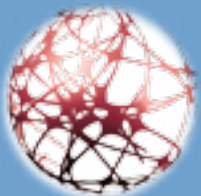




GCC Electrical  
Testing Laboratory  
المفتبر الفليبي لفمص الممدمم الكهريالمية

## Condition Based Maintenance – Basis & Best Practice

Modern maintenance practice is gradually moving from time based operation to the dynamic evaluation of the real behavior and condition of the equipment, aimed at optimizing maintenance cost and effectiveness.



GCC Electrical  
Testing Laboratory

المفتبر الفليبي لفمص الممدمم الكهريالمية

Education  
Course Code: M01



GCC Electrical  
Testing Laboratory

المفتبر الفليبي لفمص الممدمم الكهريالمية



## Condition Based Maintenance – Basis & Best Practice

MAY  
6 - 10  
2018



# GCC Electrical Testing Laboratory

المختبر الفليبي لفحص المعدات الكهربائية

## Objectives

The course provides a basic introduction and understanding of condition based maintenance and it covers all major CBM methodologies available for the implementation of CBM in electrical plants. An overview of maintenance strategies and practices is presented. An understanding of component failures, consequences, and criticality of such failures is also included:

- The course gives a basic introduction of the practical implementation of CBM via the design of a Smart CMMS System. The course is addressed to:
- Identify strategies and best practices in maintaining plant and equipment using CBM or other maintenance methodologies;
- Implement CBM to help increase plant availability;
- Choose the right CBM techniques and technology;
- Choose the right Condition Monitoring actions indicators and thresholds, and frequencies, and scopes of application depending on the criticality and residual life of the equipment;
- Potentially extend the residual life of critical equipment through CBM and CMMS.

Furthermore, the course explains how all the above concepts can be integrated into a web based computerized system, and how these systems can improve the asset management of the company.

Addressed to:

Maintenance responsible

Duration:

3 Full Days

Location/Venue:

GCCIA HQ, Dammam

Course Fees:

## PROGRAM

## Condition Based Maintenance – Basis & Best Practice

The Course program contains the following training outline:

### DAY 1

#### Maintenance Practices

- Definitions
- Classification of Maintenance Strategies
- Corrective, Time Based, Condition Based & Risk Based Maintenance (CBM- RBM)
- The Elusive P-F Interval
- Reactive and Proactive Monitoring Tasks
- The Bathtub Curve;
- Mean Time Between Failure (MTBF) - Pros and Cons
- CBM Methodologies for the selection of the best Maintenance Strategy
- Equipment Criticality: Failure Modes, Effects and Criticality Analysis (FMECA)
- Reliability Centered Maintenance (RCM)
- Plant Maintenance Optimization

### DAY 2

#### Condition Based Maintenance Application

- Condition Monitoring (CM) Procedures
  - Selecting the best CM Technique for assets using RCM/PMO
  - CM tasks Indicators and Thresholds
  - A Simple Case of CBM Selection
- The Deep Fryer
  - Pros and Cons in implementing a CM program
  - Tutorial
- The Power Transformer
- Asset Management Methodologies - PASS55

### DAY 3

#### CBM Best Practice

- Asset Management & CBM: Basis for a Smart Computerized Maintenance Management System (S-CMMS)
- Need for CBM Implementation inside the S-CMMS of a FRACAS (Failure Reporting, Analysis and Corrective Action System)
  - Logical Architecture o Structure of the System
  - Workflow of a S-CMMS o Introduction of CBM inside the S-CMMS
  - Tutorial
- The Power Transformer

