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# Marathon Petroleum Company LP

## RESPONSE TO COMMENTS DOCUMENT

January 11, 2012

PERMIT Nos. 63-08C, 197-10A, 96-11, 142-11, and 148-11

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Rick Snyder, Governor

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## I. PUBLIC PARTICIPATION PROCESS

The public participation process was conducted for the following Permit to Install (PTI) applications for Marathon Petroleum Company LP:

- PTI application No. 197-10A is for the proposed installation and operation of a truck loading rack for asphalt cement located at 301 South Fort Street, Detroit, Michigan.
- PTI application No. 63-08C is for proposed minor changes in the scope of the Detroit Heavy Oil Upgrade Project (DHOUP) located at 1300 South Fort Street, Detroit, Michigan.
- PTI application No. 96-11 is for the proposed installation and operation of two storage tanks located at 1300 South Fort Street, Detroit, Michigan.
- PTI application No. 142-11 is for the proposed installation and operation of a railcar loading operation for asphalt cement located at 1300 South Fort Street, Detroit, Michigan.
- PTI application No. 148-11 is for the proposed installation and operation of a barge loading operation for asphalt cement located at 1300 South Fort Street, Detroit, Michigan.

The public participation process involved providing information for public review including a fact sheet, proposed permit terms and conditions, a public comment period, an informational meeting, a public hearing, and the receipt of written and verbal public comments on staff's analysis of the applications and the proposed permits.

On November 2, 2011, copies of the Notice of Air Pollution Comment Period and Public Hearing, the Fact Sheet, and the draft terms and conditions were placed on the Department of Environmental Quality (DEQ or Department), Air Quality Division (AQD) Home Page (<http://www.michigan.gov/air>). Also on that date, the AQD mailed 33 letters to persons who had previously expressed interest via letter and had provided a complete address. In addition, a notice announcing the Public Comment Period, Public Informational Meeting, and Public Hearing was placed in the *Michigan Chronicle*. The notice provided pertinent information regarding the proposed actions; the locations of available information; a telephone number to request additional information; the date, time, and location of the Public Informational Meeting and Public Hearing; the closing date of the Public Comment Period; and the address where written comments were being received.

The Informational Meeting was held on December 7, 2011, at the Kemeny Center Gymnasium, 2260 Fort Street, Detroit, Michigan. This location was selected due to its proximity to the facility and the size of the room. Approximately ten people attended the Informational Meeting. A panel of representatives from the AQD was available to answer questions regarding the proposed projects. The meeting began at approximately 6:10 PM and concluded at approximately 7:10 PM.

The Public Hearing was held on December 7, 2011, at the Kemeny Center Gymnasium, 2260 Fort Street, Detroit, Michigan. The hearing began at 7:15 PM with Ms. Barbara Rosenbaum as the Hearings Officer and Mr. Vinson Hellwig as the decision maker. Only comments on the proposed permit actions were received. In addition, staff of the AQD was available outside the room to answer any questions. Approximately 16 people were in attendance at the Public Hearing with three providing oral comments. The Public Hearing concluded at 7:43 PM.

A total of approximately four written comments were received during the Public Comment Period and the hearing.

The remainder of this document is a listing of the significant comments received during the public comment period and hearing regarding the proposed permits and the Department's response. The first section discusses the comments received that resulted in changes to the final permit terms and conditions and the basis for each change. The last section discusses the Department's response to all other significant comments that did not result in changes to the final permits.

## II. SUMMARY OF COMMENTS RESULTING IN CHANGES TO THE PERMIT

### Comment

For the truck loading rack, please explain how the monitoring will assure compliance with the VOC emission limit. How will the carbon adsorption efficiency be monitored, how often, and how will emissions be calculated?

### AQD Response

The permit conditions for the truck rack (PTI No. 197-10A) require that the carbon adsorption system be "installed, maintained, and operated in a satisfactory manner." The condition further says that satisfactory operation of the carbon adsorption system includes maintaining and operating the system according to the approved malfunction abatement plan (MAP). In order to ensure that carbon adsorber efficiency is addressed in the MAP, the AQD has added Special Condition III.3 to the permit conditions. Note that the emission limits and analysis of emission impacts before the "improved capture system" is implemented do not rely on emission reduction by the carbon adsorption system.

### Condition Change

In section III, Process/Operational Restrictions:

3. Before conducting the demonstration required by SC V.1, and no later than 90 days after issuance of Permit to Install No. 197-10A, the permittee shall submit amendments to the MAP to the AQD District Supervisor to address the following. **(R 336.1225, R 336.1702(a), R 336.1911)**
  - a. Monitoring the carbon adsorption system to maintain at least 95% emission control effectiveness for VOC and hydrogen sulfide emissions.
  - b. Timely replacing the carbon in the carbon adsorption system to maintain at least 95% emission control effectiveness for VOC and hydrogen sulfide emissions.

Comment

How does the 45% capture efficiency for the truck load rack ensure that the source will meet the volatile organic compound (VOC) emission limit of 9.8 tons per year?

AQD Response

The permit application, when combined with the spreadsheet in the electronic record, includes complete details of emission calculations. The calculation of uncontrolled emissions from loading trucks relied on emission calculation methods published by the US Environmental Protection Agency. See Equation (1) in Section 5.2 of AP-42, Fifth Edition, *Compilation of Air Pollutant Emission Factors, Volume 1*. This section's title is "Transportation and Marketing of Petroleum Liquids." Based on these methods and the annual throughput limit for the truck loading rack, the uncontrolled annual VOC emissions are 17.0 tons per year. Applying 45% capture and 95% control of the captured emissions results in calculated emissions just under 9.8 tons per year, as shown below. Rounding up provides the emission limit of 9.8 tons per year.

$$17.0 \times [(1 - 0.45) + 0.45 \times (1 - 0.95)] = 9.73$$

In reviewing this comment, the AQD determined that the permit conditions did not address VOC emissions in an enforceable manner during the period when some truck lanes would have the improved capture system installed and some would not. The AQD also determined that the permit conditions did not address hydrogen sulfide emissions in an enforceable manner during this period. To address this, four conditions were added to the permit, two to restrict throughput during this period and two to require record-keeping for these new throughput restrictions.

Condition Change

Section II, Material Limits, now contains the following additional conditions:

3. After the AQD has approved the demonstration of satisfactory performance required by SC V.1 and until implementation of the improved capture system on all eight bays of EU\_Aspalt, the permittee shall limit the calendar day throughput on the bays without improved capture, in gallons, according to the mathematical statement below. **(R 336.1225)**

$$\text{Uncapt\_DailyMax} \leq 724,000 \times \left( 1 - \frac{\text{Capt\_DailyActual}}{4,608,000} \right)$$

Where:

Uncapt\_DailyMax = Maximum allowed calendar day throughput on all bays without improved capture, in gallons

Capt\_DailyActual = Calendar day throughput on all bays with improved capture, in gallons

4. After the AQD has approved the demonstration of satisfactory performance required by SC V.1 and until implementation of the improved capture system on all eight bays of EU\_Aspalt, the permittee shall limit the rolling 12-month time period throughput on the bays without improved capture, in gallons, according to the mathematical statement below. **(R 336.1225, R 336.1702(a))**

$$\text{Uncapt\_AnnualMax} \leq \frac{9.8 \times 724,000 \times 365}{11.23} \times \left( 1 - \frac{\text{Capt\_AnnualActual}}{400,000,000} \right)$$

Where:

Uncapt\_AnnualMax = Maximum allowed rolling 12-month time period throughput on all bays without improved capture, in gallons

Capt\_AnnualActual = Rolling 12-month time period throughput on all bays with improved capture, in gallons

In section VI, Monitoring/Recordkeeping, the following conditions were added:

6. After the AQD has approved the demonstration of satisfactory performance required by SC V.1 and until implementation of the improved capture system on all eight bays of EU\_Aspphalt, the permittee shall record the following each calendar day, in a satisfactory manner. The permittee shall keep all records on file at the facility and make them available to the Department upon request.<sup>1</sup> **(R 336.1225)**
  - a. The amount of asphalt cement loaded during the calendar day for all EU\_Aspphalt bays with improved capture.
  - b. The amount of asphalt cement loaded during the calendar day for all EU\_Aspphalt bays without improved capture.
  - c. The calculated maximum allowed calendar day throughput according to the mathematical statement in SC II.3.
7. After the AQD has approved the demonstration of satisfactory performance required by SC V.1 and until implementation of the improved capture system on all eight bays of EU\_Aspphalt, the permittee shall record the following monthly, in a satisfactory manner. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1225, R 336.1702(a))**
  - a. The amount of asphalt cement loaded for all EU\_Aspphalt bays with improved capture during the month and the rolling 12-month time period ending that month.
  - b. The amount of asphalt cement loaded daily for all EU\_Aspphalt bays without improved capture during the month and the rolling 12-month time period ending that month.
  - c. The calculated maximum allowed rolling 12-month time period throughput according to the mathematical statement in SC II.4.

### Comment

While reviewing the comments received during the public comment period, the AQD found three typographical errors in the draft permit conditions for PTI No. 197-10A. Special Conditions I.1, VI.4, and VI.5 erroneously referenced footnote "1." Footnote "1" states that a condition is "state only enforceable and was established pursuant to Rule 201(1)(b)." In fact, all three of these conditions have Rule 702(a) [R 336.1702(a)] as an applicable requirement, and this footnote does not apply.

### AQD Response

The AQD has removed the erroneous footnote references.

Comment

While reviewing the comments received during the public comment period, the AQD found a typographical error in the draft permit conditions for PTI No. 63-08C. The name of the flexible group for the refinery flares was not consistent throughout the draft conditions. It was identified as “FGREFINEFLARES”, “FG-REFINEFLARE”, and “FG-REFINEFLARES”.

AQD Response

This error was corrected and the flexible group is now referred to as “FGREFINEFLARES” throughout the permit conditions.

Condition Change

The mis-typed references in the flexible group identification table and in the footnotes in the tables in sections G and H of Appendix B have been changed to refer to FGREFINEFLARES.

**III. SUMMARY OF SIGNIFICANT COMMENTS**

**A. Public Health and Environment Concerns**

Comment:

There is a need for an analysis of the cumulative impacts of multiple emission sources. The Marathon project should be considered and reviewed after conducting a cumulative study of all the sources and types of emissions in the area.

AQD Response:

The cumulative impacts of air pollutants have been evaluated in several ways. First, the cumulative levels of each of EPA’s six “criteria pollutants” are evaluated by ambient air monitoring at several locations in Wayne County ([http://www.michigan.gov/deq/0,4561,7-135-3310\\_4195---,00.html](http://www.michigan.gov/deq/0,4561,7-135-3310_4195---,00.html)). The six criteria pollutants are carbon monoxide, lead, sulfur dioxide, ozone, nitrogen dioxide and fine particulate matter. The monitored cumulative impacts of all emission sources are compared to the national ambient air quality standards which are protective of the public health. The data show that all of the standards are being met, except for sulfur dioxide at W. Fort Street (Southwestern High School). If the EPA determines that the area is not meeting that standard, the AQD will take steps to ensure that the air quality is improved and will meet the standard. The Marathon permits that are being acted on do not significantly cause or contribute to elevated sulfur dioxide levels.

Air pollutants that are not among the six “criteria pollutants” are referred to as “air toxics”. The cumulative impacts of air toxics in Detroit have been evaluated by the AQD and EPA, based on either air quality monitoring studies or emissions data and modeling exercises ([http://www.michigan.gov/deq/0,1607,7-135-3310\\_4105-139044--,00.html](http://www.michigan.gov/deq/0,1607,7-135-3310_4105-139044--,00.html); [www.epa.gov/ttn/atw/nata2005/](http://www.epa.gov/ttn/atw/nata2005/); [www.epa.gov/dears](http://www.epa.gov/dears)). The Detroit air pollutant levels are typical for large urban areas in the U.S., due to mobile source and industrial emissions. The concerns that have been identified by these studies indicate room for improvement. However, they do not

indicate a significant public health hazard in Detroit or suggest that identifiable health effects would be observable in the community due to air toxics.

The AQD operates four air toxics monitors within about three miles of Marathon. EPA's assessment of air toxics emissions and modeled impacts includes all census tracts, including all census tracts near the Marathon facility. The air toxics studies indicate that the cumulative lifetime air pollution cancer risk is about 1 in 10,000, which is typical for large cities in the U.S. The data do not suggest that respiratory or nervous system effects would be expected. The proposed changes at Marathon would involve very small increases in VOC emissions due to the "rag layer" storage tanks and the DHOUP changes, and reduced emissions and air impacts of VOCs and air toxics from the asphalt cement transfer operations. Marathon also has committed to increased monitoring and repair of leaking components as part of the DHOUP permit, which will tend to reduce VOC and air toxics emissions. The Marathon projects being acted on would not have a significant negative effect on cumulative air pollution nearby.

EPA has recently performed a limited amount of monitoring for cumulative hydrogen sulfide levels in the general vicinity. They determined that a localized hotspot of elevated hydrogen sulfide occurred south of the Detroit Water and Sewerage Department's (DWSD) plant at 9300 W. Jefferson in Detroit. EPA has ordered DWSD to take specific steps to correct the problem.

In the near future, our ability to evaluate cumulative air pollution near Marathon will be significantly improved by the addition of four new monitors located northwest, west, and northeast of the facility, and at the Mark Twain Academy. These will monitor for sulfur dioxide, carbon monoxide, particulate matter less than 10 microns (PM10), total reduced sulfur, and volatile organic compounds.

Comment:

There should be a cumulative health impact study of air emissions and impacts on the community adjacent to the Marathon facility. Information such as this, and other existing studies, should be shared with the community.

AQD Response:

Cumulative air pollution health risks have been evaluated as described above, and the available air pollution data do not suggest that ambient air pollution levels would cause an observable "cancer cluster". The asthma prevalence rates in Detroit have been evaluated by the Michigan Department of Community Health (MDCH) and the Asthma Initiative of Michigan (<http://www.getasthmahelp.org/michigan-asthma-statistics-fact-sheet-reports.aspx>), and cancer incidence rates have been compiled for each of the counties of Michigan (<http://www.michigan.gov/mdch/0,4612,7-132-2944---,00.html>). However, there have been community concerns about cancer incidence rates at the local level in ZIP code 48217 and other ZIP codes in SW Detroit. MDCH is currently evaluating the cancer incidence rates in 48217 and in three other ZIP codes in SW Detroit, which should help to address the community concerns. A report on their findings is anticipated in early 2012. AQD agrees that information of that type should be shared with the community. We will continue to work cooperatively with EPA and MDCH to share air quality and health information with the local residents.

Comment:

Respiratory diseases like asthma, and other diseases, are high due to living near a large-scale industrial complex. Residents should not have their health at risk from carcinogens and other air pollutants. According to the Asthma Initiative of Michigan (AIM), the asthma prevalence rate is 29% - three times higher than the national average. AIM also states that over 200,000 children under 18 currently have asthma, and in adults 18 and older the prevalence rate is 9.5%, which is higher than that for the United States.

AQD Response:

There are many potential asthma triggers, including indoor and outdoor factors (<http://www.getastmahelp.org/asthma-triggers.aspx>). The Detroit area does have elevated asthma incidence rates (<http://www.getastmahelp.org/michigan-asthma-statistics-fact-sheet-reports.aspx>), however, the cause(s) have not been determined. The Marathon proposed projects being acted on meet all applicable rules and regulations, including those that are designed to provide public health protection from elevated cancer and noncancer risks.

Comment:

Because of the poor air quality in the area around the facility, there should be a moratorium on issuing new air quality permits.

AQD Response:

The air quality in southwest Detroit is improving, and currently meets all National Ambient Air Quality Standards. State and federal air quality rules and regulations do not include any provision that requires the air quality in an area to be improved before issuing permits for new or modified sources. Therefore, the AQD does not have authority to implement a moratorium on issuance of new air permits in this area.

Comment:

Toxic air contaminants already exist for the current operation. According to Marathon Petroleum Company's permit 63-08C, pollutants were evaluated on an individual basis. While all of the toxins are predicted to be in compliance with existing regulations, the following either approach or slightly exceed the acceptable levels: hydrogen sulfide, gasoline, sulfur dioxide, formaldehyde, naphtha, particulate matter, volatile organic compounds, and hydrodesulfurized (heavy). These air toxins should have appropriate limitations to ensure that Michigan's air toxin rules are met, and the permit should be revised to include appropriate limitations to ensure the community is protected from adverse ambient impacts. With harsh chemicals like these in air, southwest Detroit gets a reputation for being the most air-polluted region in the state.

AQD Response:

The toxic air contaminant emissions from the DHOUP were evaluated for PTI No. 63-08 and found to be in compliance with the state health-based standards. The state air toxics rules only apply to new or modified emission units. Therefore, only the toxic air contaminant emissions from the new emission units and those being modified as a result of the expansion were considered during the review done for PTI No. 63-08 with the exception of gasoline, hydrogen sulfide, and DHT product, which were evaluated for the entire refinery. The changes requested in application No. 63-08C are not expected to increase the emissions of any toxic air contaminant emissions. Therefore, the review previously done for PTI No. 63-08 is still valid..

**B. Air Toxics and Risk Assessment**

Comment:

How much hydrogen sulfide is considered “safe” for the community nearby? What will be the cumulative hydrogen sulfide emission level, considering other surrounding facilities?

AQD Response:

Hydrogen sulfide is not one of the six EPA “criteria pollutants”, and therefore, there is no national ambient air quality standard. The Marathon proposed projects must each comply with the health risk-based screening level for hydrogen sulfide. The cumulative hydrogen sulfide emission level and ambient air impact for all Marathon operations and other nearby sources has not been estimated. As previously discussed, four new ambient air monitors will begin operating in the near future, and total reduced sulfur (TRS) is one of the parameters that will be measured at each monitor. TRS includes hydrogen sulfide and a few other substances. Those measurements will indicate the cumulative level of hydrogen sulfide and other TRS compounds from Marathon emissions and other nearby sources. Meteorological data will also be collected, and will help indicate the likely source of any elevated levels that may be measured. The measured levels will be compared to available health protective benchmark levels and other toxicity information to indicate if there are any concerns for public health due to the cumulative TRS levels. Also, as previously noted, the EPA has recently taken a limited amount of hydrogen sulfide measurements in the vicinity, and is working with DWSD to reduce hydrogen sulfide emissions and ambient air levels.

Comment:

The hydrogen sulfide impacts are too close to the ITSL for the barge and truck loading. Although the screening levels may be set conservatively, with a margin of safety, there also could be occasions where the throughput of material is exceeded and pollution impacts will exceed the protective benchmark. The AQD should lower the allowed throughputs for this equipment so that impacts are less than the hydrogen sulfide screening level.

AQD Response:

The AQD's Initial Threshold Screening Level (ITSL) for hydrogen sulfide is set at 2 micrograms per cubic meter, with a 24 hour averaging time, to protect from the irritancy of hydrogen sulfide. This is more restrictive than the health benchmark set by the Agency for Toxic Substances and Disease Registry (ATSDR) at 98 micrograms per cubic meter (with a 1-14 day averaging time) to protect from asthma aggravation and headaches. The ITSL is also more restrictive than the California health benchmark of 42 micrograms per cubic meter with a 1-hour averaging time, to protect from headache and nausea that could occur from the odor of hydrogen sulfide. For the Marathon proposed projects that are being acted on, each project has modeled ambient air impacts that do not exceed the ITSL. Although there could be overlap of the impacts from the separate project emissions, it does not appear that they could pose a significant public health risk, considering all of the above health benchmarks and toxicity data. As previously noted, the new ambient air monitoring stations' TRS data will provide more complete information on cumulative levels of hydrogen sulfide and other sulfur compounds.

Comment:

Many toxic air contaminants emitted by Marathon either approach or slightly exceed the acceptable levels. These air toxics should have appropriate limitations to ensure that Michigan's air toxics rules are met, to ensure that the community is protected from adverse ambient impacts.

AQD Response:

Air toxics screening levels have been developed to protect from cancer and noncancer effects. All of the air toxics emissions meet the applicable health-based screening levels and do not pose a significant public health risk.

**C. Emergencies and Safety Concerns**

Comment:

Residents still express concern over the lack of information for emergency evacuation if a spill or explosion occurs at the refinery. The overwhelming majority of residents live in fear that if an explosion occurs, they would not be adequately evacuated. Permit application No. 96-11 requests installment of two "rag-layer" storage tanks that can hold up to 35,000 gallons of a substance that can be extremely flammable and dangerous. Sirens go off daily and there is no adequate notification to the families and residents living nearby of the status. Recent industrial accidents in Flint and Hamtramck have demonstrated the need and importance of swift evacuation to avert tragic consequences during these types of emergencies.

AQD Response:

The ability of residents to be informed of potential accidents, and how to respond to incidents, including evacuation plans, is important. However, the AQD has no authority over evacuation

plans. Evacuation plans are regulated by the U.S. Environmental Protection Agency and evacuation implementation is by the Local Emergency Planning Coordinator.

**D. Dispersion Modeling**

Comment

There should be dispersion modeling for the emissions from the projects.

AQD Response

Dispersion modeling was performed for the rag layer storage tanks and for each asphalt cement transfer operation. The changes to the DHOUP did not change emissions from the project in a way that required dispersion modeling. Previous permit reviews for the DHOUP included dispersion modeling. All modeling showed that the emissions of pollutants meet the state and federal requirements for impacts.

**E. Permit Requirements**

**Emissions**

Comment

For the DHOUP, how much hydrogen sulfide is permitted to be emitted and burned in the flares?

AQD Response

There is no specific limit on the amount of hydrogen sulfide allowed to be emitted from the flares or burned in the flares. The flares are emission control devices and it is better to burn hydrogen sulfide in the flares than to release it uncontrolled into the air.

However, the permit conditions do limit the hydrogen sulfide emissions to 8.57 tons per year for the FGDHOUPANNUAL flexible group, which includes the new coker flare. This limit is the same as the limit in the previous permit, PTI No. 63-08B.

The amount of hydrogen sulfide allowed in the fuel gas burned in all flares at the refinery is limited to 160 ppmv on a 3 hour rolling average basis. This limit does not apply to process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions.

Marathon must calculate the hydrogen sulfide emissions from the existing flares. If the actual hydrogen sulfide emissions from the existing flares differs from the projected emissions in Appendix B in the ten years after the DHOUP starts operation, Marathon must report the hydrogen sulfide emissions to the AQD.

Comment

How will monitoring of flanges and connectors reduce emissions, as stated in the application? Please explain how increased monitoring reduces emissions.

AQD Response

The permit conditions (special condition VI.12 of Table F-1.11 FG-PROCUNITS) require Marathon to implement a leak detection and repair (LDAR) program for the CCR Platformer Unit and the Cracking Plant Treater covering 50% of the flanges and connectors in gas/vapor and light liquid VOC service. A leak is defined as an instrument reading of 500 ppm or greater, as specified in NSPS Subpart VVa.

For PTI No. 63-08, Marathon developed fugitive emission factors for various components (flanges, valves, connectors, etc.) based on the U.S. EPA "Protocol for Equipment Leak Emission Estimates – EPA-453/R-95-017" and the American Petroleum Institute Publications 4677 and 343. These emission factors were deemed acceptable in the review of PTI No. 63-08 and were also used in PTI application No. 63-08C.

The U.S. EPA protocol provides for the consideration of increased control efficiency from flanges and connectors through the use of a LDAR program. As was done for PTI No. 63-08, Marathon estimated control efficiencies for the LDAR program using the "Air Permit Technical Guidance for Chemical Sources: Equipment Leak Fugitives" draft document, October 2000, from the Texas Commission on Environmental Quality, Air Permits Division. Marathon estimated a 97% reduction in emissions from flanges and connectors monitored quarterly at a 500 ppm leak detection limit.

Therefore, implementing the LDAR program for the CCR Platformer Unit and the Cracking Plant Treater allows Marathon to apply a 97% emission reduction to 50% of the flanges and connectors in gas/vapor and light liquid VOC service when calculating the fugitive emissions for these emission units.

Section 3.10 of the Technical Support Document for PTI No. 63-08 describes the fugitive VOC emission calculation procedure used by Marathon.

Testing

Comment

For the asphalt cement transfer operations, the draft permits only require emission testing of truck and barge loading. The railcar loading should also be tested.

AQD Response

The permits require testing of both the barge and truck loading because of important differences between them. The railcar loading is nearly identical to the truck loading. The receiving tanks on the trucks and railcars are very near, or at, the ambient temperature when they begin to receive the asphalt cement, which is heated to about 300 degrees F. In contrast, the receiving tanks on

the barges are maintained at about 300 degrees F, even when empty. The cooling effect on the asphalt cement as it enters trucks or railcars leads to much lower hydrogen sulfide emissions than from the barges. The AQD does not believe that testing the railcar emissions would provide useful information that truck testing would not provide.

## **Monitoring**

### **Comment**

The AQD should monitor the air near the processes to determine whether the emissions are, indeed, acceptable. This would buttress the company's monitoring. Some commenters expressed particular interest in monitoring of hydrogen sulfide.

### **AQD Response**

Past ambient air monitoring has shown that the DEQ's existing air monitoring sites provide good data about the air quality in the area around the refinery. Marathon's air monitoring stations will provide additional data. All four of the Marathon stations will monitor for "total reduced sulfur," which includes hydrogen sulfide. The DEQ oversees the monitoring program and will review Marathon's data and the quality of the data collected. The DEQ will make the data available to the public. The DEQ has a strong interest in ensuring that the monitoring data from the Marathon sites are accurate and of high quality.

## **Process/Operational Limits**

### **Comment**

What will be the final throughput limit for the truck loading rack, and when will it take effect?

### **AQD Response**

The permit includes an initial throughput limit of 724,000 gallons per day. The final throughput limit will be 3,200 gallons per minute, or a maximum of 4,608,000 gallons per day. The permit conditions restrict the loading rate for the equipment to 3,200 gallons per minute. The daily rate is based on all eight loading lanes operating continuously for 24 hours. (Special Condition IV.2 of PTI No. 197-10A contains the gallons per minute limit.)

$$3,200 \frac{\text{gallons}}{\text{minute}} \times 60 \frac{\text{minutes}}{\text{hour}} \times 24 \frac{\text{hours}}{\text{day}} = 4,608,000 \frac{\text{gallons}}{\text{day}}$$

The initial throughput limit will not be removed until the AQD approves Marathon's demonstration that the improved capture and control system is performing in a satisfactory manner. Marathon must conduct this demonstration no later than 90 days after they install the improved capture equipment on at least two of the truck loading lanes.

It is possible that the AQD will approve the demonstration of effectiveness before all eight bays in the truck loading rack have been equipped with the improved capture system. To address this possibility more clearly, the section above on changes to conditions describes changes to the permit conditions that will continue to restrict throughput for the bays without improved capture.

#### Comment

How will the company monitor the amount of material used in the loading operations?

#### AQD Response

For the truck loading operation, all trucks are weighed at the terminal before and after loading. The difference in weight is the asphalt cement loaded, and can easily be converted to gallons and recorded. Further, the loading lines for some of the truck bays include flow meters. This provides a confirmation of the amount loaded.

Transfers to barges occur from one storage tank at a time. The tanks are equipped with a “gauging system” that monitors the level of material in each tank and calculates the amount transferred from the level change. While the barge operators also gauge the barge compartments during the transfer process, the terminal’s gauging system is the basis for invoicing and custody transfer.

Transfers to railcars are manually monitored by operators. For each transfer, based on the amount to be transferred and the railcar’s capacity, the facility determines the “outage” (space that will not be filled in the railcar) that means the proper amount has been transferred. This is determined before pumping begins. By monitoring the “outage”, the operator ensures that the proper amount is transferred. The final “outage” also allows the facility to determine the amount transferred.

### **F. Permit Review Process**

#### Comment

Why are the three asphalt cement transfer operations not subject to major source review requirements?

#### AQD Response

While the three operations are similar in what they do, they are separate projects because each was installed ten years or more apart in time from the others. The emission threshold that might require major source New Source Review (“major NSR”) differs for the three operations.

- The barge loading operation was installed in 1968, when there were no major NSR requirements that might have applied. Therefore, installing the barge loading operation did not require major NSR.
- The truck loading rack was installed in 1978. Under the major NSR requirements in effect at that time, if the equipment’s “potential to emit” (PTE) were 100 tons per year or more of volatile organic compounds, it might have been subject to major NSR. The

rack's PTE was 71.4 tons per year, at most. Therefore, installing the truck loading rack did not require major NSR.

- The railcar loading operation was installed in 1998. Based on the rules that apply to that time, the operation's PTE would need to be 40 tons per year or more to require major NSR. The operation's PTE is 24.8 tons per year. Therefore, installing the railcar loading rack did not require major NSR.

#### Comment

The draft conditions for the DHOUP, application No. 63-08C, do not address PM2.5 emissions from new and modified equipment and uses PM10 as a surrogate for PM2.5. The surrogate approach is no longer allowed, and direct PM2.5 emissions must be quantified to determine whether the project causes a significant emissions increase. Please revise the permit and support documents to address this.

#### AQD Response

The changes to the DHOUP authorized in PTI No. 63-08C do not affect the PM2.5 emissions from the project. Therefore, no additional review of PM2.5 emissions is required for these changes to the DHOUP.

### **G. Public Participation Process**

#### Comment

Such a large proposal cannot possibly have "meaningful public involvement." There should be funding for communities to hire independent technical experts to help residents engage in the permitting process.

#### AQD Response

The DEQ independently reviews the applicant's submittals, including emission estimates, calculations, emission control techniques and equipment, and proposed emission limits. The DEQ announces applications it has received through its Web site. The information posted includes the permit reviewer's name and a link to contact information. Citizens interested in an application can contact the permit reviewer at any time. DEQ staff is available throughout the permit review process to answer questions about pending applications. The "public participation documents" summarize key review information, and staff remains available throughout the public comment period to answer questions from interested persons.

**H. Miscellaneous**

Comment

The proposed DHOUP changes suggest that there have been hydrogen sulfide emissions that have not been addressed since the Marathon-Sierra Club agreement of 2008, or “since the hydrogen facilities have been partially operationalized.”

AQD Response

The new hydrogen plant associated with the DHOUP has not yet begun operation so there have been no emissions associated with the hydrogen plant.

The changes to the DHOUP authorized in PTI No. 63-08C will not increase the hydrogen sulfide emissions beyond the level that was evaluated and determined to be acceptable before the Marathon-Sierra Club agreement was signed on September 18, 2008.

If the commenter is referring to hydrogen sulfide emissions from asphalt cement, which is part of the review for the asphalt cement truck, rail car, and barge loading permit applications, it should be noted that the DHOUP will not increase the amount of asphalt cement the refinery will be able to produce and will therefore not increase the hydrogen sulfide emissions from refinery operations related to asphalt cement.

Comment

How much hydrogen sulfide has been emitted in the past from the asphalt cement transfer operations? Will the AQD require Marathon to report this information?

AQD Response

The Marathon refinery complex has not been required to report hydrogen sulfide emissions to the AQD in the past, and the AQD does not know the amount of hydrogen sulfide emitted in the past from the asphalt cement transfer operations. The Permit to Install for the DHOUP requires Marathon to record annual hydrogen sulfide emissions for some equipment at the facility for ten years after startup of the DHOUP. The DHOUP is expected to start up in 2012. This data will be available to the AQD. Marathon is also required to report this information, along with DHOUP-related emissions of other pollutants, to the AQD. Hydrogen sulfide emission limits apply to the following equipment in PTI No. 63-08C:

- EG70-COKER
- FGDHOUPANNUAL

There are also limits on the hydrogen sulfide content of the refinery fuel gas burned in the facility.

Comment

Are the “rag layer” storage tanks heated? What happens to the material that the storage tanks receive? Is it disposed of, and if so, how?

AQD Response

The rag layer storage tanks are not heated. They serve as temporary storage for the “rag layer” when it is removed from the main process train. During normal processing, the material in the tanks is sent back to the process slowly, in amounts that are readily processed by downstream equipment. Every few years, the tanks are emptied and “cleaned out.” Materials from the “clean out” will be disposed of as waste, according to the requirements of state and federal law and regulations.

Comment

In the past, heavy rains have caused problems for external floating roof tanks in the tank farm. This led to emissions that affected the neighboring residents. Will the proposed floating roof tanks for the “rag layer” be susceptible to this problem?

AQD Response

With an external floating roof tank, rain falls on the floating roof itself, and the floating roof must be able to allow rainwater to run off. However, an internal floating roof tank also has a physical roof, besides the floating roof inside the tank. The physical roof sheds rainwater just like the roof of a house or other building. Rain never reaches the internal floating roof. Therefore, the “rag layer” storage tanks would not be susceptible to this problem.

Comment

Marathon should establish policies to reduce idling for all vehicles involved in the asphalt cement transfers, and should encourage installation of diesel filters on trucks.

AQD Response

The AQD does not have the jurisdiction or authority to require these actions.

Comment

Truck traffic for the refinery and asphalt cement loading operations causes congestion and traffic that endangers people in the area.

AQD Response

Truck and rail traffic can be issues of great concern. However, the AQD has no authority over truck and rail traffic not on the plant site. These are local zoning issues.

Comment

The previous installation permits can and will cause further damage to the residents of Southwest Detroit. Although there has been an increase in tax revenue for the city, there has yet to be any benefit to the community surrounding Marathon.

AQD Response

The December 7, 2011, public hearing was to take comments on PTI application Nos. 197-10A, 63-08C, 96-11, 142-11, and 148-11. While there are many issues of concern to the community, the AQD permit process cannot address issues raised that do not directly relate to these proposed changes.

Comment:

Pollution from the upcoming expansion (the DHOUP) is expected to rise by 10%.

AQD Response:

PTI No. 63-08 was issued by the DEQ for the DHOUP on June 20, 2008. This permit allowed Marathon to modify the facility and operate at the increased capacity. The carbon monoxide emissions due to the DHOUP will increase more than 10%. However, emissions of other pollutants, such as volatile organic compounds, particulate matter, sulfur dioxide, and nitrogen oxides will decrease. In addition, the changes requested in PTI application No. 63-08C are expected to decrease the emissions of volatile organic compounds.

**IV. SUMMARY OF COMMENTS RECEIVED IN SUPPORT**

The AQD did not receive any comments expressing support for the draft permits.

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