

Aerospace Turbine Manufacturer Increases Production and Saves Wasted Downtime

RESULTS

- More than \$80,000 annual cost avoided in unplanned downtime
- Greater throughput of precision turbine components
- Thousands saved in emergency repairs

APPLICATION

Turbine vane & blade manufacturing

CUSTOMER

Major Aerospace turbine manufacturing facility in New England

CHALLENGE

The critical nature of jet engine turbine blades demands the highest levels of precision during manufacture; there is no room for error. The grinding machines must operate in perfect concert, and when one grinder has a problem it shuts down the whole process. "Unplanned downtime is the biggest thing, that and emergency repair costs" says the plant's Certified Vibration Analyst.

SOLUTION

"It takes six to eight hours to replace a spindle on the fly (during production)." Interruptions for emergency spindle replacement used to happen about eight times per year.

The CSI 2120 Machinery Health™ Analyzer has changed this plant's level of productivity and reliability. "Someone would say, 'Hey, Joe, will you check this unit out? It's got some noise.' We did the analysis and did the reports." Now the group follows a regular program of monitoring each item, and unplanned downtime is "nearly zero."



"This is the new wave of maintenance, the new paradigm."

Certified Vibration Analyst

By running regular vibration monitoring routes with Emerson Process Management's CSI portable technologies, the PdM group of 3 technicians can see early problems with bearings in the grinder array, and easily schedule an economic replacement.

"We take a quarterly trend, go back and review the reading from 90 days prior. If there are significant changes in bearings, we plan for replacement or repair," says the Certified Vibration Analyst. "With spindles it's tough because the loads change tremendously. We may still be in a one or two alarm, depending on how much material they cut. When the bearing is on its 4th stage, I'll suggest bearing replacement or repair. We get it scheduled for about a week later and replace the bearing cartridge," efficiently and with minimal downtime.

The production program has proven so successful that an advanced reliability team is now studying more applications of Emerson equipment throughout the 2,000,000 square foot facility and other manufacturing locations in the corporation.

"We now have nearly zero unplanned downtime with production because of our reliability program."

Certified Vibration Analyst

**Emerson Process Management
Machinery Health™ Management**
835 Innovation Drive
Knoxville, TN 37932
T (865) 675-2400
F (865) 218-1401
www.mhm.assetweb.com

©2006, Emerson Process Management.

The contents of this publication are presented for informational purposes only, and while every effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. All sales are governed by our terms and conditions, which are available on request. We reserve the right to modify or improve the designs or specifications of our products at any time without notice.

All rights reserved. Machinery Health™ is a mark of one of the Emerson Process Management group of companies. The Emerson logo is a trademark and service mark of Emerson Electric Company. All other marks are the property of their respective owners.

