ASSET PERFORMANCE MANAGEMENT

BENTLY NEVADA™ MACHINERY DIAGNOSTICS METHODOLOGY

The hands-on approach for this course gives students the experience they need to feel confident when taking action at their plant. This is a "must have" course for those who interpret or plan on interpreting machine vibration and position data to determine machine condition.

Format

Duration: 35 hours **Schedule:** 5 Day(s) **Delivery:** Classroom

Who should attend

- Engineers who interpret machine vibration and position data to determine machine condition
- Engineers involved in the design, acceptance testing and maintenance of rotating machinery
- Engineers who want to learn about machinery vibration diagnostics

Objectives

- Explain how the fundamentals of machine design and behavior are reflected in the vibration measurements.
- Reduce machine vibration data into usable plot formats.
- Explain which plot formats are best to use in the different stages of machine diagnostics.
- Describe the causes, effects and indicators of the typical machine malfunctions; including recognition of problems such as unbalance, misalignment, rubs, shaft cracks and fluid induced instabilities.

Recommended Prerequisites

Fundamentals of vibration measurements / ISO18436 Cat. I

Program Outline

Day 1:

- Introduction to Condition Monitoring & Diagnostics
- Interpret phase measurements
- Interpret steady state data formats
- Fundamental synchronous rotor response

Day 2:

- Interpret startup and shutdown plots
- Plot Interpretation workshop

- Single Plane Balance Response

Day 3:

- Multiplane Balance Response
- Evaluate preloads and radial position measurements
- Detect and identify partial radial rubs and looseness

Day 4:

- Understanding different vibration types and resonances
- Identify fluid induced instabilities
- How to handle anisotropic systems

Day 5:

- How to detect and identify shaft cracks
- Knowledge review

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