Best Technology Soultions **(BTS)**

Training Program

Vibration Analysis And Predictive Maintenance

Training Program

Course Description:

The course explains basic vibration theory, the benefits of predictive maintenance and how to organize a predictive maintenance program. Coupled with this will be an overview of the interdependence of vibration monitoring, vibration analysis and condition abased maintenance options.

Who Should Attend?

The course is intended for engineers, mechanical technicians and maintenance staff involved in the creation of vibration monitoring programs for use in Predictive Maintenance.

Pre-Requisites:

All Attendees should have a sound power generation and mechanical background.

Course outcome:

At the end of this course you will be able to understand how to use vibration analysis and predictive maintenance.

Course Objectives:

To gain an understanding of Vibration Analysis and Predictive Maintenance.

Course Outline:

Day 1

- **Introduction**
- **Basic Vibration**

- Typical Causes of Vibration
- Characteristics of Vibration
- Vibration and Root Cause Analysis
- Frequency, Spike Energy, Displacement

Day 2

- **Case Histories with Vibration Spectra Displays**

- Amplitude Vs Frequency
- What is a decibel?

- Interpreting Amplitude/ Phase-vs. rpm plots
- Stroboscopic Observations

Day 3

❖ **How Rotating Machines Behave**

- Machinery Mass and Speed
- Shaft Systems

Day 4

❖ **How Rotating Machines Behave**

- Bearing Systems
- Foundation and Support Structures

Day 5

❖ **Benefits of Predictive Maintenance Program**

- Cost Benefit Analysis
- Cost Analysis
- Detection Requirements
- Case Histories with Vibration spectrum Displays

❖ **Course Review and Feedback**