
TRAINING COURSE

Maintenance and reliability improvement

Two courses, each a one day event.

Root Cause Analysis

28th April 2020 - Warrington, ABB Office

Failure Modes & Effects and Criticality Analysis

29th April 2020 - Warrington, ABB Office



Maintenance and reliability improvement

Today UK industry must be as efficient as possible to compete in the global market place. A key driver for this is the reliability of the plant assets.

Despite a background of ageing plant, tighter legislation and the drive to reduce costs while increasing output, engineers are still expected to improve the reliability of plant equipment. The course outlines the main methods you can use to understand current and potential causes of equipment reliability and the maintenance methods you can use to address them. You will be coached by ABB reliability consultants who, as well as being acknowledged experts in their field, also have a background in front-line maintenance management.

Root Cause Analysis (RCA)

What the course will cover

- The use of a standard RCA method to find the fundamental cause (or causes) of a problem
- The practical application of this technique to real-life examples

What will you learn?

- How to define a problem clearly
- How to apply the '5 Whys' RCA process
- How to record the RCA process using a cause tree diagram
- How to eliminate incorrect causes and find the primary cause of a problem

Who should attend?

Anyone wanting a proven method for identifying the root cause of a problem in their tool bag.

Failure Modes & Effects and Criticality Analysis (FMECA)

What the course will cover

- Criticality analysis methodology and its application in prioritising equipment and focusing reliability improvement work
- FMECA as a method for analysing, prioritising and avoiding potential equipment failures
- The practical application of these techniques to real-life examples

What will you learn?

- How to play an active part in an equipment criticality analysis
- How to select the appropriate criteria to apply
- How to use the results of the analysis
- How and when to apply the FMECA process
- An appreciation of FMEA and when to apply it instead of FMECA
- How to use FMECA and Failure Modes & Effects Analysis (FMEA) to develop effective equipment maintenance policies

Who should attend?

Those needing methods for:

- Prioritising reliability improvement work.
- Identifying potential failures and appropriate preventive activities

These courses will be particularly valuable for:

- Maintenance and engineering managers
- Plant engineers and reliability engineers
- Plant / operations managers
- Technicians
- Supervisors and operators involved in improving plant uptime

Price

£600 + VAT each or both: £1100 + VAT

The training method

These courses consist of lectures, case studies and group exercises. Based on practical situations the sessions are highly interactive. An interactive simulation exercise will be used to maximise the learning from the RCA session.

Course tutors

Martin Brown BEng, CEng, MIMechE is a Principal Consultant with ABB.

He is an experienced practitioner involved in improving maintenance, reliability and integrity management for a wide range of companies across the chemical, oil & gas, and pharmaceutical industries.

Laurence Plant MBA, BSc CEng, MIMechE is a Principal Consultant with ABB. He has a maintenance and engineering background in pharmaceuticals, chemicals FMCG and plastics. Laurence has been involved in a wide range reliability improvement projects.

RCA agenda* - 09:00 to 16:30

Registration and coffee

Introduction	Why do we want to get to the root cause?
Problem definition	How to define a problem clearly and accurately
RCA process	The '5 whys method
Lunch	
Recording an RCA	The cause tree diagram
Finding the primary cause	How to eliminate incorrect causes
RCA group exercise	The 'Nail bed' problem
Close	

FMECA agenda* - 09:00 to 16:30

Registration and coffee

Criticality analysis:

- | | |
|----------------------|-----------------------|
| - Basic principles | - Using the results |
| - Criteria selection | - Risk prioritisation |
| - Rating systems | |

FMEA / FMECA:

- Basic principles
- Structure and application

Lunch

Functions:

- Functional analysis
- Function tree exercise

Failure modes:

- | | |
|--------------------------------|-------------------------------------|
| - Potential modes of failure | - Failure mode criticality in FMECA |
| - Potential causes and effects | - Failure modes exercise |

FMECA output

Using the results to develop effective maintenance policies

Close

*ABB reserve the right to amend the course agenda.

How to book

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