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St. Croix Oil Refinery is a Ticking Time Bomb With Potential For 'Explosions' and 'Catastrophic' Gas Releases, Damning EPA Inspection Finds

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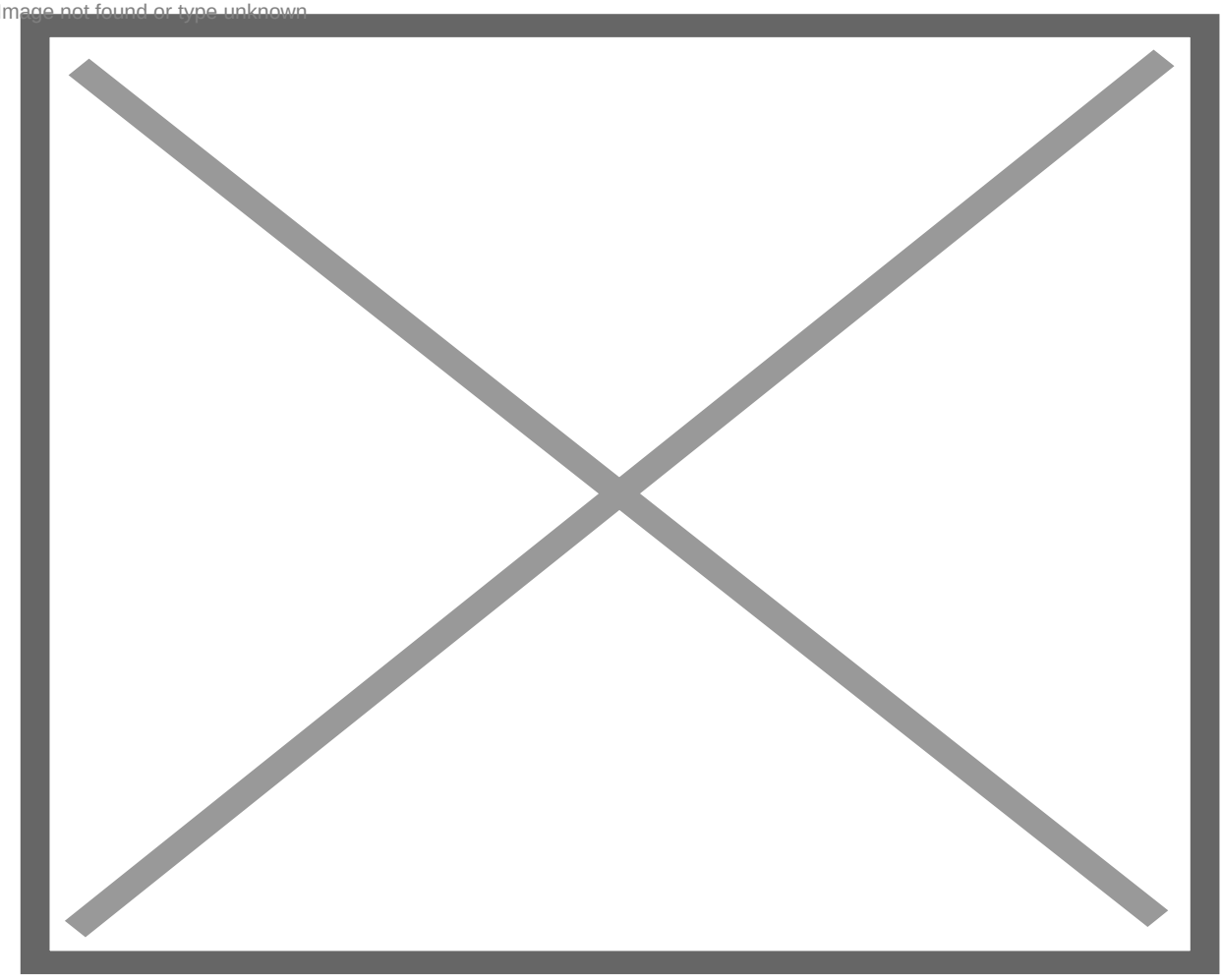

An aerial shot of the Limetree Bay facility on the south shore of St. Croix. **By. ERNICE GILBERT/ V.I. CONSORTIUM**

The Environmental Protection Agency has released its findings of an inspection of the Port Hamilton Refining and Transportation refinery on St. Croix, formerly Limetree Bay Refinery, which was initiated following a smoldering coke incident in August.

The EPA's findings paint a picture of a facility whose surfeit of issues caused by a lack of maintenance could lead to disastrous outcomes, including what the federal agency described as potential for "explosions" and "catastrophic release" of harmful gases.

The EPA said PHRT could not provide a current hazard assessment for the processes that presently contain extremely hazardous substances at the refinery. "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," the EPA said, with the last process hazard analysis for the refinery being performed in 2019-2020 by former owners Limetree Bay.

Regarding process design and safety of the refinery, the EPA said PHRT could not provide documentation that its process design complies with recognized and generally accepted industry practices.

In the area of PHRT's obligation to maintain a safe facility, the findings were particularly worrisome, as the EPA said the company could not provide current operating procedures and operator training records.

"The facility does not have a preventative maintenance program, and facility personnel stated that there are currently no formal process unit inspections," the EPA inspection found.

The agency said 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 said unit operators perform daily walkthroughs for each unit to record gauges and unit conditions, etc. The company also told inspectors that operators normally address routine issues and that area supervisors are notified of issues that require further attention from the maintenance department.

However, the EPA said a tour of the facility by EPA inspectors "observed conditions demonstrating a systemic lack of maintenance."

The federal agency said it found "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."

The EPA further stated, "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."

PHRT had not responded to a request for comment at time of publication, and the company as of Wednesday had not issued a statement, though the findings were published on the EPA's website five days ago.

In July, Port Hamilton said it had intensified its push to restart the refinery by mid-2023, though the company did not share any details on how exactly it was speeding up a potential restart. "Our objective is to restart the refinery on St. Croix in a safe and environmentally sound manner which we hope will help to alleviate this tight supply situation," said one of PHRT's chief principals, Charles Chambers.

The EPA's report exposes difficult and time-consuming environmental and safety hurdles the company will have to address ahead of a potential restart. PHRT also must raise hundreds of millions of dollars to finance a restart, and must negotiate a costly consent decree with the U.S. Dept. of Justice in regards to pollution control equipment that prior owners had failed to install, the U.S. D.O.J. said in March.

Below, more from the report:

"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."