Data Analysis & Diagnostics Course for the Turbo Industry

WHY SHOULD YOU ATTEND VIBROSYSTM'S DATA ANALYSIS & DIAGNOSTICS COURSE?

You will learn how to increase machine profitability and decrease unscheduled maintenance shutdowns.

We will show you exactly what to look for when analyzing machine data and how to correctly interpret it.

You will be able to evaluate the balance between the theoretical concepts and the factual content of the course through various case studies. Based on the material covered during the course, these case studies will demonstrate how the information provided by the ZOOM® (Zero Outage Online Monitoring) system can help you better manage your machines.

Directed at
- Power generation personnel
- Utility decision makers
- Owners of generating assets
- Plant managers
- Operations and maintenance personnel
- Engineers
- Technicians

What will you get out of it?
- Content developed by experts in data analysis and diagnostics
- Content continually updated and adapted in order to meet the needs of the industry
- A teaching method focused on practical cases that reflect the reality of the participants
- A chance to chat and exchange ideas with the trainer and other participants

Topics covered
- End-winding vibration
- Stator bar vibration
- Stray flux
- Partial discharge (optional)

Contact your local representative to learn more about our wide range of machine condition monitoring courses.

Goal	Topics
Day 1 will provide an overview of the importance of implementing a monitoring system appropriate to the machine. You will be introduced to VibroSystM's ZOOM monitoring software, an open architecture software that allows for quick & easy trends and in-depth diagnostics of vibration, PDA, flux, temperature and other parameters that have a direct impact on the availability of large rotating machines. The first day will include an introduction to stators, how they are built, their various purposes and how important it is to monitor their numerous components. Instrumentation selection will show you which sensors are needed to correctly monitor your machines and where they should be installed. You will also be introduced to basic measurement principles.	• Monitoring equipment justification • Introduction to ZOOM Software Suite • Introduction to stators • Criteria for Instrumentation selection • Introduction to basic measurement principles
Day 2 will cover basic measurement principles more extensively, specifically the notions of displacement, absolute vibration and relative vibration. You will be introduced to vibration data analysis, including the driving forces of vibration and, through our ZOOM monitoring software, you will be able to see and analyze various examples of vibration results on specific machine components. Stator bar vibration will also be covered, namely individual stator bar vibration.	• Introduction to basic measurement principles • End-winding vibration data analysis • Stator bar vibration analysis
Day 3 will include an introduction to rotors, how they are built, their various purposes and how important it is to monitor their numerous components. You will be introduced to various failure mechanisms on rotors, such as thermal deterioration and voltage surges. The third day will also cover the most common offline rotor testing, namely hi-pot testing and winding resistance testing, as well as online testing, such as stray flux. Finally, you will be introduced to VibroSystM's Results Interpretation Report (RIS) that will give machine owners a clear picture of the condition of their machine.	• Introduction to rotors • Mechanical failures • Offline rotor testing • Online rotor testing • Results Interpretation Service (RIS)
Optional Partial Discharge Course	• Partial discharge monitoring – theory • Partial discharge monitoring – hardware • Partial discharge monitoring – software

Please note that if translation services are required, the course will be extended over 5 days.

Included

• An attestation certificate will be issued at the end of the course (21 hours).
• A PDF version of the course will be provided on a USB device.

VibroSystM also offers the possibility of purchasing the printed version of the course manuals.

COURSE AUTHOR: Mr. André Tétreault

Mr. Tétreault is a member of the International Council on Large Electric Systems (CIGRÉ) and the Institute of Electrical and Electronics Engineers (IEEE®). He also actively contributes to the Electric Power Research Institute (EPRI®). He has published a variety of papers on generator behavior at various conferences.

Mr. Tétreault's experience in the installation and commissioning of monitoring systems, as well as 15 years of analyzing results, has given him a wealth of knowledge in regards to large rotating machines, including hydro generators, turbo generators, as well as SAG mills and ball mills. He has travelled worldwide conducting various machine behavior training sessions.

RESULTS INTERPRETATION SERVICE (RIS)

In combination with our powerful ZOOM software, VibroSystM's results interpretation service puts decades of experience to work, allowing our clients to extract the most out of their monitoring systems. The service helps users identify patterns and anomalies that are both meaningful and informative.

Our RIS is among the many tools we put directly into the hands of our customers around the world empowering them to make informed business decisions that will have a direct impact on the bottom line of plant management.

VibroSystM has always worked with and for machine owners by delivering unbiased information on the condition of their machines which will allow them to better manage their assets. The accuracy of its systems has been proven many times over as even major machine manufacturers trust in VibroSystM's systems to assist them in the design of new machines.

Visit our website and see what nearly 30 years of monitoring experience can do for you.
www.vibrosystm.com