ENFORCEMENT SUMMARY REPORT

July 27, 2020

In the matter of:

Marathon Petroleum Company, LP
1001 South Oakwood
Detroit, Michigan 48217

A9831; Wayne County

SUMMARY

The Michigan Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD) is seeking resolution from Marathon Petroleum Company, LP (Marathon) for the noncompliant operations of various processes at the refinery in Detroit, Michigan. The AQD alleges that Marathon violated the following state and federal air quality rules and regulations: Mich Admin Code, R 336.1901 (Rule 901), R 336.1910 (Rule 910), and the conditions of Renewable Operating Permit (ROP) No. MI-ROP-A9831-2012c. From September 2017 to January 2020, the AQD issued ten Violation Notices (VNs) alleging that Marathon failed to demonstrate compliance with the ROP and state and federal air quality rules and regulations. Specifically, the AQD alleges that Marathon exceeded the Particulate Matter (PM), Hydrogen Sulfide (H$_2$S), and visible emission limits for several processes, failed to continuously monitor flares, failed to maintain the minimum inlet velocity to the primary internal cyclones of the Fluid Catalytic Cracking Unit (FCCU), failed to properly vent and combust gases in the Coker Flare, and emitted nuisance odors.

FACILITY LOCATION AND PROCESS DESCRIPTION

Marathon’s refinery is located at 1001 South Oakwood, 301 Fort Street, and 12700 Toronto Street in Detroit. The facilities are between Interstate Highway I-75, Fort Street, Oakwood Avenue, Dix Avenue, and the Rouge River.

The refinery processes approximately 115,000 barrels per day of crude oil which is refined into a product mix of liquified petroleum gases, gasoline, fuel oil, asphalt, and other products. Both sweet and sour crude oils are processed at the refinery. Sour crude oil contains a higher content of sulfur components than sweet crude oil. All crude oil moves through a pipeline to the refinery. Finished products leave the refinery via truck, lake tanker, railroad car, or pipeline. The refinery operates 24 hours per day, 7 days per week and 52 weeks per year.
COMPLIANCE ISSUES

The AQD alleges that the Company exceeded the PM emission limit from the Crude/Vacuum Heater and the Coker Heater; exceeded the H₂S content in refinery fuel gas burned in the Heaters; failed to continuously monitor the Unifiner Flare and the Coker Flare; exceeded visible emission limits of opacity for the FCCU; failed to maintain the minimum inlet velocity to the primary internal cyclones of the FCCU; and failed to properly vent andcombust gases in the Coker Flare.

In addition, AQD staff observed nuisance odors in violation of Rule 901 on the following occasions:

- Sulfur odors were detected beyond Marathon’s property line on February 2, 2019 and February 3, 2019. These nuisance odors were caused from a pipe breaking in the gas concentration unit during a steam-out. As a result, vent gases and emissions in the Coker Flare failed to combust. The broken pipe was caused by polar vortex weather conditions occurring during the same time. The H₂S emitted from the broken pipe was the likely cause of the nuisance odors;
- Asphalt odors were detected beyond Marathon’s property line on November 25, 2019. These nuisance odors were caused by high tank temperatures during asphalt barge loading; and
- Sewage sludge odors were detected beyond Marathon’s property line on December 15, 2019. These nuisance odors were from the loss of nitrification of the Membrane Bio Reactor at the Company’s wastewater treatment facility.

SIGNIFICANT DATES

June 7-8, 2017  Marathon conducted a performance test on the Crude/Vacuum Heater. Test results indicated noncompliance with the PM emission limit.

August 22-23, 2017  Marathon conducted a retest on the Crude/Vacuum Heater. Test results indicated compliance with the PM emission limit.

September 8, 2017  The AQD issued a VN for violating the PM emission limit from the Crude/Vacuum Heater.

October 30, 2017  The AQD received a compliance report from Marathon. AQD staff reviewed this report and determined Marathon exceeded the visible emission limit from the Cracking Plant Flare and the H₂S emission limit from the Heaters.
December 5, 2017  The AQD issued a VN for violating the visible emission limit from the Cracking Plant Flare and the H₂S emission limit from the Heaters.

January 23, 2018  The AQD Enforcement Unit sent an Enforcement Notice to Marathon requesting a meeting to initiate enforcement negotiations to resolve the alleged violations.

February 22, 2018  The AQD met with Marathon’s representatives to begin discussing the enforcement process and the alleged violations. Additional meetings were held in 2018 and 2019.

June 13, 2018  Marathon conducted a performance test on the Crude/Vacuum Heater. Test results indicated compliance with the PM emission limit.

October 25, 2018  Marathon removed the Cracking Plant Flare and it is no longer in operation.

November 7, 2018  The AQD received a performance test report from Marathon. AQD staff reviewed this report and determined Marathon exceeded the PM emission limits from the Coker Heater and the visible emission limit from the FCCU.

November 8, 2018  The AQD reviewed the third quarter 2018 excess emission report and issued a VN for failing to continuously monitor H₂S from the Unifiner Flare and the Coker Flare.

December 4-5, 2018  Marathon conducted a performance test on the Coker Heater. Test results indicated compliance with the PM emission limit.

December 20, 2018  The AQD issued a VN for violating the PM emission limit from the Coker Heater and the visible emission limit from the FCCU.

January 9-10, 2019  Marathon conducted a performance test on the Crude/Vacuum Heater. Test results indicated compliance with the PM emission limit.

February 2-3, 2019  The AQD received complaints about nuisance odors. AQD staff investigated these complaints and determined the source of the odors was due to failure to combust vent gases and emissions in the Coker Flare.
<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 22, 2019</td>
<td>The AQD issued a VN for emitting nuisance odors as a result of the February 2-3, 2019 incident.</td>
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<tr>
<td>April 12, 2019</td>
<td>The AQD issued a second VN to Marathon due to an inadequate response regarding the February 22, 2019 VN.</td>
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<tr>
<td>June 11-12, 2019</td>
<td>Marathon conducted a performance test on the Crude/Vacuum Heater. Test results indicated compliance with the PM emission limit.</td>
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<tr>
<td>July 29, 2019</td>
<td>The AQD issued a Marathon Incident Update further evaluating the cause of the February 2-3, 2019 nuisance odors. See Attachment A.</td>
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<tr>
<td>August 15, 2019</td>
<td>Marathon conducted a performance test on the Crude/Vacuum Heater. Test results indicated compliance with the PM emission limit.</td>
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<tr>
<td>September 23, 2019</td>
<td>The AQD received a compliance report from Marathon. AQD staff reviewed the compliance report and determined that the Company exceeded both the visible emission limits and the minimum inlet velocity limit for the primary internal cyclones of the FCCU.</td>
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<tr>
<td>October 7, 2019</td>
<td>The AQD issued a VN for violating the minimum inlet velocity limit and the visible emission limit for the primary internal cyclones of the FCCU.</td>
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<tr>
<td>October 31-November 1, 2019</td>
<td>Marathon conducted a performance test on the Crude/Vacuum Heater. Test results indicated compliance with the PM emission limit.</td>
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<tr>
<td>November 25, 2019</td>
<td>The AQD received complaints about nuisance odors. AQD staff investigated these complaints and determined that the source of the odors was Marathon.</td>
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<tr>
<td>December 9, 2019</td>
<td>The AQD issued a VN for emitting nuisance odors as a result of the November 25, 2019 complaint investigation.</td>
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<td>The AQD received complaints about nuisance odors. AQD staff investigated these complaints and determined that the source of odors was Marathon.</td>
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January 6, 2020  The AQD issued a VN for emitting nuisance odors as a result of the December 15, 2019 complaint investigation.

April 23, 2020  Marathon agreed to the terms and conditions of the Consent Order to resolve outstanding state and federal air quality violations.

COMPLIANCE PROGRAM

Under the agreed upon terms of the proposed Consent Order, Marathon has agreed to take the following actions to come into and assure compliance with the relevant rules and conditions:

- Comply with Rule 901 to prevent nuisance odors.
- Operate the Coker Flare in accordance with Rule 910 to prevent excess PM emissions.
- Comply with specific conditions of ROP No. MI-ROP-A9831-2012c that were violated.
- Increase performance testing to ensure compliance with PM emission limits from the Crude/Vacuum Heater. Marathon will conduct two annual testing events, submit to AQD an initial test plan for each test, notify the AQD of each test, and submit to the AQD a test report which includes test data and results.
- Upon the request of EGLE, conduct additional performance testing to ensure compliance with PM emission limits from the Coker Heater. Marathon will submit to the AQD an initial test plan, notify the AQD of the test, and submit to the AQD a test report which includes test data and results.
- Implement the Activities Involving Online Equipment: Risk Assessment, Checklist, and Approvals form to prevent excess PM emissions.
- Develop a Refining Maintenance Procedure related to performing on-line preventative maintenance on electrical equipment.
- Implement a Preventative Maintenance Plan for the Crude/Vacuum Heater and the Coker Heater. The AQD will review and approve this plan.
- Implement an updated Startup, Shutdown, and Malfunction Plan for the FCCU that will minimize the time which the FCCU operates on internal circulation or hot standby to minimize visible emissions exceedances during startup and shutdown. The AQD will review and approve this plan.
- Implement a plan to minimize analyzer downtime and SO2 emissions during the steam-outs before the next planned maintenance period requiring steam-outs. The AQD will review and approve this plan.
- Implement an updated operations procedure for the Coker Flare, including weekly verification of proper operation of the molecular seal drain, daily verification that the molecular seal drain line is operating properly during temperatures below freezing, and a winterization plan. The AQD will review and approve this plan.
• Implement a Post Incident Community Air Monitoring and Response plan including procedures for determining when post-incident community air sampling is conducted, the radius of the monitored area, the data to be collected, the parameters to be measured, when further communication or action may be necessary to respond to an incident, as well as reporting results to the AQD and communicating results and information to the public.

• Implement a Refinery-wide Winterization Plan including procedures for mitigating the effects of a loss of refinery steam supply. The AQD will review and approve this plan.

The following corrective actions have been completed by Marathon and are not included in the Compliance Program in the proposed Consent Order:

• Conducted quarterly testing events demonstrating compliance with the PM emission limits from the Crude/Vacuum Heater.
• Conducted a testing event demonstrating compliance with the PM emission limit from the Coker Heater.
• Installed in the Coker Flare a pressure transmitter capable of determining whether liquid is accumulating in the molecular seal.
• Repaired the regulator on the natural gas feed to the auxiliary burner in the FCCU.

SUPPLEMENTAL ENVIRONMENTAL PROJECT

The proposed Consent Order incorporates two Supplemental Environmental Projects (SEPs):

• First, Marathon will spend a minimum of $226,000 to retrofit an existing air handling system at the Mark Twain School for Scholars, located at 12800 Visger Street in Detroit. The retrofit will include air conditioning, enhanced air filtration, and air purification using Photo Hydro Ionization. Marathon will also pay for replacement filters and cells for the length of the Consent Order. This project will improve the indoor air quality for the children and workers at the school.

• Second, Marathon will spend a minimum of $56,000 to provide an online platform that will allow the public to see real-time data of the air quality at the perimeter of the Company’s Refinery. This platform will allow the public to see data for Carbon Monoxide (CO), PM, Sulfur Dioxide (SO2), Total Reduced Sulfur (TRS), and Volatile Organic Compound (VOC) on the Detroit Refinery Community Website. The system will be in place for a minimum of three years.

The AQD followed EGLE’s SEP policy, dated April 15, 2005, to evaluate and approve the proposed SEPs and calculate the monetary fine. The AQD determined that the projects meet the SEP categories of public health and environmental awareness. The
Aqd evaluated how effectively the proposed SEPs achieve the following factors: provide a clear benefit to the public at large, innovation, multimedia impacts, pollution prevention, promoting environmental justice, and community input.

The AQD rated Marathon’s proposed SEPs as high per the SEP quality Matrix in the SEP policy based on the following factors: a high rating for providing a clear benefit to the public at large, innovation, promoting environmental justice, and community input; an average rating for pollution prevention; and additional credit for cooperation. Marathon solicited feedback from multiple community stakeholders in the development of this project, including Marathon’s Community Advisory Panel, community representatives from the 48217 zip code, representatives from Detroit City Council, Detroit Public Schools, and the Sierra Club.

**MONETARY FINE AND STIPULATED FINES**

The proposed Consent Order incorporates a monetary fine of $81,853 to be paid to the State of Michigan General Fund.

The initial monetary fine was calculated using the USEPA Clean Air Act Stationary Source Civil Penalty Policy. The USEPA penalty policy considers the actual or possible harm to the environment or public health and the importance to achieving the goals of the Clean Air Act and Michigan’s Air Pollution Control Rules. To calculate the monetary fine, the policy evaluates the type and number of violations being resolved, the amount of pollutants that are emitted over the allowed permit limits, the sensitivity of the environment, the toxicity of the pollutants, importance to the regulatory program, the length of time of the violations, and the size of violator. Marathon’s degree of cooperation and the history of noncompliance were also included as mitigating and aggravating factors. Factors such as litigation risk, the company’s willingness to cooperate to resolve the violations, and Marathon’s history of noncompliance were taken into account in determining the agreed upon final settlement amount of $275,000.

Pursuant to the SEP Policy, the AQD rated the SEPs as high and applied the SEP mitigation percentage of 75 percent as an offset against the $275,000 settlement amount. The AQD ran the SEP costs through the EPA PROJECT Model to obtain the final SEP cost, which is based on a variety of economic factors and the timing of expenditures. The AQD then multiplied the final SEP cost by the 75 percent mitigation percentage to get the mitigation credit. Finally, AQD subtracted the mitigation credit from $275,000 to calculate a monetary fine of $81,853.

Additionally, the proposed Consent Order shall remain in effect for at least five years. The final Consent Order may only be terminated upon written request by Marathon and agreement by the AQD that Marathon has met and maintained the obligations of the Consent Order. Failure to comply with the terms and conditions of the proposed
Consent Order could result in a maximum stipulated fine of $10,000 per violation per day.

RECOMMENDATION

AQB Staff believes that the proposed Consent Order, as drafted, contains an appropriate compliance program for resolution of the outstanding federal and state air quality violations against the Company. The AQB staff recommend that the proposed Consent Order be entered unless substantive adverse comments are received during the public comment period.

Submitted by: Erin Moran and Jorge Acevedo
Air Quality Division
Michigan Department of Environment, Great Lakes, and Energy
MARATHON INCIDENT UPDATE

In late January and early February of 2019, the State of Michigan went through a weather event called a polar vortex. During the polar vortex, temperatures dropped below zero for several days. At this time the Marathon Petroleum Company, LP, Michigan Refining Division (Marathon) located at 1300 South Fort Street, Detroit, experienced a series of events resulting in unanticipated releases of air pollutants. The releases caused a significant number of citizen complaints to be relayed to the Michigan Department of Environment, Great Lakes, and Energy’s (EGLE) Air Quality Division (AQD). Complainants in communities mainly downwind of Marathon expressed concern about strong odors and possible health effects.

Incident Details

The AQD initially focused its investigation on a damaged coker flare system at Marathon. Upon further investigation, a broken pipe discovered at Marathon’s neighboring gas concentration unit was determined to be responsible for the bulk of emissions released during the event.

Because of the quantity and nature of the complaints, air monitoring data collected by Marathon, the AQD, and the United States Environmental Protection Agency (USEPA) in the vicinity of the facility were examined. None of the monitoring showed exceedances of air quality standards. However, the air monitoring did not rule out the potential for odor impacts caused by sulfur compounds at ambient (outdoor) air concentrations near or below monitoring limits of detection. It is also possible for people to experience significant discomfort and nausea at levels below established standards.

Gas Concentration Unit Pipe Failure

On January 30, process units providing steam to Marathon were shut down due to cold weather freeze-ups. During normal operations, this steam is used to heat gas lines and provide adequate flow through the system. The shutdown caused a “dead leg” or low point in a pipe to accumulate water and eventually freeze (see Figure 1).

Sometime on February 2, water in a 2-inch pipe froze and caused the pipe to burst. From 12:40 pm to 5:00 pm, a leak occurred from this pipe. It was determined that during the initial phase of the leak, approximately 96,000 pounds (lbs.) of hydrocarbon gas were released to the atmosphere, of which the majority was found to be propylene (a by-product of petroleum refining, which may also be used as a fuel), with about 20 lbs. of odorous hydrogen sulfide (H$_2$S) co-emitted.

The H$_2$S emitted from the broken pipe was the likely cause of odors in residential areas in the vicinity of Marathon. The odor threshold for H$_2$S is very low, meaning at even low concentrations the odor from this gas can be noticeable, offensive, or cause odor-related health effects, such as those reported by community members.

Coker Flare Failure

At around 1:00 pm on February 2, Marathon’s flare gas recovery system was shut down as a precaution. When this happens, the gas is sent to the coker flare to be burned off. A plugged drain line in the coker flare system increased the pressure in the flare’s molecular seal, which is a safety device. It was later determined that the manufacturer had installed a defective plug in the molecular seal. The pressure increases on the defective seal, and volume of gas routed to the flare, resulted in plug failure and a breach of the molecular seal. Marathon estimated approximately 138 lbs. of volatile organic compounds (VOC), 0.7 lbs. of H$_2$S, and 3.5 lbs. of odorous mercaptans were released from the molecular seal breach. At the same time, Marathon estimates the flare itself emitted 55 lbs. of VOCs and 11 lbs. of sulfur dioxide (from the burning of H$_2$S and mercaptans).
Modeling of Release Impacts

Barr Engineering was hired by Marathon to perform dispersion modeling of the event’s releases. This makes use of a computer model incorporating factors such as weather, emission types and quantities, and terrain, to determine plausible locations and amounts of impact. As previously mentioned, the monitoring immediately following the incident did not identify any exceedances of a health-based screening level. This modeling, being more conservative, identified the potential for a small area just outside the refinery fence line to be above the propylene short-term acute screening level. This screening level is based on an 8-hour average and is designed to be protective of even the most sensitive groups. Although propylene does have an odor, it is unlikely to have generated the community complaints or the health effects noted. The EGLE AQD screening levels are specifically designed for the AQD air permitting process. However, they may be used to evaluate air monitoring/modeling results as well, but this is not their primary purpose.

The incident also resulted in H₂S concentrations exceeding the odor threshold (0.7 µg/m³) in a significant area downwind of Marathon. The exceedance of the H₂S odor threshold is the most likely explanation for the amount and nature of the complaints received during this incident. Figure 2 shows the area in which the odor threshold was likely to be exceeded according to the model, and the actual complaints received. Although the areas do not line up precisely, there is an evident link between the projected and actual areas of impact.

Figure 2. Complaints received and area in which the modeled hydrogen sulfide concentration exceeds the odor threshold of 0.7 µg/m³.
Next Steps

After the incident, it was clear more needed to be done to ensure a set of circumstances like this does not happen again, and to keep the community apprised of changing situations. The AQD met with the USEPA, Detroit’s Local Emergency Planning Committee, Emergency Management, Health Department, and Environmental Affairs at the Detroit Emergency Operations Center to devise ways to better communicate with community members in the future.

The primary outcome of this meeting was to further define the public notification process when incidents like this occur. The notification system is implemented by the Detroit Police and Fire Communications Department. Depending on the communications need, the Emergency Alert System (pushed to TV, radio, cable, and satellite services) and Wireless Emergency Alerts (pushed to a mobile device) will be activated. Residents are encouraged to sign up for Nixle, which is an opt-in text and email system for alerts.

The AQD continues to closely inspect and monitor operations at Marathon, as well as to continuously examine air monitoring data. Available air monitoring data can be found at www.deqmiair.org. Additionally, the AQD has initiated an enforcement action against Marathon that will include provisions to minimize the probability that a similar incident will occur in the future. More information on AQD’s interactions with Marathon can be found here.

Contact Jay Olaguer, AQD Assistant Division Director, with questions. Complaints may be directed to the Detroit District Office at 313-456-4700. Pollution Emergencies may be reported to 1-800-292-4706.
In the matter of administrative proceedings
against MARATHON PETROLEUM
COMPANY, LP, a corporation organized
under the laws of the State of Delaware and
doing business at 1001 South Oakwood
Avenue in the City of Detroit, County of
Wayne, State of Michigan

AQD No. 2020-13
SRN: A9831

STIPULATION FOR ENTRY OF FINAL ORDER
BY CONSENT

This proceeding resulted from allegations by the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD) against Marathon Petroleum Company, LP (Company), a corporation organized under the laws of the State of Delaware and doing business at 1001 South Oakwood Avenue, City of Detroit, County of Wayne, State of Michigan, with State Registration Number (SRN) A9831 (Facility). EGLE alleges that the Company violated Mich Admin Code, R 336.1901 (Rule 901), R 336.1910 (Rule 910), and the conditions of Renewable Operating Permit (ROP) No. MI-ROP-A9831-2012c. Specifically, EGLE alleges that the Company exceeded the particulate matter (PM) emission limit from the Crude/Vacuum Heater (EU05-CRUDEHTR-S1/EU04-VACHTR-S1) during a June 7, 2017 performance test; exceeded the hydrogen sulfide (H₂S) emission limit from the Heaters (FGHEATERS-S1) on October 18, 2017; failed to continuously monitor the Unifiner Flare (EUUNIFFLARE-S1) and the Coker Flare (EU-COKERFLARE-S1) during the third quarter of 2018; exceeded the PM emission limit from the Coker Heater (EU70-COKERHTR-S1) during an August 15, 2018 performance test; exceeded visible emission limits of opacity for the Fluid Catalytic Cracking Unit (EU11-FCCU-S1); failed to maintain the minimum inlet velocity to the primary internal cyclones of the Fluid Catalytic Cracking Unit (FCCU); and failed to properly vent and combust gases in the Coker Flare, as cited herein and in the Violation Notices dated September 8, 2017; December 5, 2017; November 8, 2018; December 20, 2018; April 12, 2019; and October 7, 2019.
On August 22-23, 2017; June 13, 2018; January 9-10, 2019; June 11-12, 2019; August 15, 2019; and October 31-November 1, 2019; the Company conducted performance tests and demonstrated compliance with the PM limit for the Crude/Vacuum Heater in MI-ROP-A9831-2012c. On December 4-5, 2018, the Company conducted a performance test and demonstrated compliance with the PM limit for the Coker Heater in MI-ROP-A9831-2012c.

In addition, EGLE alleges that the Company violated Rule 901 and emitted air contaminants from the Facility that caused unreasonable interference with the comfortable enjoyment of life and property on February 2, 2019; February 3, 2019; November 25, 2019; and December 15, 2019, as cited herein and on the Violation Notices dated February 22, 2019; April 12, 2019; December 9, 2019; and January 6, 2020. The Company and EGLE stipulate to the termination of this proceeding by entry of a Stipulation for Entry of a Final Order by Consent (Consent Order).

The Company and EGLE stipulate as follows:

1. The Natural Resources and Environmental Protection Act (NREPA), MCL 324.101 et seq., is an act that controls pollution to protect the environment and natural resources in this State.
2. Article II, Pollution Control, Part 55 of the NREPA (Part 55), MCL 324.5501 et seq., provides for air pollution control regulations in this State.
3. Executive Order 2019-06 renamed the Michigan Department of Environmental Quality as EGLE, and EGLE and has all statutory authority, powers, duties, functions and responsibilities to administer and enforce all provisions of Part 55.
4. The EGLE Director has delegated authority to the Director of the AQD (AQD Director) to enter into this Consent Order.
5. The termination of this matter by a Consent Order pursuant to Section 5528 of Part 55, MCL 324.5528, is proper and acceptable.
6. The Company and EGLE agree that the signing of this Consent Order is for settlement purposes only and does not constitute an admission by the Company that the law has been violated.
7. This Consent Order becomes effective on the date of execution (effective date of this Consent Order) by the AQD Director.
8. The Company shall maintain compliance with the aforementioned regulations in accordance with the requirements contained in this Consent Order.

COMPLIANCE PROGRAM AND IMPLEMENTATION SCHEDULE

9. Rules
   A. On and after the effective date of this Consent Order, the Company shall comply with Rule 901.
   B. On and after the effective date of this Consent Order, the Company shall operate the Coker Flare in accordance with Rule 910.

10. Permit
    A. On and after the effective date of this Consent Order, the Company shall comply with FGHEATERS-S1, Condition I.19 for the Crude/Vacuum Heater as specified in MI-ROP-A9831-2012c, as amended.
    B. On and after the effective date of this Consent Order, the Company shall comply with FGHEATERS-S1, Condition I.19 for the Coker Heater as specified in MI-ROP-A9831-2012c, as amended.
    C. On and after the effective date of this Consent Order, the Company shall comply with Condition II.1 for FGHEATERS-S1 as specified in MI-ROP-A9831-2012c, as amended.
    D. On and after the effective date of this Consent Order, the Company shall comply with its approved Startup, Shutdown, and Malfunction Plan and General Condition 11.a for the FCCU as specified in MI-ROP-A9831-2012c, as amended.
    E. On and after the effective date of this Consent Order, the Company shall operate the continuous emission monitoring system of the Unifiner Flare and the Coker Flare in accordance with FGFLARES-S1 Condition VI.1 of MI-ROP-A9831-2012c, as amended.
    F. On and after the effective date of this Consent Order, the Company shall comply with 40 CFR 63.670(e) and 40 CFR 63.670(m) for the Coker Flare as specified in MI-ROP-A9831-2012c, as amended.
G. On and after the effective date of this Consent Order, the Company shall comply with the opacity limits in General Condition 11.a of MI-ROP-9831-2012c, as amended.

11. Testing and Operation
   A. Crude/Vacuum Heater
      1. Beginning in 2020, the Company shall conduct annual performance testing for PM emissions from the Crude/Vacuum Heater to evaluate compliance with the Crude/Vacuum Heater PM emission limits. The Company shall conduct the performance testing in accordance with the methods and procedures approved by the AQD Detroit District Supervisor and the AQD Technical Programs Unit Supervisor. After two (2) consecutive annual performance tests demonstrating compliance with the PM emissions limits, the Company shall comply with the testing frequency set forth in MI-ROP-A9831-2012c, as amended.
      2. Within sixty (60) days after a completed performance test, the Company shall submit to the AQD Detroit District Supervisor and the AQD Technical Programs Unit Supervisor a test report, which includes the test data and results.
      3. Not less than seven (7) days prior to any performance testing from the Crude/Vacuum Heater to evaluate compliance with the Crude/Vacuum Heater PM emission limits, the Company or an authorized agent shall notify the AQD Detroit District Supervisor and the AQD Technical Programs Unit Supervisor in writing of the time and place of the tests and who shall conduct them. A representative of the AQD shall have the opportunity to witness the tests.
   
   B. Coker Heater
      1. Upon the request of EGLE, the Company shall conduct performance testing for PM from the Coker Heater in accordance with the methods and procedures approved by the AQD Detroit District Supervisor and the AQD Technical Programs Unit Supervisor to demonstrate compliance with the emissions limitations specified in paragraph 10.B of this Consent Order. If testing is requested, it shall be conducted in accordance with the following schedule:
2. Within thirty (30) days after a request to test from the AQD, the Company shall submit a test plan to the AQD Detroit District Supervisor and the AQD Technical Programs Unit Supervisor for review and approval prior to testing.

3. No later than thirty (30) days following the AQD approval of a test plan submitted by the Company pursuant to paragraph 11.B.2, the Company shall conduct performance testing for PM from the Coker Heater.

4. Not less than seven (7) days prior to PM testing, the Company or an authorized agent, shall notify the AQD Detroit District Supervisor and the AQD Technical Programs Unit Supervisor, in writing, of the time and place of the tests and who shall conduct them. A representative of the AQD shall have the opportunity to witness the tests.

5. Within sixty (60) days after the test completion, the Company shall submit to the AQD Detroit District Supervisor and the AQD Technical Programs Unit Supervisor a test report, which includes the test data and results.

12. Plans and Procedures

A. Heaters

1. On and after the effective date of this Consent Order, the Company shall implement the Activities Involving Online Electrical Equipment: Risk Assessment, Checklist, & Approvals Form as approved. The Company shall have the form on-site at the Facility, available for review and inspection. The form shall be incorporated by reference into this Consent Order and shall be an enforceable part of this Consent Order.

2. By April 1, 2023, the Company shall have on-site at the Facility, available for review and inspection, a Refining Maintenance Procedure (RMP) related to performing on-line preventative maintenance on electrical equipment. The RMP shall include schematics, photos, and/or wiring diagrams. The Company shall submit to the AQD Detroit District Supervisor quarterly updates on the progress of the RMP by the 1st day of October, January, April, and July of each year, until the final RMP is finalized.
3. Within 30 days after the effective date of this Consent Order, the Company shall submit to the AQD Detroit District Supervisor, for review and approval, a Preventative Maintenance Plan (PMP) for the Crude/Vacuum Heater and the Coker Heater.

B. Continuous Emissions Monitoring System for Flares

1. Within ninety (90) days after the effective date of this Consent Order, the Company shall submit to the AQD Detroit District Supervisor, for review and approval, a plan describing the measures that will be implemented to minimize analyzer downtime during future scheduled maintenance periods requiring isolation of flare analyzers. The Company shall review the procedure annually and submit to the AQD Detroit District Supervisor, for review and approval, any material updates to the procedure by December 31 of each year. If no material updates are made to the procedure, the Company shall submit a written notification stating no updates were made to the procedure to the AQD Detroit District Supervisor by December 31 of each year.

C. Fluid Catalytic Cracking Unit

1. Within thirty (30) days after the effective date of this Consent Order, the Company shall submit, for review and approval to the AQD Detroit District Supervisor, an updated Startup, Shutdown, and Malfunction (SSM) plan for the FCCU. The updated SSM plan shall identify potential operating strategies during periods of startup, shutdown, and malfunction intended to minimize periods during which the FCCU operates on internal circulation or in hot standby, to minimize opacity exceedances during startup and shutdown.

D. Coker Flare

1. Within thirty (30) days after the effective date of this Consent Order, the Company shall submit to the AQD Detroit District Supervisor, for review and approval, an updated operations procedure for the Coker Flare. This operations procedure shall include weekly verification that the molecular seal drain line is operating properly, daily verification that the molecular seal drain line is operating properly during temperatures below freezing, and a winterization plan for the Coker Flare.

2. Within thirty (30) days after the effective date of this Consent Order, the Company shall submit to the AQD Detroit District Supervisor, for review and approval, an updated turnaround and major project verification checklist.
E. Post-Incident Community Air Monitoring

1. Within ninety (90) days after the effective date of this Consent Order, the Company shall submit to the AQD Detroit District Supervisor and the AQD Quality Assurance Coordinator, for review and approval, a plan for post-incident community air monitoring and response. This plan shall describe the Company’s procedures for:
   a. Determining when post-incident community air sampling is conducted;
   b. Determining the radius of the monitored area;
   c. Determining the data to be collected;
   d. Determining the parameters to be measured;
   e. Reporting results to the AQD;
   f. Communicating information to the public, including information posted on the Company’s website and communicated to local governments; and
   g. Determining when further communication or action may be necessary to respond to the incident.

F. Within ninety (90) days after the effective date of this Consent Order, the Company shall submit to the AQD Detroit District Supervisor, for review and approval, a refinery-wide winterization plan, which shall incorporate the Company’s procedures for mitigating the effects of a loss of refinery steam supply.

13. Submittals

A. The plans described in paragraph 12, excluding those described in paragraphs 12.A.1 and 12.A.2, shall take effect upon written approval from the AQD Detroit District Supervisor or sixty (60) days after submittal, whichever is earlier. If within sixty (60) days after submittal of the plan, the AQD Detroit District Supervisor provides written notice that the plan is not adequate for its stated purposes, the Company shall resubmit the plan to address the deficiency within thirty (30) days of the deficiency notice.

B. If the Company proposes subsequent revisions to the approved plan, it shall follow the procedures in paragraph 13.A.
C. Upon approval of the plan and any subsequent revisions, the Company shall implement the plan as approved. The plans shall be incorporated by reference into this Consent Order and shall made an enforceable part of this Consent Order.

SUPPLEMENTAL ENVIRONMENTAL PROJECT

14. In addition to the civil fine in this Consent Order for the violations alleged in the Violation Notice, the Company agrees to undertake the Supplemental Environmental Projects (SEPs) described in Exhibit A which is attached, incorporated by reference, and made an enforceable part of this Consent Order. Performance of the SEPs will benefit public health and the environment and the Company agrees to implement the SEPs in accordance with the details specified in Exhibit A and in accordance with the following terms and conditions below:

A. The total expenditure for the SEPs shall not be less than $282,000.00. All costs of the SEPs shall be the responsibility of the Company. The Company certifies that any economic benefit, including tax abatement(s), tax credit(s), or similar tax relief, that the Company will realize as a result of the SEPs is detailed in Exhibit A. If, after the SEPs are fully and completely implemented, the actual expenditures for the SEPs totals less than $282,000.00, then the Company shall pay to EGLE as a civil fine, within thirty (30) days after submission of the SEPs certificate of completion required in subparagraph F below, the difference between the actual expenditures and $282,000.00.

B. The plans included as Exhibit A contains schedules, including specific dates for the implementation of the SEPs. The Company shall fully implement all aspects of the SEPs within the specified schedules.

C. The Company further certifies that the Company has not received, and is not presently negotiating to receive, a credit for the SEPs as part of any other enforcement action or any grant from the State, United States Environmental Protection Agency, or any other entity. The Company also certifies that the Company will not seek tax benefits following completion of the SEPs.

D. In the event the Company fails to fully and completely implement the SEPs as provided herein to the reasonable satisfaction of EGLE, EGLE will provide written notice to the Company describing the nature of the deficiency. The Company shall have thirty (30) days from receipt of the notice to submit documentation to the AQD Detroit District Supervisor demonstrating that the deficiency has been corrected. In the event the deficiency is not corrected to the
satisfaction of EGLE, the Company will be notified, and the Company shall be in violation of this Consent Order and required to pay a stipulated penalty of up to $193,148.00 to EGLE within thirty (30) days after notification from EGLE. The amount of the stipulated penalty may be reduced or waived by EGLE if the Company made good faith and timely efforts to complete the project. Payment of a stipulated penalty under the terms of this paragraph shall satisfy the Company’s obligation to complete the SEPs under this Consent Order. Payment of any stipulated penalty shall be made as outlined in paragraph 17.

E. The Company agrees that any public statement, oral or written, making reference to the SEPs shall include the following language: “This project was undertaken in connection with the settlement of an enforcement action taken by EGLE for violations of air quality law.”

F. No later than thirty (30) days after the completion of all activities specified in Exhibit A, the Company shall submit written certification of completion of the SEPs to the AQD Director demonstrating that all SEP activities specified in Exhibit A have been completed in accordance with the terms and conditions of this Consent Order and Exhibit A. The certification shall be accompanied by appropriate documentation (such as invoices, receipts, or tax statement) to verify the total expenditure made by the Company as a result of implementing the activities specified under Exhibit A. It shall be the sole determination of EGLE whether the Company has completely implemented the activities specified in Exhibit A of this Consent Order.

GENERAL PROVISIONS

15. This Consent Order in no way affects the Company’s responsibility to comply with any other applicable state, federal, or local laws or regulations, including without limitation, any amendments to the federal Clean Air Act, 42 USC 7401 et seq., Part 55 or their rules and regulations, or to the State Implementation Plan.

16. This Consent Order constitutes a civil settlement and satisfaction as to the resolution of the violations specifically addressed herein; however, it does not resolve any criminal action that may result from these same violations.

17. Within thirty (30) days after the effective date of this Consent Order, the Company shall pay to the General Fund of the State of Michigan, in the form of a check made payable to the “State of Michigan” and mailed to the Michigan Department of Environment, Great Lakes, and
Energy, Accounting Services Division, Cashier's Office, P.O. Box 30657, Lansing, Michigan 48909-8157, a settlement amount of $81,853.00, which includes AQD costs for investigation and enforcement. To ensure proper credit, all payments made pursuant to this Consent Order shall include the “Payment Identification Number AQD40201” on the front of the check and/or in the cover letter with the payment. This settlement amount is in addition to any fees, taxes, or other fines that may be imposed on the Company by law.

18. On and after the effective date of this Consent Order, if the Company fails to comply with paragraph 9.A of this Consent Order, the Company is subject to a stipulated fine of up to $10,000 per violation per day. On and after the effective date of this Consent Order, if the Company fails to comply with paragraphs 9.B, 10, 11.A.1, 11.B.3, 12, or 13.C of this Consent Order, the Company is subject to a stipulated fine of up to $5,000.00 per violation per day. On and after the effective date of this Consent Order, if the Company fails to comply with paragraphs 11.A.2, 11.A.3, 11.B.2, 11.B.4, 11.B.5, 13.A, or 13.B of this Consent Order, the Company is subject to a stipulated fine of up to $2,500.00 per violation per day. The amount of the stipulated fines imposed pursuant to this paragraph shall be within the discretion of EGLE. Stipulated fines submitted under this Consent Order shall be by check, payable to the State of Michigan within thirty (30) days of written demand and shall be mailed to the Michigan Department of Environment, Great Lakes, and Energy, Accounting Services Division, Cashier's Office, P.O. Box 30657, Lansing, Michigan 48909-8157. To ensure proper credit, all payments shall include the “Payment Identification Number AQD40201-S” on the front of the check and/or in the cover letter with the payment. Payment of stipulated fines shall not alter or modify in any way the Company's obligation to comply with the terms and conditions of this Consent Order.

19. EGLE, at its discretion, may seek stipulated fines or statutory fines for any violation of this Consent Order which is also a violation of any provision of applicable federal and state law, rule, regulation, permit, or EGLE administrative order. However, the AQD is precluded from seeking both a stipulated fine under this Consent Order and a statutory fine for the same violation.

20. To ensure timely payment of the settlement amount assessed in paragraph 17 and any stipulated fines assessed pursuant to paragraph 18 of this Consent Order, the Company shall pay an interest penalty to the State of Michigan each time it fails to make a complete or timely
payment under this Consent Order. The interest penalty shall be determined at a rate of twelve percent (12%) per year compounded annually, using the full increment of amount due as principal, calculated from the due date specified in this Consent Order until the date that delinquent payment is finally paid in full. Payment of an interest penalty by the Company shall be made to the State of Michigan in accordance with paragraph 17 of this Consent Order. Interest payments shall be applied first towards the most overdue amount or outstanding interest penalty owed by the Company before any remaining balance is applied to subsequent payment amount or interest penalty.

21. The Company agrees not to contest the legal basis for the settlement amount assessed pursuant to paragraph 17. The Company also agrees not to contest the legal basis for any stipulated fines assessed pursuant to paragraph 18 of this Consent Order but reserves the right to dispute in a court of competent jurisdiction the factual basis upon which a demand by EGLE of stipulated fines is made. In addition, the Company agrees that said fines have not been assessed by EGLE pursuant to Section 5529 of Part 55, MCL 324.5529, and therefore are not reviewable under Section 5529 of Part 55.

22. This compliance program is not a variance subject to the 12-month limitation specified in Section 5538 of Part 55, MCL 324.5538.

23. This Consent Order shall remain in full force and effect for a period of at least five (5) years. Thereafter, this Consent Order shall terminate only upon written notice of termination issued by the AQD Director. Prior to issuance of a written notice of termination, the Company shall submit a request, to the AQD Director at the Michigan Department of Environment, Great Lakes, and Energy, Air Quality Division, P.O. Box 30260, Lansing, Michigan 48909-7760, consisting of a written certification that the Company has fully complied with all the requirements of this Consent Order and has made all payments including all stipulated fines required by this Consent Order. Specifically, this certification shall include: (i) the date of compliance with each provision of the compliance program and the date any payments or stipulated fines were paid; (ii) a statement that all required information has been reported to the AQD Detroit District Supervisor; (iii) confirmation that all records required to be maintained pursuant to this Consent Order are
being maintained at the Facility; and, (iv) such information as may be requested by the AQD Director.

24. In the event Marathon Petroleum Company, LP sells or transfers the Facility it shall advise any purchaser or transferee of the existence of this Consent Order in connection with such sale or transfer. Within thirty (30) calendar days, the Company shall also notify the Detroit District Supervisor, in writing, of such sale or transfer, the identity and address of any purchaser or transferee, and confirm the fact that notice of this Consent Order has been given to the purchaser and/or transferee. As a condition of the sale, Marathon Petroleum Company, LP must obtain the consent of the purchaser and/or transferee, in writing, to assume all of the obligations of this Consent Order. A copy of that agreement shall be forwarded to the AQD Detroit District Supervisor within thirty (30) days after assuming the obligations of this Consent Order.

25. Prior to the effective date of this Consent Order and pursuant to the requirements of Sections 5511 and 5528(3) of Part 55, MCL 324.5511 and MCL 324.5528(3), the public was notified of a 60-day public comment period and was provided the opportunity for a public hearing.

26. Section 5530 of Part 55, MCL 324.5530, may serve as a source of authority but not a limitation under which this Consent Order may be enforced. Further, Part 17 of the NREPA, MCL 324.1701 et seq., and all other applicable laws and any other legal basis or applicable statute may be used to enforce this Consent Order.

27. The Company hereby stipulates that entry of this Consent Order is a result of an action by EGLE to resolve alleged violations of its facility located at 1001 South Oakwood, City of Detroit, County of Wayne, State of Michigan. The Company further stipulates that it will take all lawful actions necessary to fully comply with this Consent Order, even if the Company files for bankruptcy in the future. The Company will not seek discharge of the settlement amount and any stipulated fines imposed hereunder in any future bankruptcy proceedings, and the Company will take necessary steps to ensure that the settlement amount and any future stipulated fines are not discharged. The Company, during and after any future bankruptcy proceedings, will ensure that the settlement amount and any future stipulated fines remain an obligation to be paid in full by the Company to the extent allowed by applicable bankruptcy law.
The undersigned certifies that he/she is fully authorized by the Company to enter into this Consent Order and to execute and legally bind the Company to it.

MARATHON PETROLEUM COMPANY, LP

Print Name and Title

Signature

Subscribed and sworn to by the above signatory before me on this __________ day of

____________________, 20____.

Notary Public Signature

Notary Public Printed Name

My Commission Expires

Approved as to Content:  

Mary Ann Dolehanty, Division Director
AIR QUALITY DIVISION
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES
AND ENERGY

Dated: _________________________

Approved as to Form:  

Neil Gordon, Section Head
ENVIRONMENTAL REGULATION SECTION
ENVIRONMENT, NATURAL RESOURCES,
AND AGRICULTURE DIVISION
DEPARTMENT OF ATTORNEY GENERAL

Dated: _________________________
FINAL ORDER

The Director of the Air Quality Division having had opportunity to review this Consent Order and having been delegated authority to enter into Consent Orders by the Director of the Michigan Department of Environment, Great Lakes, and Energy pursuant to the provisions of Part 55 of the NREPA and otherwise being fully advised on the premises,

HAS HEREBY ORDERED that this Consent Order is approved and shall be entered in the record of the EGLE as a Final Order.

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

____________________________
Mary Ann Dolehanty, Director
Air Quality Division

Effective Date: ____________________
Marathon Petroleum Company LP
Proposal for Supplemental Environmental Project

Introduction

Marathon Petroleum Company LP (MPC) proposes this Supplemental Environmental Project (SEP) to offset a portion of the cash civil penalty associated with an administrative enforcement matter commenced by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) and provide direct benefits to our surrounding community. MPC developed this SEP proposal in accordance with EGLE’s policies and guidance related to SEPs.

In developing this SEP proposal, MPC solicited feedback from community stakeholders including MPC’s Community Advisory Panel, community representatives from 48217, representatives from Detroit City Council, Detroit Public Schools (DPS), and the Sierra Club. Projects favored by community stakeholders focused on improving indoor air quality for school children attending the Mark Twain School for Scholars. As a result, community members proposed the installation of air cooling and filtration systems for classrooms at the school. In addition to this project, MPC plans to implement a project that will create an online platform for community members to access real-time air monitoring data from the refineries existing perimeter air monitoring system (PAMS).

Based on stakeholder feedback, and consistent with EGLE’s SEP policies, MPC proposes a SEP consisting of the two components summarized below. Appendices detailing the individual projects are attached.

<table>
<thead>
<tr>
<th>Project</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark Twain School for Scholars Air Cooling/Filtration</td>
<td>$226,000</td>
</tr>
<tr>
<td>EnviroSuite, Real-time Ambient Monitoring Data</td>
<td>$56,000</td>
</tr>
<tr>
<td>Total SEP Cost</td>
<td>$282,000</td>
</tr>
</tbody>
</table>

Appendices:

Appendix A – Mark Twain School for Scholars Air Filtration
Appendix A.1 – Expert Mechanical, Inc. Quote
Appendix B – EnviroSuite/Real-time Air Monitoring
Appendix B.1 – Real-Time Air Monitoring w/ Envirosuite Quote
Appendix C – Certification Letter of Expenditures by the Alleged Violator
Appendix A

1. **Entity Subject to the Enforcement Action:**
   
   Marathon Petroleum Company, Michigan Refining Division  
   1001 S. Oakwood, Detroit, MI 48217, Wayne County

2. **Regulatory Information**

   MPC is negotiating a settlement agreement with Michigan EGLE for several alleged violations of Michigan’s environmental statutes and rules occurring between 2017 and 2020. Specifically, EGLE alleges that the Company violated Mich. Admin Code R 336.1901 (Rule 901), R 336.1910 (Rule 910), and the conditions of Renewable Operating Permit No. MI-ROP-A9831-2012c. MPC proposes completing this SEP to offset a portion of the cash civil penalty and provide direct benefits to our surrounding community. MPC developed this SEP proposal in accordance with EGLE’s policies and guidance related to SEPs.

3. **Project Name**

   Mark Twain School for Scholars Air Cooling and Filtration

4. **Project Manager**

   Jeremy Beasley, Environmental Supervisor  
   1001 S Oakwood, Detroit, MI 48217  
   313-297-6346

5. **DEQ Contact Person**

   Erin Moran, Enforcement Unit  
   Air Quality Division  
   Michigan Department of Environment, Great Lakes, and Energy  
   517-284-6769

6. **Geographical Area to Benefit from the Project**

   Mark Twain School for Scholars  
   12800 Visger Street, Detroit, MI 48217, Wayne County

7. **SEP Categories**

   This project will fall into the Public Health SEP Category with a focus on preventative care. The project will improve air quality in the classrooms, which has been proven to directly impact the cognitive development of students. In developing this SEP proposal, MPC solicited feedback from community stakeholders including MPC’s Community Advisory Panel, community representatives from 48217, representatives from Detroit City Council, DPS, and the Sierra Club. The top priority for community representatives from area 48217 was improving indoor air quality for school children.
attending the Mark Twain School for Scholars and these community members proposed the retrofit of their current system to include air cooling / filtration systems for classrooms at Mark Twain.

8. Project Description

MPC is proposing a retrofit of the existing air handling system to include air conditioning, enhanced air filtration, and air purification using Photo Hydro Ionization (PHI) for the Mark Twain School for Scholars. Expert Mechanical, Inc. evaluated the equipment setup and developed a quote for furnishing centralized air conditioning equipment and upgrading the existing filtration equipment (Appendix A.1). The project will improve public health and reduce pollution while providing benefit to school age children within the community. Community representatives for 48217 and Sierra Club proposed this project to MPC.

The filters currently installed on the school’s air intake system are MERV 4 filters that have a < 20% efficiency and an arrestance rating that is 75% - 80%. Arrestance is a measure of the ability of an air filtration device to remove dust from the air. The enhanced air filtration installed will be a two-stage system. The pre-filter on the fresh air intake will use a MERV 8 filter, which has a 30-35% efficiency and arrestance rating >90%. This filter will extend the life of the 2nd stage filter. The 2nd stage filter will use a MERV 12/13 that removes >95% of airborne particles in the sub-micron range and has a 70-75% efficiency.

After filtration the air will be purified using PHI. These cells use UV light ray as a catalyst to react with a quad-metallic coated plate to produce hydro-peroxide, which targets airborne microbes such as bacteria, VOCs, odors, and mold. The PHI system is safe and widely used. This air treatment system will reduce respiratory triggers, mitigate health hazards, and reduce odors.

DPS will manage the ongoing maintenance of the system after installation. Filter replacements are assumed to be required twice annually but will need to be evaluated once installed. The cost of filter changeouts will increase $1.50 per filter compared to the current filters, which is approximately $200 per year. The PHI cells will need to be changed out at most every three years per manufacturer recommendations, and possibly every 4 or 5 years depending on use. Each changeout will cost $4,000-$5,000. The retrofitted AC system will cost approximately $7,100 per month to operate based on 8.5 cents per kW-hr. The system is expected to be used in April, May, August, and September (DPS administration staff utilizing the school during the summer). MPC has worked closely with DPS in developing and designing this project. DPS supports the project and will be able to operate and maintain the system. MPC will cover the cost of filter and PHI cell replacements for the duration of the administrative consent order of which this SEP is a part.

9. Expected Environmental Benefits

These units will benefit children Mark Twain School for Scholars by providing relief from allergens by removing sub-micron particles such as pollens and dust mites as well as chemicals and noxious gases. The project will improve air quality in the classrooms, which has been proven to directly impact the cognitive development of students.
10. Project Budget

<table>
<thead>
<tr>
<th>Description</th>
<th>Est. Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC Equipment for main fans #1 &amp; #2</td>
<td>$128,000</td>
</tr>
<tr>
<td>Furnish and install equipment, piping, supports, specialties, and sheet metal</td>
<td></td>
</tr>
<tr>
<td>Control Equipment for AC systems</td>
<td>$14,000</td>
</tr>
<tr>
<td>Furnish and install components, devices, and wiring</td>
<td></td>
</tr>
<tr>
<td>Mechanical Engineering of new systems</td>
<td>$8,000</td>
</tr>
<tr>
<td>Secure service of licensed professional engineer to design and ensure install of AC equipment</td>
<td></td>
</tr>
<tr>
<td>Structural Engineering of new roof supports</td>
<td>$8,000</td>
</tr>
<tr>
<td>Secure service of licensed professional engineer to design and ensure install of refrigeration equipment on roof</td>
<td></td>
</tr>
<tr>
<td>Improvement of existing air filtration systems</td>
<td>$18,000</td>
</tr>
<tr>
<td>Repairs and/or upgrades to existing filter racks. Addition of Photo Hydro Ionization Cells</td>
<td></td>
</tr>
<tr>
<td>Duct system survey and distribution re-balancing</td>
<td>$20,000</td>
</tr>
<tr>
<td>Issues exist with over- and under-heating of various areas of the school. This will be addressed and corrected.</td>
<td></td>
</tr>
<tr>
<td>Duct work cleaning</td>
<td>$15,000</td>
</tr>
<tr>
<td>Clean out duct work in building</td>
<td></td>
</tr>
<tr>
<td>Misc. Items</td>
<td>$15,000</td>
</tr>
<tr>
<td>Changes needed to correctly install system</td>
<td></td>
</tr>
<tr>
<td><strong>Project Total</strong></td>
<td><strong>$226,000</strong></td>
</tr>
</tbody>
</table>

a. For tax purposes, the company is a “C” Corporation.
b. Capital Cost of the project: $226,000
c. Useful life of capital equipment in years: Retrofitted system will last as long as maintenance is maintained, filters will require change out every 6 months, and PHI cells will require changeout every 3 years.
d. One-time, non-depreciable costs and whether they are tax deductible: $226,000, not deductible.
e. Annual operational cost of the project: Onsite engineer will complete required maintenance and filter replacements. It will cost approximately $7,100 per month for the Detroit Public Schools to operate the system. New filters will be an increase of approximately $200 to replace annually. MPC will pay for filter and PHI cell replacement costs for the duration of the administrative consent order of which this SEP is a part.

11. Project Schedule

MPC will complete the project in accordance with the following schedule:

a. Detailed Engineering to be completed on or before September 30, 2020;
b. Orders for all equipment to be placed on or before October 31, 2020;
c. Mechanical Completion and Startup on or before August 31, 2021;
12. Accounting

Purchase and installation will be tracked through invoices and receipts.

13. Reporting

MPC will submit a quarterly report to EGLE stating the progress and the amount spent. The first quarterly report will be submitted 90 days from the effective date of the administrative consent order of which this SEP is a part.

14. Prior Commitments and/or Regulatory Requirements - NA
November 19, 2019

Marathon Petroleum Company LLC.
1001 S. Oakwood
Detroit, MI 48217
Attention: Jeremy Beasley
Grace Poling

SUBJECT: Mark Twain School for Scholars, Air Conditioning and Filtration

Jeremy and Grace,

Per your request, Expert Mechanical Service, Inc is pleased to provide the following BUDGETARY options to furnish centralized air conditioning equipment and upgrade the existing filtration equipment. I’d like to take this opportunity to inform you that we have only take the beginning steps towards transforming this idea into a reality. At time of preparation we are lacking many key pieces of information required to provide accurate project costing. PLEASE NOTE involvement by both mechanical and structural engineering firms is suggested and will likely be required. Additionally, this budgetary proposal makes no allowances for electrical engineering or installation nor does it offer any assurances that sufficient power exists on site to handle the proposed additional equipment.

**AC Equipment for main fans #1 & #2:**
Furnish and install equipment, piping, supports, specialties and sheet metal for:
- One (1) 40 ton ac system for fan #1
- One (1) 20 ton ac system for fan #2

**BUDGETARY COST**…………………………………………………………………………………..$128,000.00
*(One Hundred Twenty-Eight Thousand Dollars)*

**Controls Equipment for AC systems:**
Furnish and install components, devices and wiring necessary for the proper operation of the new AC systems. This budget is for BASIC local controls and does not include any remote connections or building automation system integration.

**BUDGETARY COST**……………………………………………………………………………………$14,000.00
*(Fourteen Thousand Dollars)*
**Mechanical Engineering of new Systems:**
Secure services of licensed professional engineer to design new AC systems and ensure their installation is appropriate for the application and meets applicable code requirements.

**BUDGETARY COST**..........................................................$8,000.00
*(Eight Thousand Dollars)*

**Structural Engineering of new roof supports:**
Secure services of licensed professional engineer to design new supports and ensure their installation is appropriate for the application and meets applicable code requirements for installation of refrigeration equipment on the school’s roof.

**BUDGETARY COST**..........................................................$8,000.00
*(Eight Thousand Dollars)*

**Improvement of Existing Air Filtration Systems:**
Included are repairs and/or upgrades to both existing filter racks (fans 1&2). Also includes an allowance for the addition of Photo Hydro Ionization Cells to help with removal of odors from the air stream and building.

**BUDGETARY COST**.........................................................$18,000.00
*(Eighteen Thousand Dollars)*

**Duct System Survey and Distribution Re-Balancing:**
Per our onsite meeting with the building engineer issues exist with over and under heating of various areas of the school. These distribution issues, if not addressed and corrected will carry over to the cooling season and result in comfort issues.

**BUDGETARY COST**.........................................................$20,000.00
*(Twenty Thousand Dollars)*

**Not included in above scope of work**
1. Drawings and/or plan review.
2. Control of existing VFDs, steam coils, dampers or devices.
3. Any additional mechanical systems upgrades, repairs or modifications.
4. Repairs, calibration, modifications to any existing building control systems.
5. Electrical circuits, interconnecting conduits and wire.

**Availability**
Manufactures standard equipment lead time is 8 weeks no consideration given to holiday schedules at this time. Scheduling to be developed following acceptance and finalization of the system designs.
**Hours of work**
This proposal assumes free access to the site to perform our work within normal working hours, 8:00 a.m. - 4:30 p.m., Monday through Friday. No allowance given for off-shift, premium or holiday work.

**TERMS**
Net 30 days.

Respectfully,

*Expert Mechanical Services, Inc.*

Kelly J. O’Brien
General Manager

If this is agreeable to you, please sign and return one copy to our office.

**AC Equipment for main fans #1 & #2:**
Accepted for: Marathon Petroleum  Work Order No. _____________ S.S. _______________
By: ___________________________  Date: ____________

**Controls Equipment for AC systems:**
Accepted for: Marathon Petroleum  Work Order No. _____________ S.S. _______________
By: ___________________________  Date: ____________

**Mechanical Engineering of new Systems:**
Accepted for: Marathon Petroleum  Work Order No. _____________ S.S. _______________
By: ___________________________  Date: ____________
Structural Engineering of new roof supports:
Accepted for: Marathon Petroleum  Work Order No. ______________  S.S._______________
By: _________________________________  Date: ____________

Improvement of Existing Air Filtration Systems:
Accepted for: Marathon Petroleum  Work Order No. ______________  S.S._______________
By: _________________________________  Date: ____________

Duct System Survey and Distribution Re-Balancing:
Accepted for: Marathon Petroleum  Work Order No. ______________  S.S._______________
By: _________________________________  Date: ____________
Appendix B

1. **Entity Subject to the Enforcement Action:**

   Marathon Petroleum Company, Michigan Refining Division  
   1001 S. Oakwood, Detroit, MI 48217, Wayne County

2. **Regulatory Information**

   MPC is negotiating a settlement agreement with Michigan EGLE for several alleged violations of Michigan’s environmental statutes and rules occurring between 2017 and 2020. Specifically, EGLE alleges that the Company violated Mich. Admin Code R 336.1901 (Rule 901), R 336.1910 (Rule 910), and the conditions of Renewable Operating Permit No. MI-ROP-A9831-2012c. MPC proposes completing this SEP to offset a portion of the cash civil penalty and provide direct benefits to our surrounding community. MPC developed this SEP proposal in accordance with EGLE’s policies and guidance related to SEPs.

3. **Project Name**

   Envirosuite, Real-time Environmental Data

4. **Project Manager**

   Jeremy Beasley, Environmental Supervisor  
   1001 S Oakwood, Detroit, MI 48217  
   313-297-6346

5. **DEQ Contact Person**

   Erin Moran, Enforcement Unit  
   Air Quality Division  
   Michigan Department of Environment, Great Lakes, and Energy  
   517-284-6769

6. **Geographical Area to Benefit from the Project**

   Direct benefit to refinery surrounding communities, including Melvindale, Dearborn, River Rouge and Metro Detroit.

7. **SEP Categories**

   This project will fall into the Emergency Planning and Preparedness SEP Category. Envirosuite will be a clear communication system between the plant and the community. It will be a tool that the community can utilize to view information that can help them be more informed about real-time emissions that could impact them.
8. **Project Description**

Envirosuite is a software platform that can provide real-time environmental data from the Detroit Refinery that can be accessed by the community using the Detroit Refinery community website (www.detroitrefinery.com). A dashboard will be provided that has real-time and historic air quality data compared to national air quality limits. Data would be provided by the existing four PAMS that monitor carbon monoxide (CO), particulate matter (PM), sulfur dioxide (SO2) and total reduced sulfur (TRS) at the facility boundaries. Results for volatile organic compounds (VOC), though not available in real-time, will also be reported on the community website. Through this SEP, MPC commits to maintaining this platform for a minimum of three years.

9. **Expected Environmental Benefits**

Use of the Envirosuite software is innovative and will benefit the public by providing real-time data at the refinery perimeter to address concerns related to a refinery emergency event or day-to-day operations. The tool would indicate wind direction and concentration levels that would lead to increased action by vulnerable individuals that are sensitive to odors or air contaminants. It would be an enhancement to emergency preparedness procedures that are utilized in the surrounding communities, such as the existing ozone information provided by EGLE’s Air Now website. This tool could also be utilized by EGLE and MPC to support investigation efforts.

10. **Project Budget**

<table>
<thead>
<tr>
<th>Costs</th>
<th>Cost per year</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of the System</td>
<td>$27,500</td>
<td>$27,500</td>
</tr>
<tr>
<td>Annual Fee (3 years)</td>
<td>$9,500</td>
<td>$28,500</td>
</tr>
<tr>
<td><strong>Total Project Cost:</strong></td>
<td></td>
<td>$56,000</td>
</tr>
</tbody>
</table>

- a. For tax purposes, the company is a “C” Corporation.
- b. Capital Cost of the project: $56,000.00
- c. Useful life of capital equipment in years: Online system
- d. One-time, non-depreciable costs and whether they are tax deductible: $27,500; not deductible.
- e. Annual operational cost of the project: $9,500

11. **Project Schedule**

Development of the Envirosuite project will begin within 30 days of the effective date of the administrative consent order of which this SEP is a part. The site will be fully operational and available to the community by December 31, 2020.

12. **Accounting**

Purchase and installation will be tracked through invoices/receipts.
13. Reporting

MPC will submit a quarterly report to EGLE stating the progress and the amount spent. The first quarterly report will be submitted 90 days from the effective date of the administrative consent order of which this SEP is a part.

14. Prior Commitments and/or Regulatory Requirements - NA
MARATHON DETROIT REFINERY COMMUNITY ENGAGEMENT AND AIR QUALITY MANAGEMENT PLATFORM

Detroit, Michigan

Scott Evans
Vice President, Consulting Services

CleanAir Proposal No. 41427
Revision 1, Final Proposal
October 9, 2019
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1. **INTRODUCTION**

CleanCloud is Clean Air Engineering’s environmental measurement platform that provides web and mobile access to data obtained from discrete and continuous measurements. CleanCloud’s configurable real time alerts (text, email) enable users to eliminate downtime by responding quickly when devices are not operating as desired. Raw measurement data are stored on CleanCloud and processed according to specific client requirements such as specific data quality flags and averaging periods. The platform also functions as a central location for communication with CleanAir (e.g., scheduling on-site testing, questions about devices or data management).

After undergoing a rigorous evaluation by Marathon IT personnel in Findlay, CleanCloud has been approved for use at Marathon facilities and already has single sign on (SSO) configured for Marathon users. The CleanCloud platform is fully configurable to each site’s characteristics.

This proposal describes an air quality management solution to help Marathon Petroleum understand the dynamics of emissions from the Detroit Refinery, and be able to share certain air quality information and analysis with its community.

Once the proposed system is deployed, it will be possible to add sensors; other refinery emission sources; or additional CleanCloud and/or Envirosuite software modules to the platform as the needs evolve (these additions, if needed, shall be the subject of another proposal).

---

2. **PROJECT OVERVIEW**

Clean Air Engineering is pleased to present the following proposal requested by Marathon Petroleum, Detroit Refinery for services related to Perimeter Ambient Monitoring Station (PAMS) data streaming for community engagement.

Marathon Petroleum has invited Clean Air Engineering (CleanAir) to scope an integrated real-time community engagement and air quality management solution, incorporating the CleanCloud services already available to the refinery.

---
3. **SCOPE OF WORK**

The scope of work includes:

- Integrate PAMS data to CleanCloud and set up public website to display data. This can be accomplished with the CleanCloud infrastructure already available to the plant.
- CleanCloud has already been evaluated and approved for use by Marathon IT in Findlay. It is accessible to Marathon personnel using their existing Marathon log-in (single sign on).
- Maintain and run the system for an agreed period.
- Train project team and Marathon Petroleum stakeholders to use the system for data analysis.

---

4. **PROPOSED SOLUTION**

This project proposes a solution that consists of two main components:

1. the hardware sensor network, and
2. the software data visualization and analysis platform.

This high-level architecture is illustrated below:

**Figure 4-1:**
**Hardware and Software Components**

THE HARDWARE SENSOR NETWORK

The monitoring hardware to be integrated in the system will include:

- Continuous PAMS network (4 x stations measuring up to 5 individual contaminants).
- At least one weather station, located on the site, with built-in communications.

The measurements from the above instruments will be used as input into CleanCloud. Pricing assumes that data will be available from a DCS or PI system and that collecting individual analyzer data streams will not be necessary.

Clean Air will be responsible for integrating the PAMS network and meteorological station into CleanCloud for the project.

Clean Air will be responsible for setting up and maintaining a public website that displays the PAMS data.

WEATHER STATION

A reliable weather station is necessary on site so that weather data can be used to better understand the dynamics of emissions coming from the site.

The weather station should be installed in an open area, where the air flowing past the sensors is not influenced by tall structures. A tower to mount the weather station is preferred so that wind conditions at 10 m above the ground can be measured.

The data from the weather station will be sent to the CleanCloud server using a reliable data feed. The weather station will collect data on the following parameters:

- Wind speed
- Wind direction
- Temperature
- Rainfall
- Barometric pressure
- Humidity
- Solar radiation (if available)

THE SOFTWARE PLATFORM

CleanCloud is an environmental measurement platform focused on data quality for discrete testing (e.g., stack testing) and continuous measurement (e.g., weather stations, CEMS, ambient monitoring stations). The platform provides users access to their data and is a tool for CleanAir personnel to monitor and proactively address measurement concerns. CleanCloud provides flexibility for users to specify data quality and averaging requirements as well as configurable thresholds for real-time alarms and notifications.
PAMS DATA PUBLIC WEBSITE

CleanAir will design a public facing webpage that contains an interactive display of the PAMS and weather station data. Figure 4-2 is a preliminary example of what the webpage could look like. The pages and interactive display can be customized based on feedback from Marathon and the Detroit community.

Figure 4-2: Example of Public Facing Webpage Design
5. **SCOPE OF INCLUDED SERVICES**

The following services tasks would be included in the scope of work:

- System configuration, validation, and commissioning
- Online training
- Remote technical support

6. **FEES**

The proposed fees for the Scope of Work are provided in the tables below. Adding additional sensors or other CleanCloud services would require further scoping to produce a fee estimate.

**CONFIGURATION FEES**

<table>
<thead>
<tr>
<th>Item</th>
<th>Total Fees (USD$)</th>
<th>Notes</th>
</tr>
</thead>
</table>
| PAMS Public Data Website | $ 27,500          | Includes:
|                        |                   | • Integration of data feeds into CleanCloud platform including:
|                        |                   |   o 4 PAMS Monitors
|                        |                   |   o 2 Weather Stations
|                        |                   | • Set up of Public Data Website including:
|                        |                   |   o Custom webpage design
|                        |                   |   o Custom, interactive interface for real-time data display          |
| TOTAL ONE-TIME FEES (USD$) | $ 27,500          |                                                                      |

**RECURRING ANNUAL SUBSCRIPTION FEES**

<table>
<thead>
<tr>
<th>Item</th>
<th>Total Fees (USD$)</th>
<th>Notes</th>
</tr>
</thead>
</table>
| PAMS CleanCloud subscription | $ 9,500 / year    | CleanCloud solution including:
|                        |                   | • PAMS QA/QC
|                        |                   | • Configurable Realtime alerts
|                        |                   | • Reporting
|                        |                   | • Training and ongoing support                                        |
| TOTAL RECURRING FEES (USD$) | $9,500 / year     |                                                                      |
PLEASE NOTE THE FOLLOWING:

1. The initial term for this project is 12 months after configuration and system access is provided.
2. Travel expenses related to in-person training are not included and will be billed separately to the client.
3. Configuration fees are invoiced when access credentials are issued to client.
4. Subscription fees are invoiced quarterly in advance, from the date that access credentials are issued to client.
5. All invoices are payable net 30 days.

End of Section

7. TRAINING

To properly use and understand the CleanCloud platform, training for all users is required. Please allow 1-2 hours for a training session once configuration and validation are completed. The training is to be delivered online via remote web conferencing sessions. The training is done once the platform is installed and commissioning is completed.

End of Section
December 16, 2019

Ms. Erin Moran, Enforcement Unit
Michigan Department of Environment, Great Lakes & Energy
Air Quality Division
3058 W. Grand Boulevard
Suite 2300
Detroit, MI 48202

RE: Detroit SEP Proposal

Dear Ms. McLemore:

This is to certify that the proposed SEP is solely attributable to the settlement of the current enforcement action and that the only money budgeted to the projects prior to the approval was due to the Consent Decree. The proposed projects are not funded by grants, donations, low interest loans, or other sources of funding not attributable to MPC’s budgetary process. Also, the proposed projects are not being done, nor will receive credit, as part of an environmental incentive or awards program offered by local, state, or federal government, industry, etc.

Sincerely,

Marathon Petroleum Company LP

[Signature]
Mrs. Honor Sheard, Hess Manager

[Signature]
Mr. Jim Joaquin, Division Controller
March 10, 2020

Marathon Petroleum Company LP
1001 S. Oakwood
Detroit, MI 48217
Attn: Jeremy Beasley

Dear Mr. Beasley,

This letter is to express the support of Detroit Public Schools Community District (DPSCD) for Marathon Engineering to install a new HVAC system at Mark Twain School for Scholars.

The District’s most recent facilities assessment reported $1.5 billion dollars in capital improvement needs by 2023. As we continue to problem solve and think more creatively yet sensibly to address this need, the District created a plan to address years of deferred maintenance by using surplus dollars to attend to safety-to-life concerns and by shifting students to other District properties with better learning conditions. Mark Twain is a staple in the 48217 community, and movement is not an option for most of these students, however, the school’s projected capital needs total over $17 million dollars by 2023. These needs include air conditioning and a high-quality air filter connected to the building’s ventilation system.

We recognize that DPSCD cannot singularly address facility concerns. School-community partnerships are essential to providing support around school improvements. Ideally, organizations that partner with the District around facility improvements should have a firm commitment to the schools in their communities and a vested interested in the health and welfare of students. Marathon has proven to be a long-standing partner of Mark Twain School for Scholars. The company has now agreed to facilitate the HVAC work at the school, including site surveys, feasibility studies, purchase of materials and permits and providing the engineering and construction needed to complete the aforementioned mechanical installations.

We believe that the improvements related to this investment will create a more optimal learning environment for our Mark Twain Scholars.

Sincerely,

Nikolai P. Vitti, Ed.D.
Superintendent