



Marathon Petroleum Company LP

1300 South Fort Street
Detroit, MI 48217
Tel: 313.843.9100



Via Federal Express

June 18, 2015

Mr. Jorge Acevedo
Michigan Department of Environmental Quality
Air Quality Division
3058 W. Grand Boulevard
Suite 2300
Detroit, MI 48202

RE: Response to May 29, 2015 Violation Notice; Marathon Petroleum Company LP, Michigan Refining Division

Dear Mr. Acevedo:

This letter is in response to the May 29, 2015 Violation Notice (VN) issued to Marathon Petroleum Company LP (MPC), Michigan Refining Division (MRD). In the VN, Michigan Department of Environmental Quality, Air Quality Division, alleged the following violations occurred on May 9-10, 2015. The violations are based on Method 9 visible emissions readings and review of the Rule 912 Notification letter submitted by MRD on May 18, 2015.

Process Description	Rule/Permit Condition Violated	Comments
EUCPFLARE-S1	General Condition 11(a) of ROP No. MI-ROP-A9831-2012b, Section 1; and Michigan Administrative Rule 301 (R 336.1301)	100% was the highest 6 minute average opacity
EUCPFLARE-S1	ROP No. MI-ROP- A9831-2012b, Table FGFLARES-S1, Condition I.1; and 40 CFR 60.18(c)(1)	Visible emissions in excess of five minutes during two consecutive hours
EU11-FCCU-S1	ROP No. MI-ROP- A9831-2012b, Table EU11-FCCU-S1, Condition 1.3; 40 CFR 60.103; and 40 CFR 63.1565	Carbon Monoxide emissions exceeded the ROP limit of 500 ppm (hourly) for 12 hours from May 9-10, 2015
EU11-FCCU-S1	General Condition 11(a) of ROP No. MI-ROP- A9831-2012b, Section 1; and Michigan Administrative Rule 301 (R 336.1301)	Opacity from the Fluid Catalytic Cracking Unit in excess of 20% (six minute average) for 4 hours from May 9-10, 2015
EU11-FCCU-S1	ROP No. MI-ROP- A9831-2012b, Table EU11-FCCU-S1, Condition 1.1; 40 CFR 60.102(a)(1); and 40 CFR 63.1564	Particulate Matter (PM) emissions exceeded the ROP limit of 0.8 pounds/1000 pounds of coke burn off for 11 hours from May 9-10, 2015
EU11-FCCU-S1	PTI 63-08D, EU11-FCCU-S1, Condition 1.2; R 336.1205; R336.2802; and 40 CFR 52.21	PM10 emissions exceeded the PTI limit of 1.1 pounds/1000 pounds of coke burn off (3 hr average) for 11 hours from May 9-10, 2015

Date(s) the Violations Occurred: May 9-10, 2015. Violation is not on-going.

Explanation of the Causes and Duration of the Violation:

On May 9, 2015 at 1:30 pm, the Fluidized Catalytic Cracking Unit (FCC) experienced a significant upset that eventually led to the unit's unplanned shutdown when the FCC Gas Con debutanizer began to experience a pressure swing. When operations personnel attempted to respond to the oscillating pressure by opening a bypass around the overhead vent valve, the oscillating pressure did not dampen, but rather increased. This, in turn, amplified the upset due to integrated controls responses between the debutanizer tower and the upstream gasoline stripper. Troubleshooting efforts were initiated but were ultimately unsuccessful resulting in flaring of material from the debutanizer and shutdown of the FCC. FCC shutdown was initiated at approximately 4:20 pm on May 9. As a result of the unit upset and FCC shutdown, visible emissions (black smoke) from flaring occurred for approximately 3.5 hours (2:30 pm to 5:50 pm) and the FCC regenerator exceeded the carbon monoxide (CO) limit for 12 hours (2:00 pm to 2:00 am). During the FCC shutdown and subsequent start-up, FCC regenerator opacity and PM/PM10 exceeded applicable limits for 4 hours and 11 hours, respectively, due primarily to shutdown of the electrostatic precipitators (ESPs). It should be noted that high CO results in an automatic shutdown of the ESPs for safety reasons. Based on the subsequent incident investigation, the causes of the unit upset include:

1. Inadvertent opening of the debutanizer bypass vent valve.
2. Need for improved pressure control of the debutanizer overhead system.
3. Need for improved operator guidelines in order to prevent debutanizer tower flooding.

By noon on May 10, the flaring had completely stopped and the FCC was back to normal operations. During the flaring event, MRD maintained and operated the flare consistent with good practice in minimizing emissions. It should be noted that all of MRD's flares comply with requirements of the Consent Decree that MPC executed with the United States Environmental Protection Agency and which became effective on August 30, 2012 (United States District Court of the Eastern District of Michigan, Civil Action No. 2:12-cv-11544-DML-MJH) ("Consent Decree"). Compliance with the Consent Decree requirements, including operation of an automatic control system on the flares, helps ensure good combustion efficiency in the flares by minimizing steam injection. Upset events, however, may cause smoking of the flare, which is corrected by increasing the steam to the flare. In the case of this unplanned emergency shutdown of the FCC, the amount of material being relieved to the flare exceeded its rated smokeless capacity. The smokeless capacity of the CP flare is 25,000 lb/hr and the FCC shutdown on May 9, 2015 had a mass rate of 45,000 lb/hr. The planned reroute of the CP flare to the Coker flare in 2018 will resolve this issue and is noted in the section below.

Summary of the Actions Taken and Proposed to be Taken with Dates:

Following are corrective or preventative actions that have been implemented as a result of this incident as well as a similar incident that occurred on April 9, 2015.

1. Conducted operator radio communication refresher training with emphasis on repeat-back in order to prevent communication failures.
2. Modified the debutanizer column overhead control configuration to decouple the tower and overhead receiver pressure controls.
3. Replaced the debutanizer control valve (12PC0261A).
4. Developed more rigorous debutanizer operation guidelines in order to prevent tower flooding.

In addition to these actions, MRD intends to re-route streams that are currently being directed to the CP flare to the Coker flare by the end of 2018. Once re-routed, adequate flare steam will be available to prevent the type of smoking that occurred during this incident. Note that the smokeless capacity of the Coker flare is approximately 124,000 lb/hr versus 25,000 lb/hr for the CP flare.

Enforcement Discretion/Affirmative Defense

MPC followed its Start-up, Shutdown, and Malfunction (SSM) Plan for both the FCC and flares during both the unit upset and shutdown/start-up (SD/SU) phases of this incident to minimize releases and the duration of excess emissions. In accordance with Michigan Air Pollution Control Rules 915 and 916, MPC proposes that enforcement discretion and/or affirmative defense provisions apply to excess emissions that occurred during the SD/SU phases of this incident. Specifically, MPC proposes that subparagraphs (3)(b), (c), (e), (f), (i), (k), (l), (m) and (4)(a), (b), and (c) of Rule 915 and (1)(a) through (j) of Rule 916 have been satisfied as follows:

1. Periods of excess emissions were short and infrequent and could not have been prevented due to the fact that the SD/SU was the result of a unit upset and was unplanned.
2. The SD/SU excess emissions are not part of a recurring pattern. To date, in the second quarter 2015 there have been only 4.4 hours of excess opacity from the FCC regenerator including the 4 hours due to this event. To date, in the second quarter 2015 there have been only 12.6 hours of high PM/PM10 including the 12 hours due to this event.
3. During the incident, MPC followed its SSM Plan to ensure refinery equipment was operated in a manner consistent with good practices for minimizing emissions.
4. The duration of the shutdown and subsequent start-up were minimized. The shutdown was initiated at 4:20 pm on May 9. Unit feed was completely removed by approximately 4:33 pm. Feed was re-introduced at approximately 12:20 am on May 10 and the ESPs were back on line at approximately 2:42 am when the unit was stable and all permissives were met.
5. During the incident, MPC followed its SSM Plan to ensure all possible steps were taken to minimize the impact of the excess emissions on ambient air quality.
6. During the incident, emission monitoring systems were kept in operation to the extent possible. This includes the FCC regenerator opacity monitor and continuous emissions monitoring system.
7. The actions taken during the incident are recorded on operator logs as well as a refinery-specific SSM checklist (see Attachment A).
8. This incident and associated excess emissions were reported to the Department via telephone on May 9 and May 11 and in a follow-up Rule 912 letter dated May 18, 2015.

CP Flare Data:

Additional information was requested on the operational data for the CP flare for the time period of May 9-10, 2015. Five minute average heat content of vent gas and the steam-to-vent gas ratio as well as the steam injection control valve position are included in Attachment B.

MRD appreciates this opportunity to respond to the VN. If you have questions concerning this submittal or would like further information please contact Ian Ladomer at (313) 297-6336 or at iwladomer@marathonpetroleum.com.

Sincerely,

Marathon Petroleum Company LP
By: MPC Investment LLC, its General Partner

A handwritten signature in black ink, appearing to read "Honor F. Sheard". The signature is fluid and cursive, with a large initial "H" and "S".

Honor F. Sheard, Deputy Assistant Secretary

cc: Ms. LaReina Wheeler, City of Detroit, Department of Environmental Affairs
Ms. Lynn Fielder, DEQ
Ms. Mary Ann Dolehanty, DEQ
Ms. Teresa Seidel, DEQ
Mr. Thomas Hess, DEQ
Ms. Wilhemina McLemore, DEQ
Mr. Jeff Korniski, DEQ
Mr. Todd Zynda, DEQ

Attachments:

Renewable Operating Permit Report Certification
Attachment A, SSM Checklist
Attachment B, Operational Data for the CP Flare