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

A983141561

FACILITY: MARATHON PETROLEUM COMPANY LP		SRN / ID: A9831
LOCATION: 1001 S Oakwood, DETROIT		DISTRICT: Detroit
CITY: DETROIT		COUNTY: WAYNE
CONTACT: Joe Reidy , Environmental Professional		ACTIVITY DATE: 07/25/2017
STAFF: Jorge Acevedo	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MEGASITE
SUBJECT: GOHT Charge Heater Inspection		
RESOLVED COMPLAINTS:		

COMPANY NAME :Marathon Petroleum Company-
FACILITY ADDRESS :1001 S. Oakwood, Detroit, MI 48217
STATE REGISTRAT. NUMBER :A9831
SIC CODE :2911
EPA SOURCE CLASS : A
EPA POLLUTANT CLASS : Mega Site
LEVEL OF INSPECTION : :PCE
DATE OF INSPECTION :07/25/17
TIME OF INSPECTION : 10:20 AM
REASON FOR INSPECTION : Annual Compliance Inspection.
INSPECTED BY : Jorge Acevedo
PERSONNEL PRESENT : Joe Reidy
FACILITY PHONE NUMBER :
FACILITY FAX NUMBER :

INSPECTION NARRATIVE:

On July 25, 2017, I conducted a partial compliance evaluation of the Marathon Petroleum Refinery. I arrived around 10:20AM. I met with Joe Reidy, Environmental Professional.

The focus of the inspection was the Gas Oil Hydrotreater(GOHT) Charge Heater. Marathon Petroleum was conducting a stack test of the GOHT Particulate Matter and NOx were being tested on refinery gas and and natural gas. The stack testing company, Clean Air Engineering, was onsite at the GOHT Charge Heater preparing to conduct the stack test. After getting our badges, Mr. Reidy drove us to into the facility so that I could observe the stack testing.

Onsite, I gathered some process data from Mr. Reidy. I observed the stack and did not observe any opacity.

Run 1 for PM started at 8:45AM. The NOx RATA started at 9:21AM. There did not appear to be any issues during the testing. The filter from the first run appeared normal and there did not appear to be any visible sediment in the wash. Run 2 for PM began at 11:32AM. The filter for the second run appeared clean. I left the facility at 1:02PM.

I requested records from Marathon Petroleum and received them promptly. Compliance analysis was performed to determine 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 weeks, 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 one 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.

ACTIVE CONSENT ORDERS

Currently, MPC has two active 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.

VIOLATION NOTICES

There is one outstanding Violation Notice. It was sent out on September 8, 2017. A response was submitted on September 29, 2017. A retest was conducted on August 22-23, 2017, which resulted in a passing emission test. The Violation was referred for enforcement.

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 GOHT charge heater is used to heat the feed prior to it entering the GOHT.

EQUIPMENT AND PROCESS CONTROLS

The GOHT Charge Heater is equipped with Low NOx burners.

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 GOHT Charge Heater is covered under MI-ROP-A9831-2012c.

Permit Conditions are evaluated in Appendix A:

FGHEATERS-S1

FLEXIBLE GROUP CONDITIONS

DESCRIPTION

All refinery heaters that burn refinery fuel gas (NSPS, 40 CFR 60, Subpart J and where applicable Ja).

Permit: 63-08E

Emission Units: EU04-VACHTR-S1, EU04-VAC2HTR-S1, EU05-CRUDEHTR-S1, EU08-GOHTCHARHTR-S1, EU09-ALKYDIBREBHTR-S1, EU11-FCCUCHARHTR-S1, EU14-CCRPLCHARHTR-S1, EU14-CCRPLINTHTR-S1, EU16-NHTSTRIPREBOIL-S1, EU16-NHTCHARHTR-S1, EU19-KHTCHARHTR-S1, EU22-FUELOILHTR-S1, EU70-COKERHTR-S1, EU77-DHTHTR-S1

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Compliance Determination
Hydrogen sulfide content of the refinery fuel gas burned in any combustion device in FGHEATERS-S1	0.10 grain per dry standard cubic foot (230 milligrams per dry standard cubic meter or 160 ppm _{dv}) ^{2*}	Based upon a three hour average	FGHEATERS-S1	Compliance- Records were not requested for H2S 3 hour concentration, however, recent review of H2S CEMS 3 rd Quarter 2017 report indicates that there have not been exceedances of the 3 hr average except for 2 hours during quarter which were due to startup shutdown issues.
Hydrogen sulfide content of the refinery fuel gas burned in any combustion device in FGHEATERS-S1	60 ppm _{dv} ³	Annual rolling average, as determined at the end of each calendar month	FGHEATERS-S1	Compliance- Records indicate that for the time period August 2016-July 2017, H2S content was less than 20 ppm on a annual rolling average.
*Compliance with this limit shall be considered compliance with the limits of R 336.1406(1) which have been subsumed under this streamlined requirement.				

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The heat input to EU08-GOHTHTR-S1 shall not exceed 115 MMBTU/hr on a daily average.² (R 336.1205(1), R 336.1225, R 336.2802, 40 CFR 52.21)

Compliance- Records for the time period of July 2017 indicate that heat input never exceeded 115 MMBTU/hr on a daily average.

18. The permittee shall not operate EU04-VACHTR-S1, EU05-CRUDEHTR-S1, EU08-GOHTHTR-S1, EU11-FCCUCHARHTR-S1, EU14-CCRPLCHARHTR-S1, or EU14-CCRPLINTHTR-S1 unless the unit's low NOx burners are installed, maintained, and operated in a satisfactory manner.²(R 336.1205, R 336.1910, R 336.2802, 40 CFR 52.21)

Compliance- Low Nox burners are installed on GOHT Charge Heater.

The permittee shall only fire refinery fuel gas and/or sweet natural gas in FGHEATERS-S1.² (R 336.2001, R 336.2003, R 336.2004)

PM10 (R 336.1205, R 336.2802, 40 CFR 52.21)

PM (R 336.1205, R 336.2802, 40 CFR 52.21)

Sulfuric acid mist³ (R 336.1201(3))

Compliance- Testing has occurred for GOHT Charge Heater.

12. Once during the five year term of this permit and every five years thereafter for VOC, and every three years thereafter for PM, the permittee shall verify emission rates from EU08-GOHTCHARHTR-S1 of the pollutants listed below 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. For tests conducted prior to commencement of trial operation of the heavy oil upgrade project, the test plan shall demonstrate that test conditions will be representative of post-startup conditions. The AQD must approve the final plan prior to testing. Verification 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.³ (R 336.2001, R 336.2003, R 336.2004)

PM (R 336.1201(3))

VOC (R 336.1201(3))

Compliance- Testing has occurred for GOHT Charge Heater.

13. For tests required by SC V.1 through SC V.12, 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- Refinery tests emission unit according to schedule.

14. For any emission unit required to conduct an emission test in SC V.1 through V.12 for a specific pollutant every three years and every five years, the requirement to conduct an

emission test every five years for that pollutant does not apply; emission testing for that pollutant is required every three years.² **(R 336.1201(3))**

Compliance- Refinery tests emission unit according to schedule.

See Appendix 5-S1

VI. MONITORING/RECORDKEEPING

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

The permittee monitor and keep records of the concentration of hydrogen sulfide (H₂S) in the refinery fuel gas burned in each heater in accordance with the Federal Standards of Performance as specified in 40 CFR Part 60, Subpart J and Ja, in a manner and with instrumentation acceptable to the Air Quality Division.² **(R 336.1205, R 336.1226(d), R 336.2802, 40 CFR 52.21, 40 CFR 60.105(a)(4), 40 CFR 60.107a(a)(2))**

Compliance- Records are kept of H₂S content in Refinery fuel gas.

The permittee shall monitor and keep records of the concentration of total reduced sulfur (TRS) in the refinery fuel gas burned in each heater/boiler, in a manner and with instrumentation acceptable to the Air Quality Division. The TRS monitor may be used as an alternative to the H₂S monitoring required by SC VI.1.³ **(R 336.1201(3))**

Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H₂S or TRS in the fuel gas being burned.² **(40 CFR 60.105(a)(4)(ii))**

Compliance- Records are kept of H₂S content in Refinery fuel gas.

The permittee shall keep records of emissions and operating information to comply with the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60, Subparts A, J, and where applicable Ja.² **(40 CFR Part 60 Subparts A and J/Ja)**

Compliance- Refinery keeps records of emissions and operating information to comply with 40 CFR Part 60 Subparts A, J, and Ja where applicable.

The permittee shall install, calibrate, maintain and operate in a satisfactory manner devices to monitor and record on a continuous basis the NO_x and oxygen emissions from EU08-GOHTCHARHTR-S1. The permittee shall install and operate the Continuous Emission Monitoring System (CEMS) to meet the timelines, requirements and reporting detailed in Appendix 3-S1 and shall use the CEMS data for determining compliance with the appropriate emission limits in SC I.7 and SC I.8.² **(R 336.1205(3))**

Compliance- CO and NO_x CEMS are installed and operated in a satisfactory manner for the GOHT Charge Heater.

NAME



DATE

12-18-17

SUPERVISOR

W.M.