A Flowserve® solution improves reliability + longevity of Goulds® 3196 installed base: a customer study

For a mining operation with an annual capacity of 7.6 million metric tons, reliability and efficiency are top-of-mind for the process engineering and maintenance teams. So much so, that a Reliability Engineer – who also serves on an engineering best practices team for this major NC mining company – performed a study on mechanical seal life for their phosphoric acid service.

Monitoring performance and measuring against interim upgrades, this reliability-maestro learned that mechanical seal life was extended significantly when running in an optimized operating environment such as that created by Flowserve’s seal chambers.

On one particular project, Goulds’ 3196 ANSI pumps were installed based on a low initial purchase price. However, the team quickly found that the mechanical seals were failing, causing ongoing maintenance and impacting productivity. In an attempt to improve reliability and reduce long-term maintenance costs, the engineer tried retrofitting the 10- and 13-inch stuffing box covers on the Goulds MTX, LT and LTI frame pumps with Mark 3 SealSentry™ CRC FML Seal Chambers. This ingenious solution demonstrated that Flowserve components offer improved reliability and life cycle costs for Goulds, as well as other OEM ANSI models.

**Lessons Learned**

Ideally, decisions regarding pumping equipment for major projects or new plants should be based on 20-year capital cost projections, examining total cost of ownership rather than just acquisition costs. While standardizing on the most reliable ANSI pump available during the planning stages offers the best opportunity for achieving a profitable ROI, retrofitting low-performing equipment with components optimized for the application is an alternative method for reducing maintenance challenges and long-term costs.

Introduced in 1986, there are currently hundreds of thousands of Flowserve Mark 3 ANSI pumps installed globally –providing proof of the lowest total cost ANSI solutions available on the market.

PP&S welcomes the opportunity to provide more information about this application, or a custom TLC solution for achieving your total lowest cost and highest ROI.

**Spotlight on Flowserve SealSentry™ Chambers**

Instead of installing replacement seals in obsolete or less than ideal seal chamber designs, the SealSentry CRC line, with proven FML technology, improves mechanical seal life in many pump models – from Goulds, Griswold, Peerless and Summit.

With a tapered, oversized bore and integral flow modifiers, SealSentry CRC seal chambers protect seal faces and components by:

- Redirecting flow from circumferential to axial
- Balancing flow with low-pressure drop in the chamber to help keep solids in suspension, minimizing erosion
- Creating centrifuging action away from its parts
- Solids and slurry merge into the returning flow path and are flushed from the seal chamber.