Contour Repairs Nozzle on Thermal Oxidizer

PIPE DETAIL

A schedule 80 nozzle on a thermal oxidizer knockout pot experienced corrosion covering 60 mm (2.36 in) from the connection to the lower head

90°C to 100°C (194°F to 212°F) operating temperature

0.15 to 0.20 bar (2.17 to 2.9 psi) operating pressure

SUMMARY

- Contour repaired a nozzle on a thermal oxidizer knockout pot with 60 mm (2.36 in) of significant corrosion
- 2 technicians carried out the complete repair in 2 days
- No hot work required
- Minimal shutdown during repair

Inspections at an onshore processing plant that receives gas from an offshore facility revealed a severely corroded nozzle on a thermal oxidizer knockout pot. The corrosion covered 60 mm (2.36 in) from the connection to the lower head on a 50 NB schedule 80 nozzle, thinning the nozzle wall to approximately 1 mm (0.04 in) at its weakest point. The extent of the corrosion varied over this length, but the pipe was in sound enough condition to be repaired.

Severe corrosion on the nozzle of a thermal oxidizer knockout pot covered 60 mm (2.36 inches) from the connection to the lower head.

Designed for 90°C to 100°C (194°F to 212°F) operating temperature and 0.15 to 0.20 bar (2.17 to 2.9 psi) operating pressure, the knockout pot was critical to operations. Plant owners wanted a quick repair, and having used composite solutions to address corrosion problems in the past, appealed to Clock Spring Company, Inc. to provide a solution.

The damaged area was wrapped with the Contour wet applied repair system, with technicians applying filler material over the corroded section, followed by quad-axial stitched fiberglass cloth affixed with a two-part epoxy.

The repair was completed by 2 Clock Spring trained and certified installers in 2 days.

The repair provided was Clock Spring Contour, an engineered wet applied repair system featuring quad-axial stitched fiberglass cloth applied in a wet-lay system with two-part epoxy and a filler material.

PipeServ Engineering provided Clock Spring trained and certified installers to repair the damaged nozzle. A team of 2 technicians wrapped the damaged area with the Contour wet applied repair system. Filler material was applied over the corroded area on the first day, followed by quad-axial stitched fiberglass cloth affixed with a two-part epoxy the next day.

The vessel was shut down for a short time during the repair process, but the composite solution precluded an extended shutdown. The Contour repair took place without introducing hot work and its associated hazards, restoring the nozzle to a safe operating condition in only two days.

There are nearly 3,000 trained Clock Spring installers around the world who are qualified to provide repairs with Clock Spring products. Clock Spring regularly offers training classes for installers and can custom design training for individual company needs.