To: Harlow, David[harlow.david@epa.gov]; Dominguez, Alexander[dominguez.alexander@epa.gov]
Cc: Gunasekara, Mandy[Gunasekara.Mandy@epa.gov]; Traylor, Patrick[traylor.patrick@epa.gov]; rhaugen@lbterminals.com[rhaugen@lbterminals.com]; Fehrenbach, John (JFehrenb@winston.com)[JFehrenb@winston.com]; Chris Colman (chris.colman@comcast.net)[chris.colman@comcast.net]; Karl.Karg@lw.com[Karl.Karg@lw.com]; Lyman, John (Perkins Coie)[JLyman@perkinscoie.com]
From: Johnson Koch, LeAnn M. (Perkins Coie)
Sent: Fri 11/17/2017 11:34:33 PM
Subject: Limetree Bay Terminals - St. Croix, Virgin Islands
11.17.17 LBT Letter to EPA.PDF
EPA Summary of Hovensa CAA Settlement.pdf
US v Sunoco -- 4th Amendment to Consent Decree.pdf
3.30.10 Letter EPA to Hovensa re GT NOx PSD Permit App.pdf

David and Alex –

Thank you again for meeting with Limetree Bay and the US Virgin Islands last week. Attached is a letter with additional background information about the projects we discussed.

I will touch base with you early next week to discuss next steps.

Thank you,

LeAnn

LeAnn Johnson Koch | **Perkins Coie LLP**

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

MAR 30 2010

Ms. Kathleen Antoine, Environmental Director
HOVENSA, L.L.C.
1 Estate Hope
Christiansted, U.S. Virgin Islands 00820-5652

Re: HOVENSA Gas Turbine Nitrogen Oxides (GT NOx) Prevention of Significant Deterioration (PSD) Permit Application- Emission Calculation Clarification

Dear Ms. Antoine:

The U.S. Environmental Protection Agency (EPA) has reviewed HOVENSA's GT NOx PSD application, with particular focus on HOVENSA's conclusion that PSD will not apply to NOx. EPA does not agree with HOVENSA's conclusion. EPA's Region 2 Office discussed the policy underlying this PSD applicability issue with EPA's Office of General Counsel, the Office of Air Quality Planning and Standards and the Office of Enforcement and Compliance Assurance to develop this response. EPA's rationale for this response is provided below.

Project Overview:

On August 12, 2009, HOVENSA submitted an application for a PSD permit to construct the GT NOx Reduction Project ("Project") at its refinery at St. Croix, U.S. Virgin Islands. As a part of the Project, HOVENSA proposed to retrofit and refurbish five GTs, modify an additional GT to allow it to fire refinery fuel gas, and retire three GTs. The PSD applicability analysis provided in this application concludes that the Project will not result in any significant increase in emission of NOx; therefore, a PSD review is not required for NOx. In its analysis, which resulted in no significant emissions increase of NOx, HOVENSA combined all NOx emissions decreases from retrofitting five GTs with all NOx emissions increases from a GT modification and from other non-modified units that are a part of the Project. The procedure for determining whether a project results in a significant emissions increase for a pollutant, also known as Step 1 of the PSD applicability determination process, requires that only emission increases for a pollutant resulting from the units in a Project be added to determine if the resulting increase is significant. However, HOVENSA applied what it understood to be a "sum of the difference" approach to each affected emission unit. HOVENSA's approach included both emissions decreases and increases resulting from the units in this Project. When emissions increases and decreases of a pollutant resulting from a project are considered in Step 1 of the NSR applicability analysis, it is known as "project netting."

EPA informed HOVENSA during the phone conversations on December 17 and 18, 2009 and January 4, 2010, that the use of project netting in a PSD applicability analysis is not allowed by EPA policy or rule. On January 14, 2010, HOVENSA sent a letter and attached a "white paper" in which HOVENSA stated that project netting is allowed to determine PSD applicability pursuant to the EPA's 2002 NSR Reform Rule[1] and subsequent PSD determinations. HOVENSA provided its reasons as to why and how it concluded that the Project would not result in a "significant emission increase" of a NSR regulated pollutant (NOx). HOVENSA indicated that it applied a "sum of emissions differences" approach, consistent with Step 1 of the PSD applicability analyses required under 40 CFR 52.21(a)(2)(iv), as well as EPA's 2002 NSR Reform Rule and subsequent EPA guidance. The white paper specifically distinguishes between language in 40 CFR 52.21(a)(2)(iv)(*c*) and 40 CFR 52.21(a)(2)(iv)(*f*), arguing that the proposed Project can use project netting because it falls under the former regulatory provision. The white paper also notes that the subsequent EPA rules and a written determination by EPA Region 9 support the use of project netting for HOVENSA's Project.

EPA's Rationale:

EPA considered the positions articulated in HOVENSA's letter and does not agree that project netting is allowed. As discussed below, EPA's conclusion is based on the following: 1) an analysis of the preamble and response-to-comments to the 2002 NSR Reform rule; 2) the regulatory language at 40 CFR 52.21(a)(2); 3) the replacement unit provision of the 2002 NSR Reform Rule; and 4) the preamble of the Final NSR Rule on Aggregation.[2]

Preamble and Response-to-Comments Document for the 2002 NSR Reform Rule

EPA reviewed the record for the 2002 NSR Reform rulemaking, including the preamble and the response-to-comment document, to obtain an understanding of EPA's intent in adopting 40 CFR 52.21(a)(2)(iv)(*c*).[3] Neither the rule, the preamble, nor the response-to-comment document contained any discussion of a decision to adopt project netting for projects that modify existing units. To the contrary, the limited discussion of the netting procedures indicates that it would continue to be a two-step process, wherein the first step would involve totaling only the emissions increases at units affected by the project and

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[1] *See* Prevention of Significant Deterioration and Nonattainment New Source Review: Baseline Emissions Determination, Actual-to-Future Actual Methodology, Plantwide Applicability Limitations, Clean Units, Pollution Control Projects- Final Rule- December 31, 2002, Federal Register, Vol. 67, No. 251, p. 80186.

[2] *See* Prevention of Significant Deterioration and Nonattainment New Source Review: Aggregation and Project Netting- Final Action- January 15, 2009, Federal Register, Vol. 74, No. 10, p. 2376.

[3] *See* 67 FR 80186, 80275 (Dec. 31, 2002); Technical Support Document for the Prevention of Significant Deterioration and Nonattainment Area New Source Review Regulations (November 2002), Docket No. A-90-37, available at http://www.epa.gov/ttn/nsr/rule_dev.html.

the second step would allow for both emissions increases and decreases to be considered that are contemporaneous and creditable. In the preamble's discussion of "reasonable possibility" recordkeeping, EPA noted the need to keep records if a source's emission projection shows a significant increase. (see p.80197, 2002 NSR Reform: "[record] a description of the project; an identification of emissions units whose emissions could increase as a result of the project; the baseline actual emissions for each emissions unit; and your projected actual emissions"). It further explained that "if your project (emission) increase is significant, you must record your netting calculations if you use emissions reductions elsewhere at your major stationary source to conclude that the project is not a major modification." Id. This preamble discussion confirms that the process requires identifying only units that "could increase as a result of the project" in the first step, as opposed to allowing consideration of both decreases and increases in the first step. Furthermore, in the rulemaking EPA stated its intent to limit the changes to netting to only those matters specifically discussed in the rulemaking notices. (see pp.80203-04, 2002 NSR Reform).

Language at 40 CFR 52.21(a)(2)(iv)

In the absence of preamble language discussing an intent to change the historic two step NSR applicability test, EPA believes the regulatory language in 40 CFR 52.21(a)(2)(iv)(*c*) should be interpreted consistently with EPA's traditional emissions test, to the extent that the regulation is susceptible to such an interpretation. As discussed above, to support HOVENSA's view that project netting is authorized by the 2002 NSR Reform Rule, HOVENSA relied on the contrast between the emissions test for existing units found in section 52.21(a)(2)(iv)(*c*) (i.e., "sum of the difference") and the emissions test for "hybrid" units found in section 52.21(a)(2)(iv)(*f*) (i.e., "sum of the emission increases"). [See letter dated Jan. 14, 2010, from Kathleen C. Antoine, HOVENSA, L.L.C. to Steven C. Riva, USEPA Region 2]. HOVENSA did not provide any rationale as to why a project with existing units should be allowed to use project netting while a project with hybrid units should not be allowed to do so. After considering HOVENSA's argument and the relevant language in 40 CFR 52.21(a)(2)(iv), EPA does not believe the difference in regulatory language for existing units and for units subject to the hybrid test compels the conclusion that HOVENSA reached in the letter..

Initially, EPA notes that the "sum of the difference" language is also used with respect to projects only involving new units. See 40 CFR 52.21(a)(2)(iv)(*d*). These new units have a baseline of zero tons per year for purposes of calculating an emission increase, 40 CFR 52.21(b)(48)(iii), and have future emissions deemed to be equal to their potential to emit ("PTE") for purposes of calculating a significant emission increase. Here, "sum of the difference" can only refer to the PTE-less-baseline emissions calculation, since there cannot be a reduction of emissions at a unit if the baseline is zero tons per year. Thus, "sum of the difference" here only refers to summing positive numbers (i.e., emissions increases). Similarly, EPA contends that the parallel language in 40 CFR 52.21(a)(2)(iv)(*c*) also is susceptible to this interpretation.

The alternative language to 40 CFR 52.21(a)(2)(iv)(*c*) and (*d*) is found in the emissions test for projects involving hybrid, or multiple, types of units. The hybrid test sets a rule for adding emission increases calculated in different ways: existing units have their emissions increase calculated by comparing the difference between projected actual emissions and their baseline, new units have their increase calculated based on PTE, and Clean Units (had that NSR provision remained in effect)[4] have their increase established at zero tons per year based on an allowable-to-allowable test. Clean Units, in particular, did not have an applicability test in section 52.21(a)(2)(iv)(*e*) expressed in terms of "sum of the difference." The language difference between the hybrid test and the existing unit test does not imply EPA's intent to allow project netting in one context and to disallow it in the other.

Replacement Unit Provision of the 2002 NSR Reform Rule

In its letter, HOVENSA also relies upon the inclusion of a replacement unit provision in the 2002 NSR Reform Rule. HOVENSA argues that a replacement unit is an example of adding the emissions decrease associated with the shutdown of an existing unit with the increase associated with the building of a new unit. However, EPA theory supporting the replacement unit provision change is different from what HOVENSA suggests. EPA justified the replacement rule by reasoning that "a source replacing a unit should be able to adequately project and track emissions for the replacement unit based, in part, on the operating history of the replaced unit." See 67 FR 80194. In the November 7, 2003 final notice of reconsideration[5], EPA continued to justify the replacement provision on the basis that the replacement unit is the same as the existing shutdown unit and, therefore, it retains the shutdown unit's baseline emissions when calculating the emission increases. Nowhere in the relevant Federal Register notices is project netting expressed as the basis for the replacement unit provision. EPA would not have needed to provide a special provision and unique rationale for the replacement unit rule if EPA had intended to allow project netting under the 2002 NSR Reform Rule.

2009 Final NSR Rule on Aggregation

HOVENSA's letter cites to EPA's 2006 proposal[6] as consistent with HOVENSA's interpretation that the 2002 NSR Reform Rule allows project netting. As stated explicitly in the final rule on NSR Aggregation and specifically acknowledged in HOVENSA's letter, "nothing in the September 2006 proposed amendments on project netting should be taken as establishing any change in the Agency's interpretation of its current rules, nor

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[4] The Clean Unit provision of the 2002 NSR Reform Rules was invalidated in *State of New York v. EPA*, 413 F. 3d 3 (D.C. Cir. 2005).

[5] See Prevention of Significant Deterioration and Nonattainment Review: Reconsideration- Notice of final action on reconsideration; amendment to final rule- November 7, 2003, Federal Register, Vol. 68, No. 216, p.63021.

[6] See Prevention of Significant Deterioration and Nonattainment New Source Review: Debottlenecking, Aggregation, and Project Netting- Proposed Rule- Federal Register, September 14, 2006, Vol. 71, No. 178, p.54235.

should any of the statements in the 2006 preamble characterizing our current rules be cited as demonstrating the Agency's interpretation of our current rules." *See* 74 FR 2376, 2381. Therefore, notwithstanding any new or changed interpretations described in the 2006 proposal[7], EPA explicitly said that the 2006 interpretation could not be relied upon.

Additionally, in the 2009 final rule on NSR Aggregation, EPA explains the two-step process for determining whether a modification is subject to major NSR. Within this explanation, EPA clarifies that, in the first step of the analysis, "[t]he emission increases of the nominally-separate changes are combined for purposes of determining whether a significant emissions increase has occurred from the project." See 74 FR at 2377. This plain expression of EPA's understanding of the NSR applicability test -- that the first step considers only emissions increases -- makes no mention of a limited applicability of this test (i.e., to hybrid units only), nor to another test that considers both emissions increases and decreases in the initial step of evaluating NSR applicability. Thus, this clearly articulated preamble language from a finalized Agency action further demonstrates that project netting is not permissible under the current NSR rules.

HOVENSA also cited an EPA Region 9 letter[8] which appears to suggest that project netting is allowed in Step 1. It should be noted that Region 9's focus while doing the PSD applicability was on the accuracy of baseline emissions from the 19 interrelated emission units that make up the project and, since the project in question was likely to net out if it included contemporaneous emissions changes in Step 2- due to the significant emission reductions from one piece of equipment, the issue of project netting was not the focus of evaluation. EPA Region 9 did not intend to allow project netting in Step 1 of the analysis, it did not claim it was allowing project netting, nor did it provide any rationale for allowing project netting.

Conclusion:

For all the reasons described above, project netting is not allowed under EPA's current rules and, therefore, HOVENSA's PSD applicability analysis for the proposed Project may consider only emissions increases in Step 1 of the NSR applicability. Additionally, HOVENSA will need to revise and resubmit its analysis and, if there are units subject to PSD, submit BACT and Air Quality related information necessary for the GT NOx Project in order for EPA to proceed with its review of this application. Please note that this letter does not constitute a final agency action and we will continue to review the applicability of PSD to HOVENSA's Project when we receive additional information.

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[7] We note that there were a number of public comments refuting any possible suggestion by EPA in the 2006 proposal that the 2002 NSR Reform Rule allowed for project netting. *See, for example*, Comments of Natural Resource Defense Council on EPA's 'Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Debottlenecking, Aggregation, and Project Netting,' Electronic Docket ID No. EPA-HQ-OAR-2003-0064 (November 13, 2006),

[8] September 8, 2009, EPA Region 9 letter to Chevron Products Company, El Segundo, CA

If you have any questions, please call Steven C. Riva at (212) 637-4074 or have your staff contact Umesh Dholakia at (212) 637-4023.

Sincerely,

Joann Brennan McKee

for Barbara A. Finazzo, Director
Division of Environmental Planning and Protection

cc: Dr. Nadine Noorhasan, VIDPNR
Angela Arnold, VIDPNR
Catherine Elizee, HOVENSA
Phil May, RTP Environmental Associates

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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JUN 07 2010

Ms. Kathleen Antoine, Environmental Director
HOVENSA, L.L.C.
1 Estate Hope
Christiansted, U.S. Virgin Islands 00820-5652

Re: Emission Decreases Integral to Projects

Dear Ms. Antoine:

The U.S. Environmental Protection Agency's Region 2 Office (EPA) is in receipt of HOVENSA's April 23, 2010, letter regarding a potential project involving its Coker and combustion devices. The letter asks EPA whether constructing a Coker or increasing its rate of operation would result in a significant emissions increase if the increased gas make from the Coker is routed to other combustion devices. HOVENSA expects that, due to the increased supply of gas make, the fuel oil use at the combustion devices will decrease thereby reducing the emissions from those combustion devices. According to HOVENSA, due to its location, the increased Coker gas can not be shipped to other sites and must be used/combusted on site. HOVENSA, therefore, argues that the gas routing to other combustion devices on site, which will result in emission decreases at those combustion devices, is integral to the Coker modification and opines that such decreases can therefore be credited in Step 1 of the Prevention of Significant Deterioration (PSD) applicability analysis.

Based on the review of the information HOVENSA provided, it does not appear to EPA that Coker gas routing to other combustion devices on site is integral to the Coker project and, as a result, any resulting emission decreases at these devices should not be creditable in Step 1 of the PSD applicability analysis. Rather, our understanding of the project leads us to believe that these emissions decreases should be accounted for while performing the analysis of contemporaneous emissions increases and decreases under Step 2 of the PSD applicability review. EPA's rationale for this determination is provided below.

HOVENSA, cites to a variety of sources, including the PSD regulations, a number of EPA memoranda, and the 1990 NSR Workshop Manual, to support its view that emissions decreases "integral to the project" should be counted in Step 1. EPA, by this letter, is not opining on the merits of HOVENSA's analysis regarding the underlying basis for an "integral to the project" approach. However, whether or not we agree with HOVENSA's general arguments for the "integral to the project" approach, we do not see how the facts of this particular project square with such an approach. In an August 22,

2007 letter from Ms. Julie Domike, written on behalf of HOVENSA, to Mr. Joseph Siegel of EPA's Office of Regional Counsel, Ms. Domike refers to a November 26, 1997 letter from EPA Region 6's Ms. Jole Luehrs to Mr. Michael Carbon of Radian Corporation as support for HOVENSA's position. However, this letter underscores our concern that any decrease in emissions from burning fuel gas at other combustion devises are not "integral to the project" at the Coker. In the Region 6 letter, a heat recovery process was not considered an integral part of a project where "the project could operate at any time without the heat recovery process operating." Similarly, while HOVENSA's Coker-produced fuel gas, when combusted in boilers, turbines and heaters, will likely result in lower fuel oil use in those units, those combustion units cannot be classified as integral to the Coker's operation. The Coker can operate without those combustion devices if, for example, the gas is piped to an outside entity. HOVENSA also could potentially add new combustion equipment to handle this fuel gas which would add to the overall emissions. The Coker and combustion devices are separate and distinct emission units and each can operate without the other. Therefore, we do not see a basis for concluding that combusting Coker-produced gas at various combustion devices would be "integral" to the Coker project.

However, EPA notes that any enforceable emission reductions realized by a reduction in fuel oil use in those combustion devices can be counted as decreases when HOVENSA undergoes source-wide contemporaneous netting, during Step 2 of the PSD applicability process. This is consistent with the Region 6 letter cited by HOVENSA.

Based on the rationale described above, EPA does not see a basis for HOVENSA to take credit for the emission reductions resulting from the reduced fuel oil used in the combustion devices in Step 1. However, as stated above, such emission reductions may be creditable as contemporaneous decreases in the netting analysis performed in Step 2. Please note that this letter does not constitute a final agency action and we will continue to review the applicability of PSD to HOVENSA's Project when we receive additional information. If you have any questions, please call me or contact Umesh Dholakia at (212) 637-4023.

Sincerely,

Steven C. Riva, Chief
Permitting Section

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November 17, 2017

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VIA ELECTRONIC MAIL

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Re: Limetree Bay Terminals, Inc. – Refinery Restart and Renewable Diesel Projects

Dear David and Alex:

Thank you for meeting with Limetree Bay Terminals, LLC (LBT) and the US Virgin Islands (USVI) last week to discuss the restart of certain idled refinery process units and the renewable diesel project at the St. Croix refinery in the USVI. Based on our discussions, I am providing additional background materials and reference information for your consideration and, as soon as you are able, would like to meet to discuss your feedback on our proposed approach.

As we discussed at the meeting, LBT purchased the refinery from HOVENSA out of bankruptcy in early 2016. Prior to the bankruptcy, HOVENSA had entered into a Consent Decree with the United States and the USVI under the National Petroleum Refining Initiative (NPRI). LBT, the Department of Justice (DOJ), and the U.S. Environmental Protection Agency (EPA), have been negotiating the assignment of the Consent Decree to LBT through a modification. The Consent Decree modification is near final, and the addition of several relatively simple paragraphs will help facilitate both projects.

Subject to Federal Rule of Evidence 408, Settlement Discussions
Confidential Business Information – Do Not Disclose

LBT has sent proposed Consent Decree modification language options to the LBT Consent Decree team—Myles Flint and Peter Kautsky at DOJ, Providence Spina and Patrick Foley at EPA headquarters, and Flaire Mills and Harish Patel at EPA, Region 2. As we discussed, the Consent Decree team has indicated that it will require further direction before it can move forward with LBT's proposals.

Specifically, LBT needs certainty that EPA's reactivation policy will not apply. The refinery is a single stationary source, which includes the terminal, the turbines, the wastewater treatment system, and other process units, some or all of which have been in continuous operation. The reactivation policy has always been interpreted in published EPA interpretations to apply to the resumption of operations at a major stationary source that has been permanently shut down, rather than to the resumption of operations of individual process units that have been temporarily idled at an existing major stationary source. We believe that interpreting the reactivation policy to apply to individual emissions units would be inconsistent with 40 C.F.R. § 52.21(b)(7), defining existing emissions units.

Another important permitting issue is the use of "project netting," i.e., the consideration of both projected increases and projected decreases in emissions from existing emissions units when determining if a project will cause a significant emissions increase. The refinery restart will involve only existing emissions units. In a March 30, 2010 letter to HOVENSA, EPA incorrectly suggested that "project netting" could not be used even though the GT NOx Reduction Project that HOVENSA was seeking to permit involved only existing emissions units. See attached. In light of the potential confusion caused by this incorrect assertion, it is important to confirm that, because all idled emissions units at LBT are existing emissions units for purposes of the baseline actual-to-projected-actual calculations in 40 C.F.R. § 52.21(a)(2)(iv)(c), project netting is allowed, consistent with EPA's interpretive statements in a 2006 Federal Register notice. 71 Fed. Reg. 54244 (Sept. 14, 2006).

Also, for a decrease in actual emissions resulting from the permanent shutdown of an emissions unit, we have asked EPA to confirm that the date on which the decrease "occurs" (as that term is used in 40 C.F.R. § 52.21(b)(3)(ii)) is the date when permits for idled units are surrendered, rather than when the units were idled. This reading is consistent with existing language in the Consent Decree.

The renewable diesel project is a separate project from the restart and will require the installation of a new hydrogen plant. It is important that the restart and the renewable diesel project not be treated as a single project simply due to the fact that they will occur within a relatively short time period. LBT can demonstrate that the projects are separate, i.e., that they are not technically or economically dependent on each other. The same is true for the other two

projects mentioned in the Governor's August 8, 2017 letter to the President, asking that three projects—the single point mooring (SPM), terminal expansion, and refinery restart—be treated as high priority infrastructure projects under Executive Order 13766.

The SPM project will enhance the existing marine dock system by adding the capability to load/unload current generation deep draft crude oil tank vessels. The SPM is a modification to the existing docks emission unit and not a new unit. A new unit classification would have significant permitting implications and make the refinery restart project ineligible for in-project netting under the rules as currently written. The project is also subject to permitting by the Army Corps of Engineers, and potential issues with NOAA because of the presence of threatened corals in the region.

Another approach that we proposed in the Consent Decree modification was the use of credits from Consent Decree required reductions for clean fuels projects. The restart of the refinery is tied to meeting the new MARPOL low sulfur marine fuel standards that become effective on January 1, 2020, and the renewable diesel project would result in the production of renewable fuel under the Renewable Fuel Standard. In most Consent Decrees under the NPRI, the US/EPA has allowed refiners to use an agreed number of tons from Consent Decree required reductions for clean fuels projects. Therefore, we have included this as an option in our proposed Consent Decree modification. The Consent Decree could clarify that the credits can be used without regard to when the Consent Decree required emission reductions occurred.

The Consent Decree modification is the quickest vehicle to clarify and address these issues and there is precedent to expand the ability of a source to use netting reductions to facilitate the operation of a refinery under circumstances like these. For example, Sunoco was shutting down its refineries in Philadelphia and Marcus Hook, Pennsylvania. In a fourth amendment to the Consent Decree, Philadelphia Energy Solutions agreed to acquire the refineries and assume Sunoco's Consent Decree obligations. In the modification transferring the Consent Decree obligations to PES, the US/EPA agreed to allow PES to use thousands of tons of emissions reductions from the shutdown of the Marcus Hook refinery as credits and/or offsets at the Philadelphia refinery nearly 20 miles away. A copy of the fourth modification to the Consent Decree is attached.

An alternative mechanism that could be used is a Clean Air Act section 325(a) waiver. However, even if it was done through a direct final rule, this mechanism could take more than 8 months to secure, based on the last time it was done. Also, application of major new source review to the restart would both substantially delay the project, jeopardizing the window for the business opportunity, and change the economic viability of the project. Therefore, the Consent

Decree modification approach offers the best opportunity to speed the approval of the projects and the economic recovery of the USVI.

During the meeting, I mentioned that the Consent Decree required emissions reductions, highlighted in the attached press release, will be achieved even with the refinery restart and renewable diesel project. This is because any units that are restarted will have to meet the Consent Decree required emissions reductions/control requirements, and many of the refinery process units will not be restarted. Therefore, in any announcement of a Consent Decree modification, the US/EPA would be able to report that the bargained-for emissions reductions will be achieved and that the emissions from the refinery after the restart and renewable diesel project will be even lower than contemplated by the Consent Decree. Therefore, we would not anticipate setting adverse precedent or raising NGO opposition.

As you know, the timing is critical to both the business opportunities and the economic recovery of the US Virgin Islands. A recent NPR story, attached, highlighted the fiscal situation in the US Virgin Islands, including the shuttering of the refinery and exacerbated by the severe damage caused by Hurricanes Maria and Irma.

We are hoping to have these issues resolved in the next several weeks. Please let us know what additional information we can provide to facilitate your review and when you would be available to discuss next steps. Thank you for your time and consideration of this request.

Sincerely,

LeAnn Johnson Koch

LMJ:lm
Enclosure

cc: Mandy Gunasekara (via electronic mail w/attachments)
Patrick Traylor, Esquire (via electronic mail w/attachments)
John Fehrenbach, Esquire (via electronic mail w/attachments)
Robert Haugen (via electronic mail w/attachments)
Chris Colman, Esquire (via electronic mail w/attachments)
Karl Karg, Esquire (via electronic mail w/attachments)

HOVENSA LLC, Clean Air Act Settlement

Settlement Resources

- Search archives for this news release:
- Release Date: 01/26/2011 - The U.S. Environmental Protection Agency (EPA) and the U.S. Department of Justice announced today that Hovensa LLC, owner of the second largest petroleum refinery in the United States, has agreed to pay a civil penalty of more than $5.3 million
- Consent Decree

> "This settlement will produce significant benefits for the environment and for the people of the Virgin Islands. The commitments made by HOVENSA to install state-of-the-art pollution controls will mean cleaner air for years to come."
> —Cynthia Giles, Assistant Administrator of EPA's Office of Enforcement and Compliance and Assurance.

(Washington, DC - January 26, 2011) - The U.S. Environmental Protection Agency (EPA) and the U.S. Department of Justice announced today that HOVENSA LLC, owner of the second largest petroleum refinery in the United States, has agreed to pay a civil penalty of $5.375 million and spend more than $700 million in new pollution controls that will help protect public health and resolve Clean Air Act violations at its St. Croix, U.S. Virgin Islands refinery. The settlement requires new and upgraded pollution controls, more stringent emission limits, and aggressive monitoring, leak-detection and repair practices to reduce emissions from refinery equipment and process units.

On this page:

- Overview of Company and Facility Locations
- Violations
- Injunctive Relief
- Pollutant Reductions
- Health and Environmental Effects
- Civil Penalty
- Supplemental Environmental Project

- Territorial Partner
- Comment Period
- Petroleum Refinery National Initiative Case Results
- Contact

Overview of Company and Facility Location Facilities

HOVENSA LLC, which is jointly owned by Hess Corporation and Petróleos de Venezuela, S.A., operates a single refinery on St. Croix, V.I. with a refining capacity of 525,000 barrels per day.

Violations

The complaint alleges violations of Clean Air Act requirements covering the four main sources of emissions sulfur dioxide (SO_2), nitrogen oxides (NO_x), volatile organic compounds (VOCs) and benzene:

- New Source Review/Prevention of Significant Deterioration (NSR/PSD), 40 C.F.R. Part 52
  - Fluidized Catalytic Cracking Unit (FCCU)
  - Refinery Heaters and Boilers
- New Source Performance Standards (NSPS), 40 C.F.R. Part 60, Subparts A, J & Ja
  - Flares
  - Sulfur Recovery Units
  - Fuel Gas Combustion Devices (including heaters & boilers)
- Leak Detection and Repair (LDAR), 40 C.F.R. Part 60, Subpart GGG
- National Emission Standards for Hazardous Air Pollutants (NESHAP) for benzene wastes, 40 C.F.R. Part 61, Subpart FF

Injunctive Relief

The consent decree requires the following actions at an estimated cost of $700 million:

New Source Review/Prevention of Significant Deterioration (NSR/PSD) -- FCCU and Heaters and Boilers

- FCCU NO_x limit of not more than 20 parts per million (ppm) on a 365-day rolling average basis and 40 ppm on a 7-day rolling average basis
- FCCU SO_2 limits of 16 ppm on a 365-day rolling average basis and 25 ppm on a 7-day rolling average basis
- Installation of NO_x and SO_2 continuous emission monitors
- Particulate emissions limits of 1.0 pound per 1,000 pounds coke burned at the FCCU
- Carbon monoxide emission limit of 500 ppm on a 1-hour average basis at the FCCU
- Installation of controls (Ultra Low NO_x Burners, Selective Catalytic Reduction, or other technology) on refinery heaters and boilers sufficient to achieve a system-wide NO_x reduction of 4,744 tons per year (tpy).

- Compliance with NSPS Subpart J at all heaters and boilers
- Restrictions on fuel oil burning in heaters to control SO_2

New Source Performance Standards (NSPS) and Flaring

- Compliance with SO_2 standards of Subpart J for all combustion devices burning refinery fuel gas, and with Subparts J and Ja for refinery flares
- Compliance with SO_2 standards of Subpart J or Ja at sulfur recovery processes, including the sulfur pit
- Comply with NSPS Subpart A, General Provisions, 40 C.F.R. § 60.11 (d), by conducting root cause analyses for all flaring events exceeding 500 lb/day of SO_2
- Installation of flare gas recovery systems

Benzene Waste Operations National Emissions Standards for Hazardous Air Pollutants (NESHAP)

- Compliance with the "2 Mg" benzene compliance option
- Modified management of change procedures to ensure that new benzene streams are included in the total annual benzene (TAB) calculation
- Conduct laboratory audits
- Quarterly sampling and TAB calculation
- Training for those who sample benzene

Leak Detection and Repair (LDAR) Program

- Refinery-wide compliance with LDAR requirements
- Training, including refresher courses, for refinery personnel with LDAR responsibility
- Required LDAR compliance audits
- Strict internal leak definitions (500 ppm for valves and 2000 ppm for pumps)
- Internal first attempt at repair at 200 ppm for valves
- More frequent monitoring than required by regulation
- Elimination of "delay of repair" exception
- Installation of "low-leaking" valve or valve packing technology

Delayed Coking Unit

- Comply with a Coker Steam Vent depressurization standard of 2 pounds per square in gauge (psig)

Pollutant Reductions

Once all emissions controls have been installed and implemented at the FCCU, refinery heaters and boilers, and combustion devices burning refinery fuel gas, this settlement is estimated to result in the following emissions reductions in tpy:

- NO_x emissions by 5,031 tpy
- SO_2 emissions by 3,460 tpy

Compliance with the 2 psig Coker Steam Vent depressurization standard is estimated to result in the following additional emissions reductions in tpy:

- Greenhouse Gases (as Carbon Dioxide Equivalent, or "CO_2e" by 6,163 tpy
- Non-methane/non-ethane VOCs by 40 tpy
- PM by 17 tpy
- $PM_{10}/PM_{2.5}$ by 15 tpy
- Hydrogen Sulfide (H_2S) by 29 tpy

The settlement will also result in additional reductions of particulate matter (PM), carbon monoxide, benzene, VOCs and other pollutants.

Health and Environmental Effects

- Nitrogen Oxides - Nitrogen oxides can cause ground-level ozone, acid rain, particulate matter, global warming, water quality deterioration, and visual impairment. Nitrogen oxides play a major role, with volatile organic chemicals, in the atmospheric reactions that produce ozone. Children, people with lung diseases such as asthma, and people who work or exercise outside are susceptible to adverse effects such as damage to lung tissue and reduction in lung function.

- Sulfur Dioxide - High concentrations of SO_2 affect breathing and may aggravate existing respiratory and cardiovascular disease. Sensitive populations include asthmatics, individuals with bronchitis or emphysema, children and the elderly. Sulfur dioxide is also a primary contributor to acid deposition, or acid rain.

- Volatile Organic Compounds - VOCs, along with NO_x, play a major role in the atmospheric reactions that produce ozone, which is the primary constituent of smog. People with lung disease, children, older adults, and people who are active can be affected when ozone levels are unhealthy. Ground-level ozone exposure is linked to a variety of short-term health problems, including lung irritation and difficulty breathing, as well as long-term problems, such as permanent lung damage from repeated exposure, aggravated asthma, reduced lung capacity, and increased susceptibility to respiratory illnesses such as pneumonia and bronchitis.

- Benzene - Acute (short-term) inhalation exposure of humans to benzene may cause drowsiness, dizziness, headaches, as well as eye, skin, and respiratory tract irritation, and, at high levels, unconsciousness. Chronic (long-term) inhalation exposure has caused various disorders in the blood, including reduced numbers of red blood cells and anemia in occupational settings. Reproductive effects have been reported for women exposed by inhalation to high levels, and adverse effects on the developing fetus have been observed in animal tests. Increased incidences of leukemia have been observed in humans occupationally exposed to benzene. EPA has classified benzene as a Group A human carcinogen.

Civil Penalty

HOVENSA will pay a $5.375 million civil penalty as follows:

- $5.125 million to the United States
- $250,000 to the Virgin Islands

Supplemental Environmental Project

HOVENSA will establish a $4.875 million "Virgin Islands Territorial SEP Fund" to support one or more projects to be implemented for the benefit of the Virgin Islands. Projects to be funded by the Virgin Islands Territorial SEP Fund are to be determined jointly by HOVENSA and the Virgin Islands, in consultation with EPA and in consideration of the project's environmental, public health, pollution prevention or reduction benefits.

Territorial Partner

The U.S. Virgin Islands participated in the settlement negotiations and is a party to the settlement.

Comment Period

The proposed settlement is lodged in the U.S. District Court for the District of the Virgin Islands. The consent decree will be subject to a 30-day public comment period and final court approval. Information on submitting comments is available at the Department of Justice website.

Petroleum Refinery National Initiative Case Results

Through multi-issue, multi-facility settlements or detailed investigations and aggressive enforcement, this national priority addresses the most significant Clean Air Act compliance concerns affecting the petroleum refining industry.

See EPA's National Petroleum Refining Initiative website for more information.

For more information, contact:

Patrick W. Foley
Senior Environmental Engineer
U.S. Environmental Protection Agency (2242A)
1200 Pennsylvania Ave., N.W.
Washington, DC 20460-0001
(202) 564-7978
foley.patrick@epa.gov

LAST UPDATED ON MAY 25, 2017

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

UNITED STATES OF AMERICA Plaintiff, and COMMONWEALTH OF PENNSYLVANIA CITY OF PHILADELPHIA STATE OF OKLAHOMA STATE OF OHIO Plaintiff/Intervenors, v. SUNOCO, INC. Defendant	)	CIVIL ACTION NO. 05-02866

FOURTH AMENDMENT TO CONSENT DECREE

WHEREAS, the United States of America (hereinafter "the United States"), the Commonwealth of Pennsylvania, the City of Philadelphia, the State of Oklahoma, and the State of Ohio; and Sunoco, Inc. (hereinafter "Sunoco") are parties to a Consent Decree entered by this Court on March 21, 2006, and amended on June 3, 2009, August 30, 2011 and September 1, 2011 ("Consent Decree"); and

WHEREAS, Sunoco currently owns and operates two petroleum refineries covered by the Consent Decree, to-wit the refinery located in Philadelphia, Pennsylvania (hereinafter the "Philadelphia Refinery") and in Marcus Hook, Pennsylvania (hereinafter the "Marcus Hook Refinery"); and

WHEREAS, on September 6, 2011, for business reasons Sunoco announced that it would temporarily idle the crude refining operations at the Marcus Hook Refinery, and on

approximately December 1, 2011, began planning to permanently shut-down those operations; and

WHEREAS, on July 2, 2012, Sunoco entered into a refining contribution agreement (as amended, the "Contribution Agreement") with Carlyle PES, L.L.C. ("Carlyle"), Philadelphia Energy Solutions LLC ("PES LLC"), and Philadelphia Energy Solutions Refining and Marketing LLC ("PES R&M LLC"), and pursuant to the Contribution Agreement, the ownership and operation of the Philadelphia Refinery will be transferred to PES R&M LLC; and

WHEREAS, PES R&M LLC has contractually agreed to assume the obligations, rights, and benefits of, and to be bound by the terms and conditions of, the Consent Decree, to the extent such obligations, terms, and conditions relate to the Philadelphia Refinery subsequent to the effective date of this Fourth Amendment; and

WHEREAS, PES R&M LLC has represented that it has the financial and technical ability to assume the obligations and liabilities of the Consent Decree, to the extent such obligations and liabilities of the Consent Decree relate to the Philadelphia Refinery subsequent to the effective date of this Fourth Amendment, and based on these representations the United States, the Commonwealth of Pennsylvania and the City of Philadelphia agree to the transfer of the Philadelphia Refinery to PES R&M LLC; and

WHEREAS, the emission limit for SO_2 at the Philadelphia 868 FCCU contained in the Second Amendment to the Consent Decree was established as compensation for an expected increase in emissions that would have occurred from a delay in installation of controls at the Marcus Hook Refinery, but as a result of the permanent shut-down of crude refining operations at that refinery, those increased emissions will not materialize; and

WHEREAS, the schedule for the final SO_2 emission limit at the Philadelphia 868 FCCU is modified as provided in this Fourth Amendment in recognition of the greater overall level in emission reductions in the Philadelphia area resulting from the permanent shut-down of crude refining at the Marcus Hook Refinery; and

WHEREAS, as reflected in this Fourth Amendment, the United States, the Commonwealth of Pennsylvania, the City of Philadelphia, Sunoco and PES R&M LLC (the "Parties") have agreed upon certain additional modifications of the Consent Decree related to Sunoco's Philadelphia refinery; and

WHEREAS, the Commonwealth of Pennsylvania is the "Appropriate Plaintiff/Intervenor," as that term is used in Paragraph 243 of the Consent Decree, for the Marcus Hook Refinery; and

WHEREAS, the City of Philadelphia is the "Appropriate Plaintiff/Intervenor," as that term is used in Paragraph 243 of the Consent Decree, for the Philadelphia Refinery; and

WHEREAS, the undersigned representatives of the United States, the Commonwealth of Pennsylvania, the City of Philadelphia, Sunoco and PES R&M LLC are fully authorized to enter into the terms and conditions of this amendment; and

WHEREAS, Paragraph 243 of the Consent Decree requires that this amendment be approved by the Court before it is effective; and

NOW THEREFORE, the United States, the Commonwealth of Pennsylvania, the City of Philadelphia, Sunoco and PES R&M LLC hereby agree that, upon approval of this amendment (the "Fourth Amendment") by the Court, the Consent Decree shall thereby be amended as follows:

1. Effective on the Date of Entry of this Fourth Amendment, PES R&M LLC shall be added as a Party and shall be bound by all provisions of the Consent Decree as they apply to the Philadelphia Refinery, which shall be enforceable against PES R&M LLC to the same extent as if PES R&M LLC were specifically identified and/or named in those provisions of the Consent Decree. On and after the Date of Entry of this Fourth Amendment, Sunoco is released from all obligations and liabilities, but retains all rights, benefits, and releases, under the Consent Decree as they relate to the Philadelphia Refinery. Sunoco shall continue to be bound to comply with all Consent Decree provisions as they apply to the Marcus Hook Refinery.

2. By no later than August 31, 2012, Sunoco will have completed the permanent shut-down of the crude refining operations at Marcus Hook Refinery and the surrender of all air permits as they relate to crude refining operations. The date of permanent shutdown shall be deemed to be on the later of: (i) the date of the shut-down of crude refining operations at the Marcus Hook Refinery, and (ii) the date that Sunoco submits the required filings with the Commonwealth of Pennsylvania necessary to surrender all air permits to operate as a refinery.

3. New Paragraph 10.HHa shall be added and shall read as follows:

HHa. "Philadelphia Refinery Property" shall mean those portions of the 1,400 acre complex located within the City of Philadelphia containing two formerly separate refining operations known as "Point Breeze" and "Girard Point," as well as the West Yard, North Yard and Schuylkill River Tank Farm, as more fully described in Appendix 1 to this Fourth Amendment.

4. Paragraph 15A of the Consent Decree shall be replaced and shall read as follows:

15A. **Control of SO_2 Emissions from the Philadelphia 868 FCCU.**

a. Interim Emission Limit. Beginning on the Date of Entry of the Fourth Amendment to the Consent Decree, the Philadelphia 868 FCCU shall comply with an emission limit of 125 ppmvd SO_2 at 0% O_2 on a 365-day rolling average basis.

b. Final Emission Limit. By no later than January 1, 2016, the Philadelphia 868 FCCU shall comply with a long-term emission limit of 25 ppmvd SO_2 at 0% O_2 on a 365-day rolling average basis, and a short-term emission limit of 50 ppmvd at 0% O_2 on a 7-day rolling average basis. For purposes of clarity, the first day used in the 7-day or 365-day rolling average compliance period is January 1, 2016, and the first complete 7-day rolling average compliance period is January 7, 2016, and the first complete 365-day rolling average compliance period is December 31, 2016.

5. Paragraph 27.a is revised to read as follows:

27. **NOx Emission Reductions from Heaters and Boilers.**

a. NOx Emission Reductions from Sunoco Refinery Heaters and Boilers. On or before September 30, 2014, Sunoco shall use Qualifying Controls to reduce NOx emissions from the heaters and boilers greater than 40 mmBTU per hour by at least 1,773.5 tons per year, so as to satisfy the following inequality:

$$\sum_{i=1}^{n} [(E_{actual})i - (E_{allowable})i] \geq 1{,}773.5 \text{ tons of NOx per year}$$

Where:

$(E_{allowable})i$ = [(The permitted allowable pounds of NOx per million BTU for heater or boiler i, or, the requested portion of the permitted reduction pursuant to Paragraph 100/(2000 pounds per ton)] x [(the lower of permitted or maximum heat input rate capacity in million BTU per hour for Combustion Unit i) x (the lower of 8760 or permitted hours per year)];

$(E_{actual})i$ = The tons of NOx per year prior actual emissions during calendar years 2001 and 2002 (unless prior actuals exceed allowable emissions, then use allowable) as shown in Appendix B for controlled heater or boiler i; and

n = The number of heaters and boilers with Qualifying Controls at all Sunoco Refineries from those listed in Appendix B that are selected by Sunoco to satisfy the requirements of the equation set forth in this paragraph.

For heaters and boilers at the Philadelphia and Marcus Hook Refineries (except for Boiler # 38 at the Philadelphia Refinery only) at which Qualifying Controls are used to meet the requirements of this section V.F, those Qualifying Controls shall be installed by no later than June 15, 2010, unless this date is extended jointly by PADEP and/or AMS, and EPA. Boiler # 38 may be operated only during 2013 and 2014 as a temporary back-up during periods of maintenance or down-time at the Philadelphia Refinery No. 3 boilerhouse or the steam generating portions of the 1232 unit, provided that its total annual NOx emissions do not exceed 24.9 tons per year on a 12 month rolling average basis in 2013 or 2014, and it shall be permanently shut-down as provided in Paragraph 10.JJ.iv ("Qualifying Controls") by no later than August 31, 2014.

6. A new Paragraph 99A shall be added to the Consent Decree and shall read as follows:

99A. **Exception to General Prohibition Applicable Solely to the Marcus Hook and Philadelphia Refineries**. Notwithstanding the provisions of Paragraphs 97, 98 and 99:

a. CD emissions reductions required by Paragraph 15A may be used as credits in any PSD, major non-attainment and/or minor NSR permit(s) or permit proceeding(s) only at the Philadelphia Refinery Property occurring after the Date of Entry of the Fourth Amendment, provided that the new or modified emissions units at which credits are being used have a federally enforceable permit that reflects the following requirements that are applicable to the pollutants for which credits are being used:

i. For heaters and boilers, a limit of 0.020 lbs NOx per million BTU or less on a 3-hour rolling average basis;

ii. For heaters and boilers, a limit of 162 ppmvd of hydrogen sulfide in fuel gas or 20 ppmvd SO_2 corrected to 0% O_2 both on a 3-hour rolling average, and 60 ppmv hydrogen sulfide in fuel gas on a 365-day average;

iii. For heaters and boilers, no liquid or solid fuel firing authorization;

iv. For FCCUs, a limit of 20 ppmvd NOx corrected to 0% O_2 or less on a 365-day rolling average basis; a limit of 25 ppmvd SO_2 corrected to 0% O_2 or less on a 365-day rolling average basis; and a limit

of 0.5 pound of PM per 1000 pounds of coke burned on a 3-hour average basis;

v. For Flaring Devices, 162 ppmv hydrogen sulfide in gas burned in the flare on a 3-hour rolling average;

vi. For SRPs, NSPS Subpart Ja emission limits; and

vii. For emissions units other than those listed in Paragraph 99A.a.i-vi at which credits are being used, Best Available Control Technology ("BACT"), Best Available Technology ("BAT") or Lowest Achievable Emission Rate ("LAER"), as determined by AMS.

b. In the event that PADEP and AMS determine that the Marcus Hook and Philadelphia Refineries are considered one "facility" under Pa. Code Title 25 § 121.1, and a "stationary source" under 40 C.F.R. § 52.21(b)(5), and such determination is reflected in a final agency action by PADEP or AMS relative to the permit issued under Title V, then the Philadelphia Refinery Property may use up to 111.37 tons per year of NOx, 128.42 tons per year of SO_2, 317.94 tons per year of $PM_{2.5}$, 317.94 tons per year of PM_{10}, 365.60 tons per year of CO, 2.21 tons per year of VOCs, 922,286.83 tons per year of Greenhouse Gases ("GHGs," as defined in 40 C.F.R. § 70.12(a)(1)) and 56.07 tons per year of sulfuric acid mist ("SO_3") from the permanent shut-down of the Marcus Hook Refinery emission units and in the amounts specified in Appendix 2 to the Fourth Amendment, as credits in any PSD, major non-attainment and/or minor NSR permit(s) or permit proceeding(s) no sooner than the Date of Entry of the Fourth Amendment to Consent Decree, provided that (a) such credits are generated while

the Philadelphia and Marcus Hook refineries constitute one stationary source under the authorities listed above, (b) the emissions units at which credits are being used have a federally enforceable permit that reflects the requirements of Paragraph 99A.a.i-vii, as applicable, and (c) the credits are "contemporaneous" with the increases from the project covered by the permit.

c. Any unused emission reduction credits under this Paragraph 99A may be used as offsets for compliance with the requirements of 42 U.S.C. § 7503(c) only at the Marcus Hook Refinery and the Philadelphia Refinery Property. Use of any such offsets must also comply with the requirements of Pa. Code Title 25 § 127, subchapter E.

d. Conditions Precedent to Utilizing Exception to General Prohibition. Utilization of the exception set forth in this Paragraph 99A to the general prohibition against the generation or utilization of CD emissions reductions set forth in Paragraph 97 is subject to the following conditions:

i. No NOx, SO_2, PM_{10}, $PM_{2.5}$, CO, VOC, GHG or SO_3 reductions may be used as credits or offsets under this paragraph prior to the date of the permanent shut-down of crude refining operations at the Marcus Hook Refinery, which is on the later of: (i) the date of the shut-down of the crude refining operations at the Refinery, and (ii) the date that Sunoco submits the required filings with the Commonwealth of Pennsylvania necessary to surrender all air permits to operate as a refinery;

ii. The CD emissions reductions provisions of this Consent Decree are for purposes of this Consent Decree only and neither Sunoco, PES R&M LLC, nor any other entity may use CD emissions reductions for any purpose, including in any subsequent permitting or enforcement proceeding, except as provided herein; and

iii. Sunoco and PES R&M LLC still shall be subject to all federal, state, and local regulations applicable to the PSD, major non-attainment and/or minor NSR permitting process.

7. For purposes of Notification under Paragraph 240 of the Consent Decree, the Philadelphia Refinery shall be notified as follows:

As to PES R&M LLC:
Philip L. Rinaldi
Chief Executive Officer
Philadelphia Energy Solutions Refining and Marketing LLC
3144 Passyunk Avenue
Philadelphia, PA 19134

8. New Paragraph 113A shall be added to the Consent Decree and shall read as follows:

113A. **Fenceline Monitoring at the Philadelphia Refinery**. PES R&M LLC shall implement a project to install monitors at the fenceline or perimeter of the Philadelphia Refinery to monitor certain emissions and make the data publicly available, as provided in Appendix J of this Consent Decree ("Fenceline Monitoring System at the Philadelphia Refinery"). The installation and commencement of operation of the

fenceline monitoring system shall be completed by no later than 30 months after the Date of Entry of the Fourth Amendment to Consent Decree.

9. New Appendix J shall be added to the Consent Decree and shall read as follows:

APPENDIX J

FENCELINE MONITORING SYSTEM AT THE PHILADELPHIA REFINERY

PES R&M LLC will install, operate and maintain a fenceline monitoring system and make the data collected available to the public in accordance with the specifications and criteria identified in this Appendix.

A. **Equipment:** The monitoring system shall consist of two monitoring stations, which shall be equipped with the following equipment:

1. Instruments capable of measuring and recording the concentrations of the following compounds in air at minimum detection levels for the following analytes:

Analyte	Level of Detection
$PM_{2.5}$ and PM_{10}	0.1 micrograms per m^3
CO	40.0 ppbV
VOCs	1.0 ppbV
Sulfur dioxide	40.0 ppbV
NOx	1.0 ppbV
Hydrogen sulfide	1.0 ppbV
Reduced sulfur compounds (defined as all compounds containing reduced sulfur measured as an aggregate sum)	1.0 ppbV

The monitoring equipment shall be capable of measuring the analytes at the above-referenced concentrations and the data recording system shall reduce those measurements to hourly averages.

Within 360 days of the Date of Entry of the Fourth Amendment to the Consent Decree, PES R&M LLC shall provide EPA and AMS with a Fenceline Monitoring Plan to include, at a minimum, identifying the location of the meteorological station and demonstrating how that site meets the requirements of this Appendix; a Quality Assurance Project Plan (QAPP) that describes the Quality Assurance/Quality Control procedures, specifications, and other technical activities to be implemented to ensure that the results of the fenceline monitoring system meets project specifications; and implementation of the data availability requirements in Paragraph E of this Appendix.

a. SO_2, Reduced Sulfur Compounds and H_2S. Ambient concentrations of sulfur dioxide (SO_2) will be continuously measured using Teledyne-API Model T100 or equivalent in accordance with 40 C.F.R. Part 53, Subparts A and C. The SO_2 monitor shall be operated and maintained in accordance with all corresponding EPA equivalent method requirements. The SO_2 monitors will be operated in the 0 to 0.50 ppm full scale measurement range with temperature and pressure compensation features activated. For Hydrogen Sulfide (H_2S) and reduced sulfur compounds, the Teledyne API Model T101 or equivalent will be operated in switching mode to provide alternate 5-minute data for H_2S, then reduced sulfur compounds. The monitors shall be operated and maintained in accordance with the manufacturer's recommendations and shall be capable of measuring reduced sulfur compounds and H_2S, with a lower detection level of 1.0 ppb.

Nothing in this Appendix J shall preclude the use of any other, additional fenceline monitoring equipment and/or monitoring of any other, additional pollutants at the fenceline of the Philadelphia Refinery.

2. Instruments for Measuring and Recording Wind Speed, Wind Direction, Ambient Temperature, Humidity and Barometric Pressure. PES R&M LCC will utilize existing equipment to monitor specific meteorological parameters to obtain data representative of prevailing meteorological conditions for the Philadelphia Refinery area. The data set produced shall be adequate to correlate prevailing conditions with pollutant measurements and transport.

a. Continuously measured meteorological parameters shall include hourly-averaged (scalar or vector) measurements of horizontal wind speed and wind direction, the standard deviation of the horizontal wind direction (sigma theta), air temperature and relative humidity. Wind speed and direction shall be measured at a height of approximately 10 meters. Temperature, relative humidity, and barometric pressure shall be measured at a height of 2 to 3 meters.

b. Wind direction and sigma theta measurement data shall be compiled and reported as hourly block averages in degrees (°), rounded to the nearest whole degree. Wind speed measurement data shall be compiled and reported as hourly block averages in miles per hour (mph), rounded to the nearest tenth of a mph.

c. Air temperature measurement data will be compiled and reported as hourly block averages in degrees Fahrenheit (° F) or Celsius (° C), rounded to the nearest tenth of a degree.

d. Relative humidity measurement data will be compiled and reported as hourly block averages in percent, rounded to the nearest whole percent.

3. Monitoring Station. Monitoring equipment (except meteorological monitors and their support towers) shall be installed and operated inside a temperature-controlled equipment shelter. The temperature within each shelter shall be continuously monitored

and recorded using a calibrated RTD and microprocessor-or PC-based data acquisition system (DAS or data logger). The climate control system for each monitoring shelter will be capable of maintaining a stable temperature within the range of 20° C to 30° C.

Typically, a monitoring shelter will measure 8 feet wide by 12 feet long by 8 feet high. The shelter will be anchored and secured to a concrete pad for safety. A padlocked exterior compartment attached to an outer wall of the shelter will safely house all compressed support gases. Shelter walls and roof will have a minimum insulation rating of R11. The shelter will be equipped with electrical service panels, interior electrical distribution circuits, lighting, workbench and sufficient space for housing, operating and maintaining the monitoring instruments. All electrical wiring and appurtenances will conform to the National Electric Code (NEC). Each shelter electrical service and the shelter building itself will be grounded to earth in conformance with NEC and local code requirements.

The monitoring shelter, if located within the refinery, shall maintain a slight (*e.g.,* 0.013 to 0.026 Bar) internal positive air pressure with respect to atmospheric air pressure.

B. Location – The monitoring stations shall be located on Philadelphia Refinery property near the Refinery fenceline at up- and down-wind locations to be determined by PES R&M LLC, in consultations with EPA and interested members of the Philadelphia Refinery's Community Advisory Panel (CAP), and in consideration of the following siting criteria:

a. The up- and down-wind locations should be determined by the last 5 years of NOAA data from the most appropriate National Weather Service (NWS) or from the [local] monitoring station. The meteorological data (resultant wind direction and wind speed hourly averages) will be used to construct wind roses for the site.

b. Availability of land, accessibility to site, availability of utility services, and security of monitors and operating personnel.

c. Geographic spacing of sites relative to the refinery for monitoring upwind and downwind concentrations.

d. Probe or sampler inlet should be 2 to 5 meters above ground and have unrestricted airflow 270 degrees around the sample inlet probe or 180 degrees if the probe is on the side of a building.

e. Probe or sampler inlet should be >20 meters from the dripline of any tree(s).

f. SO_2, TRS, and VOC probes should be >1 meter away from supporting structures, walls and parapets.

g. The distance from a sampler probe to an obstacle, such as a building, should be at least twice the height the obstacle protrudes above the sampler, probe, or monitoring path.

h. All probes and samplers should be away from minor sources, such as incineration flues, to avoid undue influences from minor sources. The separation

distance is dependent on the height of the minor source's emission point (such as a flue), the type of fuel or waste burned, and the quality of the fuel.

C. **Operation** – PES R&M LLC shall operate and maintain the monitors and equipment described herein in accordance with manufacturers' recommendations.

D. **Quality Assurance/Quality Control (QA/QC)** – PES R&M LLC shall ensure that all data collected by the Fenceline Monitoring System is subjected to appropriate QA/QC procedures on a monthly basis. The QA/QC procedures for a given month's data shall be completed by no later than the end of the month following the month within which the data were collected.

E. **Data Availability** – On a weekly basis, PES R&M LLC shall post the Fenceline Monitoring System data on a dedicated website ("Monitoring Data Website"), in a manner that shall be readily accessible, clearly labeled, and clearly presented to the public. PES R&M LLC shall additionally post on the Monitoring Data Website, on a quarterly basis, CEMS emissions reports submitted to AMS and/or USEPA pursuant to the Title V permit for all refinery units that are monitored by CEMS. PES R&M LLC shall maintain data collected through the Fence Line Monitoring System on the Monitoring Data Website for at least five years from the date of its collection, and shall review the Fence Line Monitoring Data with the CAP members as they may request.

* * * * *

ORDER

Before the taking of any testimony, without adjudication of any issue of fact or law, and upon the consent and agreement of the Parties, it is:

ORDERED, ADJUDGED and DECREED that this Fourth Amendment to the Consent Decree is hereby approved and entered as a final order of this court.

Dated and entered this _____ day of _____, 2012.

_____
United States District Judge

WE HEREBY CONSENT to the foregoing Fourth Amendment to the Consent Decree entered in *United States, et al., v. Sunoco, Inc.*, Civil No. 05-02866, on March 21, 2006, as amended.

FOR PLAINTIFF THE UNITED STATES OF AMERICA:

Date: 8/9/12

[redacted]

IGNACIA S. MORENO
Assistant Attorney General
Environment and Natural Resources Division
United States Department of Justice
Washington, DC 20460

Date: 8/16/12

[redacted]

MICHAEL J. MCNULTY
Acting Assistant Chief
Environmental Enforcement Section
United States Department of Justice
P.O. Box 7611
Ben Franklin Station
Washington, DC 20044-7611

WE HEREBY CONSENT to the foregoing Fourth Amendment to the Consent Decree entered in *United States, et al., v. Sunoco, Inc.*, Civil No. 05-02866, on March 21, 2006, as amended.

FOR PLAINTIFF THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY:

Date: 8/15/12

[redacted]

PAMELA J. MAZAKAS
Acting Director, Office of Civil Enforcement
United States Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460-0001

Date: August 14, 2012

[redacted]

JOHN FOGARTY
Associate Director, Office of Civil Enforcement
United States Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460-0001

WE HEREBY CONSENT to the foregoing Fourth Amendment to the Consent Decree entered in *United States, et al., v. Sunoco, Inc.*, Civil No. 05-02866, on March 21, 2006, as amended.

FOR PLAINTIFF THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, REGION 3:

Date: AUG 16 2012

[redacted]

SHAWN M. GARVIN
Regional Administrator
U.S. Environmental Protection Agency, Region 3
1650 Arch Street
Philadelphia, PA 19103-2029

WE HEREBY CONSENT to the foregoing Fourth Amendment to the Consent Decree entered in *United States, et al., v. Sunoco, Inc.*, Civil No. 05-02866, on March 21, 2006, as amended.

FOR PLAINTIFF/INTERVENOR THE COMMONWEALTH OF PENNSYLVANIA:

Date: 8/14/2012

[redacted]

JAMES D. REBARCHAK
Regional Manager
Air Quality
Commonwealth of Pennsylvania
Department of Environmental Protection
2 East Main Street
Norristown, PA 19401

WE HEREBY CONSENT to the foregoing Fourth Amendment to the Consent Decree entered in *United States, et al., v. Sunoco, Inc.*, Civil No. 05-02866, on March 21, 2006, as amended.

FOR PLAINTIFF/INTERVENOR THE CITY OF PHILADELPHIA:

DONALD F. SCHWARZ, MD, MPH, MBA
Deputy Mayor of Health and Opportunity and
Health Commissioner

Date: 8/15/2012 By: [redacted]

THOMAS HUYNH
Director, Air Management Services
321 University Avenue, 2nd Floor
Philadelphia, PA 19104

SHELLEY R. SMITH
City Solicitor

Date: 8/15/2012 By: [redacted]

DENNIS YUEN
Assistant City Solicitor

PATRICK K. O'NEILL
Divisional Deputy City Solicitor, Envtl. Law
City of Philadelphia Law Dept.
One Parkway Bldg. 16th Floor
1515 Arch Street
Philadelphia, PA 19102

ATTORNEYS FOR PLAINTIFF/INTERVENOR
CITY OF PHILADELPHIA

WE HEREBY CONSENT to the foregoing Fourth Amendment to the Consent Decree entered in *United States, et al., v. Sunoco, Inc.*, Civil No. 05-02866, on March 21, 2006, as amended.

FOR DEFENDANT SUNOCO, INC.:

Date: 8/14/2012

[redacted]

JOHN D. PICKERING
Senior Vice President, Manufacturing
Sunoco, Inc.
1818 Market Street
Philadelphia, PA 19103

Date: 8/14/2012

[redacted]

ARNOLD D. DODDERER
Assistant General Counsel
Sunoco, Inc.
1735 Market Street
Philadelphia, PA 19103

ATTORNEY FOR SUNOCO, INC.

WE HEREBY CONSENT to the foregoing Fourth Amendment to the Consent Decree entered in *United States, et al., v. Sunoco, Inc.*, Civil No. 05-02866, on March 21, 2006, as amended.

FOR DEFENDANT PHILADELPHIA ENERGY SOLUTIONS REFINING & MARKETING LLC:

Date: 8/14/12

PHILIP L. RINALDI
Chief Executive Officer
Philadelphia Energy Solutions Refining & Marketing LLC
3143 Passyunk Avenue
Philadelphia, PA 19134

APPENDIX 1

Legal Description

PARCEL A
Girard Description. (Parcel A)
Beginning at a point on the northern side of Lanier Avenue and the corner of the Point Breeze Parcel B-3 North 58°52'39" East, a distance of 31.47 feet; thence South 31°07'21" East, a distance of 136.40feet; thence South 58°52'39" West, a distance of 50.41 feet to a point a corner of lands of Conrail; thence along lands of Conrail the 14 following courses and distances:
(1) South 31°52'50" East, a distance of 90.73 feet to a point of curvature;
(2) by a curve to the right having a radius of 335.54 feet and a central angle of 39°39'00" an arc length of 232.20 feet a chord which bears South 12°03'20" East 227.60 feet to a point;
(3)South 07°46'10" West tangent to said curve, a distance of 541.48 feet;
(4) North 35°26'10" East, a distance of 282.33 feet;
(5) North 35°47'10" East, a distance of 273.76 feet;
(6) South 07°46'01" West, a distance of 1297.42 feet;
(7) South 07°54'07" West, a distance of 144.68 feet;
(8) South 09°10'51" West, a distance of 320.82 feet;
(9)South 04°26'38" West, a distance of 122.85 feet;
(10) South 07°38'04" West, a distance of 30.09 feet;
(11) South 08°09'35" West, a distance of 119.06 feet;
(12) South 06°59'31" West, a distance of 139.54 feet;
(13) South 81°41'24" East, a distance of 89.38 feet;
(14) South 07°57'20" West, a distance of 232.50 feet to a point on the pierhead and bulkhead of the Schuylkill River;

thence along the bulkhead of the Schuylkill River the 56 following courses and distances:

(1) North 83°40'40" West, a distance of 484.75 feet;
(2) North 80°59'10" West, a distance of 293.05 feet;
(3) North 80°57'45" West, a distance of 291.76 feet;
(4) North 80°39'50" West, a distance of 367.78 feet;
(5) North 09°10'46" East, a distance of 47.72 feet;
(6) North 63°43'59" West, a distance of 87.28 feet;
(7) North 61°57'14" West, a distance of 104.02 feet;
(8) South 26°32'09" West, a distance of 51.72 feet;
(9) North 62°59'30" West, a distance of 133.92 feet;
(10) North 62°12'53" West, a distance of 166.29 feet;
(11) North 26°44'06" East, a distance of 55.61 feet;
(12) North 62°58'22" West, a distance of 247.86 feet;
(13) North 62°17'56" West, a distance of 287.77 feet;
(14) North 45°26'57" West, a distance of 211.11 feet;
(15) North 46°31'00" West, a distance of 354.57 feet;
(16) North 64°57'13" West, a distance of 65.87 feet;
(17) North 34°41'49" West, a distance of 109.10 feet;
(18) North 46°10'22" West, a distance of 380.64 feet;
(19) North 29°33'57" West, a distance of 210.22 feet;
(20) North 28°49'08" West, a distance of 356.96 feet;
(21) North 29°42'09" West, a distance of 364.44 feet;
(22) North 16°12'31" West, a distance of 42.38 feet;
(23) North 09°26'20" West, a distance of 45.39 feet;
(24) North 15°41'58" West, a distance of 913.99 feet;

(25) North 15°05'58" West, a distance of 56.31 feet;
(26) North 08°17'52" West, a distance of 173.70 feet;
(27) North 05°19'22" West, a distance of 64.01 feet;
(28) North 07°37'01" West, a distance of 1136.34 feet;
(29) North 08°01'22" East, a distance of 380.08 feet;
(30) North 28°44'59" East, a distance of 7.74 feet;
(31) North 43°42'20" East, a distance of 197.15 feet;
(32) North 42°26'02" East, a distance of 89.30 feet;
(33) North 44°10'07" East, a distance of 72.09 feet;
(34) North 72°36'31" East, a distance of 27.87 feet;
(35) North 75°53'49" East, a distance of 101.72 feet;
(36) North 77°19'59" East, a distance of 293.03 feet;
(37) South 86°50'08" East, a distance of 373.53 feet;
(38) South 86°29'05" East, a distance of 408.99 feet;
(39) North 84°56'19" East, a distance of 6.58 feet;
(40) North 81°27'07" East, a distance of 156.35 feet;
(41) North 85°23'48" East, a distance of 75.71 feet;
(42) North 80°50'16" East, a distance of 28.45 feet;
(43) South 15°42'39" East, a distance of 2.48 feet;
(44) North 74°42'14" East, a distance of 40.34 feet;
(45) North 79°38'24" East, a distance of 11.24 feet;
(46) North 84°28'14" East, a distance of 78.29 feet;
(47) North 71°34'56" East, a distance of 10.59 feet;
(48) North 85°13'53" East, a distance of 68.60 feet;
(49) North 53°43'35" East, a distance of 138.34 feet;
(50)North 55°19'46" East, a distance of 24.25 feet;
(51) North 49°12'19" East, a distance of 21.57 feet;
(52) North 50°49'59" East, a distance of 22.71 feet;
(53) North 63°34'55" East, a distance of 37.80 feet;
(54) North 48°56'08" East, a distance of 17.60 feet;
(55) North 48°01'38" East, a distance of 37.79 feet;
(56) North 57°04'27" East, a distance of 220.24 feet to a point, a corner of Point Breeze Parcel B-1;

thence along Point Breeze Parcel B-1 the following 9 courses and distances:
(1) South 66°43'40" East, a distance of 165.74 feet;
(2) South 26°47'19" West, a distance of 173.62 feet to a point of curvature;
(3) by a curve to the left having a radius of 313.83 feet and a central angle of 55°00'41" an arc length of 301.32 feet a chord which bears South 00°06'24" West 289.88 feet;
(4) South 28°44'58" East, a distance of 198.19 feet; (5) North 78°06'33" East, a distance of 1489.09 feet;
(6) South 07°46'10" West, a distance of 1288.62 feet; (7) South 60°40'29" West, a distance of 577.59 feet;
(8) South 29°33'29" East, a distance of 525.42 feet;
(9) South 32°34'13" East, a distance of 529.63 feet to the point of Beginning.
Containing 394.96 Acres, more or less.

BRT#885044000 - 3600 Lanier Ave
BRT#884096500 - 3404 Penrose Ave
BRT#884095400 - 3000 Penrose Ferry Rd
BRT#884095500 - 3002 Penrose Ferry Rd

PARCEL B-1
Point Breeze Description (Parcel B-1)
Beginning at a point on the western side of 26th street; thence along the western side of 26th Street the 16 following courses and distances:
(1) South 07°45'55" West, a distance of 169.94 feet;
(2) South 00°16'02" East, a distance of 38.37 feet;

(3) South 06°25'58" West, a distance of 199.87 feet;
(4) South 07°53'20" West, a distance of 211.08 feet;
(5) South 07°47'37" West, a distance of 1509.96 feet;
(6) South 07°52'07" West, a distance of 726.03 feet;
(7) South 07°38'49" West, a distance of 48.89 feet;
(8) South 09°29'34" West, a distance of 130.93 feet;
(9) South 07°13'47" West, a distance of 401.40 feet;
(10) South 07°57'21" West, a distance of 318.70 feet;
(11) South 15°50'52" West, a distance of 136.31 feet;
(12) South 07°45'11" West, a distance of 118.07 feet;
(13) North 80°01'54" West, a distance of 17.81 feet;
(14) South 14°08'03" West, a distance of 552.84 feet to a point of curvature;
(15) by a curve to the left having a radius of 200.76 feet and a central angle of 66°30'21" an arc length of 233.04 feet and a chord which bears South 34°54'40" West 220.17 feet;
(16) South 01°46'40" West, a distance of 293.89 feet;

thence along the north side of Penrose Avenue South 43°34'41" West, a distance of 665.73 feet to a point of curvature; thence by a curve to the right having a radius of 126.09 feet and a central angle of 73°01'54" an arc length of 160.71 feet a chord which bears South 87°07'45" West 150.05 feet point of reverse curvature;
thence by a reverse curve to the left having a radius of 167.93 feet and a central angle of 102°48'10" an arc length of 301.32 feet and a chord South 78°02'49" West and a distance of 262.49 feet;

thence along the northern side of Lanier Avenue the eight following courses and distances:

(1) South 28°41'02" West, a distance of 84.04 feet;
(2) South 30°01'19" West, a distance of 182.61 feet;
(3)South 33°23'20" West, a distance of 122.68 feet to a point of curvature;
(4) by a curve to the left having a radius of 365.09 feet and a central angle of 10°02'31" an arc length of 63.99 feet a chord which bears South 38°14'27" West 63.90 feet;
(5) South 45°13'17" West, a distance of 69.72 feet to a point of curvature;
(6) by a curve to the left having a radius of 248.69 feet and a central angle of 11°28'08" an arc length of 49.78 feet a chord which bears South 50°30'20" West 49.70 feet;
(7)South 55°40'25" West, a distance of 127.19 feet; (8) South 58°52'39" West, a distance of 504.43 feet;

thence along Girard Point property the following ten courses and distances:

(1) South 58°52'39" West, a distance of 31.47 feet;
(2) North 32°34'13" West, a distance of 529.63 feet;
(3) North 29°33'29" West, a distance of 525.42 feet;
(4) North 60°40'29" East, a distance of 577.59 feet;
(5) North 07°46'10" East, a distance of 1288.62 feet;
(6) South 78°06'33" West, a distance of 1489.09 feet;
(7) North 28°44'58" West, a distance of 198.19 feet to a point of curvature;
(8) by a curve to the right having a radius of 313.83 feet and a central angle of 55°00'41" an arc length of 301.32 feet a chord which bears North 00°06'24" East 289.88 feet to a point;
(9) North 26°47'19" East, a distance of 173.62 feet;
(10) North 66°43'40" West, a distance of 165.74 feet to a point on the bulkhead of the Schuylkill River;

thence along the bulkhead of the Schuylkill River the 29 following courses and distances:

(1) North 43°24'56" East, a distance of 135.15 feet;
(2) North 32°59'59" East, a distance of 197.67 feet;
(3) North 28°46'15" East, a distance of 207.21 feet;
(4) South 67°36'32" East, a distance of 25.00 feet;
(5) North 28°53'49" East, a distance of 525.99 feet;

(6) North 23°14'16" East, a distance of 296.55 feet;
(7) North 16°27'07" East, a distance of 155.27 feet;
(8) North 09°56'26" East, a distance of 211.86 feet;
(9) North 26°32'07" East, a distance of 130.56 feet;
(10) North 45°19'27" West, a distance of 43.11 feet;
(11) North 23°44'32" East, a distance of 11.78 feet;
(12) North 58°39'44" East, a distance of 10.33 feet;
(13) North 13°19'01" East, a distance of 20.88 feet;
(14) North 21°53'43" East, a distance of 22.65 feet;
(15) North 33°53'23" East, a distance of 15.69 feet;
(16) North 22°37'41" East, a distance of 36.18 feet;
(17) North 12°06'28" East, a distance of 42.35 feet;
(18) South 78°45'03" East, a distance of 9.60 feet;
(19) North 12°10'53" East, a distance of 13.10 feet;
(20) North 84°10'16" West, a distance of 12.72 feet;
(21) North 23°48'41" East, a distance of 452.70 feet;
(22) North 23°48'41" East, a distance of 453.47 feet;
(23) South 72°18'38" East, a distance of 4.28 feet;
(24) North 19°03'43" East, a distance of 23.84 feet;
(25) North 15°47'28" East, a distance of 46.32 feet;
(26) South 80°51'48" East, a distance of 21.53 feet;
(27) North 13°26'19" East, a distance of 231.84 feet;
(28) North 07°22'43" East, a distance of 111.24 feet;
(29) North 03°41'43" West, a distance of 175.93 feet;
(30) North 15°46'02" West, a distance of 105.60 feet;
thence North 74°54'45" East, a distance of 126.56 feet; thence continuing along same North 74°54'45" East, a distance of 225.13 feet; thence South 14°27'15" East, a distance of 45.83 feet to a point on the southern side of Passyunk Avenue;

thence along the southern side of Passyunk Avenue North 74°50'12" East, a distance of 1289.66 feet; thence leaving said side of Passyunk Avenue South 15°09'48" East, a distance of 364.36 feet; thence North 74°50'12" East, a distance of 218.00 feet; thence South 15°09'48" East, a distance of 63.00 feet; thence South 89°08'54" East, a distance of 10.00 feet; thence South 25°09'48" East, a distance of 60.00 feet; thence South 63°09'48"
East, a distance of 27.00 feet; thence North 71°05'39" East, a distance of 79.00 feet; thence North 66°10'39" East, a distance of 201.00 feet; thence North 04°50'39" East, a distance of 61.00 feet; thence South 85°09'21" East, a
distance of 82.00 feet; thence North 74°50'39" East, a distance of 253.00 feet; thence South 82°09'21" East, a distance of 224.77 feet to the Point of Beginning.
Containing 360.55 Acres, more or less.
BRT#884097000 - 3144 W. Passyunk Ave

PARCEL B-2 Point Breeze Description. (Parcel B-2)
Beginning at a point on the south side of Passyunk Avenue and on the pierhead and bulkhead of the Schuylkill River; thence along the bulkhead of the Schuylkill River the thirty-three following courses and distances:
(1) North 15°46'02" West, a distance of 155.02 feet;
(2) North 31°09'33" West, a distance of 148.28 feet;
(3) North 39°25'25" West, a distance of 180.29 feet;
(4) North 44°07'32" West, a distance of 80.71 feet;
(5) North 65°32'53" West, a distance of 13.18 feet;
(6) North 49°22'28" West, a distance of 8.41 feet;
(7) North 65°46'02" West, a distance of 30.05 feet;
(8) South 54°50'25" West, a distance of 5.48 feet;
(9) North 40°45'12" West, a distance of 48.68 feet;

(10) North 56°19'58" West, a distance of 156.17 feet;
(11) North 57°58'20" West, a distance of 145.68 feet;
(12) North 75°17'24" West, a distance of 42.80 feet;
(13) North 83°31'11" West, a distance of 86.58 feet;
(14) North 83°31'11" West, a distance of 95.61 feet;
(15) North 83°00'35" West, a distance of 187.03 feet;
(16) South 80°37'47" West, a distance of 809.03 feet;
(17) South 80°01'56" West, a distance of 46.99 feet;
(18) South 85°22'16" West, a distance of 35.86 feet;
(19) South 86°42'51" West, a distance of 95.79 feet;
(20) North 05°28'09" West, a distance of 30.00 feet;
(21) North 72°05'27" West, a distance of 480.36 feet;
(22) North 49°21'34" West, a distance of 277.55 feet;
(23) North 44°46'47" West, a distance of 91.93 feet;
(24) North 27°49'54" West, a distance of 198.68 feet;
(25) North 23°47'26" West, a distance of 139.41 feet;
(26) North 27°22'11" West, a distance of 140.79 feet;
(27) North 00°58'58" West, a distance of 695.54 feet;
(27) North 14°12'09" East, a distance of 375.02 feet;
(28) North 06°23'54" West, a distance of 78.53 feet;
(29) North18°25'26" East, a distance of 447.84 feet;
(30) South 74°33'15" East, a distance of 65.04 feet;
(31) North 24°55'08" East, a distance of 22.18 feet;
(32) South 81°55'09" East, a distance of 191.39 feet;
(33) North 42°08'32" East, a distance of 43.36 feet;

thence leaving bulkhead and along lands of Conrail South 82°20'38" East, a distance of 644.83 feet; thence continuing along lands of Conrail the 11 following courses and distances:

(1) South 16°15'57" East, a distance of 120.19 feet to a point of curvature;
(2) by a curve to right having a radius of 653.39 feet and a central angle of 54°52'25" an arc length of 625.77 feet a chord
which bears South 44°45'52" East 602.12 feet;
(3) South 82°10'05" East, a distance of 379.22 feet;
(4) South 81°54'46" East, a distance of 281.13 feet;
(5) South 82°09'55" East, a distance of 185.06 feet;
(6) South 82°22'37" East, a distance of 375.54 feet;
(7) South 82°19'05" East, a distance of 329.39 feet;
(8) South 81°52'05" East, a distance of 339.43 feet;
(9) South 82°21'18" East, a distance of 639.33 feet;
(10) South 82°07'25" East, a distance of 230.24 feet to a point of curvature;
(11) by a of a curve to the right having a radius of 1028.90 feet and a central angle of 18°15'10" an arc length of 327.78 feet a chord which bears South 73°24'01"East 326.40 feet;

thence South 07°48'50" West, a distance of 86.27 feet to a point in line of lands owned by the City of Philadelphia; thence along lands of Philadelphia the 16 following courses and distances:

(1) by a curve to the left having a radius of 499.91 feet and a central angle of 22°54'36" an arc length of 199.89 feet a chord which bears South 82°53'51" West 198.56 feet;
(2) South 68°52'37" West, a distance of 368.16 feet to a point of curvature;
(3) by a curve to the left having a radius of 759.85 feet and a central angle of 9°50'11" an arc length of 130.45 feet a chord which bears South 74°48'53" West 130.29 feet;
(4) South 79°06'45" West, a distance of 310.68 feet;
(5) South 74°37'16" West, a distance of 96.75 feet;
(6) South 56°20'07" West, a distance of 70.00 feet;
(7) South 64°28'35" West, a distance of 251.25 feet;

(8) South 67°27'07" West, a distance of 302.11 feet;
(9) South 67°27'07" West, a distance of 402.58 feet;
(10) South 67°27'07" West, a distance of 141.14 feet;
(11) South 53°20'14" West, a distance of 50.00 feet;
(12) South 23°28'34" East, a distance of 32.51 feet;
(13) South 23°28'34" East, a distance of 299.99 feet;
(14) South 35°54'01" East, a distance of 737.38 feet;
(15) South 16°59'51" East, a distance of 113.90 feet;
(16) South 44°15'26" East, a distance of 25.66 feet;
thence South 74°54'45" West, a distance of 126.56 feet to the Point of Beginning.

Containing 141.00 Acres, more or less.
BRT#884097200 - 3143 W. Passyunk Ave

PARCEL B-3 (Point Breeze Description. (Parcel B-3)
Beginning at a point on the right of way of Moore street; thence along the southern right of way of Moore Street South 76°59'06" East, a distance of 85.84 feet; thence continuing along said right of way South 76°04'48" East, a distance of 329.50 feet to a point on the western right of way line of 35th street; thence along the western right of way line of 35th Street South 13°57'01" West, a distance of 518.75 feet; thence South 82°07'46" East, a distance of 497.03 feet to a point on the western right of way line of 34th Street; thence along the western right of way line of 34th Street South 20°22'25" West, a distance of 139.66 feet to a point on the southern right of way line of Maiden Lane; thence along the southern right of way line of Maiden Lane
South 64°11'02" East, a distance of 1256.82 feet to a point of curvature; thence by a curve to the right entering the western side of 26th Street having a radius of 491.39 feet and a central angle of 18°49'29" an arc length of 161.45 feet and a chord which bears South 55°27'35" East 160.72 feet;

thence along the western side of 26th Street the eight following courses and distances:
(1) South 43°44'58" West, a distance of 2.95 feet;
(2) South 40°36'48" East, a distance of 169.81 feet;
(3) South 37°29'46" East, a distance of 210.70 feet;
(4) South 37°08'53" East, a distance of 599.67 feet;
(5)South 37°13'25" East, a distance of 255.57 feet;
(6) South 45°31'16" West, a distance of 2.49 feet;
(7) South 34°13'50" East, a distance of 144.39 feet;
(8) South 33°56'02" East, a distance of 266.03 feet;

thence leaving the western side of 26th Street and going along the northern side of lands of Conrail the 24 following courses and distances:

(1) North 81°59'00" West, a distance of 236.77 feet;
(2) North 58°22'13" East, a distance of 33.81 feet;
(3) North 74°29'15" West, a distance of 121.44 feet;
(4) North 76°18'45" West, a distance of 250.63 feet;
(5) North 84°05'02" West, a distance of 285.50 feet;
(6) South 47°15'52" West, a distance of 15.18 feet;
(7) North 75°52'55" West, a distance of 46.21 feet;
(8) North 82°02'14" West, a distance of 525.00 feet;
(9) North 02°36'38" East, a distance of 6.00 feet;
(10)North 82°03'42" West, a distance of 209.46 feet;
(11) North 82°26'26" West, a distance of 197.26 feet;
(12) North 82°16'24" West, a distance of 149.97 feet;
(13)North 82°06'49" West, a distance of 452.25 feet;
(14) South 11°06'33" West, a distance of 15.19 feet;
(15) North 81°57'23" West, a distance of 288.33 feet;
(16) North 80°02'02" West, a distance of 92.49 feet;

(17)North 83°48'02" West, a distance of 66.93 feet:
(18) North 79°34'03" West, a distance of 240.34 feet to a point of curvature;
(19) by a curve to the right having a radius of 665.76 feet and a central angle of 55°53'57" an arc length of 649.53 feet and a chord which bears North 53°19'49" West 624.07 feet to a point of compound curvature;
(20) by a compound curve to the right having a radius of 733.68 feet and a central angle of 44°51'23" an arc length of 574.39 feet and a chord which bears North 00°47'49" East 559.84 feet;
(21) North 21°41'17" East, a distance of 358.44 feet;
(22) North 26°05'47" East, a distance of 92.79 feet; (23) South 82°19'34" East, a distance of 223.64 feet;
(24) North 13°55'44" East, a distance of 990.16 feet to the Point of Beginning.
Containing 106.64 Acres,more or less.
BRT#884097200 - 3143 W. Passyunk Ave

PARCEL B-4 (Point Breeze Description. (Parcel B-4)
Beginning at a point on the northerly side of Moore street with the centerline of the said former 36th Street, stricken from the city plan at 50 feet wide; thence along the centerline of the said former 36th Street North 13°59'19" East, a distance of
240.14 feet to a point on the southerly side of the said former Fish House Lane (at 23.208 feet wide);
thence along the said former Fish House Lane the following 5 courses and distances:
(1) North 79°29'59" West, a distance of 30.06 feet;
(2) North 13°59'19" East, a distance of 23.25 feet;
(3) South 79°29'59" East, a distance of 495.93 feet;
(4) South 13°59'19" West, a distance of 23.25 feet;
(5) North 79°29'59" West, a distance of 25.05 feet to a point on the centerline of the said former 35th Street (50 feet wide); thence along the the centerline of said former 35th Street South 13°59'19" West, a distance of 266.97 feet to a point on
the northerly side of Moore Street;
thence along the northerly side of Moore Street North 76°00'41" West, a distance of 440.00 feet to the point of Beginning.

Containing 2.83 Acres, more or less.

PARCEL C: SRTF (street side) Description.
ALL THAT CERTAIN tract or piece of land. SITUATE in the Forty-eighth Ward of the City of Philadelphia, described in accordance with an ALTA/ACSM Land Title Survey made by Ludgate Engineering Corporation dated 5/1/2012, as follows, to wit:
Beginning at a point on the eastern side of Essington Avenue and a corner
of lands of Pacific Atlantic Terminal; thence along lands of Pacific Atlantic Terminal
South 82°10'16" East, a distance of 367.00 feet; thence continuing along said lands
South 77°59'17" East, a distance of 668.27 feet to a point of curvature; thence by a curve
to the left having a radius of 1463.35 feet and a central angle of 25°44'18" an arc
length of 657.36 feet a chord which bears South 18°58'02" East 651.85 feet;
thence South 31°50'11" East a distance of 827.78 feet; thence South 31°50'11" East,
a distance of 1456.50 feet; thence along Mingo Creek South 58°16'51" West, a distance of
2698.79 feet; thence North 64°39'14" West, a distance of 673.96 feet to a point on the
eastern side of Mingo Avenue; thence along Mingo Avenue North 00°03'26" West, a distance of
1413.86 feet to a point on the eastern side of Essington Avenue; thence along Essington Avenue
North 10°51'10" East, a distance of 2507.54 feet to the Point of Beginning.

Containing 171.18 Acres, more or less.

PARCEL D: SRTF (river side) Description.

ALL THAT CERTAIN tract or piece of land. SITUATE in the Forty-eighth Ward of the City of Philadelphia, described in accordance with an ALTA/ACSM Land Title Survey made by Ludgate Engineering Corporation dated 5/1/2012, as follows, to wit:

Beginning at a point a corner of lands of Pacific Atlantic Terminal; thence along lands of Pacific Atlantic Terminal South 89°16'27" East, a distance of 989.92 feet to a point on the west side of the Schuylkill River; thence along said river the 4 following courses and distances: (1) South 03°54'17" East, a distance of 294.15 feet; (2) South 15°35'28" East, a distance of 973.86 feet; (3) South 15°35'28" East, a distance of 196.10 feet; (4)South 29°06'56" East, a distance of 955.16 feet; thence South 54°55'41" West, a distance of 467.65 feet to a point on the east side of lands of Pacific Atlantic Terminal; thence along lands of pacific Atlantic Terminal the three following courses and distances: (1) North 31°50'11" West, a distance of 1423.21 feet; (2) North 31°50'11" West, a distance of 857.35 feet to a point of curvature; (3) by a curve to the right having a radius of 1397.46 feet a central angle of 26°08'53" an arc length of 637.75 feet a chord which bears North 18°45'45" West a distance of 632.23 feet to the Point of Beginning.

Containing 39.90 Acres, more or less.

PARCEL E: West Yard Description.
ALL THAT CERTAIN tract or piece of land. SITUATE in the Forty-eighth Ward of the City of Philadelphia, described in accordance with an ALTA/ACSM Land Title Survey made by Ludgate Engineering Corporation dated 5/1/2012, as follows, to wit:

Beginning at a point on the southern right of way of Passyunk Avenue and a corner of lands of now or late Thy B. Ma; thence along said lands of Ma and along lands of now or late Joseph & Rosanna Mitchell South 69°19'58" East, a distance of 315.10 feet to a point a corner of lands of the now or late Phing Tan and Khanh Buu Huynh; thence along said lands and lands of Passyunk Avenue Realty En. North 82°44'45" East, a distance of 601.48 feet to a point a corner of the now or late lands of Passyunk Avenue Realty En; thence along said lands South 61°00'00" East, a distance of 218.91 feet; thence South 68°14'30" East, a distance of 251.05 feet; thence along lands of Auto Recycling Real Estate North 88°16'32" East, a distance of 288.19 feet; thence continuing along said lands and along lands of S.R.S. Inc. North 35°03'05" East, a distance of 1800.00 feet near the Schuylkill River;

thence in and along the Schuylkill River the 10 following courses and distances:

(1)South 80°39'14" East, a distance of 401.15 feet;
(2) South 42°01'03" East, a distance of 297.66 feet;
(3) South 04°55'59" West, a distance of 350.17 feet;
(4) South 15°52'29" West, a distance of 487.33 feet;
(5) South 23°42'54" West, a distance of 196.89 feet;
(6) South 22°35'18" West, a distance of 384.45 feet;
(7) South 14°15'27" West, a distance of 121.55 feet;
(8) South 15°59'35" West, a distance of 219.74 feet;
(9) South 21°40'33" West, a distance of 445.70 feet;
(10) South 23°20'44" West, a distance of 324.02 feet to a point a corner of lands of Convoy Realty LP;

thence along lands of Convoy North 63°18'58" West, a distance of 1362.47 feet; thence North 07°11'32" East, a distance of 231.25 feet to a point of curvature; thence by a curve to the left having a radius of 5000.00 feet and a central angle of 1°29'17" an arc length of 129.85 feet a chord which bears North 70°46'37" West 129.85 feet;

thence along lands of Point Breeze Terminal LLC the eight following courses and distances:

(1) North 67°11'05" West, a distance of 14.72 feet;
(2) South 83°51'36" West, a distance of 839.02 feet;

(3)North 60°55'04" East, a distance of 31.00 feet;
(4) North 25°30'00" East, a distance of 145.00 feet;
(5) North 00°00'00" East, a distance of 50.83 feet;
(6) North 00°00'00" East, a distance of 41.00 feet;
(7) North 85°21'56" West, a distance of 972.06 feet;
(8) North 07°07'07" East, a distance of 171.91 feet to a point on the southern side of Passyunk Avenue;

thence along the southern side of Passyunk Avenue the three following courses and distances:
(1) North 74°48'30" East, a distance of 226.91 feet;
(2) South 15°11'30" East, a distance of 6.00 feet;
(3) North 74°48'30" East, a distance of 349.28 feet to the Point of Beginning.
Containing 80.84 Acres, more or less.

PARCEL F (former premises "PP")
ELIMINATED FROM COMMITMENT

PARCEL G (former premises "WW")
REPLACED BY PREMISES B-4

PARCEL H – In 2 Parcels/Parcel H-1 and Parcel H-2

ALL THOSE CERTAIN tracts, pieces or parcels of land, situate former 36th Street and Moore Street, 36th Ward, City of Philadelphia, Commonwealth of Pennsylvania, as shown on a plan prepared by Van Demark & Lynch, Inc., Engineers, Planners and Surveyors, Wilmington, Delaware, Drawing No. 39945-F, dated April 23, 2010, entitled "Subdivision Plat, Premises "H", prepared for Sunoco, Inc." and being more particularly described as follows, to wit:

PARCEL "H-1":

BEGINNING at a point, the intersection of the northerly side of Moore Street, shown on the city plan and legally open at 50 feet wide, with the centerline of former 36th Street, stricken from the city plan at 50 feet wide, being the southwesterly corner of Premises 'H-1', Sunoco Propane Terminal (13-S-23/3) on a easterly line for land now or formerly of CSX Transportation, Inc. (13-S-24/4);

THENCE through the said land now or formerly of CSX Transportation, Inc. the seven (7) following described courses and distances:
(Courses 1 through 3 along or near a 6 foot chain link fence)
1. North 68° 50' 44" West, 77.400 feet to a point;
2. North 18° 57' 36" East, 199.926 feet to a point;
3. North 23° 20' 54" East, 201.193 feet to a fence corner;
4. North 25° 18' 02" East, 84.179 feet to a point;
5. North 27° 45' 33" East, 22.761 feet to a point; and
6. South 68° 50' 44" East, 43.650 feet to a point, the northwesterly corner for the herein described Parcel "B" on the westerly line of the said former 36th Street;

(Course 7 along the said westerly side of former 36th Street, being the westerly line for the said Parcel "H-2")
7. South 21° 09' 16" West, 245.524 feet to a point on the northerly side of former Fish House Lane, at 23.208 feet wide;

THENCE along the northerly side, westerly terminus and southerly side of the said former Fish House Lane the three (3) following described courses and distances:

1. North 72° 20' 02" West, 5.018 feet to a point;
2. South 21° 09' 16" West, 23.250 feet to a point; and

3. South 72°20'02" East, 30.064 feet to a point on the said centerline of former 36th Street;

THENCE along the said centerline of former 36th Street, South 21° 09' 16" West, 240.143 feet to the point and place of Beginning.

CONTAINING within said metes and bounds, 33,558 square feet (0.770 acres) of land, being the same, more or less.

PARCEL H-2

BEGINNING at a point, a southeasterly corner for the above described Parcel "H-1", the intersection of the westerly side of former 36th Street, stricken from the city plan at 50 feet wide, with the northerly side of former Fish House Lane, at 23.208 feet wide, being on a southeasterly line for land now or formerly of CSX Transportation, Inc. (13-S-2414), said point being measured the four (4) following courses and distances from the intersection of the northerly side of Moore Street, shown on the city plan and legally open at 50 feet wide, with the centerline of the said former 36th Street;

(Course 1 along the centerline of said former 36th Street)
1. North 21° 09' 16" East, 240.143 feet to a point on the southerly side of the said former Fish House Lane;
(Course 2 through 4 along the said former Fish House Lane)
2. North 72° 20' 02" West, 30.064 feet to a point;
3. North 21° 09' 16" East, 23.250 feet to a point; and
4. South 72° 20' 02" East, 5.018 feet to the Point of Beginning;

THENCE from said point of Beginning, through the said land now or formerly of CSX Transportation, Inc. the two (2) following courses and distances:

(Course 1 along an easterly line for the said Parcel "H-1")
1. North 21° 09' 16" East, 245.524 feet to a point; and
2. South 68° 50' 44" East, 25.000 feet to a point on the centerline for the said formerly 36th Street;

THENCE along the said centerline of the former 36th Street, South 21° 09' 16" West, 244.000 feet to a point on the said northerly side of former Fish House Lane;

THENCE along the said northerly side of former Fish House Lane, North 72° 20' 02" West, 25.046 feet to the point and place of Beginning.

CONTAINING within said metes and bounds, 6,119 square feet (0.140 acres) of land, being the same, more or less.

CONTAINING within said metes and bounds for Parcels "H-1" and "H-2", a total of 39,677 square feet (0.911 acres) of land, being the same, more or less.

APPENDIX 2

Reductions Available Under Paragraph 99A.b from Shut-Down of Marcus Hook Emissions Units (*in tpy*)

Id.	Emissions Unit	NOx	SO_2	VOC	CO	$PM_{2.5}$	PM_{10}	GHGs	SO_3
101	10-4 FCC Unit	92.38	128.38	1.26	364.92	315.36	315.36	891,018.9	56.07
040	10-4 Feed Heater	12.85	0.01	0.74	0.36	2.13	2.13	3,848.2	0.0
705	LSG HDS Heater	5.14	0.01	0.13	0.01	0.29	0.29	16,551.0	0.0
706	LSG Stabilizer Heater	1.08	0.02	0.08	0.31	0.16	0.16	10,868.7	0.0
	TOTAL	**111.37**	**128.42**	**2.21**	**365.60**	**317.94**	**317.94**	**922,286.83**	**56.07**