
Overview

This standard is about maintaining and accessing appropriate records and information to support the effective review of condition monitoring activities, methods and procedures.

You will need to be able to collect and maintain sample or data records to evaluate success rates of condition monitoring techniques. As well as evaluating processes to assist in continual improvement of methods, techniques and procedures of condition monitoring of engineering components or assets, whilst adhering to Health and safety legislation, regulations and safe working practices.

In the context of this standard, your responsibility is to interpret and work within given specifications, selecting techniques and making variations to achieve the best possible result. In some cases, you may still be expected to refer to others for final authorisation, even though you remain responsible for identifying and implementing decisions.

Who this standard is for:

This standard is for condition monitoring practitioners.

Performance criteria

You must be able to:

1. work safely at all times, complying with health, safety, environmental and other relevant legislation, regulations, guidelines and local rules or procedures
2. ensure that the work environment, material, tools and condition monitoring equipment and instrumentation are suitably prepared for the work activities to be undertaken
3. maintain a database of condition monitoring results, trends, diagnostics, recommendations and successes.
4. review database to optimise condition monitoring requirements including:
 - alarm criteria
 - key performance indicators (KPIs)
 - inspection frequencies
5. record failures which the condition monitoring programme has failed to detect
6. review the findings from maintenance activities
7. recommend changes to the maintenance and the condition monitoring programmes to the process engineer and customer
8. comply with condition monitoring equipment service, calibration and certification periods
9. determine the correct use, care and security of relevant tools and equipment you use
10. record and store information
11. communicate recommendations to the customer
12. ensure the work area is reinstated deal promptly and effectively with problems within your control and report those that have been and those that cannot be solved

Knowledge and understanding

You need to know and understand:

1. relevant legislative, regulatory, and local requirements or procedures and safe working practices
2. preparation and reinstatement requirements in respect of the work area, material, and equipment, and the possible consequences of incorrect actions in these areas
3. asset and manufacturers' data, alarm criteria, standards, operating characteristics and recommended maintenance and monitoring periods
4. data acquisition methods and database systems
5. analysis methods and techniques including
 - types of data provided by condition monitoring
 - methods for verifying data
6. your responsibilities for ensuring care and security of tools and equipment used your responsibilities with regard to reporting lines and procedures in your working environment

Glossary

A **Work environment** could include: * engineering construction sites * controlled operations * offshore installations * maintenance sites * nuclear sites * repair sites A **Work environment** may be in open or restricted spaces: * at height * confined spaces * control rooms * controlled operational and offshore installations * designated work areas * explosive atmospheres * existing plants and structures * fabrication workshops * in plant rooms * inside structures, systems and plant * on access structures * on open structures * onshore and offshore installations * shafts * shipyards * tunnels **Work area is reinstated** could include: * returning the work area to a safe condition * removing barriers * sweeping up * correctly disposing of waste materials * storing reusable materials, consumables and equipment in accordance with appropriate procedures * completing all necessary documentation

Condition monitoring equipment and instrumentation could include: * bespoke equipment * flue gas analysers * frequency counters * frequency generators * gauges * LCR testers * leak detectors * meters * oscilloscopes * probes * pyrometers * relevant laboratory equipment * thermography cameras * thermometers * spectrum analysers

Developed by	ECITB
Version Number	1
Date Approved	26 Jan 2022
Indicative Review Date	26 Jan 2027
Validity	Current
Status	Original
Originating Organisation	ECITB
Original URN	ECICM05
Relevant Occupations	Asset Engineer, Condition Monitoring Practitioner, Diagnostician, Electrical Maintenance Technician, Instrument and Control Maintenance Technician, Lubricant Chemist, Maintenance Engineer, Mechanical Maintenance Technician, Oil Analyst, Process Control Technician, Reliability Engineer
Suite	Condition Monitoring
Keywords	Condition; monitoring; engineering drawings; specifications; information; asset; equipment; technique; engineering; construction; condition monitoring; acoustic emissions; motor current signature analysis; oil analysis; performance monitoring; thermograph