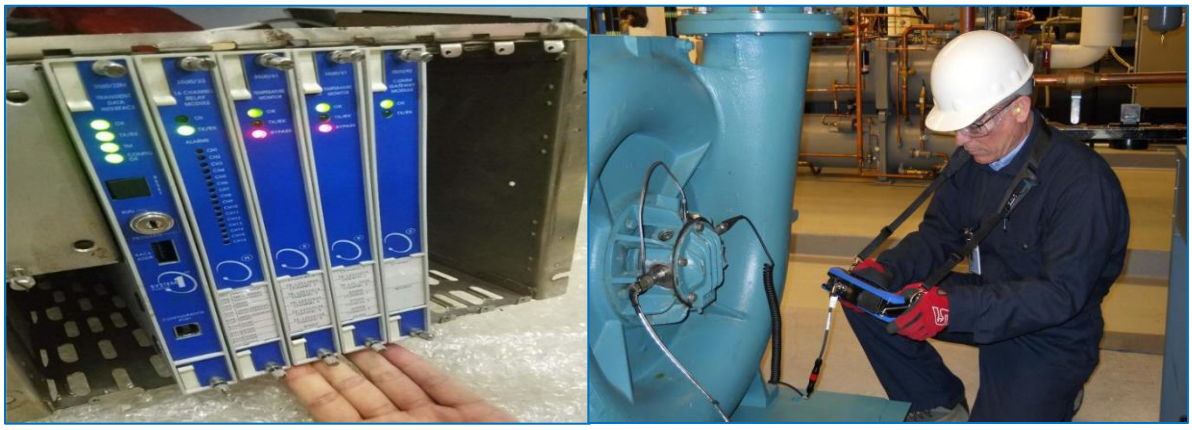
Tel No:+97126654546 | Fax No:+97126654182 | Email: training@cmc-me.com | www.cmc-me.com



ME077-3D:
Bentley Nevada 3500 Rack Training

Training Description:

This intensive training course is designed to provide participants with a detailed and up-to-date overview of the operation and maintenance of Bentley Nevada 3500. It covers the fundamentals of vibration; the displacement, velocity and acceleration vibration transducers; the optical sensors to obtain timing and phase reference data to perform balancing and diagnostics on rotating machinery; the monitoring system components and layout; the rack configuration, communications and operator display software; and the Bentley Nevada measurement capabilities.

The course will also discuss the various modules descriptions that include power supply module, rack interface module, keyphasor module, etc.; the system software packages and data acquisition software; the configuration of radial vibration channel and axial vibration channel; the electronic overspeed detection system, temperature monitors, process variable monitor and dynamic pressure monitor; the relay operation; the relay card configuration; the common pitfalls; and the troubleshooting and maintenance of the system.

Training Objectives:

By the end of the training, participants will be able to:

- ✓ Apply and gain an in-depth knowledge on operation and maintenance of Bentley Nevada 3500
- ✓ Explain the fundamentals of vibration and differentiate displacement, velocity and acceleration vibration transducers
- ✓ Utilize optical sensors to obtain timing and phase reference data to perform balancing and diagnostics on rotating machinery
- ✓ Determine monitoring system components and layout, rack configuration, communications and operator display software as well as Bentley Nevada measurement capabilities
- ✓ Identify the various modules descriptions that include power supply module, rack interface module, keyphasor module, etc.
- ✓ Discuss system software packages and data acquisition software and configure radial vibration channel as well as axial vibration channel
- ✓ Describe electronic overspeed detection system, temperature monitors, process variable monitor and dynamic pressure monitor
- ✓ Employ relay operation, configure relay card, recognize common pitfalls and troubleshoot and maintain the system

Training Designed for:

This course is intended for those on the operation and maintenance of Bently Nevada 3500 for engineers, vibration analysts and I&C technical staff who are involved with the installation, operation and maintenance of the Bently Nevada 3500 Vibration Monitoring System.

Training Requirement:

"Hand's on practical sessions, equipment and software will be applied during the course if required and as per the client's request."

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Contents can be adapted to your specific wishes. It is therefore possible to focus on specific modules of the training course as per client's learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Program:

DAY ONE:

- PRE-TEST
- Introduction
- Vibration Fundamentals
- Displacement (Proximity) Vibration Transducers
- Velocity (Moving Coil & Piezoelectric) Vibration Transducers
- Acceleration (Piezoelectric) Vibration Transducers
- Optical Phase Reference Sensors
- 3500 Monitoring System Components and Layout
  - Transducers, 3500 Rack, 3500 Software, Computers
- Rack Configuration

DAY TWO:

- Communications & Operator Display Software
  - Communication Gateway, System Display
- Bentley Nevada 3500 Measurement Capabilities
- Module Descriptions
  - Power Supply Module, Rack Interface Module, Keyphasor Module, Channel Relay Module, TMR Relay Module, Proximitor Monitor, Proximitor/Seismic Monitor Module, Aeroderivative Monitor, Position Monitor Module, Hydro Monitor Module, Tachometer Module
- System Software Packages & Data Acquisition Software
  - Rack Configuration Software, Operator Display Software
- Configuration of Radial Vibration Channel
  - Transducer Field Installation, Range, Set Points, Key Phasor, Alert Latching/Non-Latching
- Configuration of Axial Vibration Channel
  - Transducer Field Installation, Towards/Away, Zero Position, Range, Set Points, Key Phasor, Alert Latching/Non-Latching, Time Delay, 1X, 2X and not 1X
- Electronic Overspeed Detection System

DAY THREE:

- Temperature Monitors
- Process Variable Monitor
- Dynamic Pressure Monitor
- Relay Operation
  - Logic, Configuration
- Configuration of Relay Card
  - Identify the XTs and VTs Required for Alarms and Danger, Type of Voting
- Common Pitfalls
- System Troubleshooting and Maintenance

- Course Conclusion
- POST-ASSESSMENT and EVALUATION

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Gamification, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

CMCT Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

TBA as per the course location - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:00	Recess (Prayer Break & Lunch)
13:00 - 14:00	Last Session

For training registrations or in-house enquiries, please contact:
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