GE
Measurement & Control

bopONLINE* – Continuous online monitoring for balance of plant machinery

fact sheet

Introduction

Traditional Bently Nevada* monitoring systems such as the 3500 Series are widely recognized for protecting large, complex rotating machinery. However, Balance-of-Plant (BOP) machinery is typically not equipped with continuous online condition monitoring. As a result, these machines often operate without adequate protection, which leads to unexpected failure and hence production loss.

GE's Bently Nevada bopONLINE monitoring system is a cost-effective system specifically designed to continuously monitor and protect BOP assets in power generation plants.

Applications

Machine types addressed by the bopONLINE system include, but are not limited to:

- Boiler Feed Pumps

- Blowers

- D/FD/PA Fans

- Electric Motors

- Compressors (air/radial/axial, centrifugal/positive displacement)

- Pumps (centrifugal and positive displacement)

- Pulverizers

- Gear Boxes

Benefits

- Reduced cost compared to online monitoring systems such as our 3500 system, while still providing state-of-the-art monitoring functionality.

- Dynamic and transient data collection and System1* connectivity to support predictive maintenance.

- Shares common configuration software with the Bently Nevada 3500 and 3500 Encore systems.

- Redundant power supply provides increased system availability for conditions where a single power line or supply fault cannot be allowed to take the system off line.

- The bopONLINE data interface module provides permanent system connectivity to plant DCS or System1 software via Ethernet ports.

- Increased channel density and reduced system size over conventional condition monitoring systems by eliminating separate I/O modules, relay controller cards, speed input cards, communication gateways, and reducing the number of power supplies.

- Lower installation costs by saving valuable cabinet space and spreading common components across more channels for lower per-channel costs.

Features

- Four channels in a monitor and 16 channels in the bopONLINE system.

- 16 Relay outputs standard with each bopONLINE system. Four relays per 4-channel vibration monitor.

- Four keyphasor inputs integrated with the bopONLINE data interface module.

- Six racks installed in one cabinet.

- Serial modbus communication built in for connection with DCS.

- Designed to comply with the American Petroleum Institute's API 670 standard applicable to BOP machinery.

- Analog 4–20 mA outputs are available for each channel and can be configured for any of the channel's measurement values.

- The terminations are provided in an innovative way on the backplane to provide ease of wiring and separation inputs and outputs on each side of the rack.

- WAN or LAN connections allow the user to remotely configure a bopONLINE system and even assess the system when an instrument problem arises.

- All bopONLINE monitors can be removed or installed with rack powered on.

- The bopONLINE system's two levels of password protection combined with a keylock for configuration changes ensures the system can't be adjusted, changed, or configured except by those authorized to do so.

- The bopONLINE system maintains extensive alarm and event lists that retain 8192 most recent alarm and 2048 most recent system events (configuration changes, errors, etc.).

- The system's real-time clock can be synchronized with external clocks, via connected Bently Nevada software.

- The bopONLINE system provides multiple measurements from each transducer channel.