

Efficiency Extra Edition

T2E3 Newsletter

June 2008

Maintenance of a Performance Monitoring System

"Sometimes when I consider what tremendous consequences come from little things. I am tempted to think there are no little things."

-- Bruce Barton

What to expect for long-term maintenance of a Performance Monitoring System

As with any computer system you have at your facilities, there are maintenance practices required to keep everything running in top shape. This is especially true when considering getting the maximum benefit from a Performance Monitoring (PM) system.

A PM system is dependent on the people around it. The most expensive system might read all the data, interpret it for you, and spit out "the answer", but unless someone acts on that "answer" to make the necessary changes in the facility, the monitoring system is no more than another computer taking up space.

If no one is watching the results, the best PM system in the world will not be able to make an impact on your operations.

But, you say, there are some systems available today which will tie the results of the PM system into the control system, such that the recommendations of the system can be directly implemented without operator intervention. There is a lot of value in these systems - and a lot of work goes into designing and installing them - but someone still needs to tell the system when Tower Fan #4 is off-line for maintenance, or if there are other reliability issues relating to plant equipment that will impact how the performance monitoring system can go about it's business.

In successful PM system installations, time is taken to plan and design the system well. The installation process itself often leads to great leaps in knowledge of the plant equipment. Equipment

performance often improves significantly immediately following installation and implementation.

But, when the system is left to run day-in and day-out, other priorities at the site often take precedence, and small updates to the PM system are left for another day. When enough of those small updates are left undone, the PM system results become inaccurate and are soon ignored as unreliable. The task of updating the PM system becomes a large burden, until it is simply turned off in order to remove the nuisance indicators which may be plaguing operations.

When left to fend for themselves, PM systems often fail. So, what can we do to save them? Here are a few guidelines to follow:

1. **Identify a local Champion for the PM system;** someone to watch the daily reports and trend the equipment performance results. Preferably, this Champion should be someone who was involved in the design and installation of the system, but over time, anyone on site who understands the purpose and operation of the system - and has a desire to see it succeed - can make a great Champion.
2. **Schedule time to view the facility's performance trends** to see if anything has drifted away from expectations; Preferably 1 hour/day. If there are problems in the results, O&M personnel may need to be included in the investigation of the discrepancy. The reviews should include:
 - Noting where measured and expected performance show large deviations,
 - Checking for any unexpected changes in corrected performance or performance factors for any of the equipment,

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Announcements

- **Comment at Tina's Blog:** www.t2e3.com/blog
- **ASME Power '08**
Tina to present on Wednesday afternoon; July 23rd in Orlando, FL

Products & Services

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- Verification of raw data; noting where instrumentation may need maintenance or recalibration.

Automatic reports from the system can help in the reviews, and when everything is running smoothly, the daily reviews may take no more than 10 minutes to read a report. It is when there are items which need investigation that PM systems require additional time from site personnel. But, the time is often rewarded by improved performance and avoidance of unexpected major maintenance costs.

When site personnel are motivated to monitor performance on a daily basis, performance can not help but improve and/or be maintained in peak condition. This may take some changes at the site including allowing for the time required to use the PM system and providing performance-based incentives. But the rewards in improved plant profitability can easily surpass the required investments.

Performance monitoring systems are best viewed as tools - powerful tools - which can lead to improved equipment performance and reliability when placed in the hands of a site Champion who has the support of both management and site personnel to succeed.

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Tina Toburen to be at ASME Power 2008 in Orlando, FL; July 22-23

I will be presenting a paper on Wednesday afternoon, in Track 11: "Incremental Heat Rate and Optimization - New Applications for ASME PTC Performance Monitoring Guideline", written with co-authors Sam Korellis and Joe Milton.

If you'll be in Orlando, I hope to see you there.

More on ASME Power Conference at:

<http://www.asmeconferences.org/Power08/>

T2E3 Performance Analysis Services for Power Plants

Including:

Analysis Tools & Software – from customized spreadsheets to add-ins for Excel or complete compiled programs, T2E3 can develop software tools and analyses to support all your performance monitoring needs, including integrating your existing tools with available site data systems, to create online systems providing data and results in real-time.

Training – both public seminars and customized options are available. Highly interactive sessions increase attendees' knowledge and understanding of the thermodynamic cycles, instrumentation and analyses needed to improve equipment performance and reliability.

Performance Test Support – if your site is required to perform annual capacity or PPA performance tests, having Tina Toburen from T2E3 on site to direct the testing can lead to a smoother test execution with more consistent performance results. Professional reports can also be produced to communicate the results to all required parties.

Site Marketing and Dispatch Support – Do your marketers and/or dispatchers understand the operation of your facility? Do they constantly dispatch the plant at loads which are difficult or impossible to maintain? T2E3 can help you build tools and training programs to help all parties understand the expected

changes in performance due to ambient conditions and operating constraints. These tools can also lead to a greater understanding of the long-term economic outlook for your facility.

Unlock the potential of your operation. Call for more information on how we can work together, today!

