

## **EXECUTIVE SUMMARY**

This document provides an Executive Summary of the options Port Hamilton Refining and Transportation, LLLP (“PHRT”) proposed for safely removing the Materials covered by the Administrative Order on Consent (Index No. CAA-02-2-23-1003) between PHRT and U.S. Environmental Protection Agency, Region 2, Superfund and Emergency Management Division.

### **Proposed Ammonia Removal**

Specialized Response Solutions, a U.S. Ecology Company (“SRS”) will be safely removing the ammonia from the anhydrous ammonia from the Ammonia Storage Drum, with PHRT’s assistance, as follows. The liquid anhydrous ammonia in the main storage vessel and a smaller secondary vessel will be transferred, utilizing existing piping from drain connections located at the bottom of the vessels, into two certified shipping containers for shipment off-island for sale or proper disposal. When the liquid is removed from both storage vessels, the vapor remaining in this system will be transferred to a third certified shipping container by closed-loop pressure equalization followed by a gas compressor that will evacuate vapor until the system is depressurized to near atmospheric pressure. The ammonia system will then be swept with nitrogen, followed by compressed air. Gas vented from this final sweep will be routed to multiple 250-gallon polyethylene totes filled with fresh water and fitted with sparge bars. These 250-gallon totes will be strategically located at zero-drain purge points. This operation will scrub the ammonia vapor in the sweep gas. After being used for gas scrubbing, the totes will contain a dilute ammonia/water solution. The shipping container holding ammonia vapor and the totes of dilute ammonia solution will be shipped off-island for proper disposal.

### **Proposed LPG Removal**

SRS will be safely removing the LPG from LPG Unit #3, with PHRT’s assistance, as follows. All light hydrocarbon liquids, including LPG, in LPG Unit #3 will be transferred into two certified shipping containers for shipment off-island for sale as useable product or if necessary, proper disposal. While transferring hydrocarbon liquids into these containers, vapor in the containers will be routed to a thermal oxidizer (“TO”) for destruction. Once the hydrocarbon liquids are removed from this unit, all process equipment and associated piping containing hydrocarbon gas will be depressurized and associated vapors will be routed to the TO. The unit piping and equipment will then be swept with nitrogen to remove the any residual hydrocarbon vapors, which will, again, be routed to the TO. Following removal of the liquids and any residual vapors, the system will be left under a nitrogen blanket.

### **Proposed Amine Removal & Degassing Project**

HPC Industrial, a Clean Harbors Company, will be safely removing the amine solution and associated hydrogen sulfide from the Amine Recovery Units (“ARUs”), with PHRT’s assistance, as follows. The proposed safe removal of the liquid rich amine and associated hydrogen sulfide from the PHRT refinery’s amine system will consist of two main procedural steps:

1. Liquid Rich Amine De-Inventorying/On-site Removal; and
2. Unit Decontamination Chemical Cleaning (“UDCC”)/Degassing

The rich amine liquid (approximately 253,000 gallons) contained in the ARUs will be safely de-inventoried and evacuated under nitrogen assist pressure into approximately fifty-five (55) certified shipping containers that will be shipped off-island for sale or proper disposal. During the de-inventorying steps, the containers will be filled with rich amine from each ARU and the associated vapors will be routed back into the specific ARU to minimize and ensure adequate container breathing. The amine units will be de-inventoried at designated low point drains to ensure total and complete evacuation of the liquid rich amine. De-inventorying will occur ARU-by-ARU or in series.

Following the removal of rich amine from the units listed above, HPC will commence the UDCC step. UDCC involves chemical cleaning of the amine equipment internals and scrubbing all vapors present and derived during the cleaning step. A liquid scrubbing unit and two (2) 1,000-pound carbon vessels will be used at each ARU system to control any emissions of hydrogen sulfide, hydrocarbons, and volatile organic compounds. During this step, the specific ARU system will also be nitrogen-blanketed to ensure a constant positive pressure on the systems.

More specifically, UDCC and degassing process will involve the following in this order:

1. PreHeat steam rinse;
2. Hydrocarbon and hydrogen sulfide removal – detergent cleaning; and
3. Hydrogen and iron sulfide conversion utilizing sodium permanganate and liquid soda ash.

The chemical cleaning and rinsing process will generate approximately 200,000 gallons of rinse water that will be chemically analyzed. Depending on the chemical composition of this rinse water and subject to additional discussions and approvals by U.S. EPA, the rinse water will either be sent for treatment at the on-site wastewater treatment plant prior to discharge or shipped off-island for proper disposal.

Finally, all amine units will be purged with nitrogen gas until all low points have been properly drained and the system is free of all residual amine, hydrogen sulfide, and hydrocarbon.