

Rotating Equipment Maintenance Improved by Streamlining the Communication of Data

RESULTS

- 70% reduction in “red” (repair immediately) alarms and “yellow” (repair soon) warnings
- 60% reduction in the material cost of repairs through predictive maintenance
- Greater than 90% operational stability achieved
- 300 critical machines added to vibration analysis program without more maintenance personnel



APPLICATION

Vibration data is collected in the field at more than 880 critical rotating machines and communicated broadly on a “need to know” basis.

CUSTOMER

A major producer of silicone sealants, fluids, rubber, adhesives, and coatings operates more than 2,600 pieces of rotating equipment including pumps, fans, blowers, agitators, and extruders. This machinery is deployed throughout chemical, finishing, and waste treatment facilities.

CHALLENGE

While periodic collection of vibration data was successful in identifying equipment in need of maintenance, no satisfactory method existed to notify various process managers of urgently needed repairs. As a result, many critically important jobs were mired in a work order backlog. Badly needed maintenance was frequently delayed, reducing operational stability and occasionally resulting in catastrophic failures.

SOLUTION

Several years ago, a decision was made to upgrade the plant’s vibration monitoring program by performing more analyses remotely and by seeking an effective method of informing management of the condition of critical process equipment. Subsequently, a demonstration of Emerson’s AMS Suite predictive maintenance software convinced plant officials that it could be adapted to communicate the results of vibration analyses conducted remotely.

“AMS Suite has more capability than we use, but it gives us the ability to make more managers aware of deteriorating equipment.”

Senior Reliability Manager



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AMS Suite will aggregate predictive diagnostics obtained from various sources in order to generate a comprehensive view of asset health. Data can be organized in any way so that the configurable dashboard instantly presents users with the operational status of their highest priority assets. Such information can be made available on any administrative network, allowing members of the management and operating teams to view the latest results.

Now, after Emerson's vibration experts analyze the monthly data received from the plant, their report is entered into AMS Suite and transmitted back to the chemical processing complex. The instant update on machinery health features green, yellow, or red codes assigned to each machine. Red alarms mean repairs must be done within hours; yellow warnings should be addressed at the most convenient time within 30-60 days; and green says no maintenance is needed at this time. Analyst recommendations are only a few clicks away as well.

Having the equipment health at their fingertips enables schedulers at the plant to plan maintenance in conjunction with production requirements, resulting in lower overall maintenance costs. One trend chart shows repair parts costs escalating until AMS Suite was implemented, after which those costs decreased substantially. In fact, a 60 percent reduction in the cost of repairs has been achieved since introduction of this technology.

As key production machinery has been repaired and upgraded to "green" status, the number of alarms (red) and warnings (yellow) has decreased by 70 percent. This occurred even though 300 more machines have been classified as critical and added to the vibration analysis report. At the same time, operational stability across the entire plant improved from about 75 percent to more than 90 percent.

The use of AMS Suite has been an unqualified success in providing greater visibility on the condition of rotating production assets and getting managers more involved in predictive maintenance decision-making.

"Vibration analysis is a great predictive tool. Once a developing problem is identified, we can affect repairs before a serious failure occurs."

Senior Reliability Manager

**Emerson Process Management
Asset Optimization Division**
12001 Technology Drive
Eden Prairie, MN 55344 USA
T 1(952) 828-3633
F 1(952) 828-3006
www.assetweb.com

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