Port Hamilton Refining and Transportation LLLP
112(r) CAA General Duty Clause Inspection

Stationary Source	Port Hamilton Refinery and Transportation LLLP
Date of Inspection	September 20 – 26, 2022
USEPA Inspectors	Dwayne Harrington and Karl Lindberg, EPA Region 2
Description of Activities	• Opening meeting with facility representatives • File review • Facility Tour • Closing meeting with facility representatives

STATIONARY SOURCE INFORMATION

Facility Location	1 Estate Hope, St. Croix, USVI 00820
Number of Employees	42; primarily contractors (Pinnacle Services)
Description of Surrounding Area	Residential/Industrial
PHRT Facility Representatives	Fermin Rodriguez, VP and Refinery Manager Catherine Elizee, Environmental Manager Sloan Schoyer, Consultant (Pinnacle Services)

General Information

Port Hamilton Refining and Transportation, LLLP (PHRT) owns and operates the eastern portion of the approximately 1,500-acre former HOVENSA oil terminal/refinery located in St. Croix (the eastern portion is referred to herein as the Refinery). The Refinery is currently idle and was most recently formerly owned and operated by Limetree Bay Refining, LLC (LTBR). West Indies Petroleum Limited and PHRT (jointly, PHRT) were the winning bidder for the Refinery at an auction held in bankruptcy court in December 2021. PHRT currently plans to restart and operate the Refinery. The adjacent, remaining portion of the petroleum terminal is currently operated by Ocean Port Terminals (OPT). PHRT and OPT share a power distribution system, fire water system, oily water/wastewater treatment system, instrument air system, and nitrogen system.

There are currently forty-two employees on site under contract with PHRT (associated with the contractor Pinnacle Services). Pinnacle Services employees are primarily former HOVENSA and/or LTBR refinery operators and unit supervisors. During the daytime shift, there are three area Lead Shift Supervisors and six operators on site, and during the night shift there are two operators. The PHRT Maintenance Department consists of approximately twenty people.

Four environmental contractors assist PHRT in implementing its air, water, and waste management compliance programs.

PHRT Process Unit Status and Inventories

Unit	Operational status	Chemical contents and estimated volumes
#5 Crude Unit	Not operating since May 2021	See Appendix B
#6 Crude Unit	1 Desalter and 2 vessels not-operating since May 2021, rest of unit idle since 2012	See Appendix B
#3 Vacuum Unit	Not operating since May 2021	See Appendix B
#2 Distillate Desulfurizer	Idle since 2012	Empty
#6 Distillate Desulfurizer	Not operating since May 2021	See Appendix B
#7 Distillate Desulfurizer	Not operating since May 2021	See Appendix B
#9 Distillate Desulfurizer	Not operating since May 2021	See Appendix B
#3 Platformer	Idle since 2012	Empty
#4 Platformer	Not operating since May 2021	See Appendix B
#3 Hydrobon (Hydrogen Unit)	Not operating since May 2021	Empty
Delayed Coker Unit	Not operating since May 2021	See Appendix B
Coke handling and storage	Not operating since May 2021	See Appendix B
Penex Isomerization Unit	Idle since 2012	Empty
Boilers	Boilers 8,9&10 not operating since May 2021. Rest of boilers idle since 2012 or prior.	Empty
Utility Fractionator Distillation Tower	Idle since 2012	Empty
Powerhouse Steam and Turbine Generators	GTs 7 & 8 on standby, GTs 9, 10&13 not operating since May 2021, rest idle since 2012.	See Appendix B
Flares	Flare 8 not operating since May 2021, Flare 7 idle since August 2020, rest of flares idle since 2012	Empty
East Fuel Gas System	Not operating since May 2021	See Appendix B
West Fuel Gas System	Idle since 2012	Empty
Flare System	Flare 8 not operating since May 2021, Flare 7 idle since August 2020, rest of flares idle since 2012	Empty
#2 Gas Recovery Unit	Not operating since May 2021	See Appendix B
Amine Units (Total)	Not operating since May 2021	See Appendix B
#4 Amine Unit	Not operating since May 2021	See Appendix B
#5 Amine Unit	Not operating since May 2021	See Appendix B
#6 Amine Unit	Not operating since May 2021	See Appendix B

#7 Amine Unit	Not operating since May 2021	See Appendix B
Amine piping and Contactors	Not operating since May 2021	See Appendix B
East Sulfur Recover Plant	Not operating since May 2021	Empty
East Sulfur Pit	Not operating since May 2021	See Appendix B
East Sulfur Storage	In service	See Appendix B
Tank 7443	In service	See Appendix B
Tank 8501	In service	See Appendix B
Tank 8502	In service	See Appendix B
#3 LPG Fractionation Unit	Not operating since May 2021	See Appendix B
Alkylation Unit	Idle since 2012	Empty
Fluid Catalytic Cracking Unit	Idle since 2012	Empty
#2 Visbreaker	Idle since 2012	Empty
#3 Sour Water Stripper	Idle since 2012	Empty
#4 Sour Water Stripper	Idle since 2012	Empty
#5 Sour Water Stripper	Not operating since May 2021	Empty
West Side Refinery (other than #2DD, #2 Vis, Penex, Util. Frac. and Flare 3)	Idle since between 2010 and 2012	Empty
Haz Waste Storage		No hazardous waste has been generated from PHRT

Delayed Coker Unit and Coke Domes:

There are two concrete domes (North and South) for storage of petroleum coke produced by the Delayed Coker Unit and fed by a conveyor system.

In August 2022, a fire occurred in a coke pile in the North Coke Dome. The fire smoldered for approximately two weeks until it was extinguished as a result of the efforts of eleven mainland U.S. and forty-three local contractors. The coke piles in the North and South Domes are currently turned over once a week and water sprayed one time per week, and temperature in the coke dome piles is monitored once a day.

Facility Inspection:

Pursuant to Section 112(r)(1) of the Clean Air Act (CAA), 42 U.S.C. § 7412(r)(1), the owners and operators of stationary sources producing, processing, handling, or storing substances listed pursuant to Section 112(r)(3) of the CAA, 42 U.S.C. § 7412(r)(3), or any other extremely hazardous substance have a general duty, in the same manner and to the same extent as under 29 U.S.C. § 654, to identify hazards that may result from accidental releases of such substances using appropriate hazard assessment techniques, to design and maintain a safe facility taking such steps as are necessary to prevent releases, and to minimize the consequences of accidental releases that do occur.

The following facility process elements were reviewed during EPA's General Duty Clause inspection, as per EPA's General Duty Clause Guidance, for the current (idled) conditions at the facility:

Chemical and Process Hazard Identification

Facility representatives provided the EPA Inspectors with Safety Data Sheets for certain on-site hazardous materials, which are also available online.

The most recent Process Hazard Analysis for the Refinery was performed in 2019-2020 by an outside consultant (Primatech) for LTBR, the prior owner. PHRT could not provide a copy of this analysis.

PHRT could not provide a current hazard assessment for the processes that presently contain extremely hazardous substances at the Facility. A hazard identification and review, including process configuration, maintenance, hazard recognition, and the effectiveness of emergency shutdown and response procedures, has not been performed by PHRT.

Design a Safe Facility

PHRT could not provide documentation that its process design complies with recognized and generally accepted industry practices.

PHRT provided examples of piping and instrumentation diagrams (P&IDs) that had been updated by LTBR from earlier P&IDs that had been prepared by its predecessor operator, HOVENSA. The P&IDs for the following units were provided for review (including the date of the P&ID):

- #5 Crude Unit; 2021
- #3 LPG Fractionation Unit; 2020
- #4 Amine Unit; 2021
- #5 Amine Unit; 2020
- #3 Vacuum Unit; 2021

PHRT provided a process block flow diagram of the Refinery that had been prepared by LTBR dated 9/22/2020.

PHRT presented electrical classification area schematics that had been prepared by HOVENSA (a former owner/operator).

PHRT could not provide pressure relief design and inspection records.

Maintain a Safe Facility

Operating Procedures and Operator Training

Current PHRT operating procedures and operator training records could not be provided. PHRT stated it relies on Lead Shift Supervisors and operator professional experience for its current operating procedures.

According to PHRT, all process control units can be controlled from the main control room, including unit shutdowns.

PHRT has Lockout/Tagout, Hot Work, and High Energy Isolation System programs, and it presented recent documents regarding these programs for review.

PHRT presented Pre-Startup Safety Review (PSSR) procedures and examples of PSSRs from LTBR's Crude Unit 2020 startups. PHRT presented a statement that PHRT will adopt the LTBR/OPT health and safety policies and procedures, including PSSR.

Maintenance

The facility does not have a preventative maintenance program, and facility personnel stated that there are currently no formal process unit inspections. A preventative maintenance program should include the following: schedules for inspections of equipment; records of when inspections and tests were last conducted; records of any repairs that have been made; the schedule for future inspections, tests, and/or replacement of equipment, as well as documentation demonstrating that inspections comply with applicable industry codes and standards. PHRT representatives stated the following: that unit operators perform daily walkthroughs for each unit to record gauges and unit conditions, etc.; that operators normally address routine issues; and that area supervisors are notified of issues that require further attention from the maintenance department. However, as discussed below, during the Facility tour, the EPA Inspectors observed conditions demonstrating a systemic lack of maintenance.

Self Audit

PHRT did not have access to the previous operator's most recent three-year Process Safety Management/Risk Management Plan audit for the facility, and PHRT has not performed a process safety audit. Facility representatives stated that safety walk-throughs are performed daily by refinery operators and Lead Area Supervisors, but documentation was not provided.

Incident Investigation

PHRT representatives stated that they have an incident investigation procedure, and that other than the North Coke Dome fire in August 2022, there have been no recent incidents requiring an investigation.

Managing Changes

PHRT presented a 2019 LTBR Management of Change procedure. There have been no recent changes at the facility requiring a Management of Change procedure.

Minimizing the Effects of Releases

Emergency Response:

The OPT Fire Brigade and Hazardous Materials Unit support PHRT in the event of an incident, with support as necessary from local emergency fire services and Virgin Islands Territorial Emergency Management Agency.

PHRT has a vacuum truck on site and relies on a contractor (NRC) for primary oil spill response and cleanup.

PHRT presented documents and schematics for the East Refinery fire water system and its fixed fire water delivery systems throughout the facility.

PHRT demonstrated for the EPA Inspectors (9/23/22) its anhydrous ammonia deluge system that is designed to reduce ammonia vapors in the event of a release.

There are chemical monitors for H_2S, SO_2, CO, and hydrocarbons (LEL) throughout the PHRT and OPT facilities. Under an agreement with EPA, PHRT is currently maintaining five off site monitoring stations for H_2S and SO_2, with the installation of an additional four locations planned.

Facility Tour

The following process units were toured:

- # 5 Crude Unit
- # 6 Crude Unit
- # 3 Vacuum Unit
- Anhydrous Ammonia Drum
- Amine Units
- LPG Unit #3
- Delayed Coker Unit
- Coker Supply Tank 8501

All photos taken during the Facility Inspection were taken, labeled, and provided to EPA by PHRT.

Numerous examples of corrosion, including extreme corrosion and in many cases to a degree resulting in extreme deterioration (exfoliation), were observed on process valves, flanges, pipes, nuts/bolts, and pressure relief devices in all unit processes. Many process components appear not have been adequately inspected or maintained for significant periods and may not be operable or at least fully operable for routine service or in an emergency (as documented in Inspection Photos). Gaskets were also observed in poor condition, and many exhibited severe corrosion. Corrosion on these process components to such a visible degree demonstrates severely compromised integrity and operability. These conditions demonstrate a risk of imminent release of extremely hazardous substances. Because of this degree of corrosion, the vessels, piping, and/or valves may fail, resulting in a catastrophic release.

Many valves and piping on the liquified petroleum gas (LPG) process are in an advanced state of corrosion and disrepair (as documented in Inspection Photos). These conditions demonstrate a risk of fire and/or explosion.

Many valves and piping on the Anhydrous Ammonia Drum are in an advanced state of corrosion and disrepair (as documented in Inspection Photos). These conditions demonstrate a risk of catastrophic release of anhydrous ammonia and off-facility impact.

Inspectors observed exposed wires in Class I Division I electrical system areas (areas where flammable substances are located). Such exposed wires could be potential ignition sources. PHRT representatives could not confirm if the wires were live or disconnected from the electrical system.

Severe corrosion was observed in many components of the Amine Reduction Unit (see inspection photos). Gaseous hydrogen sulfide potentially entrained in the Unit may present an extreme health hazard in the event of an accidental release.

Liquid was observed leaking from failed pipe-tank welds on all of the drain lines of the #6 Crude Desalter Unit (as documented in Inspection Photos), which is indicative of the process not having been adequately inspected or maintained for a significant period and a systemic lack of facility process preventative maintenance.

Coker Supply Tank 8501 partially imploded in 2020 when the facility was operated by LTBR (as documented in Inspection Photos). According to PHRT, the tank implosion apparently was the result of a failed relief vent during routine offloading of the tank, along with the concomitant failure of other, redundant pressure relief devices on the tank, apparently through lack of routine preventative

maintenance. The Coker Supply Tank was subsequently inspected by an API-certified inspector who determined it to be fit for limited service if its contents remained below an established fill volume. The tank is still in service and contains 12,000 barrels of heavy oil.

INSPECTOR SIGNATURE: DWAYNE HARRINGTON Digitally signed by DWAYNE HARRINGTON Date: 2022.10.21 12:23:34 -04'00'

Dwayne Harrington, Inspector Date

INSPECTOR SIGNATURE: KARL LINDBERG Digitally signed by KARL LINDBERG Date: 2022.10.21 12:34:01 -04'00'

Karl Lindberg, Inspector Date

APPROVER SIGNATURE: ELLEN BANNER Digitally signed by ELLEN BANNER Date: 2022.10.21 12:36:34 -04'00'

Ellen Banner, Section Chief Date

Appendix A - Inspection Photos

Appendix B - PHRT Complete Process Unit Status and Inventories