

[Machinery Health Management](#) > [Technology](#) > [Online Continuous Monitoring](#) > Transient Analysis for Turbine

Machinery Health Management

Home

Work Processes

Expertise

Technology

News and Events

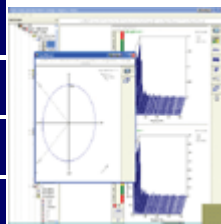
More Information

Contact Us

Site Help

CSI 4500 Machinery Health Monitor

Live user interface, data recorder and diagnostic analysis for turbine monitoring



PlantWeb Alerts give clear, powerful indications of developing problems to an operator at a DeltaV station.

The following scenario is an example of how Emerson's Machinery Health technologies work together to provide turbine protection:

You are comfortably home for the evening when the phone rings and you learn the turbine just tripped. The decision to restart the equipment is yours. Although you feel the pressure, you are confident because you have two powerful tools to rely on—all the necessary data was captured to assess the event and a live user interface will provide assurance during start-up. Information before, during and after the turbine trip is waiting for you. As you drive to the site, you review the facts:

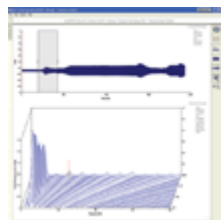
1. You have the proper setup to capture the right data surrounding the event. With virtually no setup, you can be assured the right data and the anomalous event will be captured.
2. Real-time continuous data recording ensures events will not be missed. With the CSI 4500, all of the data is recorded and buffered all of the time. The CSI 4500's continuous data recorder contains 60 Gb of memory that will record and buffer from 60 hours to over one week, depending on the number of sensor inputs. Auto archiving of data is also included so that small, one hour, snapshots can be permanently and automatically saved.
3. The live user interface will enable real-time decisions during start up.



Machinery Health feedback integrates to process automation systems, such as Emerson's Ovation® and DeltaV digital automation systems.

When you arrive on site, they have already found a plugged oil line to the bearing. Now the question is "how much damage was done, and can we restart?"

Multi-channel, continuous data recording saves you from ever missing an event and ensures the right information is available to dig deeper into the problem. You look at the quick views and then extract the region of interest for more details, which quickly drives you to the source of the problem.



Machinery Health feedback integrates to process automation systems, such as Emerson's Ovation® and DeltaV digital automation systems.

You can review the data, compare with the baseline, and confirm the vibration is isolated to one bearing. The shaft centerline plots tell you the bearing clearance was not exceeded. After fixing the oil flow issue, you advise restarting the turbine as you watch the

live user interface.

The live user interface provides real-time decision-making during start-up.

The live user interface, available with the CSI 4500 transient system, provides live plots that were not possible before the GT2 processor. Live real-time plots such as overall levels, orbits, shaft centerline, Bode/ Nyquist, cascade, waveform and spectrum, on all bearings, allow a turbine specialist to make real-time decisions. Simple Windows displays make manipulating screens and plots easy. Dual monitor mode helps you organize your views so you are staged for the startup. You can overlay baseline plots (from portable or online systems) on known good start-up plots to view the differences.

With the transient live user interface, you can make real-time decisions with operators and production staff to bring the turbine up for critical production needs or to shut down again to save the asset.

In this scenario, the CSI 4500 along with the AMS Machinery Manager allowed the user to easily see the information to make a confident decision. Emerson's predictive technologies, such as the AMS Suite of applications and the CSI 4500 along with complementary PlantWeb Services, allow you to maximize availability and performance of key production assets to ensure operational excellence.

Send comments to:
mhm.info@emersonprocess.com

Last Updated 01/24/06

© Emerson, 1996-2005
[Legal and Privacy Statements](#)

www.assetweb.com

www.experitec.com