

## Machinery Health – What is it?

Machinery Health probably has a more technical definition but it is basically the ability to be able to use an asset to its potential when needed. In other words, when the call is made, the machine must be ready. Monitoring and maintaining a piece of equipment has historically been done one of two ways – reactively or proactively. Reactive is very expensive as you are maintaining equipment after it has failed and there is most likely more damage as a result of the failure. Additionally, failures rarely happen on a convenient schedule for production or maintenance. Proactive maintenance involves the practices of preventative, predictive and root cause analysis.

**Reactive Maintenance**                run to failure, also known as breakdown maintenance

**Preventative Maintenance**        time based or interval based inspection

**Predictive Maintenance**            monitor some condition and predict breakdown

**Root Cause Analysis**                modify design based on analysis of persistent faults

A well rounded maintenance program may employ all of these methodologies to maintain their equipment. This is based on a cost / benefit analysis that should be engaged against the type of equipment and also a criticality assessment.

Because of the high cost of run-to-failure maintenance, facilities are migrating to a more proactive maintenance approach.

To move toward a more Predictive maintenance strategy, there is a migration towards technology that can help in the monitoring the condition of the asset. Vibration analysis is one of those tools. Commtest's Ascent® software is a great tool in identifying machine conditions and the fault modes surrounding these conditions. Data is brought in via an on-line system or a handheld data collector. The same software, Ascent®, can manipulate data from either system in a common platform. This is helpful as some assets are very critical and are monitored with an on-line system and other assets are monitored on a monthly or bi-weekly basis.

The ability to trend data, analyze data, and report on those findings allows for informed decisions on the health of the equipment and the eventual impact on production. Vibration analysis is not magic but one of the many tools for an informed workforce and increased machinery health. The resultant impact is really on improved business performance.

Rod Acklin CMRP

Product Manager, Vibration

ISO Category II Vibration Analyst