40 CFR 63, Subpart BBBBBBBB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ethanol</td>
<td>1,608,810</td>
<td>Internal floating roof</td>
<td>1963</td>
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</tr>
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<tr>
<td></td>
<td></td>
<td>Kerosene/</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Diesel (RVP &lt; 27.6 kPa (4 psia))</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>002</td>
<td>827</td>
<td>Gasoline</td>
<td>1,692,474</td>
<td>Internal floating roof</td>
<td>1963</td>
<td>40 CFR 63, Subpart BBBBBBBB</td>
</tr>
<tr>
<td></td>
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<tr>
<td>008</td>
<td>832</td>
<td>Gasoline</td>
<td>1,617,588</td>
<td>Internal floating roof</td>
<td>1989</td>
<td>Maximum tvp &lt; 76.6 kPa (11.1 psi) – subject to 60.112b(a)(1) controls 40 CFR 63, Subpart BBBBBBB</td>
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<tr>
<td></td>
<td>835</td>
<td>Gasoline</td>
<td>462,000</td>
<td>Internal floating roof</td>
<td>2006</td>
<td>Maximum tvp &lt; 76.6 kPa (11.1 psi) – subject to 60.112b(a)(1) controls 40 CFR 63, Subpart BBBBBB</td>
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<td>Internal floating roof</td>
<td>2006</td>
<td>401 KAR 63:020</td>
</tr>
</tbody>
</table>

(b) Loading Racks:

**EMISSION PROCESS POINT UNIT NAME AND DESCRIPTION**

**007**

**Tank Truck Loading Racks**

Description: Bay 1, commenced 1980
Bay 2, commenced 1974
Bay 3, commenced 1974

Capacity: One truck per 12 minutes (each bay)

**01**

**Gasoline Loading**

Controls: Primary – Vapor recovery unit (carbon adsorption)
Backups – Portable vapor destruction unit (thermal oxidizer or flare)
02  **Distillate / Kerosene / Diesel Loading**  
Controls: Primary – Vapor recovery unit (carbon adsorption)  
Backups – Portable vapor destruction unit (thermal oxidizer or flare)

03  **Truck Loading Fugitives**  
Controls: None

04  **Vapor Destruction Unit (VDU) Combustion – Gasoline**  
Controls: None

05  **VDU Combustion – Distillate**  
Controls: None

(c) Terminal Fugitive Equipment Leaks

<table>
<thead>
<tr>
<th>Emission Point</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>020</td>
<td>Fugitive equipment leaks from pump seals, valves, connectors, etc.</td>
</tr>
<tr>
<td></td>
<td>Construction Date: 1963</td>
</tr>
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<td></td>
<td>Controls: None</td>
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</tbody>
</table>

Emission Factor Basis:
- All VOC emissions from the storage tanks are calculated using TankESP, while all HAPs emissions for Gasoline and Ethanol service are based on speciation data in Table C-5 of EPA-453/R-94-002a, and HAP emissions for Distillate/Kerosene/Diesel service are based on speciation data from the American Petroleum Institute memo to the Gasoline Distribution MACT Workgroup, dated February 8, 1995.
- VOC and HAPs emissions from the Tank Truck Loading Racks of Gasoline and Additive Loading are calculated from the stack test conducted on October 23, 2014. VOC and HAPs emission of Distillate/Diesel/Kerosene Loading are taken from AP-42.
- VOC and HAPs emissions from the fugitive equipment leaks are calculated using Table C-5 of EPA-453/R-94-002a.

Type of Control and Efficiency
MPLX sends all required vapor streams to its on-site vapor processing system with a control efficiency of 99.83%. Since the issuance of permit F-06-009 R3, the source had kept the agreement to use Chevron Product Company (Chevron) bulk terminal vapor processing system as a secondary control system. As of November 2010, the agreement had ended based on an email confirmation from Valero Lexington Terminal (Valero), the new owner of Chevron, to the Division on October 18, 2011.

Air Toxic Analysis
401 KAR 63:020, *Potentially Hazardous Matter or Toxic Substances*  
The Division for Air Quality (Division) has performed SCREEN View on March 16, 2022 of potentially hazardous matter or toxic substances (Benzene, Ethylbenzene, Cumene, Hexane, Toluene, Naphthalene, and Xylene) that may be emitted by the facility based upon the process rates,
material formulations, stack heights and other pertinent information provided by the applicant. Based upon this information, the Division has determined that the conditions outlined in this permit will assure compliance with the requirements of 401 KAR 63:020.

**EMISSION AND OPERATING CAPS DESCRIPTION:**
MPLX will continue to operate under federally enforceable limits of 9 tons per year (tpy) or less of single HAPs, 22.5 tpy of less of combined HAPs, and 90 tpy or less of VOC. Compliance with these permit limits shall make the requirements of 401 KAR 52:020, Title V permits, not applicable to this source.

**PERIODIC MONITORING:**
None

**OPERATIONAL FLEXIBILITY:**
The source is not restricted as to hours of operation or quantity of product produced while remaining within the caps above.