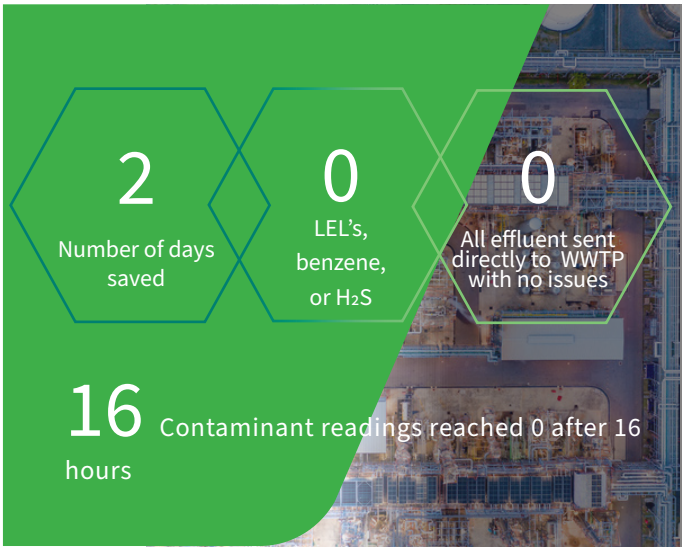
DECONTAMINATION OF **CRUDE DISTILLATION UNIT, ATMOSPHERIC COLUMN, AND VACUUM TOWER**

Project

A refinery in Mumbai, India, contacted ZymeFlow and its technical sales and service partner in India, Oil Fields Warehouse and Services, about decontaminating the refinery's equipment. The plant's crude distillation unit, atmospheric column and vacuum tower needed to be decontaminated before an upcoming inspection. The goal was to improve efficiency by using a faster decontamination method while cutting down on wastewater.

Challenges

The units contained pyrophoric iron sulfides, hydrogen sulfide (H_2S), LEL's and benzene that needed to be eliminated efficiently and safely. Using a previous method, the refinery encountered complications with the waste water. For this reason, the plant needed a method that used less water and would not harm the waste water treatment plant (WWTP). Additionally, the unit's physical layout was compact so it was crucial to keep temporary equipment to a minimum. Overall, the plant needed to shorten treatment time, keep equipment to a minimum, and not hurt WWTP.



Past Procedure

Before using ZymeFlow, the refinery used a multi-staged cleaning process. The multi-stage method had a complicated and time consuming set up on top of a large equipment foot-print. After set-up, the process took up to 5 days to complete. Additionally, this method created large volumes of wastewater which caused issues with the WWTP.

Engineered Solution

ZymeFlow proposed using Zyme-Flow® UN657 in a Vapour-Phase® application to treat the contaminants. The chemistry would be injected into the process steam line and transported by steam throughout the entire unit. The Vapour-Phase method would cut down on wastewater while eliminating the large equipment foot print and hose set-up needed for the refinery's previous method. Additionally, the plant required a minor liquid circulation loop as well as a boil-out procedure on some equipment.

Results

ZymeFlow's set up was quick and took minimal space. The units were treated with ZymeFlow UN657 in Vapour-Phase and were field tested during decontamination. Within 16 hours, contaminant levels reached 0 and the units were ready to be opened. Upon entry, only minimal water-wet sludge remained in the safely decontaminated units. Furthermore, wastewater disposal was very simple. No secondary treatments were required, so the wastewater was sent directly to the WWTP with no issues. The refinery was very pleased with ZymeFlow effectiveness and praised the entire team for their successful planning and execution of the decontamination process.

For more information on how ZymeFlow can partner with you, call 1-281-443-0300 or email sales@zymeflow.com.