
Overview

This standard identifies the competences you need to specify engineering methods and procedures, in accordance with approved organisational systems. 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 select appropriate engineering requirements, and to specify the most effective methods and procedures to achieve them. You will also be required to identify the resources necessary to undertake the proposed methods and procedures. In addition, you will be required to identify any control parameters for equipment to be used in undertaking the engineering activities.

Your responsibilities will require you to comply with organisational policy and procedures for the successful specification of engineering methods and procedures, 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 be fully conversant with organisational procedures and systems. You will understand the engineering systems, techniques and technical requirements applicable to the engineering activity being undertaken.

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. obtain accurate details of the engineering requirements for engineering products or processes
3. select the most effective methods to achieve engineering requirements
4. identify the necessary resources
5. identify the activities required to achieve the engineering requirements
6. identify the control parameters for the equipment to be used
7. specify clearly the methods and procedures to be used
8. ensure that the methods and procedures comply with all relevant regulations, directives and guidelines
9. record the methods and procedures in the appropriate information systems

Knowledge and understanding

You need to know and understand:

1. the health, safety and environmental requirements applicable to your area of responsibility or activity
2. the implications of risk assessment, safety and environmental systems, and their application to engineering methods and procedures
3. how to obtain details of engineering requirements from company information systems
4. how to obtain and interpret drawings, charts, specifications, manufacturers' manuals, history/maintenance reports and other documents needed to specify methods and procedures
5. communication and research techniques that could be used to obtain the necessary information
6. the engineering principles, processes and procedures undertaken in the area of your responsibility
7. the engineering methods that could be used for different types of engineering process or activity
8. the different types of equipment, and how they should be used for various engineering methods
9. the engineering activities that could be used for different engineering methods
10. the approved company format for presenting engineering methods and procedures
11. how to obtain information on resources
12. how to determine the resources that are necessary
13. how to determine the availability and suitability of resources
14. who will require the procedures being specified
15. the different types of procedure to be used for different groups of people
16. the level of detail and content required for engineering procedures
17. the regulations and guidelines applicable to your area of responsibility
18. how to obtain information on regulations and guidelines
19. how to obtain and interpret company policy and personnel procedures
20. methods and procedures for recording new systems or working practices
21. the company systems for recording information
22. the importance of using the company information systems
23. whom to inform of actions taken, and by what means

24. 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.

Carry out **all** of the following when specifying engineering methods and procedures:

- 1.1 gather data on the requirements for engineering methods and procedures
- 1.2 select the appropriate engineering activity for the engineering methods
- 1.3 identify and evaluate control parameters and resources (including equipment, quality, materials and manpower)
- 1.4 specify engineering activities, methods and procedures, and their implementation requirements
- 1.5 ensure that the specified methods and procedures meet relevant regulations and guidelines

2.

Obtain accurate details of engineering requirements from the appropriate company information system or sources, including **four** of the following:

- 2.1 production department
- 2.2 personnel/human resources (HR) department
- 2.3 maintenance department
- 2.4 operating procedures/manufacturing manuals
- 2.5 contractors/specialist
- 2.6 company procedures
- 2.7 material control department
- 2.8 health and safety information
- 2.9 environmental/sustainability sources
- 2.10 design department
- 2.11 research specialists
- 2.12 environmental documents
- 2.13 quality assurance/control department
- 2.14 external sources
- 2.15 equipment manufacturers
- 2.16 specific plant/utility installations
- 2.17 sales and marketing
- 2.18 purchasing department
- 2.19 contracting department
- 2.20 British, European or International standards or directives
- 2.21 other appropriate source

3.

Identify the engineering activity required to implement the engineering methods, from **one** of the following:

- 3.1 manufacturing (such as machining, fabrication, welding, material finishing or manufacture, assembly, joining)
- 3.2 design

- 3.3 research
- 3.4 product or system installation
- 3.5 commissioning
- 3.6 decommissioning or recycling
- 3.7 environmental or sustainability
- 3.8 operational processes (such as movement of materials and logistics)
- 3.9 maintenance practices (such as preventative, corrective, predictive, reactive or prevention)
- 3.10 processing operations
- 3.11 service supplies (such as gas, water, electricity)
- 3.12 engineering support functions (such as procurement, quality assurance, inspection, testing, scheduled safety audits and risk assessments, business improvement)

4.

Identify the resources needed to implement the engineering methods, to include **two** of the following:

- 4.1 personnel
- 4.2 facilities
- 4.3 equipment
- 4.4 materials
- 4.5 process
- 4.6 finance

5.

Specify engineering methods and procedures, using **one** of the following:

- 5.1 paper based documentation
- 5.2 computer based documentation
- 5.3 combined paper and computer based documentation

6.

Ensure that the methods and procedures 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 customer standards and requirements
- 6.5 health, safety and environmental requirements
- 6.6 British, European or International standards or directives

7.

Record and communicate details of the methods and procedures to the appropriate people, using:

- 7.1 a verbal report

plus **one** from the following:

- 2. electronic mail
- 3. computer-based presentation

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4. computer generated report
 5. specific company document
 6. 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

SEMEM411

Specify methods and procedures to achieve engineering requirements



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	SEMEM4-11
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; specify; requirements
