REDRAVEN™

RedRaven Diagnostics Enable Streamlined Power Supply in the UK

Challenge

To maintain high standards of delivering an uninterrupted supply of power, an energy company in the UK was looking for a way to upgrade condition monitoring processes and leverage next-generation predictive analytics capabilities.

Solution

SSE explored cloud-based condition monitoring options with predictive analytics for feed pump performance and maintenance. Today, SSE wirelessly monitors their plants, receives near-real-time upset condition alerts, and more accurately predicts when pumps will require maintenance with RedRaven.

Empowering plant operators to prevent unnecessary disruptions

The Utilities business unit of SSE Enterprise (SSE) delivers energy to local industrial estates in the UK, including several manufacturing plants. These estates rely on a stable power supply, and any disruption could result in substantial revenue loss and expensive fines. Industry-standard monitoring protocols include costly biannual site visits to check vibration levels. Too often, such visits only reveal limited, outdated pump condition and performance snapshots. Flowserve proposed that SSE consider RedRaven, an adaptive technological platform, enabling internet of things (IoT) services for flow motion equipment and systems.

"Flowserve demonstrated RedRaven's wireless monitoring solutions and analytics capabilities," said Guy Hawkswell, electrical control and instrumentation engineer for SSE. "After they explained how the system securely transmits performance data and the various service levels with experienced technician data trend reviews, we decided to deploy a trial demo kit."

RedRaven proactively identifies an upset condition

Flowserve installed wireless sensors on two boiler feed pumps and six auxiliary pumps. It wasn't long before Flowserve technicians discovered an upset condition. While analyzing pump data, technicians noticed an increased load on the boiler. Data confirmed the pump was running at a higher temperature and vibration level than usual. After investigating the issue, SSE and Flowserve analytics personnel identified fuel source as the root cause. Physical inspection further proved the boiler was burning abnormally wet wood, causing a boiler flare-up, raising the boiler feed water operating temperature. Although the flare-up may not have caused catastrophic damage, the incident proved the value of RedRaven's Predict, Act and Protect protocols in delivering SSE's primary marketplace deliverable: uninterrupted power supply.

FLOWSERVE

Streamlined maintenance protocols with RedRaven

Flowserve changed the frequency of data collection to yield greater insights, further enhancing SSE's ability to proactively self-correct plant operations. Continuing through trial phase, Flowserve's monitoring center personnel helped SSE respond to upset conditions and take action to prevent equipment failures. The ability to predict required pump maintenance enables SSE to distribute resources more efficiently. Now they can dispatch technicians only when necessary, instead of routinely sending technicians to inspect healthy equipment. And rather than requiring technicians to collect data and upload it to an internal system for analysis, the process is automated with SSE, greatly reducing errors, and expediting data delivery and analysis.

Perhaps the most significant benefit SSE is experiencing with RedRaven is the increased integrity of their supply stability. SSE's customers are not concerned with IoT systems, equipment sensors, data trends or analytics. What's important is that SSE consistently supplies them with power to run their operations. RedRaven increases SSE's success in continuing to deliver on that promise.

"It's important for us to have Flowserve as a partner in this," said Hawkswell. "They provide IoT solutions that are easy to understand and implement. And installation is very quick; in our case, it was under an hour. Flowserve also set up a stand-alone IoT system that didn't interfere with our process or communications. RedRaven can collect our data, analyze it, and come back to us if there is a problem while we're able to concentrate on our business."

To learn more about RedRaven wireless condition monitoring and predictive analytics, contact your Flowserve representative.

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