CITY OF PHILADELPHIA
DEPARTMENT OF PUBLIC HEALTH
AIR MANAGEMENT SERVICES

INSTALLATION PERMIT

Installation Permit No.: 13020 Date: April 8, 2013

Plant ID: 01501

Owner:	PES Refining and Marketing	Source:	PES Philadelphia Refinery
Address:	3144 Passuynk Ave Philadelphia, PA 19145	Location:	3144 Passyunk Ave Philadelphia, PA 19145

Attention: Charles Barksdale
Environmental Engineer

Pursuant to the provisions of Title 3 of the Philadelphia Code, the Air Management Code of February 17, 1995, as amended, and after due consideration of an application received under the rules and regulations of the Philadelphia Air Pollution Control Board, the City of Philadelphia, Department of Public Health, Air Management Services (AMS) on April 8, 2013 approved plans for the installation of the air contamination device(s) described below:

Crude Rail Car Unloading facility at Point Breeze (PB)

- With 14 units train /week capacity (each unit train = 120 railcars or 81,000 barrels)
- The unloading area will include two (2) separate tracks with a manifold system. Each track accommodating 60 railcars.
- Operation involves gravity aided transfer of crude between Railcars to a Manifold System, using flexible hoses equipped dry disconnect and vapor tight fittings. Railcars are typically unloaded from bottom valve, with gravity to aid product flow.
- There will be six (6) electric pumps (3 for each manifold). Two (2) pumps will be used at time at each manifold and one (1) pump will be spare at each manifold.
- Three (3) electric pumps will used to transfer the crude from PB tanks to GP 137 Unit.

This Installation Permit expires on April 8, 2014. If construction has not been completed by this date, an application for a new Installation Permit must be made. The conditions of this Installation Permit will remain in effect until they are incorporated in an operating permit.

This installation permit is subject to conditions prescribed in the attachment.

Biji Pandisseril
Environmental Engineer
(215) 685-9427

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INSTALLATION PERMIT CONDITIONS
INSTALLATION PERMIT NO. 13020
COMPANY: PHILADELPHIA ENERGY SOLUTIONS REFINING & MARKETING LLC.

1. The above source shall be operated in accordance with the specifications in the application as approved herein.

2. Fugitive VOC emission shall not exceed 500 lbs per rolling 12-month period.

3. All pumps handling organic materials having a vapor pressure of 1.5 pounds per square inch absolute or greater at ambient conditions shall have mechanical seals, or other components of equal or greater efficiency approved by AMS. [AMR V Sec IV]

4. No person shall cause, suffer, allow or permit volatile organic compounds (VOC) to be emitted from leaking flanges, gaskets, seals, connections, joints, fittings or other process equipment components not involving moving parts, nor shall any person cause, suffer, allow or permit VOC to be emitted from leaking valves, pumps, compressors, safety pressure relief devices or other process equipment components involving moving parts such that: [AMR V Sec XIII.A]
   (a) The VOC emission from any leaking process equipment component results in a VOC in air concentration of 10,000 parts per million by volume (ppmv), or greater, when measured by test methods approved by the AMS;
      (i) Leak definition for valves and pumps shall comply with Global Consent Decree issued as part of Civil Action No. 05-02866
   (b) The VOC emission is in a liquid state at the point(s) of discharge into the atmosphere.

5. Any new equipment is subject to the Leak Detection and Repair requirements of the Global Consent Decree issued as part of Civil Action No. 05-02866 when those Consent Decree requirements are in effect at the refinery

6. PES shall only unload using vapor tight connections and when vapor recovery system is in operation.

7. PES shall take any steps necessary to eliminate any emission from this operation that could create odor beyond its facility boundary. [AMR V Sec XX]

8. PES shall not increase the total crude oil receipt into the refinery.
   (a) The crude throughput at the 137 Crude Unit shall not exceed 200,000 BPD rolling 365 day average
   (b) The crude throughput at the 210 Crude Unit shall not exceed 130,000 BPD rolling 365 day average

9. PES shall incorporate all components of fugitive source into the Refinery's current Leak Detection and Repair Program. The leak inspection program shall be in accordance with 25 PA Code 129.58, AMR V, and the Consent Decree. A visual check for leaks shall be performed at the beginning of each transfer, and PES shall continue to visually monitor for leaks during the transfer.

10. PES shall monitor and record the following for crude oil transfer operations in a format that is acceptable to AMS:
    (a) On monthly basis monitor and record crude throughput at the 137 Crude Unit and the 210 Crude Unit.

(b) Calculate monthly fugitive VOC emission from all valves, pumps, compressors, safety pressure relief devices or other process equipment components to demonstrate compliance with Condition 2.
   (i) Verification shall be based on EPA 1995 Protocol for Equipment Leak Emission Estimates, Table 2-12, or subsequent AMS approved factors.

(c) On a monthly basis, record the following:
   (i) The true vapor pressure and Reid Vapor Pressure of the crude oil loaded.
   (ii) Any daily malfunctions that occur during the transfer operation
   (iii) Quantity of crude oil loaded during malfunctions

11. All records shall be kept for a minimum period of 5 years and produced upon request by AMS.

12. PES shall submit semi-annual reports as required by the Global Consent Decree issued as part of Civil Action No. 05-02866

CITY OF PHILADELPHIA

DEPARTMENT OF PUBLIC HEALTH
Donald F. Schwarz, MD, MPH
Deputy Mayor for Health & Opportunity
Health Commissioner

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Source Registration
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Telephone (215) 685-7572
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April 8, 2013

Charles Barksdale
Philadelphia Energy Solutions
Refining and Marketing LLC.
3144 Passyunk Avenue
Philadelphia PA. 19145

PLID: 01501

RE: Installation Permit 13020

Dear Mr. Barksdale,

AMS has received and reviewed your permit applications for the crude rail cart unloading at your facility. Enclosed is the permit along with its conditions.

If you have any question, please contact me by email at Biji.Pandisseril@phila.gov or by phone at (215) 685-9427.

Sincerely,

Biji Pandisseril
Environmental Engineer

RE: Crude via RailCar draft permit

BARKSDALE JR, CHARLES D [CHARLES.BARKSDALE@pes-companies.com]

Sent: Friday, March 29, 2013 9:27 AM
To: Biji Pandisseril; Edward Wiener
Cc: MURPHY, PAULA [PAULA.MURPHY@pes-companies.com]; Kassahun Sellassie; RUCH, CAROLYN M [CAROLYN.RUCH@pes-companies.com]

Dear Ed and Biji,

We respectfully submit the following comments on the Draft installation permit for the N Yard Crude Unloading Facility (13006). Please let us know if you would like to further discuss.

Condition# 3: We do not believe that the MACT Subpart CC and Subpart H are applicable to this unloading station, as described below. Therefore the HAP content is not relevant and this condition should be removed.

In MACT subpart CC, the definition of a process unit in this Subpart is as follows:

> Process unit means the equipment assembled and connected by pipes or ducts to process raw and/or intermediate materials and to manufacture an intended product. A process unit includes any associated storage vessels. For the purpose of this subpart, process unit includes, but is not limited to, chemical manufacturing process units and petroleum refining process units.

Additionally this subpart also gives a definition for a Petroleum refining process unit:

> Petroleum refining process unit means a process unit used in an establishment primarily engaged in petroleum refining as defined in the Standard Industrial Classification code for petroleum refining (2911), and used primarily for the following:
> (1) Producing transportation fuels (such as gasoline, diesel fuels, and jet fuels), heating fuels (such as kerosene, fuel gas distillate, and fuel oils), or lubricants;
> (2) Separating petroleum; or
> (3) Separating, cracking, reacting, or reforming intermediate petroleum streams.
> (4) Examples of such units include, but are not limited to, petroleum-based solvent units, alkylation units, catalytic hydrotreating, catalytic hydrorefining, catalytic hydrocracking, catalytic reforming, catalytic cracking, crude distillation, lube oil processing, hydrogen production, isomerization, polymerization, thermal processes, and blending, sweetening, and treating processes. Petroleum refining process units also include sulfur plants.

These process unit definitions define individual parts (processes) of the refinery, not the refinery as a whole. Additionally, Subpart CC has specific requirements for gasoline loading (63.650) and marine vessel loading (63.651) because they are excluded from the definition of a process unit. The MACT regulations that are more specific with the definition of a process unit, generally define the start at the raw material tanks and the end at product storage tanks or the entry to the next process unit.

The unloading station is mainly a transfer of crude oil from the railcars to the storage tanks, no processing occurs in this unloading/transfer system. The storage vessels do comply with MACT Subpart CC, as well as the new line from those storage vessels to the crude units, as they are a part of a process unit.

Additionally, the permit references Subpart H. The analysis of this Subpart definition is similar. It refers to Subpart F, which does not have a definition for process unit, other than:

> Petroleum refining process, also referred to as a petroleum refining process unit, means a process that for the purpose of producing transportation fuels (such as gasoline and diesel fuels), heating fuels (such as fuel gas, distillate, and residual fuel oils), or lubricants separates petroleum or separates, cracks, or reforms unfinished derivatives. Examples of such units include, but are not limited to, alkylation units, catalytic hydrotreating, catalytic hydrorefining, catalytic hydrocracking, catalytic reforming, catalytic cracking, crude distillation, and thermal processes.

Condition #10: We do not believe that the NSPS Subpart GGGa is applicable to this unloading station as described below. The LDAR requirements of the PA VOC regulations and our Consent Decree should be put in its place and read as follows:

10. PES shall incorporate all components of fugitive source into the Refinery's current Leak Detection and Repair Program. The leak inspection program shall be in accordance with ~~40 CFR 60 Subpart GGGa~~ 25 Pa Code 129.58 and the Consent Decree. A visual check for leaks shall be performed at the beginning of each transfer, and PES shall continue to visually monitor for leaks during the transfer.

The definition of process unit in 40 CFR 60 Subpart GGGa is currently stayed and the following definition is to be followed:

> (e) Stay of standards. Owners or operators are not required to comply with the definition of "process unit" in § 60.590 of this subpart until the EPA takes final action to require compliance and publishes a document in the Federal Register. While the definition of "process unit" is stayed, owners or operators should use the following definition:
> Process unit means components assembled to produce intermediate or final products from petroleum, unfinished petroleum derivatives, or other intermediates; a process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.

We do not believe that the unloading station meets this definition as it does not produce any intermediate or final products.

Condition #11: Due to the above mentioned revision and need for further explanation, Please consider the following proposed revisions and questions (see green type after highlighted areas):

11. PES shall monitor and record the following for crude oil transfer operations in a format that is acceptable to AMS:
    (a) On daily basis, the amount of crude oil unloaded and the type ~~HAP content~~ of the crude.
    (b) On monthly basis monitor and record crude throughput at the 137 Crude Unit and the 210 Crude Unit.
    (c) Calculate monthly fugitive VOC emission from all valves, pumps, compressors, safety pressure relief devices or other process equipment components to demonstrate compliance with Condition 2. Please delete as there is no additional process equipment.
        (i) Verification shall be based on EPA 1995 Protocol for Equipment Leak Emission Estimates, Table 2-12, or subsequent AMS approved factors.
    (d) On a monthly basis, record the following:
        (i) The true vapor pressure and Reid Vapor Pressure of the crude oil loaded.
        (ii) Volume of Crude oil (throughput). Is this referring for a) or b) above?
        (iii) Any daily malfunctions that occur during the transfer operation
        (iv) Quantity of crude oil loaded during malfunctions
        (v) Records of fugitive What does this mean?

As we all are interested in finalizing this as soon as possible, we would be available today or Monday to meet or have a conference call to discuss if you think that would be helpful.

Thanks,
Chuck

Chuck Barksdale
Site Environmental Director
Philadelphia Energy Solutions Refining and Marketing LLC
215-339-2074 (office)

610-299-6260 (mobile)
866-302-2146

From: Biji Pandisseril [mailto:Biji.Pandisseril@phila.gov]
Sent: Wednesday, March 27, 2013 2:07 PM
To: BARKSDALE JR, CHARLES D; Edward Wiener
Cc: MURPHY, PAULA; Kassahun Sellassie; RUCH, CAROLYN M
Subject: RE: Crude via RailCar draft permit

Mr. Barksdale,

Attached is the revised draft permit for the crude unloading into PES manifold.

Sincerely,
Biji Pandisseril
Air Management Services
321 University Ave
Philadelphia PA 19104

Phone: 215-685-9427
Fax: 215-685-7593

From: BARKSDALE JR, CHARLES D [CHARLES.BARKSDALE_JR@pescompanies.onmicrosoft.com]
Sent: Friday, March 22, 2013 5:58 PM
To: Edward Wiener
Cc: MURPHY, PAULA; Kassahun Sellassie; Biji Pandisseril; RUCH, CAROLYN M
Subject: RE: Crude via RailCar draft permit

Ed,

Here are some responses to your comments:

1. We are not sure what additional information you need for the crude throughput limits. We provided rate information below that shows we have had adequate capability to process well in excess of the proposed crude throughput limits in the draft permit. As I mentioned, we do not see a need for limits, but new limits that are at a high level that we have demonstrated previously with existing methods of receiving crude could be acceptable, such as the maximum daily rate observed in the past 2 years as a rolling 365 day rate.
2. The majority of the equipment that is being permitted as part of this project is to transfer crude oil from the railcars to tankage in the Point Breeze South Yard. This is not directly connected to a process unit and should therefore not be subject to MACT Subpart CC. However, we do agree that the new portion (pumps and pipeline) that will connect the existing Point Breeze tanks to 137 Crude Unit is potentially subject to MACT Subpart CC. In addition, the Bakken crude HAP content is less than 5% (approximately 3.9%). 63.641 defines "In organic hazardous air pollutant service" as a piece of equipment that either contains or contacts a fluid that is at least 5% by weight of total organic HAP. Therefore, this is another reason that MACT Subpart CC would not apply to the main railcar crude unloading equipment. Although we are not disagreeing that any new equipment is subject to the CD, those requirements are not intended to be permanent and incorporated into a permit. We would prefer that you reference the Global CD but not make the limits permit conditions. Something such as "Any new equipment is subject to the Leak Detection and Repair requirements of the Global Consent Decree issued as part of Civil Action No. 05-02866 when those Consent Decree requirements are in effect at the refinery."

Let me know if you have any additional comments or if you'd like to meet to discuss.

Thanks,
Chuck

Chuck Barksdale
Site Environmental Director
Philadelphia Energy Solutions Refining and Marketing LLC
215-339-2074 (office)
610-299-6260 (mobile)
866-302-2146

From: Edward Wiener [mailto:Edward.Wiener@phila.gov]
Sent: Thursday, March 21, 2013 12:47 PM
To: BARKSDALE JR, CHARLES D; Biji Pandisseril
Cc: MURPHY, PAULA; Kassahun Sellassie
Subject: RE: Crude via RailCar draft permit

Chuck,

1. We added the crude throughput limits in an attempt to document that there will not be a throughput increase that results in emission increases from ancillary units that would require a plan approval and a more detailed NSR/PSD analysis, similar to the heater expansion plan approval. Please let us know if you have other ways to document that there will not be a throughput increase due to this project.

2. Here is the definition of process unit under MACT Subpart CC. If it's connected by pipes to the refining units and storage tanks, it appears that it would fall under the process unit and be applicable to the LDAR regulations.

Process unit means the equipment assembled and connected by pipes or ducts to process raw and/or intermediate materials and to manufacture an intended product. A process unit includes any associated storage vessels. For the purpose of this subpart, process unit includes, but is not limited to, chemical manufacturing process units and petroleum refining process units.

The leak definitions in the CD are applicable requirements and should be in the permit.

Edward Wiener
Air Management Services
321 University Avenue
Philadelphia, PA 19104

Phone: (215) 685-9426
Fax: (215) 685-7593

From: BARKSDALE JR, CHARLES D [CHARLES.BARKSDALE_JR@pescompanies.onmicrosoft.com]
Sent: Wednesday, March 20, 2013 6:01 PM
To: Biji Pandisseril
Cc: MURPHY, PAULA; Edward Wiener
Subject: RE: Crude via RailCar draft permit

Biji,

Thanks for sending us this draft permit. We've marked up the draft with several comments, with the major ones listed below.

1. We do not believe that a crude throughput limit (paragraph 8) is appropriate for this permit. Although this project could increase the amount of crude oil we bring to the refinery, the purpose of this project is to replace existing water borne/pipeline crude oil with domestic/railcar crude oil. Many other constraints are in place at the refinery that prevent us from using this potential additional crude. Setting the crude rate limit based on the 2010-2011 daily average also makes no sense as we clearly have demonstrated the ability to process much more crude than what we averaged in 2010 and 2011 during a period of decreased demand and processing within the refinery. Even during this period, we had several higher rate days:

	Average BPD			MAX BPD	
	137	210		137	210
2009	165,800	101,100		192,830	136,123
2010	167,600	128,300		195,486	151,366
2011	158,900	114,200		200,014	135,083
2012	176,300	116,600		198,842	138,249
Average	167,200	115,000	Ave MAX	196,793	140,205
MAX Ave	176,300	128,289	MAX	200,014	151,366

As you may know, as part of the heater firing rate plan approval application (which includes significant information on daily crude rate information back through 2006), we are expecting rolling 365 day average crude throughput limits. These were established without any commitment to the North Yard Railcar project. Although we do not believe that a limit is necessary for this permit, if AMS still believes it is required, we would recommend that they be established similar to what is in that draft permit.

2. The LDAR regulations that are cited in the permit are incorrect. This operation is not a process unit and therefore it should only be subject to PADEP VOC regulations similar to Group 08 in the current Title V permit (Section D 9). Also, although we agree that the Global Consent Decree requirements will be applicable to this operation, these limits are not intended to be permit and should therefore not be memorialized as a permit condition.

We are very interested in getting this permit finalized as soon as possible so that we do not hold up the project. Let me know if you'd like to have a call or meeting to discuss.

Thanks,
Chuck

Chuck Barksdale
Site Environmental Director
Philadelphia Energy Solutions Refining and Marketing LLC
215-339-2074 (office)

610-299-6260 (mobile)
866-302-2146

From: Biji Pandisseril [mailto:Biji.Pandisseril@phila.gov]
Sent: Thursday, March 14, 2013 11:22 AM
To: BARKSDALE JR, CHARLES D
Cc: MURPHY, PAULA
Subject: Crude via RailCar draft permit

Mr. Barksdale,

Attached is the draft permit for the crude via rialcars. Please let me know if you have any comment **no later than April 5, 2013**

Sincerely,
Biji Pandisseril
Air Management Services
321 University Ave
Philadelphia PA 19104

Phone: 215-685-9427
Fax: 215-685-7593