



TUBE SUPPORT INSTALLATION DURING OPERATION



PROBLEM:
Two tubes in a vacuum heater have partially lost their tube support. The retaining bar fell out of place.

SOLUTION:
In order to prevent a potential unplanned shutdown in the future, IGS Hot-tek delivered a turnkey solution, installing tube stabilizers while the heater continued normal operation.



Vacuum Heater in a US Refinery

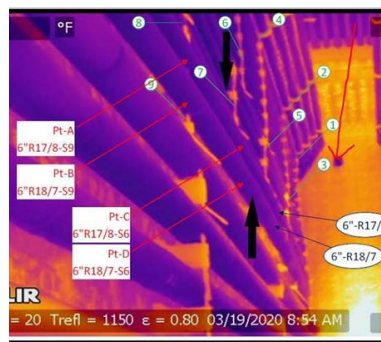
Having recently celebrated a century of operations in 2019, this US Refinery, located in Ohio has the ability to process 160,000 bpd of crude oil.

Pressing Problem

The Hot-tek team were contacted regarding a problem with the vacuum heater tube supports. The refinery wanted it repaired as soon as possible as an insurance policy. Rapid repair meant they wouldn't need to perform continuous monitoring. In addition, when the repair was left until the next shutdown, in extreme cases, the tube has been known to slump and disconnect off the wall, causing an emergency shutdown.

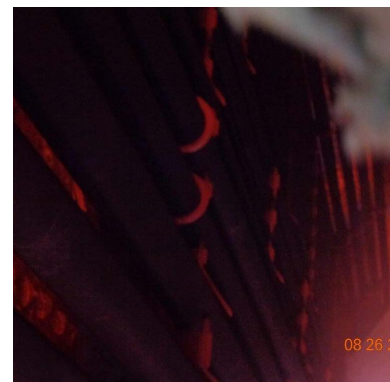
Timely Solution

IGS Hot-tek supplied the tube stabilizers (manufactured out of 310 SS), and the reinforcement steel required for this project. The project was completed safely and on time in two shifts.



SOUTH WALL EAST DECK

1. IR image of displaced tubes



2. New tube stabilizers installed



3. Tube stabilizers installed awaiting final welding (outer view)