

Gulf Coast

Hot train antifoulant strategy provides a recurring ROI of 300% and saves operator ~USD 1.5M per year

Program reduces fouling rate and mechanical costs while improving flexibility, energy efficiency, and production

CHALLENGE

- Design a solution to address the dramatic fouling increases caused by the operator's desired blend strategies

SOLUTION

- Engineer a trial using RPA-302 antifoulant, drawing upon previous success in other similar applications
- Upon trial success, extend the trial to permanent application

RESULT

- Improved fouling rate and achieved gradual system cleanup over time
- Eliminated expenses associated with excessive fouling rate
- Operator can now process crude successfully in a flexible manner aligned with desired strategy, without any penalties
- Estimated recurring chemical ROI exceeds 300%, resulting in annual net savings of ~USD 1.5 million

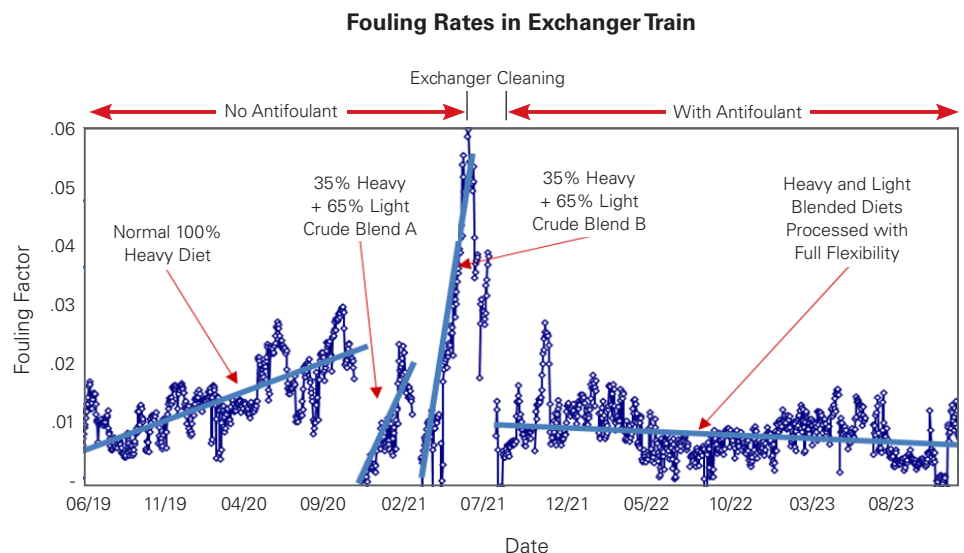
Challenge

A major refinery experienced significant but largely controllable fouling rates on a heavy crude diet. In an effort to enhance profitability, the operator decided to blend 35% light crude with the typical heavy diet. However, this led to a dramatic increase in fouling rates, approximately six times higher than the normal diet.

Despite multiple attempts to mitigate the increase using other light crudes and components, the fouling became even more aggressive, reaching levels approximately 24 times higher than the normal diet. Consequently, an unplanned shutdown was necessary to clean the exchangers. The resulting production loss, reduced heat transfer efficiency, and mechanical cleanup costs significantly impacted the refinery's profits. To help prevent further profit loss, the operator contacted Halliburton to address the substantial fouling increase associated with their blend strategies.

Solution

Halliburton engineered a trial solution using RPA-302 antifoulant based on previous successes in other similar applications. Shortly after initiating the trial, the treatment



demonstrated effectiveness, leading to its extension as a permanent application.

Result

The permanent application eliminated expenses related to increased fouling rates. The operator successfully processed crude in a flexible manner aligned with their desired strategy, without penalty.

The RPA-302 antifoulant strategy not only dramatically improved the fouling rates, but also facilitated gradual system cleanup over time. This effective program has allowed the operator to blend light crudes into their normal heavy diet using a flexible approach, without having to halt the economically beneficial incorporation of light crudes or suffer the dramatic fouling increase observed in previous attempts.

This program has significantly benefited the operator. Improved flexibility, energy efficiency, and production, along with reduced mechanical costs, delivered an estimated recurring chemical return on investment (ROI) exceeding 300%, leading to annual net savings of ~USD 1.5 million.

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