

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 students 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 refinery's existing perimeter air monitoring system.

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.

Project	Total Cost
Mark Twain School for Scholars Air Cooling/Filtration	\$500,000
Montrose Public Website for Real-Time Ambient Monitoring Data	\$39,760
Total SEP Package	\$539,760
Minimum SEP Expenditure (per Consent Order)	\$282,000

Appendices:

Appendix A – Mark Twain School for Scholars Air Cooling and Filtration

Appendix A.1 – JDI Feasibility Report

Appendix B – Montrose Public Website for Real-Time Air Monitoring

Appendix B.1 – Montrose 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. EGLE Contact Person

Erin Moran, Enforcement Unit
Air Quality Division
Michigan Department of Environment, Great Lakes, and Energy
517-275-0883

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 the 48217 ZIP code 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 and filtration systems for classrooms at Mark Twain.

8. Project Description

MPC will retrofit the existing air handling system at Mark Twain School for Scholars to include air conditioning, enhanced air filtration, and air purification using Global Plasma Solution Needlepoint Bipolar Ionization (NPBI). The JDI Group (JDI) 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 the 48217 ZIP code and Sierra Club proposed a project to improve indoor air quality at Mark Twain School for Scholars.

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 higher the percentage the better). This project will use MERV 8 and MERV 13 filters in series on the combined fresh air and recirculated air supply. MERV 8 filters have a 30-35% efficiency and arrestance rating >90%. MERV 13 filters have a 70-75% efficiency and arrestance rating of >95%. The MERV 8 filters will be placed in front of the MERV 13 filters. This is recommended to help extend the useful life of the MERV 13 filters by removing a portion of the particles from the air so they will not become entrained on the MERV 13 filters. Also, the MERV 13 filter cost is significantly higher than the MERV 8, so using the dual filters is more cost effective.

Filters will be replaced at a minimum every 6-months for the MERV 8 and every 12-months for the MERV 13. However, this is general guidance and the true frequency of changeout may be shortened as determined by the pressure drop of the filter system. Pressure drop is a comparison of the pressure on the inlet vs. the outlet of the filters and is an indication of particles being built up on the filters and is measured in inches of water column (w.c.). Pressure drop increases over time as particles build up on the filter. This build up is referred to as "filter-cake" as the particles "cake" onto the filter. As filter-cake increases, the overall filtration capability of the filters increases due to the flow being more restricted, which results in more particles becoming entrained on top of other particles. The restriction in flow requires the HVAC fan to run harder in order to maintain a predetermined air turnover rate. To protect the fan motor from being damaged due to running harder over an extended period of time, a predetermined pressure drop (e.g. 0.4" w.c.) will be recommended by the engineering company designing the retrofitted HVAC system. This pressure drop will be monitored by a differential pressure gauge and the output will be tracked by the school's Maintenance Engineer on a log (provided by Marathon) and will be communicated to Marathon on a monthly basis so that replacement filters can be provided as needed.

After filtration the air will be purified using NPBI. NPBI uses ionization technology to safely introduces ions into the air stream. These ions, both positively and negatively charged, bind with particles of opposite polarity (charge) in the air, which allows the particles to combine with other particles in the air to form clusters. The cluster is larger than the individual particles, which makes them easier to catch in the filtration system. The ions also interact with pathogens to disrupt the surface proteins, which renders them inactive. This system is also effective at eliminating volatile organic compounds (VOCs) and odors by breaking them down into harmless compounds. Most importantly, this system is certified ozone-free.

DPS will manage the ongoing maintenance of the air cooling and filtration system after installation. Filter replacements will occur a minimum of twice per year for MERV 8 filters and annually for MERV 13 filters; however, changeout frequency may be sooner if the pressure drop reaches the recommended limit prior to the scheduled changeout. The minimum cost of filter changeouts will be approximately \$700 / yr for the MERV 8 filters and approximately \$5,600 / yr for the MERV 13 filters. The NPBI is low maintenance and will require an annual inspection. For the duration of the administrative consent order of which this SEP is a part, MPC will provide all replacement filters to the schools Maintenance Engineer, along with written instructions regarding how to change out the filters. MPC will also provide an annual inspection of the NPBI system prior to the beginning of each school year. Based on results from the inspection, MPC will cover the costs associated with maintenance of the NPBI system.

The retrofitted air cooling 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.

9. Expected Environmental Benefits

This project will benefit the students, teachers, and staff of 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

Work	Detail	Cost
AC Equipment for main fans #1 & #2 (40 ton and 115 ton units)	Furnish and install equipment, piping, supports, specialties, and sheet metal	\$221,000
Control Equipment for AC systems	Furnish and install components, devices, and wiring	\$14,000
Detail design of new systems including City permit	Secure service of licensed professional engineer to design and ensure install of AC equipment	\$40,000
Concrete pad and fencing	Secure service of licensed professional engineer to design and ensure install of refrigeration	\$20,000
Improvement of existing air filtration systems	Repairs and/or upgrades to existing filter racks. Addition of GPS NPBI	\$30,000

Maintenance	Detail	Cost
Replacement Filters	MERV 8: Provide replacement filters every 6 months*	\$350 per changeout; \$9.07 per filter
	MERV 13: Provide replacement filters every 12 months*	\$5,600 per changeout; \$151.11 per filter
Annual inspection of GPS NPBI	Provide annual inspection and cleaning of GPS NPBI	\$1,500
Electrical work	Providing new panel and power feed to condensers and controls	\$90,000
Duct work cleaning	Clean out duct work in building	\$15,000
Misc Items	Construction Management, equipment, rental, scaffolding, etc.	\$70,000
Project Total		\$500,000

*minimum changeout frequency based on engineering recommendation, but will be adjusted if pressure drop indicates a change is necessary

- a. For tax purposes, the company is a "C" Corporation.
- b. Capital Cost of the project: \$500,000
- c. Useful life of capital equipment in years: Retrofitted system will last as long as maintenance is maintained, MERV 8 filters will require change out at a minimum every 6 months, and MERV 13 filters will require change out at a minimum every 12 months
- d. One-time, non-depreciable costs and whether they are tax deductible: \$500,000, 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 DPS to operate the air filtration and cooling system. New filters will cost approximately \$6,300 to replace annually.

11. Project Schedule

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

- a. Detailed Engineering to be completed by October 31, 2020;
- b. Orders for all equipment to be placed by December 31, 2020;
- c. Equipment to be procured by April 21, 2021;
- d. Construction and mechanical completion / startup by August 31, 2021.

12. Accounting

Purchase and installation will be tracked through receipts.

13. Reporting

Until the installation of the air cooling and filtration system is complete, MPC will submit quarterly reports to EGLE. 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. Each report will at a minimum contain the following information:

- Progress updates on the project (based on Project Schedule).
- Total financial spend on the project.
- Any changes that might impact spend, deadlines, or project scope.

Upon completion of the installation of the air cooling and filtration system, MPC will transition to semi-annual reports, which will be submitted no later than March 15th and September 15th of each calendar year for the duration of the administrative consent order of which this SEP is a part. Each report will at a minimum contain the following information:

- Status of filter changeouts (e.g. copy of the pressure drop log, dates replacement filters provided to the school and dates filter replacements occurred).
- Any preventative maintenance records for which MPC is involved with (i.e. inspection of purification system, filters banks, etc.).
- Any system modifications that stem from periodic inspections performed by MPC.
- Any information that is relevant to the ongoing performance of this system.

Upon completion of the SEP, MPC shall submit a final report that includes:

- Appropriate documentation to verify total expenditures as a result of implementing the activities, such as invoices, receipts, records.
- To the extent possible, documentation supporting the quantification of benefits associated with the SEP and an explanation of how such benefits were measured or estimated.

14. Prior Commitments and/or Regulatory Requirements - NA



Nikolai P. Vitti, Ed. D.
Superintendent
Office of Superintendent

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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 interest 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,

A handwritten signature in black ink, appearing to read "N. Vitti", is written over the word "Sincerely,".

Nikolai P. Vitti, Ed.D.
Superintendent