

### Bently Nevada\* Turbomachinery Condition Monitoring and Diagnostics

application package

This is an advanced online management and diagnostic software package for critical rotating machinery applications including: centrifugal and axial compressors, steam turbines, gas turbines, electric motors and generators, fans and blowers, gearboxes, pumps and other similar machines. It is specifically designed to work with Bently Nevada Hardware Protection Systems, collecting both static and dynamic data including: vibration, position, speed, temperature, and more. The Turbomachinery application package comes pre-configured for the type of machine you plan to manage – thus simplifying the set-up and reducing the implementation time. Available Decision Support\* RulePaks complement the Turbomachinery package by adding asset specific diagnostics for “around the clock” event detection and sophisticated data analysis.

#### Focused on Increasing Profitability

It is no longer considered best practice to operate rotating or fixed assets under breakdown or time-based preventive maintenance regimens. Companies are now looking at methods of Condition Based Maintenance to increase plant availability and reduce plant downtime. A thorough understanding of asset condition is required to enable owners and operators to make optimum production and maintenance decisions while minimizing business risks and costs. Implementing advanced management and diagnostic tools such as the Bently Nevada Turbomachinery package allows assets to be operated closer to peak efficiency and reduces asset downtime to an absolute minimum – resulting in increased profitability.

#### Benefits

- Maximize plant production
- Minimize maintenance costs and risk
- Early event detection
- Monitoring of developing problems
- Real-time condition status

#### Capabilities

- High resolution data acquisition
- Trending
- Sophisticated alarming
- Exception reporting
- User notification



## Improving Asset Reliability and Productivity

### Avoiding Unplanned Outages

Early detection of equipment degradation or impending failure helps to reduce maintenance costs. Changes in a machine's operating characteristics can be seen before significant damage occurs, allowing operators time to react and prevent more expensive repairs or catastrophic failure. Limiting unplanned failures or significant degradation leads to increased productivity.

### Reduction of Outage Duration

A thorough understanding of equipment condition allows for more efficient outages. Unnecessary inspections and maintenance can be eliminated if an asset's operating characteristics show little or no degradation. Precious maintenance resources can be focused on performing work that is actually required.

### Continued Operation of Degraded Equipment

Advanced asset management tools allow for continued operation of damaged or degraded equipment by giving the operators a continuous view of the operating condition. Continuous critical observation of the asset means that continued production is still possible while the necessary repairs are planned. Performing repairs at more convenient times minimizes production losses and increases profitability.

## Sophisticated Diagnostics Using Bently Nevada Machinery Protection Systems

The Bently Nevada Turbomachinery Condition Monitoring and Diagnostics Package is a critical System 1 Application Package made possible by connecting System 1, Optimization and Diagnostic Platform, to Bently Nevada Machinery Protection Systems such as 3500 with data acquisition capabilities using TDI. TDI is a space-saving communications processor module designed to slide into a 3500 rack. 3500/TDI capabilities include Triple Modular Redundant (TMR) monitors, high-speed

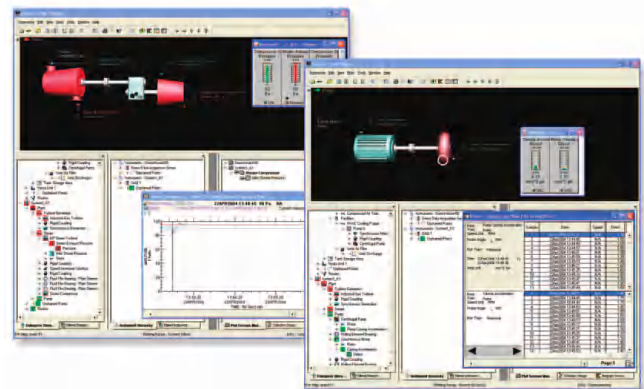
data capture, transient, steady state or static-only data capture, and the ability to view real-time high resolution data before and after an event. This package also supports connection to other Bently Nevada Monitoring Systems.

### Optimizing with Decision Support

Decision Support functionality, built into every application package, allows machinery engineers or other personnel to automate the analysis of machinery condition and configure targeted advisories of equipment degradation or malfunction. Rules derived from the experience of plant engineers and operators can be used to continuously evaluate equipment condition. Additionally, targeted RulePaks for many types of equipment are available, allowing for more rapid implementation of this critical functionality. Utilizing Decision Support enables machinery engineers to spend more of their time resolving problems and optimizing the operation of assets.

## Bently Nevada Monitoring Systems Supported

- 3500/TDI
- 3300/TDe
- TDXnet
- 1701(FMIM)
- 2201



For complete product specifications and ordering information:

- contact your local salesperson
- call 775-782-3611 and ask for "System 1" at the prompt
- e-mail us at [system1info@ge.com](mailto:system1info@ge.com)
- visit our Web site at [www.gepower.com/system1](http://www.gepower.com/system1)

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