

# Efficiency Extra Edition

By Tina Toburen, P.E.

## The five steps to a more efficient plant

Improving your plant performance is an ongoing process, but it isn't rocket science. Small steps can make a big difference. The following five steps can get you on the road to a more efficient and profitable operation, and by reading this article, you've already started step one.

### 1. Performance Awareness

In many cases, a measurable improvement in plant heat rate can be made simply by increasing the awareness of performance issues at the site. Keeping site personnel focused on performance is the first step to making significant improvements.

### 2. Performance Analysis

In order to improve performance, you must know how to analyze it. Having tools to perform the efficiency calculations and correct results to a baseline set of conditions are paramount to building a solid foundation

for a performance test on the equipment you wish to monitor and improve.

### 4. Performance Monitoring

Performance monitoring is, in essence, running small performance tests on a high frequency basis, and maintaining



the test results for comparison with each other, such that trends in equipment performance can be analyzed and results used to adjust dispatch and maintenance schedules. Many plants are required to conduct performance tests,

to recognize and correct equipment deficiencies, leading to improved site capacity, heat rate, availability, reliability and profitability.

### 5. Repeat

This is the most important step of all. Many power generation sites have implemented performance monitoring programs in the past, only to have the champion of the system get promoted, leave the site for new opportunities or retire. Once that program champion has left, many monitoring systems are ignored or simply turned off and any gains once realized are often lost. The performance improvement gains made by the system slowly vanish, and the effort which went into developing the system is lost.

In order to keep your performance monitoring system in good working order, and to maintain and improve your equipment performance, you

## Ask how T2E3 can help you make the first step

for any performance improvement program.

### 3. Performance Testing

When looking at long term performance, and performance improvement, it is imperative to have a baseline understanding of your equipment's condition. The best way to achieve this is by ex-

ecuting a performance test on the equipment you wish to monitor and improve. These tests are normally run at frequencies no greater than once each year. While annual testing can provide some insight into equipment operation, more frequent performance assessments will improve the ability of the site

to recognize and correct equipment deficiencies, leading to improved site capacity, heat rate, availability, reliability and profitability. must sustain performance awareness, continue to analyze your equipment, execute performance tests, and monitor your equipment for performance trends. It's a never ending cycle which sometimes requires considerable time investment, but the rewards can be great.

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### Special points of interest:

- Increasing the efficiency of your plant, one step at a time
- Get on the Beta user list for the Compressor Water Wash program
- Find out how T2E3 can help you improve your plant's performance

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## Compressor Water Wash Software Beta Release Available March, 2007

Introducing the New Compressor Water Wash Program from T2E3, available for Beta release in March 2007. Beta users are provided the program free of charge for three months, and are asked to provide feedback on program user experiences. Feedback will be used to improve the program prior to initial public release. All beta users who sign up prior to March 12, 2007 will have the option to purchase the retail version at 50% off the retail price.

Expected retail price is \$995 per unit.

Sign up to be a beta user today!

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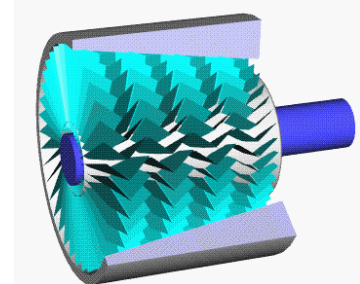
T2E3 offers the following products and services:

- **Analysis Tools** – T2E3 can develop spreadsheet or compiled software tools and analyses for use in a performance monitoring program, including integration with site data systems, for real-time or online systems.
- **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.

- **Site Documentation Audit** – depending on the age and condition of the site, documentation on the expected performance of the equipment may not be available, or if it is, it may be buried in a document library where no one has time to find it. T2E3 can provide personnel to scour your documentation and find the information you need to analyze your plant's performance.
- **Commercial Program Design and Evaluation** – For sites interested in a more complete enterprise solution for performance monitoring, T2E3 can support the design and evaluation of the various commercial products available within

the industry for performance monitoring. Choosing the correct solution will depend on the site goals and objectives for the performance monitoring program.

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