

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Scheduled Inspection**

B521526151

FACILITY: MARATHON PETROLEUM COMPANY LLC - LANSING TERMINAL		SRN / ID: B5215
LOCATION: 6300 W GRAND RIVER, LANSING		DISTRICT: Lansing
CITY: LANSING		COUNTY: CLINTON
CONTACT: Kim Crame, Environmental Professional		ACTIVITY DATE: 06/26/2014
STAFF: Michelle Luplow	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Conduct an announced scheduled compliance inspection.		
RESOLVED COMPLAINTS:		

Inspected by: Michelle Luplow

Personnel Present: Kimberly Crame, Environmental Professional (krcrame@marathonpetroleum.com)  
Rick Vermeesch, Terminal Manager

**Purpose:** Conduct an announced, scheduled partial compliance evaluation (PCE) inspection by determining compliance with Marathon Petroleum Lansing Terminals' Permits to Install No.'s 1289-91 and 302-05C, as well as Air Pollution Control's Part 6 Rules. This includes verification that Marathon stayed within the permit's emission limits to remain an opt-out source and not enter into Title V status. This inspection was done as part of a full compliance evaluation (FCE).

**Facility Background/Regulatory Overview:** Marathon is a fuel (gasoline, diesel, ethanol) distribution facility/terminal.

Marathon is an opt-out facility. VOCs are restricted to various rates, depending on the process, and there is a facility-wide HAP restriction. The last inspection was conducted in March 2011.

**Inspection:** At 9:00 a.m. on June 26, 2014 I met with Kim Crame. I gave K. Crame a DEQ "Environmental Inspections: Rights and Responsibilities" brochure and a copy of Permit to Operate No. 1289-91. The inspection was announced to ensure that K. Crame would be onsite during the inspection, as her home office is not the Lansing Terminal site. Tables 1 & 2 list all emission units (permitted and exempt) that are located at the Marathon Lansing terminal. I watched one loadout during the inspection.

Table 1. Permitted emission units.

Permitted Equipment					
ID	Description	Material	Capacity (gallons)	Status	Flexible Group
EURACK	Tanker truck loading rack	Gasoline, diesel, ethanol, additives	NA	Active	NA
25-1	Internal Floating Roof; Tank permitted under PTI 302-05C	Gasoline	914,000	Active	FGGASOLINETANKS; FGNSPSTANKS
25-2	Fixed Roof; Tank permitted under PTI 302-05C	Diesel	1,016,000	Active	FGDISTILLATETANKS
25-3	Internal Floating Roof; Tank permitted under PTI 302-05C	Gasoline	956,000	Active	FGGASOLINETANKS; FGNSPSTANKS
25-4	Internal Floating Roof; Tank permitted under PTI 302-05C	Gasoline	915,000	Active	FGGASOLINETANKS; FGNSPSTANKS
5-5	Internal Floating Roof; Tank permitted under PTI 302-05C	NA	201,000	Out of service	FGGASOLINETANKS; FGNSPSTANKS
25-6	Internal Floating Roof; Tank permitted under PTI 302-05C	NA	983,000	Out of service	FGGASOLINETANKS; FGNSPSTANKS
25-7	Fixed Roof; Tank permitted under PTI 302-05C	Diesel	1,009,000	Active	FGDISTILLATETANKS
25-8	Internal Floating Roof; Tank permitted under PTI 302-05C	Gasoline	961,000	Active	FGGASOLINETANKS
15-9	Fixed Roof;	Diesel	621,000	Active	FGDISTILLATETANKS

	Tank permitted under PTI 302-05C				
8-11	Fixed Roof; Tank permitted under PTI 302-05C	Ethanol	316,000	Active	FGGASOLINETANKS
1-12	Fixed Roof; Tank permitted under PTI 302-05C	Transmix	19,000	Active	FGTRANSMIXTANKS
1-13	Fixed Roof; Tank permitted under PTI 302-05C	Transmix	19,000	Active	FGTRANSMIXTANKS
AA 1-14	Fixed Roof; Tank permitted by Part 6 rules under PTI 302-05C, however is exempt per Rule 284(i)	Additive – Nemo 1121	6,000	Active	FGGASOLINETANKS
AA 1-16	Fixed Roof; Tank permitted under Part 6 rules under PTI 302-05C, however is exempt per Rule 284(i)	Additive – HiTec 6590M Wholesale	15,000	Active	FGGASOLINETANKS
1-17 (EUORTANK)	Fixed roof tank for overpressure relief; Tank permitted under PTI 302-05C	Pipeline relief/Diesel	19,000	Active	EUORTANK
AA 1-18	Horizontal storage; Tank permitted by Part 7 rules under PTI 302-05C, however is exempt per Rule 284(i)	Additive – HiTec 4142M	3,000	Active	FGDISTILLATETANKS
AA 1-19	Horizontal storage; Tank permitted by Part 7 rules under PTI 302-05C, however is exempt per Rule 284(i)	Additive – Unisol Liquid red dye for diesel	600	Active	FGDISTILLATETANKS
NA	Tank permitted under PTI 1289-91; According to K. Crame this permit was overlooked during a past ownership transfer. This tank is covered under PTI 302-05C; PTI 1289-91 will be voided. Void requested 7/28/14.	Additive	6,000	Active	NA

Table 2. Exempt emission units

Exempt Equipment		
Tank	Description	Exemption
Butane	90,000 gallon butane tank, under pressure; butane is used to raise the RVP for winter	Rule 284(j)
Ethanol	225 gallon ethanol tank; Marathon has no plans of putting into service at this time	Rule 290(a)(i)
Gasoline recovery (S-1-21)	225 gallon gasoline recovery tank	Rule 290(a)(ii)(C)

**Exempt Emission Units**

The 225 gallon ethanol tank and gasoline recovery tank were installed under exemption Rule 290. The ethanol tank would be exempt from a PTI per Rule 290(a)(i) and the gasoline recovery tank would be exempt from a PTI per Rule 290(a)(ii)(C). Ethanol is a noncarcinogenic VOC; its uncontrolled emissions should not exceed 1000 lbs/month. Gasoline is a carcinogenic air contaminant with an initial risk screening level greater than or equal to 0.04 µg/m<sup>3</sup>; its uncontrolled emissions should not exceed 20 lbs/month. K. Crame provided me with Marathon's spreadsheets for calculated VOC and HAP emissions from all emission

units onsite. K. Crame said that the emissions from both the ethanol and gasoline recovery tank were modeled and calculated to report combined emissions from both under the gasoline recovery tank ID S-1-21 in Marathon's emissions spreadsheet. Monthly calculations were shown for the tank. The largest emissions from June 2013 through May 2014 were ~6 lbs of VOC in March 2014 (calculation took into consideration both breathing/standing losses and working losses). K. Crame provided me with an example of how Marathon calculates gasoline emissions from the 225 gallon tank at the Bay City terminal (attached). She also explained that theoretically the ethanol tank only emits tenths of a pound per month. Marathon is in compliance with Rule 290.

The 90,000 gallon butane tank is also exempt from a PTI, per rule 284(j); butane has a boiling point of -10°C. R. Vermeesch explained that the tank is under low pressure, which I would consider "pressurized" as required by the exemption. Marathon meets the PTI exemption for its butane tank.

#### EURACK

K. Crame said that Marathon loads out diesel, kerosene, gasoline blends (octane & ethanol), and denatured ethanol through the loading rack. A vapor recovery unit (VRU) (vapor control system) is installed to collect displaced vapors from the loading rack. K. Crame said that in the cases when the VRU is undergoing maintenance there is a Rane combustor (thermal oxidizer) and a Zink flare used as backup devices. K. Crame also said that preventative maintenance is done on the VRU twice per year. There is a VOC limit of 35 mg/L for the VRU. K. Crame said that the determination of compliance with this condition is conducted via periodic performance tests. The last test to determine emissions was conducted in August 2008. The limit is 31 mg/L VOC and the compliance test showed emissions at 2.36 mg/L.

Marathon is required to keep logs of all VRU outages. K. Crame explained that loadouts never occur during VRU downtime. Marathon has a "Downtime and Reliability" system where VRU outages are recorded. K. Crame showed me records in this system. Records can be brought up for any month. Marathon is in compliance with this requirement.

EURACK has material limits of 400,000,000 gallons of gasoline, gasoline additives and ethanol and 100,250,000 gallons of distillate fuel and distillate additives per 12-month rolling time period. The 12-month rolling gasoline/additive/ETOH gallon throughput for June 2013 – May 2014 is 204,647,098 gallons and the 12-month rolling distillate/distillate additive throughput for June 2013 – May 2014 is 29,657,063 gallons. Marathon is in compliance with EURACK material limits at this time.

The stack requirements for the VRU say that the stack should be unobstructed and aligned vertically upwards. According to an email from Terry Wright, permit engineer for Marathon's permits; he said that this condition was accidentally copied to the "C" permit and a modification will be made to the permit to allow for the horizontal stack. Currently Marathon has a horizontal discharge point for the VRU stack (see attached photograph). Marathon is in compliance with the stack conditions.

#### Michigan Air Pollution Control Rule 609

In order to operate EURACK, Marathon must be in compliance with applicable conditions in Rule 609. Rule 609 requires the following:

1. *An interlocking system or procedure to ensure that the vapor-tight collection line is connected before any organic compound can be loaded.*  
Personnel onsite check for the sight, sound or smell of VOCs daily. They also check the VRU bed temperatures, vacuum and if there are any visible emissions from the VRU stack. Each truck driver is also trained in Marathon's procedures for loading their truck, including attaching the vapor recovery hose correctly. K. Crame provided me with a Marathon Truck Loading procedures document that all truck drivers must follow. Marathon is in compliance with this condition.
2. *A device to ensure that the vapor-tight collection line shall close upon disconnection so as to prevent the release of organic vapor.*  
R. Vermeesch said that there is a check valve used for this purpose. Marathon is in compliance with this condition.
3. *A device to accomplish complete drainage before the loading device is disconnected, or a device to prevent liquid drainage from the loading device when not in use.*  
R. Vermeesch said that there is a dry break coupler on the loading rack that allows for disconnections without liquid drainage. While onsite, I noticed that a few drips do occur after loading and disconnection from the trucks, but the drips were minimal and would not contribute significantly to VOC emissions. Drips are also allowed per Michigan Air Pollution Control Rule 627. Marathon is in compliance with this condition.
4. *Pressure-vacuum relief valves that are vapor-tight and set to prevent emission of displaced organic vapor during the loading of the delivery vessel, except under emergency conditions.*  
R. Vermeesch confirmed that Marathon uses pressure-relief ventilation. Marathon is in compliance with this condition.
5. *Hatch openings that are kept closed and vapor-tight during the loading of the delivery vessel.*  
I asked how Marathon would be able to determine whether the hatch openings are closed and vapor-tight or open and R. Vermeesch said that they would smell the vapors being released during the time of the loading if the hatch were open/not vapor-tight. Marathon is in compliance with this condition.

#### Michigan Air Pollution Control Rule 627

Rule 627 requires that EPA test Method 27 (a pressure/vacuum test) be conducted on all delivery vessels annually. Compliance determinations of this condition have been transferred from the DEQ to the Department of Licensing and Regulatory Affairs (LARA) as of December 3, 2012. Under their authority, the vessel can be provisionally certified. As a spot-check of compliance with this regulation, K. Crame provided me with a copy of "Gasoline Tank Truck Pressure/Vacuum Test Results" for a Marathon truck, unit # 35005, tested under St. John Truck & Trailer Service (see attached). LARA has an online list of all truck test results that are in compliance with Rule 627. According to this list, Marathon Petroleum Truck Unit 35005, tested by St. John Truck and Trailer, is certified for delivery. Marathon's Haller Portal (database) is then constructed from these certifications; a group reviews the test results sheets to make sure that these particular trucks are certified to load at Marathon's load rack. This also provides

Marathon with a list of truck drivers who must go through Marathon's loading procedure.

It was explained to me that a PID is used to check for leaks and all readings have been less than 10% of the lower explosive limit (LEL). Rule 627 requires that a reading never go above 100% of the LEL. Marathon is in compliance with Rule 627.

#### NSPS Subpart XX

Subpart XX requires that data be kept on all tank truck delivery vessels: Test Title (Method 27), the tank owner and address, tank ID number, testing location, date of test, tester's name and signature, witnessing inspector (if any), and the test results (consisting of an average of 2 runs with actual pressure change in 5 minutes). The "Gasoline Tank Truck Pressure/Vacuum Test Results" contains all of this information.

K. Crame said that trucks not in compliance with the pressure/vacuum tests are not allowed to load at the Marathon Lansing Terminal. Marathon uses their electronic "Haller Portal" terminal automation system to determine which trucks are allowed to loadout from the Lansing Terminal facility. Marathon is in compliance with the NSPS Subpart XX at this time.

#### EUTANK8-11

EUTANK8-11 contains ethanol. Rule 604 requirements are applicable to this emission unit, however, because ethanol has true vapor pressure of less than 1.5 psia the conditions in the rule do not apply to this tank. The true vapor pressure of ethanol is around 0.09 psia. K. Crame said that all tanks have vents for breathing of the tanks. Marathon is in compliance with conditions associated with EUTANK8-11.

#### EUORTANK

The EUORTANK (Marathon's tank 1-17) is similar to Marathon's transmix tanks, and is used for overfill/overpressure pipeline relief. One to two inches of diesel is kept at the bottom of the tank – just enough to cover the pipe receipt line. Marathon is limited to 100,000 gallons of throughput. K. Crame said that this tank would contain diesel but that it hasn't had any throughput since 2011. K. Crame provided me with 12-month rolling throughput records for all tanks, which shows that there was no throughput through the tanks between June 2013 and May 2014.

While there are Rule 604 requirements in the permit, the Rule 604 conditions do not apply to EUORTANK because its capacity is less than 40,000 gallons (i.e. 19,000 gallons).

The permit requires a minimum stack height of 32 feet above ground level. The height of the tank itself is 31'5" and it is therefore likely that the stack reaches at least 32 feet above ground level.

Marathon is in compliance with all requirements for EUORTANK at this time.

#### FGGASOLINETANKS

FGGASOLINE TANKS is composed of tanks 25-1,3,4,6,8; 5-5; AA-14,16; and 8-11 generally used for gasoline storage (8-11 does not contain gasoline). K. Crame said that Tanks 25-6 and 5-5 have been out of service for about 6 years and are scheduled to be scrapped soon. Tanks 25-1,3,4,6,8 and 5-5 have internal floating roofs, tanks AA-14,16, and 8-11 have internal fixed roofs. Rule 604 requires that those fixed roof tanks greater than 40,000 gallons containing organic compounds with a true vapor pressure greater than 1.5 psia must comply with Rule 604. Tanks AA-14,16 and 8-11 (fixed roof tanks) are all below that 40,000 gallon capacity (they are 6,000; 15,000 and 19,000; respectively) and therefore Rule 604 does not apply to these tanks. However K. Crame said that R.Vermeesch does inspections on the tanks' seals. She said that prior to 2012 the tanks were inspected monthly but all inspections post 2012 are now annually and using safer methods of inspection than pre-2012. The last inspections conducted were October 28, 2013 by R. Vermeesch.

Marathon is in compliance with all requirements for FGGASOLINETANKS at this time.

#### FGNSPSTANKS

Tanks subject to NSPS Subpart Kb are 25-1,3,4,6 and 5-5. Tanks 25-6 and 5-5 are currently out of service. Marathon is required to keep records of emissions and operating information to comply with Kb. All emissions for these tanks are recorded in Marathon's "12-month Rolling Emissions & Throughput Summary." NSPS 60.116b requires that dimensions and the capacities of each NSPS-subject tank be kept. K. Crame provided me with a map of the entire facility site with a table that describes all tanks, dimensions and their capacities (see attached).

NSPS 60.115b requires that inspection records be kept that contain the storage tank ID, the date inspected, and the observed condition of each component of the control equipment (seals, internal floating roof, secondary seal, etc.). As previously mentioned, R. Vermeesch conducts these inspections and the date that they were conducted, on all seals. These inspections also meet the NSPS 60.113b(2) inspection requirement. NSPS 60.113b(1) requires inspection of the roof, seal and secondary seal prior to filling the tanks with VOC. K. Crame said that a refilling of the tanks has not occurred since 2011. The same goes for the emptying of tanks (NSPS 60.113b(4)); therefore this condition is not applicable at this time.

#### FGDISTILLATETANKS

The only requirement for these tanks is that the conservation hatch be installed and operating properly. K. Crame verified these are functioning the way they should be, as per Marathon's inspections.

#### FGTRANSMIXTANKS

K. Crame explained that a 'transmix' is a mixture of diesel and gas and one replaces the other in the pipeline. The permit limits throughput through the transmix (tank1-12 and tank 1-13) tanks to 880,000 gallons per 12-month rolling time period. Total

throughput from June 2013 through May 2014 was 273,947 gallons. Marathon is in compliance with FGTRANSMIXTANKS requirements.

Brian Leahy, Marathon's consultant from Horizon Environmental, sent an email to Terry Wright (cc'ing me) dated June 24, 2014 explaining Marathon's stance on EORTANK and FGTRANSMIXTANKS condition for having a conservation vent/thief hatch (condition IV.1):

"...MPC has historically installed and operated conservation vent/thief hatches on its fixed-roof storage tanks, including EUORTANK and FGTRANSMIXTANKS. The primary purpose of these devices is to ensure that the tanks are not exposed to either too much vacuum or pressure. That is, these are primarily safety devices and not emissions control devices since they're designed to vent to atmosphere during product loading and to allow the tank to breath as pressure in the tank increases. MPC has determined that a malfunction of these devices could result in damage to the structural integrity of the tank during periods of high vacuum or pressure. Therefore, MPC intends to remove these devices from its lower volatility fixed-roof storage tanks, likely when the tank goes through its required 653 inspection. Accordingly, conditions requiring the installation and operation of a conservation vent/thief hatch on these tanks should be removed from the PTI. Note that in support of the PTI, emissions were estimated and dispersion modeling analyses were conducted assuming that these tanks were operating without emissions control. Therefore, the removal of the devices would not result in emissions or air quality impacts above what has already been determined for these tanks.

As you mentioned, the AQD may be able to administratively remove the first three items from the PTI through a supplemental revision. However, the fourth item, while its removal may be straight-forward, would likely have to be done through the submittal of a PTI application. You thought it might also be better to handle all four changes at one time and, therefore, include all of the changes in a single PTI application. Along with the changes, the AQD would likely add a new condition to FGFACILITY requiring "compliance with all applicable requirements" of the area source Boiler MACT regulation (Subpart BBBBBB) that is now applicable to the Lansing Terminal and with which MPC is in compliance.

We anticipate submitting the PTI application within the next few weeks. Let me know if I missed anything from our discussion."

As far as I am aware these changes have not yet been incorporated into the PTI (as of 7/29/14).

#### FGFACILITY

Marathon is limited to 90 tpy VOC, 9 tpy individual HAPs and 22.5 tpy combined HAPs. K. Crame provided me with 12-month rolling emissions data for each of these emission limitations. HAP emissions are calculated using EPA's tanks program. For June 2013 - May 2014 30 tons of VOC, 1.3 tons of combined HAPs, and each individual HAP (benzene, ethylbenzene, hexane, toluene, trimethylpentane(2,2,4), xylene, and naphthalene), although not a 12-month rolling total for each, would be nowhere near the 9 tpy limit based on the trends. Each individual HAP never exceeds 1 ton of emissions.

Marathon is also required to keep 12-month rolling throughput records (as determined at the end of each calendar month) on a tank-specific and petroleum product-specific basis for all tanks except EUORTANK. Marathon has these records within their "12-month Rolling Emissions and Throughput Summary" as well as the throughput for EUORTANK.

Marathon is in compliance with all conditions in FGFACILITY at this time.

**Compliance statement:** Marathon Lansing Terminal is in compliance with all state and federal regulations at this time.

NAME Michelle M Ryden DATE 7-29-14 SUPERVISOR M. M. M.

