

Orbit Magazine

Case Study :: Petroleum Plant in Kuwait

Date : April 8, 2015



CUSTOMER SUCCESS STORY :: Petroleum Plant in Kuwait

An example of how GE helps customers in the Oil & Gas industry.

A Machinery Diagnostic Engineer remotely diagnoses a critical asset for a petroleum plant in the Middle East.

GE's Bently Nevada* has a Supporting Service Agreement (SSA) with a petroleum plant in Kuwait that is being continuously monitored by System 1*. The agreement includes periodic Machinery Diagnostic Services (MDS) audits for machine health monitoring, in addition to emergency remote support.

PROBLEM

In October 2014, a critical propane compressor experienced multiple trips due to high vibration at the steam turbine non-drive end bearing. The customer reported random vibration excursion, an increase in vibration with phase change, significant changes in orbit and abnormal changes in shaft centerline position.

SOLUTION

Within an hour of the initial request, a Remote Monitoring Engineer had connected to the customer's System 1 to document the symptoms. The same day, the engineer was able to identify the root cause as oil carbonization deposits leading to cyclic rubbing as a result of localized heating and thermal bow.

Orbit Magazine

Based on the Remote Monitoring Engineer's recommendations, the unit was shut down for a planned outage to inspect the bearings and seals. Rubbing marks were found at the seal area, due to oil carbonization. The customer was able to replace the seals with no loss in availability. Further investigation with the customer confirmed that the gland condenser had not been in service which led to the formation of oil carbonization. The gland condenser was put back in service after the maintenance.

PAYBACK

With an experienced team of both local and remote service engineers, a critical problem was promptly diagnosed using System 1, demonstrating the importance of having an SSA with remote connectivity in place.

The customer received decisive advice on the risk of continued operation and a clear recommendation, preventing further costly damage. The customer was able to make a quick decision without wasting time on further troubleshooting which would have led to significant production losses and maintenance costs.

BENEFITS

- Earlier detection of impending problems through advanced alarming capabilities – allowed for more proactive planning and intervention.
- Ability to quickly and accurately isolate root cause helps avoid additional damage and allows for planned downtime productivity.
- Remote diagnostic capabilities save travel costs and allow for collaboration with subject matter experts.

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