

Keeping The Pressure On Reliability With ODR

Written by Dave T. Staples, SKF Reliability Systems
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New ways of thinking and new types of technologies are helping rewrite the rules on who does what and when in an industrial environment. Involving the "eyes and ears" of your plant (your operators) in the proactive maintenance of its "heart" (your pumps) can provide countless benefits.



Lately, there has been a stream of visitors to the Dearborn Stamping Plant (DSP) housed in the historic Ford Rouge Center in Dearborn, Michigan. What's the attraction?

The DSP operation, which manufactures sub-assembly doors and hoods for the popular Ford F-150 pickup truck, achieved a perfect score in a recent independent audit of its weld effectiveness. That makes the plant best in company- perhaps the best period-when it comes to the precision with which it forms and welds sub-assemblies. Executives from Ford Motor Company corporate offices and management from other Ford operations want to know how they do it.

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A significant factor is a condition-monitoring program using thermography or thermal imaging. Thermography itself isn't new to DSP, or new to Ford operations, but the DSP thermography program is unique. After only 30 days, the program scored higher in an insurance audit than any other Ford thermography program had ever scored. It continued to work even when new thermography team members came on board.

The ODR process, supported by enabling and ever-advancing technology, relies heavily on the "eyes and ears" in a plant, the machinery operators who are in daily contact with the equipment, to help detect equipment faults before problems can escalate. Many plants have been able to increase the uptime of their pumps, processes and other machinery and realize bottom-line benefits by implementing a carefully coordinated ODR program.

A case in point: A major petrochemical refinery recently adopted ODR to improve overall equipment reliability (process pumps included), enhance the timeliness and quality of feedback to and from operators and foster cross-functional teamwork and communications. Additionally, the refinery sought to inspire a culture of "ownership" and accountability among operators for the equipment they run.

Measurable goals for the refinery's process pumps broadened to include improving their MTBF (Mean Time Between Failure) and reducing the associated costs of maintenance. As subsequently documented by the refinery, the ODR program delivered increased revenue, reduced costs and minimized paperwork and redundant reporting, while providing quicker access to data for faster business decisions. An intangible benefit was a more cooperative culture that emerged in a workforce mutually focused on reliability-based activities. As a result, within the first year of ODR implementation, MTBFs for this refinery's process pumps improved 15%, while the cost to maintain the pumps decreased 12%. Within the same time period (and also attributable to the ODR program), total maintenance spending decreased 10% and accumulative specific operator finds exceeded \$350,000 in cost avoidance— *in just 12 months*.

Coming to terms with ODR

The term ODR refers to maintenance practices that are owned, managed and routinely performed by operators. It encompasses operators observing, recording and responding to machine health conditions. These practices often can be predictive and preventive, thus allowing companies to optimize the life cycle and efficiencies of their pumps and other assets by helping identify opportunities for reliability improvement—more quickly than in the past. Equally important, ODR includes teamwork and interaction with Maintenance and other departments impacting plant-wide equipment reliability. Under ODR, operators perform basic maintenance activities above and beyond their classic operator duties. ODR enlists them to observe and

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record the overall health of pumps (or other assets) by checking for leaks, listening for noises, monitoring temperature, lubrication and vibration, and taking responsibility to identify any abnormal equipment conditions and, in some