EMW® Success in Difficult Carbon Slurry Application

In summer, 2014, long-time Wilfley representative, Scheel & Company, began discussing a difficult application with a customer in Kentucky. The customer re-processes activated carbon, requiring a heavy carbon slurry to be pumped from tall holding tanks into their process.

The existing pumps worked well enough hydraulically, but had problems handling the carbon slurry due to the gland packing. The carbon slurry acts on the packing, causing it to harden-up and begin wearing the shaft sleeve. As the sleeve wears, significant leakage occurs, requiring frequent replacement of the sleeve and packing, and associated downtime, labor, etc.

Most importantly, the leaking carbon slurry is an environmental hazard, requiring the customer to capture, treat, and account for all leakage. The photo below shows the area under the tanks, and the leakage in the containment area.

Competitor's Pump

Scheel proposed replacing the existing pump with a Wilfley EMW® heavy duty slurry pump made in Maxalloy® 5A with a SolidLock™ static seal. The SolidLock™ static seal, combined with the Wilfley Dynamic Expeller Seal, is a superior sealing solution to gland packing because there is no rubbing contact in the seal during operation and wear life is maximized. However, the application is challenging for a dynamically-sealed pump due to the high intake head and intermittent service.

After consulting with Wilfley Engineering to ensure the conditions could be met, the proposal was made, and the customer ordered the EMW® to replace one the competitor's pumps. Prior to shipment, the EMW® was tested by Engineering on Wilfley's test loop to verify that the expeller could sufficiently hold back the intake head and it passed with several feet to spare.

In Spring 2015, the EMW® slurry pump was installed in place of the old pump and began service. Since it has been in operation, the EMW® hasn't experienced any operational issues in the application. It performs perfectly without a single drop of fluid from the seal, both while running at high fill levels, and while stopped.

"The pump has worked great; we are very pleased with it," stated the Engineer in charge of the project. Adding, "We want to replace the second pump in that application with one just like it."

The second EMW® is expected to go into service in late 2015. In the below photo, you can see the dirty, but well-functioning EMW® in the plant. Note the containment area around the EMW® is completely dry.

Wilfley EMW® Heavy Duty Slurry Pump

Are you experiencing sealing issues in your pumps? Contact your local Wilfley representative to learn more about how we can solve your problems.