TRAINING COURSE

Essentials of Rotating Equipment

A two day course that aims to provide a basic understanding of the essentials of rotating equipment, some of the issues encountered and how best to manage them.

8th - 9th October 2019 - Teesside, ABB Office
Essentials of Rotating Equipment

It is accepted that the most common machine in use in today’s world is the electric motor and the second most common is the pump. Also more and more electricity generation is being produced by gas turbine driven generator sets operated alongside steam turbines in combined cycle arrangements. All these machines to a greater or lesser extent cannot function correctly unless they have bearings, seals and lubrication systems incorporated.

This two day course aims to provide delegates with a basic understanding of the rotating equipment that is widely used in the process engineering, power generation, oil & gas and chemical industries. It identifies the issues encountered with operating and maintaining the equipment, the types of failures likely to occur through poor specification, mal-operation and lack of maintenance in addition to an overview of the applicable UK’s legislation.

What will the course cover?
A basic understanding and awareness of the following subject areas:
- Pump principles
- Pump types - dynamic and positive displacement
- Pumped system design theory
- Shaft seals, bearings, lubrication and condition monitoring
- Compressors and fans
- Gas turbines and steam turbines
- Electric motors, generators and drives
- Applicable legislation (e.g. Machinery Directive, ATEX)

In order to maintain the delegates’ interest and their information retention, topics are illustrated with references to case studies of real incidents with the emphasis placed on tackling practical issues relating to machinery systems, their operation, condition monitoring and maintenance.

Duration: Two days

Price
£1,460

Who will benefit and what will they gain?
This course is aimed at delegates of all backgrounds who either require an introduction to or a refresher in the essentials of rotating equipment. The course would be particularly beneficial to graduate engineers, technicians, engineers and managers involved in the design, operation and maintenance of plant containing rotating equipment.

Training method
In an attempt to broaden their knowledge of the topics covered, the trainers actively encourage delegate participation in the discussion of case study findings and recommendations and the sharing of their experiences in industry. Delegates will also benefit from them completing a pumped system design exercise.
On completing the course, the delegates should have:

- A basic understanding of the construction of the major types of rotating machines that are widely used in the process, power generation, oil & gas and chemical industries
- An appreciation of the issues that operators and maintainers of rotating equipment face and how they are tackled
- An awareness of critical machine systems and their condition monitoring
- A basic understanding of the UK legislation that applies to machines construction and their operation and maintenance in the workplace

**Course leaders**

**Kev Senior** CEng FIMechE has over 30 years’ experience in the operation and maintenance of rotating equipment. He is a chartered mechanical engineer who has spent 20+ years as a RAF Engineer Officer supporting fast-jet combat aircraft and acting as a technical authority for gas turbines. Since his joining ABB, Kev has mainly specialised in the logistic support, legislation, maintenance and condition monitoring of rotating machines.

**Sean Micklewright** CEng FIMechE is a principal rotating equipment engineer who started his 30 year career in supporting rotating equipment with ICI. He is a chartered engineer and degree-qualified having spent the majority of his professional career working alongside operators and maintainers of rotating equipment plant. Sean specialises in the design verification, risk-assessing and specification of rotating equipment plant.

**Day one agenda** - 08:30 to 17:00

- Registration and coffee
- Introduction
- Basic pump principles
- Types of process pumps - dynamic and positive displacement
- Pumped system design
- Pumped system design exercise
- Shaft seals, bearings and condition monitoring
- Close

*ABB reserve the right to amend the course agenda.

**Day two agenda** - 09:00 to 16:30

- Compressors, blowers and fans
- Gas and steam turbines
- Motors, generators and drives
- Applicable legislation
- Course review and feedback
- Close

**How to book**

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