



REFINERY MAINTENANCE
SOLUTIONS

Scope

■ provides a chemical cleaning solution for heat exchanger cleaning that proves to be a highly-effective alternative to traditional hydroblasting methods - saving the customer significant time and money.

Challenge

As part of the maintenance package offered to a refinery in 6000 HFR, 6 performs regular hydroblasting on the FCC Feed / Effluent heat exchanger's A and B bundles. The bundles are 3 feet in diameter by 25 feet long, and foul heavily on the shell side. Historically, the bundles would be pulled from the shell and sent to a cleaning location, where high-pressure water was utilized to remove the foulant. Using this method, the bundles required up to 48 hours of cleaning each. Even though the client was satisfied by the final cleanliness, 6 proposed a new cleaning method to reduce downtime and provide superior results.

Solution

☒ s chemical cleaning personnel were brought into the refinery to consult on an alternative cleaning process to shave significant time off the cleaning process.

A treatment solution was designed where the bundles would be circulated with a dilute solution of 6 detergent mixed with Light Cycle Oil provided by the client. This

treatment solution also eliminated the need to remove the bundles from the shells.

The circulation would be handled by 6 personnel, equipment and hoses. The resultant solution would be re-run in the refinery.

The proposed solution was presented to refinery management and approved.

Result

The chemical cleaning treatment was successfully implemented and completed in just 36 hours with no operational or safety issues.

The bundles were pulled from the shell following the circulation treatment, and were found to be considerably cleaner than the results using the traditional hydroblasting method.

The cleaning results were supported by better flow and heat transfer rates, compared with all rates recorded since the units were

initially put in service. It was also stated by the refinery operations group that it would no longer be necessary to pull the bundles during scheduled maintenance.

Key benefits of the chemical cleaning approach include:

- Both Feed / Effluent exchangers' shell sides were cleaned to a higher standard.
- Cleaning took 50% less time.
- There was no need to pull the bundles.
- Refinery customer saw a 30% reduction in their cost to accomplish the project.

Contract Facts

Refinery's
ongoing maintenance package

chemical cleaning
solution for exchanger bundles

Key Figures

50% less
time to complete cleaning

30% reduction
in overall cleaning costs

zero
accidents or injuries

Contact



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