CASE STUDY

Wall Thinning and Pitting Flare Line Repair

Overview

A 10” flare header line situated at a downstream oil refinery had sustained, within a 1 meter section, wall thinning and pitting defects due to external corrosion. Pit depths were measured at 4mm with the corresponding remaining wall thickness recorded as 2.3mm. The maintenance team had, prior to contacting Walker Technical Resources, shut down the line.

Scope

Following review of the inspection reports and process operating information it was concluded that a design engineered repair could be installed restoring the line’s integrity therefore enabling it to go back on line. Technowrap 2K™ is a cold repair method and can be applied to live lines negating any significant site services including complicated on-site procedures, resources and inconveniences involved in closing the line down.

Challenges

In order to achieve excellent adhesion between the pipe work substrate and the Technowrap2K ™ repair, surface preparation is required. Due to the extent of wall thinning on this section of line and to prevent creating a through-wall defect into the pipe, it was requested by the client that the defected areas be protected from SA2½ surface preparation method (grit blasting). An ST3 surface preparation procedure was used (using power tools) followed by confirmation by design calculations that this installation procedure could achieve successful implementation.

Our Approach

A Technowrap 2K™ repair was installed on the flare line following completion of the required surface preparation. Following repair implementation, the line, containing a light hydrocarbon fuel gas and operating at 70°C, was given a design life time extension of 20 years.