

Improving Equipment Reliability with Real-time Data

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For years, oil and gas operations have been capturing real-time information in the local control panels for rotating equipment packages but only production and rarely some operational information was sent to the central control room. With the advance of interfaces between systems and reliable communication infrastructure, more operational and diagnostic parameters are increasingly brought into the control room. This has increased the basic monitoring capability of remotely located equipment. However, these parameters have not been used to create efficiency calculations and performance monitoring routines that could be used for operations optimization and preventive maintenance. By moving the real-time data from control systems to central data historians and integrating information from the Computerized Maintenance Management Systems (CMMS) more informed decisions can be made. Automated notifications can be sent to the CMMS to identify emerging issues that can result in proactive interventions minimizing unplanned shutdowns and costly equipment failures. By using some key parameters from equipment, data historians can be utilized to create efficiency and performance calculations. These calculations can be converted to trends, analyses to determine best operating practices and to identify abnormalities that otherwise do not show up on individual parameters. These kinds of practices help to improve energy usage and reliability of rotating equipment. Integrating real-time data with the CMMS information can significantly reduce downtime and associated production losses as well as reducing repair costs.

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