



CASE HISTORY

US oil refinery saves a day of turnaround operation by decontaminating and degassing their coker fractionator with our family of chemicals

Results Achieved

Process saved 12-24 hours of outage time; manpower entry with no delays

Significantly reduced mechanical cleaning costs and timelines by dissolving heavy sludge in the fractionator bottoms

LEL and H₂S reduced to 0



Chemicals Utilized

FQE® Solvent-H

FQE® LEL-V

FQE® H₂S Scavenger

FQE® Pyrophoric

An oil refinery in Wyoming running heavy Canadian crude utilized FQE® Solvent-H, FQE LEL-V, FQE H₂S Scavenger, and FQE Pyrophoric for their turnaround operations and saved 1 day of outage time.

Previously, the client had utilized terpene-based type chemistries on the towers over a scheduled 12-hour period. Upon completion of the injection period, the client traditionally had issues with LEL and VOC levels that required additional steaming and this would end up delaying manpower entry an additional 12-24 hours. Due to issues with prior applications, a new process was chosen; the FQE Chemicals method.

Prior to chemical application, it was confirmed that there was a lack of fluid communication at the bottom of the coker fractionator. This resulted in relocating the injection point and indicated that the fractionator was completely fouled at the bottom. It was confirmed that fouling was significantly higher than previous turnarounds.

Equipment Cleaned

- » Coker Fractionator
- » Three Stripper Towers
- » Pentane Absorber

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To target the heavily coked-up bottoms, FQE Solvent-H was circulated at the bottom of the coker fractionator during the cool-down to target the heavy asphaltenes and sludges. This was followed by vapor phase injection of FQE LEL-V, FQE H₂S Scavenger, and FQE Pyrophoric products into the fractionator and remaining vessels.

After the allotted 12-hour time frame, all the vessels were successfully decontaminated and devoid of any LEL or H₂S. All pyrophoric iron in the system was fully deactivated.

Manpower designated for vessel entry was able to conduct maintenance operations without any time impacts to the schedule. Application of FQE Solvent-H successfully dissolved most of the heavy sludge at the bottom of the fractionator and significantly reduced the cost and time impact of mechanical services for removal of residual solids. All residual coke deposits were found in powdered form and completely hydrocarbon free.

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