ECIMPSM13 - SQA Unit Code FP7E 04
Test the performance and condition of mechanical plant and equipment

**Overview**

This standard is about testing the performance and condition of engineering construction mechanical plant and equipment.

You will need to be able to set up and carry out tests and monitoring within agreed procedures, review the results and carry out further tests if necessary, 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.

**This standard is for**

This standard is for mechanical maintenance technicians.
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**Performance criteria**

**You must be able to:**

- **P1** work safely at all times, complying with health and safety and other relevant legislation, regulations, guidelines and local rules or procedures
- **P2** ensure that the work environment, assets, material, equipment and tools are suitably prepared for the activities to be undertaken
- **P3** follow the relevant procedures for use of tools and equipment to carry out required tests
- **P4** set up and carry out tests using the correct procedures and within agreed timescales
- **P5** record the results in the appropriate format
- **P6** review the results and carry out further tests if necessary
- **P7** reinstate the work area
- **P8** deal promptly and effectively with problems within your control and report those that cannot be solved
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Knowledge and understanding

You need to know and understand:

K1 relevant legislative, regulatory and local requirements or procedures and safe working practices
K2 preparation and reinstatement requirements in respect of the work area, material, and equipment, and the possible consequences of incorrect actions in these areas
K3 engineering test specifications
K4 calibration of test equipment and authorisation procedures
K5 testing and analysis methods and techniques
K6 environmental controls relating to testing
K7 test reporting documentation and control procedures
K8 your responsibilities for ensuring care and security of tools and equipment used
K9 your responsibilities with regard to reporting lines and procedures in your working environment
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Additional Information

**Scope/range**

**Work environment**

Typical work environments *could* include:

1. at height
2. confined spaces
3. controlled operational and offshore installations
4. designated work areas
5. engineering construction sites
6. existing plants and structures
7. fabrication workshops
8. nuclear sites
9. onshore and offshore installations
10. potential explosive atmospheres
11. shafts
12. shipyards
13. tunnels
14. working inside plant and systems
15. working on access structures (scaffold)

**Assets**

This term *could* include:

1. components of process systems
2. compressors
3. engines
4. heat exchangers
5. HVAC systems
6. pumps
7. pressure vessels
8. protection devices
9. rotating equipment and tools
10. transmission systems
11. turbines

**Reinstate the work area**
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This term could include:
1. returning the work area to a safe condition
2. correctly disposing of waste materials
3. storage of re-usable materials, consumables and equipment in accordance with appropriate procedures
4. completion of all necessary documentation

Test equipment
Test equipment to be used could include:
1. gauge/recorders
2. any test equipment as required (must be within calibration)

Testing methods and techniques
The tests to be applied are clearly defined and are appropriate for the engineering product. Detailed procedures and specifications define the set up and conduct of the tests. The testing procedures to be followed are clearly defined and, although they may involve more than one stage, full details on when and how to proceed through the stages will be available. You could be expected to understand how to use the various diagnostic aids to help with fault analysis.
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<th>Developed by</th>
<th>Engineering Construction Industry Training Board</th>
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<td>Version number</td>
<td>2</td>
</tr>
<tr>
<td>Date approved</td>
<td>February 2013</td>
</tr>
<tr>
<td>Indicative review date</td>
<td>February 2017</td>
</tr>
<tr>
<td>Validity</td>
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<td>Original</td>
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<td>Originating organisation</td>
<td>Engineering Construction Industry Training Board</td>
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<td>NMPSMECH19ECRS8.05</td>
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<td>Relevant occupations</td>
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<tr>
<td>Suite</td>
<td>Maintaining Plant and Systems - Mechanical</td>
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<td>Key words</td>
<td>test; review; retest; gauge; results; specification; mechanical plant and equipment; maintenance; engineering construction</td>
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