GROOME
Industrial Service Group

CASE STUDY FOCUS

Online Cleaning and Port Cutting

TESTIMONIAL

"The cost of this cleaning was a fraction of the cost as compared to us shutting down the unit."

CLIENT

West Coast Refinery

BACKGROUND

This west coast refinery had a heater with an upset that resulted in refractory being lodged on the face of the SCR. As a result, the unit experienced increased back pressure and NOx conversion issues. To run within permit levels, the plant had to turn unit load down by 50%. This resulted in production and efficiency loss. The issue grew progressively worse over a two-week period, and the plant management reached a point with this decision: either shut the unit down, or find another option.

The unit was built with no online aftermarket in mind, so a custom design was required to conduct an online cleaning of the unit.

OBJECTIVE

The back pressure issue had a direct impact on productivity at the plant. Increasing NOx levels, due to lack of conversion, posed a rising environmental concern. It was critical that the facility address these issues while the unit continued operations.

SOLUTION

Groome Industrial reviewed the unit drawings and visited the refinery to inspect the unit. The team identified an online cleaning design with a safety plan. It was determined how many access ports would be needed to effectively clean the catalyst while the unit was operating. Custom access doors were designed and production was expedited. Safety and production protocols were outlined to drive project efficiency and EHS compliance.

RESULTS

The door installation will allow online cleaning to take place anytime in the future, so the plant will never have to face a plant shutdown due to SCR catalyst masking. The cleaning that took place resulted in the reduction of back pressure by 55%, back to the original design pressure. Four shifts of day-night cleaning resulted in the plant saving three full days of shutdown, due to no shutdown or cooldown time. NOx emissions returned to well within permit levels.