

**CASE HISTORY**

Canadian petroleum refinery saves three days of outage time by reducing multiple turnarounds by utilizing our family of chemicals

Results Achieved

Process saved 3 days of outage time by reducing multiple turnarounds into one project

No delays in schedule, and only standard PPE required for vessel entry

No additional expenses required for supplied air equipment and manpower

Chemicals Utilized**FQE Solvent-H****FQE LEL-V****FQE LEL-V Eco**
PATENTED**FQE H₂S Scavenger****FQE Pyrophoric**

A petroleum refinery located in Eastern Canada used FQE[®] Solvent-H, FQE LEL-V, FQE LEL-V Eco, FQE H₂S Scavenger, and FQE Pyrophoric to decontaminate and degas their crude unit.

This was the first vapor-phase application where the entire unit was to be degassed and decontaminated simultaneously. Previously, the client had broken down the unit into individual critical path vessels with each degassing operation taking place over 48-hours. The entire crude unit would typically take a total of 4 days. Using our process, it took a total of 24-hours to fully degas the entire crude unit.

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The crude unit scope consisted of the following major equipment and all interconnecting piping:

Crude Column
Crude Heater
Crude Column
Kerosene Stripper
Diesel Stripper
Crude Overhead Receiver

Vacuum Column
Vacuum Heater
Vacuum Column
Ejector Vapor
Knock-out Drum

Debutanizer & Splitter
Debutanizer Column
Debutanizer Overhead Receiver
Splitter Column
Splitter Overhead Receiver
Crude Overhead Receiver

Others
Kerosene Water Settling Drum
Desalter Water Drum
Debutanizer Charge Drum
Compressor Suction Drum
Skimmed Naphtha Drum

FQE Solvent-H was vapor-phase injected into the Crude Column, Vacuum Heater, and Vacuum Column for 6-hours as part of the preliminary decontamination process to target the heavy oils and sludges.

Following the preliminary injection, all equipment was cleaned by vapor-phase steam injection with our FQE H₂S Scavenger, FQE LEL-V, and FQE LEL-V Eco products. During the final hours of the degassing step, the system was then treated with FQE Pyrophoric to deactivate the iron sulfide scale.

After a total of 24-hours of chemical injection, all critical path equipment was successful degassed with no LEL's arising from light end hydrocarbons or hydrogen sulfide present on analysis. Furthermore, upon breaking containment there was no iron sulfide scale combustion encountered.

Manpower designated for vessel entry entered without any delays, minimum PPE, and no additional expenses were required for supplied air operations.

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