

Overview

This standard identifies the competences you need to implement engineering processes, in accordance with approved organisational procedures. The range of engineering processes could include manufacturing operations, installation, production, maintenance, engineering support functions or other activities, such as performance measurement or business improvement. You will be required to apply appropriate methods to confirm that conditions are suitable for the implementation of engineering processes, and to ensure that clear instructions are given to the relevant people. During the implementation of the engineering processes, you will be required to ensure that quality assurance and engineering support systems are operating correctly, and that the necessary resources are available.

Your responsibilities will require you to comply with organisational policy and procedures for ensuring the successful implementation of the engineering processes, and to report any problems that you cannot personally resolve to the relevant authority. You will be expected to work unsupervised, either on your own or as part of a team, which you may lead or direct, taking full responsibility for your actions, and possibly for the work of colleagues or subordinates.

Your underpinning knowledge will provide a good understanding of general and discipline-specific engineering principles and processes. You will also be fully conversant with organisational procedures and systems. You will understand the engineering processes being implemented, and will know about quality assurance and resource management, in adequate depth to provide a sound basis for carrying out the activities to the required standard.

You will be fully aware of any health, safety and environmental requirements, and the appropriate legislative and regulatory frameworks applicable to your area of responsibility. You will be required to ensure that safe working practices are maintained throughout, and will understand the responsibility you owe to yourself and others in the workplace.

Performance criteria

You must be able to:

1. work safely at all times, complying with health and safety and other relevant regulations, directives and guidelines
2. confirm that conditions are suitable to implement engineering methods and procedures
3. provide clear and accurate instructions to all the relevant people
4. obtain accurate information on the activities being undertaken
5. ensure that quality assurance systems are correctly implemented
6. ensure that engineering support systems are operating correctly
7. control the use of resources to achieve the most effective results
8. identify opportunities to improve the engineering methods and procedures
9. ensure that the implementation of engineering methods and procedures complies with all relevant regulations, directives and guidelines

Knowledge and understanding

You need to know and understand:

1. the methods and procedures that could be used for different types of engineering process
2. the conditions that are suitable and not suitable for different types of engineering process
3. how to obtain details of the engineering processes being implemented
4. the activities that are required for different engineering methods
5. the quality assurance systems that are being used
6. the engineering support systems that are operating
7. the procedures for obtaining information on resources
8. how to determine the necessary resources
9. how to determine the availability and suitability of resources
10. what type of impact the implementation could have on the organisation
11. who requires instructions on the engineering process or processes being implemented
12. the different and most appropriate ways of instructing people on the engineering process or processes
13. the types of recommendation that could emerge from evaluation of the implemented engineering process
14. the regulations, directives and guidelines that are relevant
15. how to obtain and interpret information on regulations, directives and guidelines
16. the extent of your own responsibility and to whom you should report if you have problems that you cannot resolve

Scope/range related to performance criteria

1.

Implement an engineering process for **one** of the following:

- 1.1 manufacturing (such as machining, fabrication, welding, material finishing or manufacture, assembly, joining)
- 1.2 design
- 1.3 research
- 1.4 product or system installation
- 1.5 commissioning
- 1.6 decommissioning or recycling
- 1.7 environmental or sustainability
- 1.8 operational processes (such as movement of materials and logistics)
- 1.9 maintenance practices (such as preventative, corrective, predictive, reactive or prevention)
- 1.10 processing operations
- 1.11 service supplies (such as gas, water, electricity)
- 1.12 engineering support functions (such as procurement, quality assurance, inspection, testing, scheduled safety audits and risk assessments, business improvement)

2.

Provide instructions for **one** of the following:

- 2.1 equipment/component/system capacity or capability
- 2.2 equipment/component/system performance
- 2.3 maintenance and repair
- 2.4 people performance
- 2.5 people capacity or capability
- 2.6 product or process quality
- 2.7 supplier capacity or capability
- 2.8 business support function capacity or capability

3.

Obtain information from **two** of the following:

- 3.1 management
- 3.2 design office
- 3.3 industrial engineering
- 3.4 client
- 3.5 plant engineering
- 3.6 process engineering
- 3.7 quality engineering
- 3.8 suppliers
- 3.9 purchasing
- 3.10 safety engineering
- 3.11 technical data, charts, reference tables or manuals

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- 3.12 production engineering
- 3.13 company information system
- 3.14 human resources (HR) personnel
- 3.15 external technical consultants/experts

4.

Confirm conditions for **four** of the following:

- 4.1 appropriate authorisation is obtained
- 4.2 preparation of products or processes
- 4.3 health and safety
- 4.4 preparation of site
- 4.5 environmental
- 4.6 availability of resources

5.

Ensure that all support and control systems operate effectively for **two** of the following:

- 5.1 quality assurance systems
- 5.2 transport
- 5.3 logistics
- 5.4 procurement
- 5.5 supervision or leadership structures
- 5.6 utilities
- 5.7 resource supply (such as materials, equipment, personnel)
- 5.8 other technical support requirements

6.

Implement engineering processes that comply with **three** of the following:

- 6.1 organisational guidelines and procedures
- 6.2 recognised compliance agency/body's standards, directives or codes of practice
- 6.3 equipment manufacturer's operating specification/range
- 6.4 health, safety and environmental requirements
- 6.5 customer standards and requirements
- 6.6 British, European or International standards or directives

7.

Implement engineering processes that include **four** of the following:

- 7.1 a record of the implementation process on appropriate company media
- 7.2 an evaluation of the effectiveness of the implementation process
- 7.3 any deviations from specifications of the implemented activity
- 7.4 recommendations for improvements to the implemented activity
- 7.5 plans to monitor and evaluate the effect(s) of any improvements made to the implemented process

8.

Report and communicate methods and procedures for the engineering process, using:

- 8.1 verbal report

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plus **one** from the following:

2. electronic mail
3. computer generated report
4. specific company form
5. other appropriate media

Behaviours

Additional Information

You will be able to apply the appropriate behaviours required in the workplace to meet the job profile and overall company objectives, such as:

- strong work ethic
- positive attitude
- team player
- dependability
- responsibility
- honesty
- integrity
- motivation
- commitment

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Developed by	Enginuity
Version Number	3
Date Approved	30 Mar 2017
Indicative Review Date	31 Mar 2020
Validity	Current
Status	Original
Originating Organisation	Semta
Original URN	SEMEM4-14
Relevant Occupations	Corporate Managers and Senior Officials, Engineering, Engineering and Manufacturing Technologies, Functional Managers
Suite	Engineering and Manufacture Suite 4
Keywords	Engineering; leading; design; process; maintenance; quality; customer; function; features; objectives; manufacturing; installation; commissioning; testing; carrying out; problems; specifications; quality; research; evaluate; implement; processes