



#### TESTIMONIAL

**“The results of the cleaning were outstanding.**

**The KinetiClean method is completely non-invasive and resulted in no harmful effects to our equipment.**

*And importantly, the Groome team uncovered incomplete welds in several sections of the HRSG, meaning our plant, before Groome’s arrival, was in a weakened state with some significant structural weak spots.*

*And still, there was no damage to our facility from the cleaning.”*

#### CASE STUDY FOCUS

# KinetiClean

#### CLIENT

 **Gulf Coast HRSG**

#### BACKGROUND



A refinery outside of Houston looked to boost operational efficiency and reduce costs. This power station is comprised of a 2x1 combined cycle system, that includes two GE 7FA.02 combustion turbines, two Alstom HRSGs, and an Alstom steam turbine generator that started operation in 2000. The combustion turbine capacity for each unit is 155 MW which utilized Dry Low NOx burners. The plant operates in both AGC (Automatic Generation Control) and cyclic load to follow market conditions. Each HRSG unit was experiencing high levels of pressure differential in the back end of the HRSG, as well as higher stack temperatures. The boiler tubes had never been cleaned, likely causing the issues due to fouling.

#### OBJECTIVE



This facility looked to improve overall boiler performance, and have work completed in a way that would provide minimal interruption to production and result in as little downtime as possible.

#### SOLUTION



The Groome team cleaned both HRSG units at the plant. Each unit took six, 12-hour shifts to complete the cleaning process, which resulted in a total job time of three days per HRSG (six days total), meeting the original timeline. The plant also needed to repair dampers, and this maintenance was accomplished in conjunction with blasting operations.

#### RESULTS



The pressure differential across the tube bundles of each unit that was cleaned was reduced by 4 inches w.g., which allowed the maximum gross power output at baseload to achieve an additional 1 MW of generation per unit.

Additionally, a heat rate improvement of 58 BTUs/KWH was measured, which calculates to a 1.0% reduction of the total heat rate. Five tons of material was removed from each unit, while recording no damage to either HRSG or the fin tubes.