Orbit Magazine

Case Study: The North Sea

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Condition Monitoring

AN EXAMPLE OF HOW GE HELPS CUSTOMERS IN THE OIL & GAS INDUSTRY

GE's System 1* Condition Monitoring Software Identifies Gas Compressor Problems to Save Money

A major worldwide player in gas exploration and processing recently diagnosed an issue at one of its gas production platforms located in the North Sea, off the coast of the Netherlands.

PROBLEM

A GE customer suspected rotor damage to a gas compressor after experiencing long-standing stall conditions. Basing their suspicion on an anomaly indication (low flow through the compressor) from their distributed control system (DCS), the customer team originally planned to mobilize a crew to dismantle and inspect the compressor.

SOLUTION

Accessing the compressor data remotely via their System 1 software platform, the team was able to verify that there was no evidence of stall conditions. In fact, there was no need to open the unit. This information convinced the customer to withdraw the request for a mechanical crew and they instead focused on identifying the root cause of low output through the compressor.

The customer's focus then shifted to DCS data validation. During the course of this process, the team detected an error in the anti-surge valve, making it look as if a stall condition existed. Later, a physical inspection of the gas cooler showed it was blocked by pollution, which limited its normal flow. The compressor piping was cleaned, and the unit was successfully put back into service the next day.

PAYBACK

The real-time, actionable information received from the customer's System 1 deployment compelled them to take another look at the problem. This decision ultimately prevented the deployment of a mechanical crew that would have been sent to the site to fix the wrong problem. By leveraging data from System 1, the company was able to determine the real problem and

resolve the issues in a timely manner. In addition, the cost avoidance for the mechanical crew was estimated at $500,000.

BENEFITS

- **Significant cost savings:** The customer savings from not deploying the mechanical crew to inspect the problem was estimated at $500,000.
- **Avoiding lost production:** The customer avoided production loss associated with opening a compressor, saving even more money.
- **Reduced downtime:** The customer assessed the necessary repairs without opening the compressor, which led to a prompt resolution and continued uptime.
- **Real-time, actionable information:** The real-time, actionable information helped the customer achieve asset optimization.

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