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

A983145346

FACILITY: MARATHON PETROLEUM COMPANY LP		SRN / ID: A9831
LOCATION: 1001 S Oakwood, DETROIT		DISTRICT: Detroit
CITY: DETROIT		COUNTY: WAYNE
CONTACT: Paul Bortolussi, Environmental Professional		
STAFF: Jorge Acevedo		ACTIVITY DATE: 06/21/2018
COMPLIANCE STATUS: Compliance		SOURCE CLASS: MEGASITE
SUBJECT: Delayed Coker Unit		
RESOLVED COMPLAINTS:		

MICHIGAN DEPARTMENT OF ENVIRONMENTAL
QUALITY
AIR QUALITY DIVISION
INSPECTION REPORT

COMPANY NAME : Marathon Petroleum Company-
 FACILITY ADDRESS : 1300 S. Fort Street, Detroit, MI 48217
 STATE REGISTRAT. NUMBER : A9831
 SIC CODE : 2911
 LEVEL OF INSPECTION : PCE
 DATE OF INSPECTION : 06/21/18
 TIME OF INSPECTION : 2:30 PM
 DATE OF REPORT : 07/20/18
 REASON FOR INSPECTION : Annual Compliance Inspection.
 INSPECTED BY : Jorge Acevedo
 PERSONNEL PRESENT : Paul Bortolussi
 FACILITY PHONE NUMBER :
 FACILITY FAX NUMBER :

INSPECTION NARRATIVE:

On June 21, 2018, I conducted a partial compliance evaluation of the Marathon Petroleum Refinery. I arrived at 2:30 PM and met with Paul Bortolussi, Environmental Professional. Mark Dziadoz, of the Technical Programs Unit accompanied me as Marathon was performing a stack test on the Delayed Coker.

Marathon Petroleum was on its second day of conducting a stack test of the Delayed Coker. The stack testing company, AECOM, was onsite at the Delayed Coker Vent preparing to conduct the stack test. After getting our badges, Mr. Bortolussi drove us to the North Plant so that we could observe the stack testing. I did not observe any visible emissions while observing the wall bordering the coke pit, or the conveyor, or truck loading area.

Mr. Bortolussi accompanied us to the coke vent so that we could observe the stack test. We arrived near the coke vent. The stack testing staff indicated that Run 1 had some issues with not capturing the full venting cycle so they were going to do four runs and finish up on Friday, June 22, 2018. Stack Testing would test VOC, H2S, Particulate Matter and other compounds. At approximately 3:37 PM venting occurred as well as the start of testing. Steam was visible emanating from vent. There was a slight sound to the process of venting and a sweet moderate H2S odor observed during the testing. The testing lasted until 3:59PM. Average total hydrocarbon concentration appeared to be around 17.33ppm. Mr. Dziadoz observed preparation of the stack test sample after it was recovered. Mr. Dziadoz and I left the facility at 5:20PM.

The following days, I requested records from Ms. Treva Formby so that I could determine the Refinery's compliance with applicable permit conditions and regulations.

FACILITY BACKGROUND

The Detroit Marathon Petroleum Company Refinery (MPC), situated in the southwest of Detroit, processes approximately 115,000 barrels per day (B/D) of crude oil which is refined into a product mix of approximately 50% gasoline, 25% fuel oil, 18% Asphalt, and 7% other products. The makeup of this production will vary depending on the type of crude used as charge stock. The finished products leave the facility via truck, lake tanker, railroad car, or pipeline. The refinery operates 24 hours per day, 7 days per week, and 52 weeks per year. The refinery has been operating at this site for more than 50 years. MPC Detroit refinery is both a PSD and ROP major facility.

COMPLAINT/COMPLIANCE HISTORY

The MPC refinery has been issued two violation notices(VN) over the past twelve months. The MPC refinery has been a source of odor complaints during past years. All complaints have come from neighboring homes in southwest Detroit and the city of Melvindale located to the west.

OUTSTANDING CONSENT ORDERS

Currently, MPC has two outstanding New Source Review Consent Decrees. One is with the United States of America (Civil No. 01-40119) lodged May 11, 2001 and entered August 28, 2001. The County of Wayne, Michigan and the States of Minnesota and Louisiana are Plaintiff-Intervenors.

The other is with the Department of Justice and U.S. EPA (Civil No. 12-11544) lodged on April 5, 2012 and entered August 30, 2012.

OUTSTANDING LOVs

There are no outstanding Violation Notices.

OPERATING SCHEDULE/PRODUCTION RATE

The MPC Detroit Refinery operates 24 hours per day, 7 days per week and 52 weeks per year, or 8760 hours per year. The crude unit raw crude oil capacity is nameplated at 115000 barrels per day; the actual crude oil throughput varies depending upon type.

PROCESS DESCRIPTION

The Delayed Coker converts Crude Vacuum Tower Bottoms into lighter, more valuable products.

EQUIPMENT AND PROCESS CONTROLS

The Delayed Coker includes vapor recovery compressors and allows venting when pressures reach a low threshold pressure.

APPLICABLE RULES/PERMIT CONDITIONS:

Marathon Petroleum Company is subject to the ROP because they are major for NSR and Title V. They are a major source for Hazardous Pollutants. ROP-MI-A9831-2012 was issued on September 27, 2012.

The Delayed Coker is covered under PTI 63-08D.

Permit Conditions are evaluated in Appendix A:

The following conditions apply to: EU70-COKER-S1

Flexible Group ID: FGPROCUNITS-S1, FGDHOUANNUAL-S1

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Compliance Determination
1. Visible emissions	No visible emissions 2	Based upon a six minute average	Truck loading; weigh bins; and the coke handling system beginning with the enclosed conveyor leading to the crusher.	Compliance-No Visible Emissions were observed during the time of inspection.
2. VOC	20 tpy 2	12-month rolling time periodA	Exhaust from coke drum steam vent.	Compliance-Previous 12month VOC emissions were below 1 TPY
3. PM	1.0 tpy 2	12-month rolling time periodA	Exhaust from coke drum steam vent.	Compliance-Previous 12month PM emissions were below 1 TPY
4. H2S	0.7 tpy 1	12-month rolling time periodA	Exhaust from coke drum steam vent.	Compliance-Previous 12month H2S emissions were below 0.5 TPY
A Based upon a 12-month rolling time period as determined at the end of each calendar month				

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Compliance Determination
1. Coke production	500 tons per hour 2	Daily average	Equipment subject to SC I.1.	Compliance- Records were received for a period of a year. Amounts were below 500 Tons/hr.

2. The permittee shall not recycle coker blowdown water as quench water in the coke drums. (R 336.1205, R 336.2802, 40 CFR 52.21)

Compliance- Staff indicated that fresh water was used in the coke drums.

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not vent the active coke drum to the atmosphere until the end of the coking cycle,

when the drum pressure is 2 psig or less. 2 (R 336.1205, R 336.1702, R 336.2802, 40 CFR 52.21, 40 CFR Part 60 Subparts A and Ja)

COMPLIANCE- Records were received for 2016 through May 2018. Records indicate venting did not occur at pressures higher than 2 psig. Since last inspection, Marathon installed an interlock system to preventing venting above 2 psig.

2. The permittee shall not remove coke from a coke drum or handle coke after removal from a coke drum unless a program for continuous fugitive emissions control has been submitted to the AQD District Supervisor as a proposed revision to the Fugitive Dust Control Program required in Table B-1 of RO Permit 199700013c. The proposed revision shall address the following aspects of the coke handling system: all plant roadways, the plant yard, all material storage piles, and all material handling operations. The submitted program shall include, as a minimum, all of the following:

Use of jet water sprays to empty the coke drum into a coke pit below the grade of the coke storage pad.

Use of water sprays on any coke stockpile and during coke crushing to maintain coke moisture.

Monitoring and correction of coke moisture to comply with SC I.1.

Use of bridge cranes to transfer coke from the pit to a stockpile and from a stockpile to the crusher receiving hopper, except as allowed in SC III.1.e.

Limited use of front-end loaders or other vehicles on the coke storage pad: only during bridge crane maintenance or breakdown.

Inspection, maintenance, and monitoring of a "totally enclosed gallery" for transporting crushed coke from the crusher to the surge/weigh bin system.

The permittee shall comply with the submitted program until the AQD District Supervisor approves the program or approves an amended program. Thereafter, the permittee shall comply with the approved program. At any time, the permittee may submit a modified program to the AQD District Supervisor for review and approval. 2 (R 336.1371, R 336.1372, Act 451 324.5524)

Compliance- Compliance is assumed as there were no fugitive dust issues observed during the inspection.

3. The height of any coke pile on the storage pad shall not exceed the height of the perimeter wall at any time. 2 (R 336.1301)

Compliance- Coke pile height below top of the wall.

4. The permittee shall not operate any equipment in the coke handling system unless a malfunction abatement plan (MAP) as described in Rule 911(2), for the coke handling system, has been submitted no less than

120 days before commencing operation of the coke handling system, and is implemented and maintained. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. 2 (R 336.1205, R 336.1301, R 336.1331, R 336.1910, R 336.1911, R 336.2802, 40 CFR 52.21)

As a minimum, the MAP shall address the following:

Maintaining required coke moisture content.

Maintaining the integrity of all enclosures: integral crusher enclosure, conveyor enclosures and the shed for truck loading.

Surge bin dust collector.

Compliance- Malfunction Abatement Plan was submitted on July 09, 2012.

5. The permittee shall not cycle the coke drums more than 487 times per 12-month rolling time period, as determined at the end of each calendar month. (R 336.1205, R 336.2802, 40 CFR 52.21)

Compliance- Records were received and less than 487 cycles occurred.

6. The permittee shall keep the coke adequately wetted to ensure that the opacity limit in SC I.1 is met. (R 336.1205, R 336.2802, R 336.1301, 40 CFR 52.21)

Compliance- Opacity was not observed during the duration of the inspection.

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain the coker with a gas recovery system to recover the coke drum vapors and route them to the fuel gas treatment system. 2 (R 336.1205, R 336.1702)

Compliance- Gas recovery system is installed.

2. The permittee shall equip and maintain the coker with instrumentation to monitor the pressure in the coke drum during coking cycles. 2 (R 336.1205, R 336.1702, 40 CFR Part 60 Subparts A and Ja)

Compliance- Instrumentation is installed to monitor pressure in the coke drum. Records were received.

3. The permittee shall equip and maintain the coke storage area with a pit below the grade of the coke storage pad and with perimeter walls no less than 30 feet above the level of the coke storage pad. 2 (R 336.1301)

Undetermined- Measurements were not taken, but walls appeared to be 30 ft above the level of coke pad.

4. The permittee shall not convey crushed coke to the surge bins unless the totally enclosed conveyors and surge bin dust collector are installed, maintained, and operated in a satisfactory manner. 2 (R 336.1910)

Compliance- No opacity was observed during the inspection.

5. The permittee shall not load trucks with crushed coke unless the surge bin dust collector is installed, maintained, and operated in a satisfactory manner. 2 (R 336.1910)

Compliance- No opacity was observed during the inspection.

6. The permittee shall not operate the Coker wet gas compressor (70C1) unless the compressor seal vent is routed to EU-COKERFLARE-S1. (R 336.1205, R 336.2802, 40 CFR 52.21)

Compliance- Compressor seal vent is routed to Cokerflare

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

1. Within 180 days after commencement of trial operation of EU70-COKER-S1, and annually thereafter, the permittee shall determine VOC, PM, and H2S emission rates from the coke drum steam vent by testing at owner's expense, in accordance with Department requirements. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD. The AQD must approve the final plan prior to testing. Determination of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. At any time after completing five tests acceptable to the AQD District Supervisor, the permittee may request that the testing frequency be reduced. If the testing frequency is reduced, testing shall be conducted no less often than once every five years. Test results shall be used to calculate emissions as required by SC VI.8, and to determine compliance with the requirements for FGDHOUANNUAL-S1. 2 (R 336.1205, R 336.1224, R 336.1702, R 336.2001, R 336.2003, R 336.2004, R 336.2802, 40 CFR 52.21)

Compliance- Testing done in accordance with permit requirement.

2. For tests required by SC V.1, the following applies for valid, regularly scheduled tests, conducted during normal operations: 3 (R 336.1201(3))

a. If a test indicates non-compliance with a permitted emission rate, and the test is required to be conducted on either a three or five year cycle, the frequency of such tests shall be annual for two consecutive years. Following two consecutive years of compliance, the frequency of testing shall return to the original three or five year cycle.

Compliance- Testing done in accordance with permit requirement.

See Appendix 1.5 of of Renewable Operating Permit MI-ROP-A9831-2012a

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

1. The permittee shall keep, in a satisfactory manner, a record of the coke drum pressure at which the active drum is vented to the atmosphere. 2 (R 336.1205, R 336.1702, 40 CFR Part 60 Subparts A and Ja))

Compliance- Records are kept.

2. The permittee shall verify the absence of visible emissions by taking six-minute visible emission readings for the equipment listed in SC I.1 a minimum of once per calendar day. The reader shall take each visible emission reading during routine operating conditions. For purposes of this condition, the opacity reading is not required to use Method 9. If the permittee observes any visible emissions, the permittee shall immediately initiate corrective actions. 2 (R 336.1301)

Undetermined- This was not evaluated at the time of inspection. Observations during the inspection indicated that fugitive dust at the Delayed coker was not an issue.

3. The permittee shall monitor, in a satisfactory manner, the moisture of the coke on the coke storage pad and other non-enclosed areas three times per week, as provided in the approved fugitive dust control program for EU70-COKER-S1. 2 (R 336.1205, Act 451 324.5524)

Compliance- Moisture content is measured and recorded.

4. The permittee shall keep, in a satisfactory manner, a daily record of the amount of coke loaded onto trucks for shipping. 2 (R 336.1205)

Compliance- Records are kept of coke produced and shipped.

5. The permittee shall keep, in a satisfactory manner, records of coke moisture, as required by SC VI.3. 2 (R 336.1205, Act 451 324.5524)

Compliance- Records are kept.

6. The permittee shall keep, in a satisfactory manner, records of all visible emission readings required by

SC VI.2. At a minimum, records shall include the date, time, name of observer/reader, and status of visible emissions. 2 (R 336.1301)

Undetermined- This was not evaluated at the time of inspection. Observations during the inspection indicated that fugitive dust at the Delayed coker was not an issue.

7. Within 30 days after completion of the installation of EU70-COKER-S1, the permittee or the authorized agent pursuant to Rule 204 shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EU70-COKER-S1. 2 (R 336.1216(1), R 336.1201(7)(a))

Compliance- Notice was received.

8. The permittee shall calculate the VOC, PM, and H2S emission rates from the coke drum steam vent monthly, for the preceding 12-month rolling time period, using a method acceptable to the AQD District Supervisor. As soon as test results acceptable to the AQD District Supervisor are available from the testing required by SC V.1, the permittee shall use emission factors derived from testing to calculate emission rates. 2 (R 336.1205, R 336.1224, R 336.1702, R 336.2802, 40 CFR 52.21)

Compliance- Calculations are done every month along with 12 month rolling totals.

9. The permittee shall keep, in a satisfactory manner, records of the number of times the coke drums are cycled for each month and for each 12-month rolling time period as determined at the end of each calendar month. (R 336.1205, R 336.2802, 40 CFR 52.21)

Compliance- Coke drum cycles are recorded.

VII. REPORTING

1. NA

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

		Minimum	
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Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Height Above Ground (feet)	Compliance Determination
1. Coke Drum Vent (unobstructed vertical discharge not required)	not restricted	2221	Undetermined-Measurements were not taken but height appeared sufficient.

IX. OTHER REQUIREMENT(S)

1. NA

APPLICABLE FUGITIVE DUST CONTROL PLAN CONDITIONS:

The Single Source does have a Fugitive Dust Control Plan. During the Delayed Coker inspection, Fugitive Dust was not evaluated.

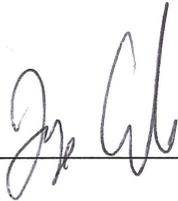
MAERS REPORT REVIEW:

Pollutant	2017 Emissions(TPY)
CO	145
NOx	389.94
PM	83.31
Sox	215
VOC	367.89

FINAL COMPLIANCE DETERMINATION:

Based on the inspection and review of the records, it appears that the Delayed Coker is in compliance with MI-ROP-A9831-2012c

NAME



DATE

9-14-18

SUPERVISOR

