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February 15, 2022

Des Gillen
President
BP-Husky Refining LLC
4001 Cedar Point Road
Oregon, OH 43616
P 567.698.4529

EES Case Management Unit
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Washington, D.C. 20044-7611
Re: DJ # 90-5-2-1-09244/2

Director, Air Enforcement Division
Office of Civil Enforcement (2242A)
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20004

Office of Regional Counsel
U.S. EPA, Region 5
77 West Jackson Blvd. (C-14J)
Chicago, IL 60604

Ohio EPA
Division of Air Pollution Control
50 West Town Street, Suite 700
Columbus, Ohio 43216-1049
Attention: James Kavalec, Manager
Compliance and Enforcement

City of Toledo
Division of Environmental Services
348 South Erie Street
Toledo, Ohio 43604 Toledo, Ohio 43604
Attention: Karen Granata, Administrator

Re: <u>United States of America, et.al. v. BP Products North America Inc. and BP-Husky Refining LLC</u>
Northern District of Ohio, Western Division
Civil Action No. 3:20CV190
Consent Decree Semi Annual Report – 2nd Half 2021

NO USEPA ACTION REQUIRED: Information is being submitted for information purposes only.

In accordance with Part IX and ¶ 64 of the referenced Consent Decree, attached is the semi-annual report.

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I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Regards,

DocuSigned by:
Des Gillen
90F20640AD13450...

Des Gillen
President, BP-Husky Refining LLC
VP Refining, Toledo, BP Products North America Inc.

cc: eescdcopy.enrd@usdoj.gov
Re: DJ # 90-5-2-1-09244/2

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Consent Decree Semi-Annual Report

Introduction:

The purpose of this document is to fulfil the Part IX and ¶64 semi-annual reporting requirements of the Consent Decree entered into by BP-Husky Refining LLC as the owner and BP Products North America Inc. as the operator (hereinafter referred to collectively as "BPH" or "Defendants") of the BPH Toledo Refinery. On or before February 15 and August 15 each year, until termination of this Consent Decree pursuant to Section XXIII, the Defendants shall jointly submit to U.S. EPA and Ohio EPA a semi-annual report ("Semi-Annual Report").

Each Semi-Annual Report shall contain the following information for the previous six-month period (*i.e.*, January to June will be addressed in the report to be submitted by August 15, and July to December will be addressed in the report submitted by February 15).

Report Outline:

The format of this report follows a process where Paragraphs from the Consent Decree that include reporting requirements for BPH are quoted in a text box followed by a statement of applicability and reporting as appropriate.

The following tables are Tables of Contents for the report, which identify the paragraph of the Consent Decree to which the information is responding and where the information is presented within.

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I. Brief Summary of the Report's Most Salient Contents

As stated in ¶3 of the Order for Case No. 3:20CV190 entered by James G. Carr, Sr., U.S. District Judge:

> 3. The parties shall, concurrent with the filing of the Semi-Annual Reports referenced in Article IX of the Decree (Page ID 73–76), file copies thereof with this Court, including therewith a brief summary of the Report's most salient contents.

Concurrent with the submission of this report, Defendants filed a Status Report with the Court and attached a copy of this report. The Status Report contains the following summary of the report's most salient contents:

- **Continuous Emission Monitoring:** There have been no material changes since the last report was submitted to the Court. None of the Refinery's continuous emissions monitors had excessive downtime for two successive quarters during this reporting period.

- **Leak Detection and Repair of Fugitive Emissions:** There have been no material changes since the last report was submitted to the Court. The Refinery continues to make progress advancing its LDAR program in a manner consistent with the Consent Decree.

- **Wastewater Air Emissions:** The audit report and corrective action plan required by the CD were submitted to USEPA on July 21, 2020. The Refinery continues to make progress toward completing the corrective actions.

- **Release Reporting:** The third-party EPCRA/CERCLA audit was completed and report submitted in the first-half of 2021. As required by the Consent Decree, the Refinery completed implementing corrective actions to address inadequacies identified in the audit report in the second-half of 2021. Prior to complete implementation of the corrective actions, one release of hydrogen sulfide over its reportable quantity was reported late during this reporting period.

- **Sulfur Recovery Plant:** Non-exempt SO2 emissions exceeded the 250 ppm limit imposed by NSPS Subpart Ja regulations for 11 hours due to an event related to start-up of a process unit during this reporting period.

- **Lead Paint Abatement Supplemental Environmental Project ("SEP"):** The Refinery is partnering with the Toledo-Lucas County Health Department to perform this project. The Toledo-Lucas County Health Department is working with the City of Toledo's Department of Neighborhoods to identify eligible structures that may benefit from lead-abatement activities. Complications associated with the health department's response to COVID-19 has precluded the health department from making substantial progress toward completion of the project during the pandemic. The Refinery and health department conferred with USEPA during this reporting period, and they are exploring additional strategies to progress the project that were suggested by USEPA.

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II. General - Section IX - ¶64.(a)

A. Status of Work Performed and Progress Made – CD Section IX - ¶64.a.(1)

A description of the status of work performed and progress made toward implementing all requirements of Section VI (Compliance Requirements) and Section VII (Environmental Mitigation). This topic should describe any major milestones completed and remaining to be completed.

1. CEMS

a. CEMS Operation and Maintenance Plan– CD Section VI.A - ¶22.

By no later than 180 Days after the Effective Date, the Defendants shall develop and submit for EPA and Ohio EPA review, as provided in Paragraph 22.e, a comprehensive CEMS Operation and Maintenance Plan ("CEMS O&M Plan" or "Plan") for the Toledo Refinery that is designed to enhance the performance of CEMS components, improve CEMS accuracy and stability, and ensure continuous operation of CEMS in accordance with 40 C.F.R. § 60.13(e). This CEMS O&M Plan shall include at a minimum each of the elements identified in sub-Paragraphs 22.b through 22.d.

The CEMS O&M Plan was submitted to USEPA and Ohio EPA on September 21, 2020. The Refinery received comments on November 12, 2020, and submitted a revised plan on December 22, 2020. The Refinery did not receive any comments following the submittal of the revised plan. The following table summarizes the history of updates and submissions:

Summary of Changes	Date of Changes	Submittal Date	Comments received from Agencies?
Initial CEMS O&M Plan developed	8/15/2020	9/21/2020	Yes
Revisions made to address comments	12/22/2020	12/22/2020	No

b. CEMS Reporting and Review and Comment on Corrective Action Plans - CD Section VI.A - ¶26.

Following completion of each Root Cause Failure Analysis, the analysis and resulting corrective action plan, including a schedule for implementation, shall be submitted to EPA and Ohio EPA in a written report included with the first Semi-Annual Report required by Section IX of the Consent Decree following completion of the Root Cause Failure Analysis. Following completion of each independent third party evaluation, the evaluation and resulting recommendations and a schedule for implementation shall be submitted to EPA and Ohio EPA in the first Semi-Annual Report required by Section IX of the Consent Decree following completion of the independent third party evaluation.

During the reporting period, there were no CEMS that were not in continuous operation for at least 95 percent of the total operating time of the process unit(s) being monitored for each of two consecutive calendar quarters. Therefore, no Root Cause Analyses or Corrective Action

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Plans were required to be performed. During the reporting period, there were no third-party reviews or evaluations performed, therefore there are no reports included in Appendix A.

2. Leak Detection and Repair Program (LDAR)

a. LDAR NSPS Applicability – CD Section VI.A- ¶27.

Upon the Effective Date, each "process unit" (as defined by 40 C.F.R. § 60.590a(e)) at the Toledo Refinery shall be an "affected facility" for purposes of 40 C.F.R. Part 60, Subpart GGGa, and shall be subject to and comply with the requirements of Subpart GGGa no later than one year from the Effective Date, except as specifically provided in this Paragraph.

The requirements of 40 C.F.R. Part 60, Subpart GGGa, shall not apply to compressors at the Toledo Refinery based solely on the applicability requirements of this Paragraph.

Process units on which construction commenced prior to January 4, 1983, shall not be subject to the requirements in 40 C.F.R. § 60.482-7a(h)(2)(ii) regarding difficult-to-monitor valves.

Nothing in this Paragraph or in Appendix A to this Consent Decree shall relieve the Defendants of their independent obligation to comply with the requirements of any other federal, state, or local LDAR regulation that may apply to "Equipment" at the Toledo Refinery, as that term is defined in Appendix A.

As of the date of entry of this Consent Decree, all the units at the Refinery are subject to and comply with the requirements of NSPS Subpart GGGa, except for compressors. Difficult-to-monitor valves in process units on which construction commenced prior to January 4, 1983, are not subject to the requirements in 40 C.F.R. § 60.482-7a(h)(2)(ii).

b. Leak Detection and Repair Program – CD Section VI.A - ¶28

The Defendants shall implement and comply with the requirements of the Leak Detection and Repair Program ("LDAR Program") set forth in Appendix A to this Consent Decree by the dates specified therein. The requirements of Appendix A are in addition to the applicable requirements under 40 C.F.R. Part 60, Subpart GGGa; Part 61, Subparts J and V; and Part 63, Subpart CC. The terms "in light liquid service" and "in gas/vapor service" shall have the definitions set forth in the applicable provisions of 40 C.F.R. Part 60, Subpart GGGa, and Part 63, Subpart CC.

The site has implemented and is complying with requirements of the Leak Detection and Repair Program ("LDAR Program") set forth in Appendix A to this Consent Decree by the dates specified therein. Non-conformances with Appendix A of the Decree are recorded in Table 2. The Refinery conducted a 100% P&ID review of all covered process units from March through August 2021. This review was not required by the Consent Decree and was voluntarily undertaken by the Refinery to further enhance compliance. The Refinery discussed this review with the USEPA during a virtual meeting held on May 13, 2021, that addressed the status of the Refinery's efforts to implement the requirements of the Consent Decree. All non-conformance discovered in the review during the reporting period are in Table 2.

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c. Leak Detection and Repair Program – CD Appendix A - ¶38

The Defendants shall prepare a written report fully explaining the basis for each claim that a valve or valve packing is not commercially available, to include all relevant documentation and other information supporting the claim. In the event the Defendants rely on a commercial unavailability determination made pursuant to Paragraph 20.c., above, the Defendants shall provide a copy to EPA of the written report associated with such commercial unavailability determination.

Such report shall also identify the commercially available valve or packing technology that comes closest to meeting the requirements for a Certified Low- Leaking Valve or Certified Low-Leaking Valve Packing Technology that is selected and installed by the Defendants pursuant to Paragraph 19 of this Appendix. Such report shall be included in the Semi-Annual Report required by Section IX of the Consent Decree, for the period in which the valve or valve packing is replaced. The LDAR written report fully explaining the basis for each claim that a valve or valve packing is not commercially available, including all relevant documentation and other information supporting the claim is included in Appendix B.

During this reporting period, there were no valves purchased for which a claim that a low leak valve or valve packing was not commercially available. Therefore, there are no reports attached in Appendix B.

3. NSPS QQQ Audit and Corrective Actions

a. QQQ Audit – CD Section VI.A - ¶29 & ¶32

The Defendants shall conduct and complete an audit ("QQQ Audit") of the Toledo Refinery's compliance with Subpart QQQ of the NSPS, promulgated at 40 C.F.R. Part 60, Subpart QQQ ("NSPS Subpart QQQ"). The Defendants shall complete the QQQ Audit by the later of September 30, 2019 or 30 Days after the Effective Date.

A final report detailing the findings and conclusions of the QQQ Audit shall be submitted to EPA within ninety (90) Days of completing the QQQ Audit (the "QQQ Audit Report").

An audit of the Refinery's compliance with NSPS Subpart QQQ (the "QQQ Audit") was completed by Environmental Resource Management (ERM), a third-party contractor, on April 22, 2020. A final report detailing the findings and conclusions of the QQQ Audit was submitted on July 21, 2020, within ninety (90) Days of completing the QQQ Audit (the "QQQ Audit Report").

b. QQQ Audit Report Corrective Action Plan – CD Section VI.A ¶29 & ¶32

The QQQ Audit Report shall also include a corrective action plan specifying all projects necessary to bring the applicable parts of the Refinery into compliance with NSPS Subpart QQQ. The corrective action plan shall include an implementation schedule. In the event that further work is required to determine the appropriate corrective action, the QQQ Audit Report shall include an explanation of the additional work and a proposed schedule for completing both the additional work and the chosen corrective action.

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The QQQ Audit Report, which includes a corrective action plan and a proposed implementation schedule, was completed on April 22, 2020, and submitted on July 21, 2020. Comments have not been received from USEPA or Ohio EPA on the corrective action plan and proposed implementation schedule. The Refinery is on track for completing all the corrective measures as outlined in the implementation schedule. The findings of the audit are reported in Table 2.

c. QQQ Compliance Plan Beyond 2 Years– CD Section VI.A - ¶33

If the compliance plan extends for more than two years after the date of the QQQ Audit Report, the Defendants shall submit progress reports every two years until all corrective actions have been completed. These progress reports may be included as part of the Semi-Annual Reports required pursuant to Section IX of the Consent Decree.

Evaluations are complete, and a plan to upgrade the QQQ components has been developed. If upgrades to the QQQ components extend beyond two years or if an update to the QQQ Audit Report is required to extend actions beyond two years, a progress report will be completed every two years as part of this semi-annual report in Appendix C.

d. QQQ Final QQQ Notice – CD Section VI.A - ¶35

Within sixty (60) Days of completing all corrective actions identified in the QQQ Audit Report's corrective action plan, the Defendants shall submit a written report (hereinafter the "Final QQQ Notice") to EPA, confirming that the Defendants have completed all corrective actions required by the QQQ Audit Report.

Some of the corrective actions identified in the QQQ Audit Report Corrective Action Plan had not been completed as of the end of this reporting period. Upon completion of all of the corrective actions, a written report (the "Final QQQ Notice") will be submitted within 60 days of the final completion date.

e. QQQ Inspection and Monitoring – CD Section VI.A- ¶36

Beginning no later than the Effective Date, the Defendants shall conduct semi-annual inspections of the unburied portions of sewer lines in the process wastewater system at the Toledo Refinery that are subject to NSPS Subpart QQQ, including vent pipes and cleanouts, as required by 40 CFR § 60.692-2(c), for indications of cracks, gaps, or other problems that could result in VOC emissions. For cleanouts and manholes, these inspections shall also ensure that each cleanout cover and manhole cover is securely in place and has a tight seal around the edge. Whenever cracks, gaps, or other problems that could result in VOC emissions are detected during these semi-annual inspections, repairs shall be made as soon as practicable, but not later than 15 Days after identification, except as provided in 40 C.F.R. § 60.692-6.

Semi-annual inspections of the unburied portions of sewer lines in the process wastewater system that are subject to NSPS Subpart QQQ, including vent pipes and cleanouts, as required by 40 CFR § 60.692-2(c), for indications of cracks, gaps, or other problems that could result in VOC emissions are being conducted. Each of these inspections are also checking

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that each cleanout cover and manhole cover is securely in place and is equipped with a tight seal.

4. EPCRA/CERCLA Reporting Requirements and Audits

a. EPCRA/CERCLA RQ Release Reporting – CD Section VI.A - ¶38

By no later than the Effective Date, the Defendants shall report each reportable quantity ("RQ") release, including releases that occur during start-up and shutdown events, immediately as required by Section 103 of CERCLA, 42 U.S.C. § 9603(a), and Section 304 of EPCRA, 42 U.S.C. § 11004, upon knowledge of a release exceeding the reportable quantity.

Except as noted herein, the Refinery reported any releases of reportable substances as soon as the release was known as required by Section 103 of CERCLA, 42 U.S.C. § 9603(a), and Section 304 of EPCRA, 42 U.S.C. § 11004. All reports of EPCRA/CERCLA releases are noted in the following table and all occurrences of potential non-compliance are reported in Table 2.

Event	Date of Event	Date Report Submitted
TRP Thermal Oxidizer suffered a power outage and associated flame out which released 2,237 pounds of hydrogen sulfide. The refinery restored power to the SRU and relit the thermal oxidizer.	10/9/2021	10/14/2021

b. EPCRA/CERCLA Pollution Notification Form – CD Section VI.A - ¶39

By no later than the Effective Date, the Defendants shall maintain the Pollution Incident Notification Form used by the Toledo Refinery for, *inter alia*, complying with CERCLA Section 103, 42 U.S.C. § 9603(a), and EPCRA Section 304, 42 U.S.C. § 11004, reporting requirements so that the form explicitly requires immediate reporting of reportable quantity releases, including releases that occur during start-up and shutdown events.

The Pollution Incident Notification Form used by the Refinery for, *inter alia*, complying with CERCLA Section 103, 42 U.S.C. § 9603(a), and EPCRA Section 304, 42 U.S.C. § 11004, i.e., reporting requirements that explicitly require immediate reporting of reportable quantity releases (including releases that occur during start-up and shutdown events), is maintained and utilized. That form was provided to USEPA and Ohio EPA and the Department of Justice during the consent decree negotiations. The only changes to the form have been to update contacts and phone numbers to keep the form current. No changes to the reporting requirements have been made since USEPA informed the negotiation team that the language of the form was acceptable. Revisions to the form are noted in the following table:

Summary of Changes	Revision Date
Update contact information	5/20/2020
Update contact information	6/14/2021
Revised format per EPCRA/CERCLA Audit recommendations and updated contact information.	12/15/2021

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c. EPCRA/CERCLA Current List of Substances – CD Section VI.A - ¶40

Within thirty (30) Days of the Effective Date, the Defendants shall provide to EPA a copy of the then-current list of substances, along with the associated RQs, that may be reportable under EPCRA or CERCLA and that are stored or used onsite. This list will be readily available in electronic format to all members of the Refinery's environmental team. Upon request, the Defendants shall promptly supply an electronic copy of any safety data sheets to EPA and/or Ohio EPA.

A copy of the current list of substances, along with their associated RQs, that may be reportable under EPCRA or CERCLA and that are stored or used onsite was submitted to USEPA on June 29, 2020. This list is readily available in electronic format to all members of the Refinery's environmental team. Upon request, the Defendants will promptly supply an electronic copy of any safety data sheets to USEPA and/or Ohio EPA.

d. EPCRA/CERCLA Audit – CD Section VI.A - ¶41

Within one year of the Effective Date, the Defendants shall complete an audit, as described below, of their compliance at the Toledo Refinery with the reporting requirements of CERCLA Section 103, 42 U.S.C. § 9603(a), and EPCRA Section 304, 42 U.S.C. § 11004 ("EPCRA/CERCLA Audit"). The Defendants will retain an independent third party contractor to perform this audit.

An audit of the Refinery's compliance with the reporting requirements of CERCLA Section 103, 42 U.S.C. § 9603(a), and EPCRA Section 304, 42 U.S.C. § 11004 (the "EPCRA/CERCLA Audit") was commenced on September 25, 2020, by AECOM Technical Services, an independent third-party contractor, and was completed on March 23, 2021.

e. EPCRA/CERCLA Audit Report- CD Section VI.A - ¶41.b

A written report of the results of the EPCRA/CERCLA Audit ("EPCRA/CERCLA Audit Report") shall be provided within ninety (90) Days after completing the EPCRA/CERCLA Audit to: (i) Ohio EPA pursuant to Section XIX (Notices) and (ii) James Entzminger, U.S. EPA, 77 West Jackson Boulevard, Chicago, IL 60604.

A written report of the results of the EPCRA/CERCLA Audit (the "EPCRA/CERCLA Audit Report") was submitted on June 21, 2021, within ninety (90) Days after completing the EPCRA/CERCLA Audit, to: (i) Ohio EPA pursuant to Section XIX (Notices) and (ii) James Entzminger, U.S. EPA, 77 West Jackson Boulevard, Chicago, IL 60604.

f. EPCRA/CERCLA Audit Corrective Actions – CD Section VI.A - ¶41.c

The Defendants shall correct any inadequacies or discrepancies identified by the EPCRA/CERCLA Audit Report within one hundred eighty (180) Days of receiving the EPCRA/CERCLA Audit Report.

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Corrective actions designed to address inadequacies or discrepancies identified by the EPCRA/CERCLA Audit Report have been completed within one hundred eighty (180) Days of receiving the EPCRA/CERCLA Audit Report as shown in Table 1.

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Table 1: EPCRA/CERCLA Audit Report – Inadequacies or Discrepancies

No.	Recommendation	Completion Date
1	Develop a written Refinery-specific procedure clearly stating responsibilities for identifying, evaluating, reporting, and documenting releases. The procedure should include the responsibilities of the Shift Superintendent, Environmental on-call person, other Environmental personnel, the EOC, and Technical Services.	12/15/2021
2	Review permit limits and other alarm triggers in the Refinery PI system to ensure that they are up to date and correct. This review should be an assigned responsibility within Environmental either to a single person or to a Subject Matter Expert ("SME") who would have knowledge of a permit condition change, equipment added/removed, etc. Develop flowcharts to assist with evaluation of release events, proper release reporting, and completion of documentation. The flowcharts should include the reporting structure and responsibilities and parallel any new Refinery policies and procedures.	12/15/2021
3	Develop information and tools for Shift Superintendents and Environmental personnel for evaluating releases and making quick calculations/evaluations of a potentially reportable release. This is not to take the place of Technical Services; it is to support evaluating releases, especially those that occur outside of regular business hours. Additional information is provided under Section 5.	12/15/2021
4	Develop training materials for Learning & Development ("L&D") to distribute as part of employee on-boarding training to Environmental personnel, Refinery Coordinators, and Shift Superintendents. Make the training slides/materials available wherever the release tools will be housed (e.g., Teams site, etc.).	12/15/2021
5	Develop training materials for L&D to distribute on an annual basis as a computer-based training ("CBT") to Environmental personnel, Refinery Coordinators, and Shift Superintendents that presents the new Refinery-specific procedures, guidance, responsibilities by position, and the path for detecting, evaluating, reporting, and documenting a release. Any tools that are developed should also be presented and their use described.	12/15/2021
6	Develop training materials for L&D to distribute on an annual basis as a CBT to all field employees.	12/15/2021
7	Develop information for Shift Superintendents and Environmental personnel regarding the CRRs, including a brief explanation of the CRRs and conditions (i.e., upper and lower bounds) and how to use operational data and alarms to detect and evaluate a potentially reportable SO2, HCN, and NOx event. Develop a "quick access point" location on Microsoft Teams for this information.	12/15/2021
8	Prepare a Refinery companion to the bp CERCLA-EPCRA Release Reporting Guidance to provide Refinery or bp guidance, interpretations, and examples specific to Refinery needs	12/15/2021
9	Incorporate the following information into the Pollution Incident Notification Form (ENV-01- FM01): - Add the Refinery address that will need to be provided at the time of the notification. - Add information regarding the Shift Superintendent information (name, date, time the release was identified, or the Shift Superintendent was notified of the release, when Environmental was notified, etc.) and Environmental personnel information (name of the person that received the call from the Shift Superintendent and the date and time that call was received).	6/14/2021

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5. Environmental Mitigation – Sulfur Recovery Plant (SRP)

a. SRP NSPS Ja Applicability - - CD Section VII - ¶43

By no later than 180 Days after the Effective Date, the Toledo Refinery's SRP shall be designated as an "affected facility" as that term is used in 40 C.F.R. Part 60, Subparts A and Ja, for all pollutants applicable to SRPs, and shall be subject to and comply with all applicable requirements of 40 C.F.R. Part 60, Subparts A and Ja.

The Toledo Refinery Sulfur Recovery Plants (SRPs) consist of:

- Three sulfur pits;
- Three Claus Sulfur Recovery Units (referred to as "SRUs 1-3");
- Tail Gas Treating Unit ("TGTU") 1 serving as a control device for SRU 1; and
- TGTU 2 serving as a control device for SRUs 2 and 3.

Effective July 1, 2020, the SRPs are designated as an "affected facility" as that term is used in 40 C.F.R. Part 60, Subparts A and Ja, for all pollutants applicable to SRPs, and shall be subject to and comply with all applicable requirements of 40 C.F.R. Part 60, Subparts A and Ja. The Refinery's SRPs exceeded emission limits imposed by these regulations one (1) time during the reporting period. Details of this event are listed in Table 2.

b. SRP Emissions Minimization – CD Section VII - ¶43

The Refinery shall operate and maintain, to the extent practicable, the SRP, including the TGTUs, its sulfur pits, and any supplemental control devices on the SRPs, in accordance with its obligation to minimize emissions through implementation of good air pollution control practices as required by 40 C.F.R. § 60.11(d), at all times, including, but not limited to, periods of Start-up, Shutdown, malfunction, and maintenance.

The Refinery operates the SRPs and supplemental control devices in a safe and effective manner that includes good air pollution control practices as required by 40 C.F.R. § 60.11(d) at all times. During the reporting period, there were three (3) events that were reported as excess emission hours in the NSPS Ja Excess Emissions reports. These events are not deviations of the Consent Decree or 40 CFR Part 60 Subpart Ja pursuant to 40 CFR 60.8(c), which states that emissions during startup, shutdown, and malfunction shall not be considered a violation of the applicable emissions limit unless otherwise specified in the applicable standard. The events are described in the following table.

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Date of Event	Description of Event	Cause
7/12/2021	The SO2 concentration at the SRU1 thermal oxidizer exceeded the required 250 ppmv for over a 12-hour period for a total exceedance of two hundred and fifteen (215) 12-hr average periods during the planned shutdown of the unit.	The Sulfur Recovery Unit #1 experienced excess emissions during a planned shutdown while entering and exiting hot standby as part of a multi-unit planned shutdown for maintenance work. The Refinery believes that these excess emissions could be due to low levels of sulfur species coming off sulfur in pockets or nooks throughout the unit and/or from residual on catalyst. The thermal oxidizer flow rate is greatly reduced during these periods. The Refinery followed the shutdown and startup procedures that considered and captured ways to minimize emissions.
10/12/2021	The SO2 concentration at the SRU1 thermal oxidizer exceeded the 250 ppmv limit for a total of sixty-two (62) 12-hr average periods during the planned shutdown of the unit.	The Sulfur Recovery Unit #1 experienced excess emissions during a planned shutdown while entering and exiting hot standby for maintenance work. The Refinery believes that these excess emissions could be due to low levels of sulfur species coming off residual sulfur in pockets or nooks throughout the unit and/or from residual sulfur on catalyst. The thermal oxidizer flow rate is greatly reduced during these periods. The Refinery followed the shutdown and startup procedures that considered and captured ways to minimize emissions.
12/11/2021	SO2 emissions exceeded 250 ppmv on a 12-hour rolling average basis for a total of twelve (12) 12-hour averages.	During a storm overnight on December 10th into December 11th, the Refinery's 3rd party Acid Gas receiver (ChemTrade) had both units trip offline. This malfunction created an excess of Acid Gas at the Refinery and caused an upset in Sulfur Recovery Units #2 & #3 that created excess SO2 to be released through the TRP Thermal Oxidizer.

B. Problems Encountered or Anticipated in Complying with this Consent Decree – CD Section IX - ¶ 64.a.(2)

A description of any problems encountered or anticipated in complying with the requirements of Section VI (Compliance Requirements) and Section VII (Environmental Mitigation), together with implemented or proposed solutions;

A description of any problems encountered or anticipated in complying with the requirements of Section VI (Compliance Requirements) and Section VII (Environmental Mitigation) are identified in Table 2.

C. Status of Permit Applications and Permitting Activity Pertaining to Compliance with this Consent Decree - CD Section IX - ¶ 64.a.(3)

A description of the status of any permit applications, including a summary of all permitting activity, pertaining to compliance with this Consent Decree;

No permit applications or permitting activities pertaining to compliance with this Consent Decree were completed during the reporting period. The Refinery's air permitting consultant is in the process of preparing the PTI application to obtain a PTI from Ohio EPA that incorporates the applicable provisions of this Consent Decree. These provisions will be included in the Refinery's next Title V permit renewal.

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D. Copy of Reports Submitted Only to Ohio in Compliance with this Consent Decree – CD Section IX - ¶ 64.a.(4)

A copy of any reports that were submitted only to Ohio and that pertain to compliance with this Consent Decree;

Reports that pertain to the Consent Decree that were sent only to the State of Ohio are the Refinery's Title V Deviation Reports (included as attachments in Appendix D) and the Refinery's Continuous Emissions Monitoring Reports (included as attachments in Appendix F).

E. Status of Lead Abatement SEP – CD Section IX - ¶ 64.a.(5)

A discussion of the Defendants' progress in satisfying its obligations in connection with the Lead Abatement SEP under Section VIII including, at a minimum, a narrative description of activities undertaken; the status of any construction or compliance measures, including the completion of any milestones; and a summary of costs incurred since the previous report;

On April 22, 2020, BP deposited the funds required by the Consent Decree, Section VIII, paragraph 50 into an escrow account with Citibank, N.A. The escrow agreement with Citibank, N.A. contains the following term:

> … the Bank shall invest and reinvest the Deposit in an interest-bearing deposit obligation(s) of Citibank, N.A., insured by the Federal Deposit Insurance Corporation ("FDIC") to the applicable limits. The Depositor acknowledges that the initial interest rate is subject to change from time to time and shall be reflected in the monthly statement provided by the Bank.

The balance of the escrow account was $1,200,000 on December 31, 2021, and at this time no interest has been earned on the account.

To implement the Lead Abatement SEP in the community around the Refinery, the Refinery signed a contract with the Toledo Lucas County Health Department. Unfortunately, due to the COVID-19 pandemic and the effort required by the Health Department to address the spread of the virus, staff has not been able to devote much time to the Lead Abatement SEP and has not spent any of the money from the escrow account. A summary of the progress in satisfying its obligations in connection with the Lead Abatement SEP under Section VIII (including, at a minimum, a narrative description of activities undertaken; the status of any construction or compliance measures, including the completion of any milestones; and a summary of costs incurred since the previous report) is included in the Lead Abatement SEP Progress Report from the Toledo Lucas County Health Department in Appendix E.

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F. Additional Reporting Requirements – CD Section IX - ¶ 64.a.(6)

The specific content required by the following sub-Paragraphs of this Section …

1. <u>Reporting Regarding CEMS - Section IX - ¶64.b.</u>

a. CEMS – CD Section IX - ¶64.b.(1) & (2)

(1) For each CEMS at the Toledo Refinery, a calculation of the total amount of time per calendar quarter that the CEMS is not in continuous operation ("downtime"). This calculation must be expressed as a percentage of the operating time of the process unit(s) being monitored;

(2) For each CEMS that is not in continuous operation for at least 95 percent of the total operating time of the process unit(s) being monitored per calendar quarter, a listing of the times and dates for the periods when the CEMS was inoperative as well as an explanation of the cause(s) of the downtime (such as maintenance or malfunction). If the cause of the downtime included a malfunction, the Semi-Annual Report must include an explanation and a description of any corrective action(s) taken.

For each CEMS at the Refinery, a calculation of the total amount of time per calendar quarter that the CEMS is not in continuous operation ("downtime"), expressed as a percentage of the operating time of the process unit(s) being monitored, is included in the CEMS quarterly reports attached in Appendix F. These reports include a listing of the times and dates for the periods when the CEMS was not in continuous operation for at least 95 percent of the total operating time of the process unit(s) being monitored per calendar quarter, with an explanation of the cause(s) of the downtime and an explanation and a description of any corrective action(s) taken. During this report period, no CEMS failed to meet the continuous operation for 95 percent of the total operating time for two consecutive quarters.

2. <u>Reporting Regarding LDAR Program – CD Section IX - ¶64.c</u>

The date that the annual "Compliance Status Report" required by LDAR Appendix A, Part N, Paragraphs 34-36 was submitted to EPA shall be referenced in the Semi-Annual Reports.

The 2021 annual "Compliance Status Report" required by LDAR Appendix A, Part N, Paragraphs 34-36 was submitted on January 31, 2022.

3. <u>Notification of Non-Compliance – CD Section IX - ¶64.d.</u>

Each Semi-Annual Report shall also include a description of any non-compliance with the requirements of this Consent Decree and an explanation of the violation's likely cause and of the remedial steps taken, or to be taken, to prevent or minimize such violation.

A description of any non-compliance with the requirements of this Consent Decree, an explanation of the violation's likely cause, and the remedial steps taken, or to be taken, to prevent or minimize such violation are included in the following table:

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Table 2: List of Non-Compliance with Requirements of the CD

Date	Description of Non-Compliance	Cause	Corrective Action	Date Corrected
4/22/2020	QQQ audit identified drains on Tanks 79 and 697 that did not have controls as required.	Drains had been determined to be exempt in a previous audit; audit conducted in 2019 determined that they should be controlled.	Water seals installed on the drains.	12/22/2021
4/22/2020	QQQ audit identified one area drain and three hub drains in the NHT feed and Desalters area that were not in the QQQ program, did not have water seals, and had not been monitored.	The drains were inadvertently missed for inclusion in the QQQ program when manholes were modified during a project.	Drains incorporated into QQQ program and water seals installed.	12/30/2021
4/22/2020	QQQ audit identified fourteen drain hubs, four clean-outs, ten catch basins, and five manholes in the Benzene Stripper unit that were not monitored per NSPS QQQ requirements. Of those components, eight catch basins did not have water seals.	Components had been determined to be exempt in a previous audit; audit conducted in 2019 determined that they should be controlled.	All components except for the eight catch basins are now being monitored as of 4/15/2021. The corrective action plan initiated a project to install water seals on the eight catch basins. Plan is to have completed by 12/31/2022.	In progress per plan
4/22/2020	QQQ audit identified two area drains, sixteen hub drains, three catch basins, and nine cleanouts in the Hydrogen Unit that were not monitored per NSPS QQQ requirements. Of those components, two area drains, five hub drains, and three catch basins did not have water seals.	The components were inadvertently not included in the QQQ Management program when the junction boxes (manholes) were modified for the Flare Gas and Recovery Treating Project.	All components except for those requiring water seals are now being monitored as of 1/1/2021. The corrective action plan initiated a project to install water seals on the two area drains, five hub drains, and three catch basins that did not meet QQQ requirements. Plan is to have that work completed by 12/31/2022.	In progress per plan
5/26/2021	There were 4 slop oil view port lids located on the primary channel QQQ panels of the WWTU that were not sealed to prevent emissions to atmosphere.	Identified during an internal audit. Lids were not designed with adequate seals when the panels were installed.	New lid gaskets designed and installed.	9/17/2021

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Date	Description of Non-Compliance	Cause	Corrective Action	Date Corrected
7/1/2021	9 untagged valves were found in the Isocracker 2 unit that had not been monitored. Valves were located on an adjoining unit's P&IDs, but were physically located in the Isocracker 2 unit.	Valves identified during the enhanced P&ID review of all process units.	The valves were tagged, monitored and entered into the LeakDAS database.	8/10/2021
7/1/2021	2 untagged valves were found in the Coker 2 unit that had not been monitored.	Valves identified during the enhanced P&ID review of all process units.	The valves were tagged, monitored and entered into the LeakDAS database.	7/7/2021
7/1/2021	16 untagged valves were found in the Coker 3 unit that had not been monitored.	Valves identified during the enhanced P&ID review of all process units.	The valves were tagged, monitored and entered into the LeakDAS database.	7/24/2021
8/11/2021	5 open-ended lines (OEL) were visually identified on 3 pumps in the Crude/Vac 1 unit.	These were discovered as part of a site wide OEL audit for pumps in heavy liquid service.	Operations verified setup and added a plug before the end of the next shift on 8/12/2021 to resolve 1 OEL. A work order and engineering package was created for the other 4 OELs. Maintenance and repairs were scheduled to be completed by 12/31/2021, however, due to design issues, the engineering package was required to be redesigned. Maintenance and repairs are scheduled to be completed by 3/31/2022.	In Progress

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Date	Description of Non-Compliance	Cause	Corrective Action	Date Corrected
10/9/2021	TRP thermal oxidizer tripped resulting in a release of uncombusted H2S to the atmosphere. The event was not reported until October 14, 2021.	On October 9, 2021, the Coker 3 compressor motor suddenly failed due to an electric ground fault, which led to a significant power dip and in turn causing multiple equipment shutdowns, including, extinguishing the Thermal Oxidizer pilots. This resulted in uncombusted H2S being emitted from the stack. It was inadvertently missed between in communications between Operations and Environmental that the Thermal Oxidizer was extinguished.	As soon as the Environmental team was made aware of the event, notifications were made.	10/14/2021
10/14/2021	The SO_2 concentration at the SRU2/3 thermal oxidizer exceeded the 250 ppmv limit for a total of eleven (11) 12-hr average periods.	On October 14, 2021, the Coker 3 unit started up after being down for a period of time following a motor failure and ground fault malfunction on October 9, 2021. There was an excess of acid gas during startup due to the Refinery's third-party acid gas receiver being down and unable to receive the full amount of acid gas. The additional acid gas overwhelmed the Sulfur Recovery Plants (SRP) and exceeded the capabilities of SRP processing, which caused excess emissions from the Thermal Oxidizer #2.	Operations reduced acid gas production in order to minimize the upset. Once the Coker 3 unit was out of startup and into normal operation, the acid gas production levelled out and compliance resumed at the Thermal Oxidizer #2.	10/14/2021
11/4/2021	There was 1 valve in the Isocracker 2 unit that had not been monitored.	The valve appeared new and was likely added to replace an existing valve.	The valve was tagged, monitored, and entered into the LeakDAS database upon discovery.	11/4/2021

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Date	Description of Non-Compliance	Cause	Corrective Action	Date Corrected
11/4/2021	There was 1 open-ended line (OEL) discovered in the Reformer 3 unit.	While conducting an internal audit, a visual leak was identified using an FLIR camera on a drain pipe that empties to the sewer. While the pipe did have two upstream valves that were closed, the FLIR detected VOC material that was passing through. This section of pipe is not routinely used.	Operations installed a blind between the 2 valves to close the OEL.	11/16/2021
12/9/2021	There was 1 valve in the FCCU that was untagged and had not been monitored.	LDAR technician discovered the valve, which was under insulation.	Valve was tagged, monitored, and entered into the LeakDAS database upon discovery.	12/9/2021
12/13/2021	There was 1 valve that did not undergo Repair Verification Monitoring by the end of the next day after a repair attempt. Repair made Saturday 12/11/21 and not checked by end of Sunday 12/12/21.	The repair notification was made using email instead of the weekend on-call phone, so the LDAR technician did not know to retest until Monday morning.	The repair verification monitoring was completed on the following day, Monday 12/13/21. The importance of using the LDAR technicians on-call phone for weekend repairs was also communicated.	12/13/2021

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G. Additional Matters – CD Section IX - ¶ 64.a.(7)

Any additional matters that either Defendant believes should be brought to the attention of EPA and Ohio.

The Refinery signed a contract with the Toledo Lucas County Health Department to manage the Lead Abatement SEP for the Refinery. Addressing the COVID-19 pandemic has limited Health Department staff from progressing the implementation of the program. The Refinery has been in communication with the Health Department to explore strategies to advance the project in a timely manner. During this reporting period, the Refinery and County consulted with USEPA in this regard and discussed the fact that it is likely that the Refinery will need an extension of time to complete the SEP due to delays related to the COVID-19 response, shortage of trained/certified lead-abatement workers, and other factors. Additional details are discussed in the BP Husky Toledo Refinery Lead Paint Abatement Supplemental Environmental Project Report, a progress report that the Health Department recently provided to the Refinery, located in Appendix E.

H. Reporting Regarding EPCRA/CERCLA Compliance Requirements - Section IX - 67.

The Defendants shall submit any written follow-up report prepared under EPCRA Section 304(c), 42 U.S.C. § 11004(c), at the same time that the written follow-up report is submitted to the State Emergency Response Commission and the Local Emergency Planning Committee for the Toledo Refinery. These written follow-up reports shall be submitted to: James Entzminger, U.S. EPA, 77 West Jackson Boulevard, Chicago, IL 60604, and may be submitted electronically to: entzminger.james@epa.gov.

A written follow-up report for the November 8, 2021 event was prepared pursuant to EPCRA Section 304(c), 42 U.S.C. § 11004(c) and submitted to Mr. James Entzminger electronically at: entzminger.james@epa.gov, at the same time the written follow-up report was submitted to the State Emergency Response Commission and the Local Emergency Planning Committee for the Toledo Refinery.