

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Self Initiated Inspection

N198443843

FACILITY: Sun Refining & Marketing Company		SRN / ID: N1984
LOCATION: 4851 Gratiot Avenue, SAINT CLAIR		DISTRICT: Southeast Michigan
CITY: SAINT CLAIR		COUNTY: SAINT CLAIR
CONTACT: J. David Misaros , Plant Manager		ACTIVITY DATE: 03/28/2018
STAFF: Sebastian Kallumkal	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MINOR
SUBJECT: Onsite Inspection		
RESOLVED COMPLAINTS:		

On Wednesday, March 28, 2018, I, Michigan Department of Environmental Quality-Air Quality Division Staff Sebastian Kallumkal conducted an unannounced, self-initiated inspection at Sun Refining & Marketing Company (SRN N1984) located at 4851 Gratiot Avenue, St. Clair, Michigan. The purpose of the inspection was to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) Rules; and the conditions of Permit-To-Install (PTI) Number 642-88 for the crude oil unloading process.

When the PTI was issued in 1988, Sun Refining & Marketing Company owned the crude oil unloading facility. This inspection was conducted in conjunction with the targeted inspection of Sunoco Pipeline Company (B6646) located adjacent to the crude oil unloading facility. (The details of the Sunoco inspection are detailed in MACES Report No. CA B664643841.)

I arrived at the facility at the Sunoco facility at about 10:45 AM. At the facility I met Mr. J. David Misaros, Station Utility Operator. I introduced myself and stated the purpose of the inspection.

During the inspection of the Sunoco facility, I indicated to him that the crude oil unloading facility, Sun Refining & Marketing Co. has a permit to install (PTI No. 642-88) and that I would be conducting an inspection of that facility. I provided him a copy of the PTI. He informed me that he does not have any records regarding that facility and I needed to contact Mr. David Bonamy, Supervisor, regarding compliance verification. He stated that the unloading facility only receives sweet crude from local wells within Michigan.

He told me that they are currently not spraying the deodorizer during tanker truck (crude oil) unloading. Based on an email dated November 21, 2017 from Frank Cote, the facility has not used the deodorizer since December 2016.

Next, we visited the tanker truck unloading area. Mr. Misaros had stated earlier that only sweet crude oil is unloaded from the trucks. The crude oil transported from the local wells is unloaded at this facility via tanker trucks operated by a third-party carrier, Great Lakes Petroleum Transportation, LLC. This crude oil is pumped to Tank 43 (EUTANK43) which is included in PTI No. 178-98B, issued to Sunoco Pipeline Company. The pump is housed in a shed nearby. The unloading area has a plastic sump (about 24" diameter), installed with a cover, to collect crude oil from the bleed air while unloading. We agreed that we smelled very faint crude oil smell while standing close to the sump.

I saw the log in which the tanker truck driver records the number of barrels of crude oil unloaded each time. The pump has a meter which measures the crude oil unloaded. "Marysville Unloading Procedure" is posted on two sides of the shed where the pump is housed.

Later, I contacted Mr. Bonamy regarding the records to verify compliance with the PTI requirements. They requested some time to collect the records. The last time the unloading facility was inspected by the state agency (Michigan Department of Natural Resources at that time) was on February 26, 1990, as indicated in a letter dated March 16, 1990. The last correspondence between the facility and the state agency (DNR) was dated June 21, 1994.

Marysville Crude Oil Truck unloading facility is currently owned by Sunoco Partners Marketing & Terminals, L.P. (SPMT), which is owned by Energy Transfer Partners, L.P.

On June 7, 2018, AQD received a request from Energy Transfer (Alyssa Najewica, Environmental Specialist) to void the PTI 642-88 because the air emissions from the crude trucking unloading station are low and are accounted for and reported under EUTANK43 in PTI 178-98B, issued to Sunoco Pipeline, L. P.

On August 2, 2018, Energy Transfer representatives and AQD staff met, upon facility's request, to discuss the records needed to verify compliance (MACES Meeting Report No. N198445531). During the meeting they indicated they may not have all the records as required by the PTI, but will submit what ever they have by August 17, 2018. They indicated that they want to void the PTI, but incorporate the process in to PTI No; 178-98B, issued to Sunoco Pipeline. The records were received by August 17, 2018.

The Records report included a cover letter, and

Attachment A
(2017 & 2018)
Vehicle Annual Inspection Report,
External Visual Inspection Report,
Leakage Test Report

Attachment B
Marysville Crude Oil Station Log (2016-2018)

Compliance:

PTI No. 642-88

Special Condition (SC) 11

No visible emissions from the crude oil truck unloading facility- No truck was at the unloading station at that time during the inspection. Later on, after the inspection, during odor observations, I observed a truck unloading crude oil at the unloading station. I did not observe any visible emissions during the unloading.

SC 12- Shall not unload any crude oil which has a vapor phase total sulfur concentration of exceeding 165 parts per million by volume. This concentration corresponds to the definition of sweet crude oil.

In the letter, the facility indicated that they don't have the specific vapor phase data requested by this special condition. However, they stated that they are in compliance with the purpose (intent) of this special condition because:

1. The suppliers are required to provide sweet crude oil, so the required vapor phase sulfur concentration would correspond to that product.
2. The facility has conducted extensive testing of sulfur content of the sweet crude oil over the years, both from individual production sites and the Marysville truck unloading facility to ensure it complies. Those tests have been conducted pursuant to industry standard ASTM D-4294.

AQD staff requested further clarification on this two information. In an email dated August 30, 2018, facility provided a copy of the most recent Crude Oil Purchase Agreement with a Michigan Producer. (See attached). The agreement requires the pricing basis for this crude will be Michigan Sweet.

SC 13- Shall not unload sweet crude oil from any lease site at this facility unless a sample of sweet crude oil representative of the sweet crude oil produced at the lease site has been tested for liquid phase hydrogen sulfide and total sulfur concentrations, and vapor phase total sulfur concentration prior to the initial shipment of sweet crude oil from the lease site. The test results must be submitted to and unloading approved by the Air Quality Division prior to handling a particular sweet crude oil. Facility had indicated that they are only unloading sweet crude oil at this facility. They provided result of the 2008 sulfur analysis of the crude oil. They don't have vapor phase sulfur concentration analysis for the crude oil.

SC 14- Shall only allow a truck which has been steam cleaned prior to the introduction into the applicant's service, pressure and leak tested on a monthly basis, dedicated to service for only this facility, and inspected and certified by the applicant as meeting these requirements to unload sweet crude oil at this facility.

The letter indicated that Great Lakes Petroleum Transportation, LLC. (GLPT) provides all transportation of sweet crude oil to the facility. All GPLT trucks are inspected, pressure and leak tested as required under US DOT regulations. The testing frequency was provided in the letter. (See attached). Also, prior to any testing or inspection, the cargo tank is properly cleaned to ensure all residue or debris is removed. They also provided records of the tests for the trucks.

SC 15- Shall monitor all sweet crude oil for hydrogen sulfide in the vapor phase at the tank battery prior to shipment. The facility has not been monitoring the hydrogen sulfide other than for drivers. No records of hydrogen sulfide have not been maintained at the tank battery or truck vent prior to shipment.

SC 16- Shall not unload sweet crude oil at the facility prior to 6:00 AM or after 6:00 PM. In addition, no unloading after 11:00 AM on Sundays and holidays. Facility agreed that even though majority of the time, the unloading occurred as prescribed, during some instances the unloading occurred outside of the time frame. Records of the daily delivery logs were provided.

The facility has requested GLPT to limit the deliveries to within the time period.

SC 17- Shall clearly post the truck driver's check list at the facility. The check list is posted at the facility.

SC 18- Shall maintain a log of daily sweet crude oil deliveries to the facility and submitted to the District Supervisor within 30 days following the end of the month in which data were collected. The facility has been keeping daily logs of sweet crude oil deliveries. Since 1994, no records were submitted to the district supervisor. The facility submitted 2016, 2017, and 2018 records in August 2018.

SC 19- requires that the facility cease the operations after a determination and written notification from the AQD chief, that the emissions from the facility are causing an unreasonable interference with the common public right to live free from foul or noxious odors. The AQD had received odor complaints related to this facility's operations, but during odor investigations, AQD has not verified odors with intensity to cause unreasonable interference, as described above.

Process Description

The crude oil is transported to the crude oil unloading facility in trucks. The crude oil truck unloading facility consists of one 309 Barrel/Hour (6155 Barrel/Day) Liquid Automatic Custody Transfer (LACT) Unit and the necessary piping and valving for pipe connections between the LACT Unit and Sunoco Pipeline, L.P. tankage. The facility is capable of unloading only one truck at a time. Upon arrival, the driver manually connects the truck to the LACT Unit by attaching a hose. The tanker valve and truck vent are opened and oil is pumped off the tank truck to the LACT Unit. Negative pressure is created by opening a vent in the truck, which allows air to be drawn into the tank truck to prevent collapse of the tank truck under the vacuum condition. The vacuum of offloading draws air into the truck vent, which does not allow vapors to escape during the process. As the crude oil is pumped out of the truck, it is metered to verify the quantity being unloaded, and the oil flows then into a 6-inch diameter underground pipeline (referred to as a "transfer line") to Sunoco Pipeline tankage where it remains for storage and/or further transportation to end users.

Discussion:

The crude oil unloading process at this facility occurs under negative pressures, so atmospheric air is drawn into the truck. If properly operated, the possibility of air pollutant emissions from the truck to the atmosphere is minimal. The crude oil delivered to the facility is sweet crude which has less hydrogen sulfide content compared to sour crude. Based on this information, even though the facility did not monitor the vapor phase total sulfur and hydrogen sulfide content of the crude oil regularly, as required by the permit, the environmental impact appears to be minimal. Also, monitoring of the vapor phase total sulfur concentration and hydrogen sulfide concentration, as specified in the permit, seems to be technically not feasible. The facility intends to void this current permit and incorporate the unloading operation in to PTI No. 178-98B which includes Tank 43 where the sweet crude from the unloading facility is pumped and stored. Considering this information, a violation notice will not be sent to the facility.

Conclusion:

The facility is not in compliance with some of the requirements such as monitoring for vapor phase total sulfur and hydrogen sulfide concentrations as specified in PTI No. 642-88. Complying with these monitoring requirements appear to be technically not feasible. The facility is only unloading sweet crude oil. The compliance assurance requirements for this crude oil unloading operations will be incorporated in to PTI No. 178-98B.

NAME Sebastiany KallamkalDATE 10/15/2018

SUPERVISOR

Joyle