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Subject: Windrock Spotlight Customer Testimonial, Calumet Specialty Products

Date: December 20, 2019

A Windrock Spotlight Monitoring System was installed on a 4-stage reciprocating compressor at Calumet Specialty Products, Shreveport, Louisiana refinery in hydrogen make-up/recycle service. Spotlight was installed to provide continuous analysis and early warning of any reliability issues that could impact hydrogen supply to the unit.

Shortly after being put in service, the Spotlight Monitoring System detected a significant suction valve leak on the compressor that, short-term impacts both available capacity and energy efficiency, and longer-term can cause premature piston and cylinder failures.

During subsequent online compressor monitoring, Spotlight identified another valve leak on the third stage discharge valve. Timely confirmation of this leak allowed us to provide the necessary repair quickly and minimize equipment down-time.

Overall, we are pleased with the installation of the Spotlight Monitoring System and have proceeded to install it on additional compressors. Spotlight provides a proactive and predictive condition monitoring platform for our assets providing machine protection and optimization opportunities, while keeping our people safe. The investment made in the Spotlight system will pay for itself in less than a year with early detection of events, helping us avoid spending maintenance dollars on catastrophic failures.