PUMPS, VALVES AND SEALS REVIEW

Hydrocarbon Engineering presents an overview of some of the recent developments and technologies in pumps, valves and seals for the downstream oil and gas industry.

VALVTECHNOLOGIES

Implemented in 2016, the US Environmental Protection Agency (EPA) issued a Risk and Technology Review (RTR) mandate on coke drum venting for petroleum refineries. Components of the rule include:

- New emissions controls for refinery storage tanks, catalytic reforming units (CRUs) and delayed coker units (DCUs).
- Work practice standards to reduce emissions from atmospheric pressure relief devices (PRDs) and flares.
- Continuous benzene monitoring at the refinery fence line to improve the management of fugitive emissions.
- Elimination of exemptions to emission limits for uncontrolled releases during start-up, shut-down and malfunction.

The rule imposes monitoring and reporting of emission releases from pressure relief devices to the atmosphere. The regulation calls for a programmes of process changes and pollution prevention, aimed at reducing visible emissions by major pressure release devices. This change affects a wide range of applications, including DCUs and its coking processes. Older coker valves are challenged to meet the rule and, because of this, refineries in the hydrocarbon industry must modify their existing process.

To meet EPA standards, ValvTechnologies recently installed zero-leakage coker valves in refineries in Texas and Louisiana, US, ranging from 14 in. to 20 in. 300# ANSI, flanged with HVOF RiTech® coating. The valves are composed of C12 and carbon steel body materials and, based on the plant's needs, designed with either pneumatic or electric actuation.

The company supplied these refineries with severe service technology to extend the valve's isolation capabilities, improve its processes with minimal shutdown maintenance and save operators thousands of dollars eliminating the need to install expensive emission reduction technology. In addition, ValvTechnologies' engineered solution ensures plants are in compliance with EPA's strict air-quality standards.

ValvTechnologies is a leading manufacturer of zero-leakage, severe service isolation valve solutions. Employing more than 500 people worldwide, its offices are located in the UK, mainland Europe, China, the Middle East, India, Australia and South America. In addition, the company partners with stocking distributors and independent representatives to service customers globally.