

Overview

This standard identifies the competences you need to assure the quality of engineering products and processes, in accordance with approved 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 investigate quality assurance issues, obtaining all the necessary information to enable you to evaluate the possible solutions and their effects on both the engineering products and the processes involved. You will also be expected to decide and communicate quality assurance recommendations to all relevant people associated with the engineering products or processes.

Your responsibilities will require you to comply with organisational policy and procedures for ensuring the successful assurance of quality, 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. Your knowledge of evaluation methods will enable you to assess the effectiveness of the quality assurance principles and systems, whilst ensuring compliance with your company's organisational procedures and systems. You will also be conversant with organisational specifications, details and formats, and resource management principles.

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. establish clear and precise criteria for assuring the quality of engineering products or processes
3. identify suitable quality assurance methods and procedures
4. ensure that the specified quality assurance methods and procedures are implemented correctly
5. obtain accurate information from valid sources on the engineering product or process being quality assured
6. specify clearly the required quality of engineering products or processes
7. assess accurately and realistically the quality of the engineering products or processes
8. ensure that information on quality is provided to the appropriate people
9. recommend improvements to quality to the appropriate people

Knowledge and understanding

You need to know and understand:

1. the specific safety precautions to be taken when working on engineering products or processes
2. the quality criteria that could be used for different types of engineering product or process
3. the quality assurance methods that are available
4. statistical methods for recording and analysing engineering processes
5. other non-statistical methods that could be used for obtaining information on engineering products or processes
6. the relevant sources of valid information on engineering products or processes
7. who should be involved in the quality assurance process
8. the type of impact that quality assurance could have on the organisation
9. who requires information on quality assurance, and the procedures for informing them
10. how to obtain information on resources
11. how to determine the resources that are necessary
12. how to determine the availability and suitability of resources
13. the regulations, directives and guidelines relevant to your area of responsibility
14. how to obtain and interpret information on regulations, directives and guidelines
15. the types of recommendation that could emerge from the quality assurance process
16. methods of presenting quality assurance recommendations
17. 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 during the quality assurance activity:

- 1.1 establish clear criteria as the basis of the quality assurance process
- 1.2 obtain accurate information from appropriate sources for consideration in the process
- 1.3 assess and specify the quality requirements for the engineering products or processes
- 1.4 identify suitable quality assurance methods, techniques and procedures
- 1.5 assess the implications of implementing the quality assurance procedures
- 1.6 present recommendations for improvements to the quality assurance process to the appropriate people

2.

Develop quality assurance procedures that cover **two** of the following:

- 2.1 new product/process
- 2.2 legal/legislative requirement
- 2.3 company standard operating procedures
- 2.4 revisions to existing product/process
- 2.5 international/national standards

3.

Obtain accurate information from **five** of the following sources:

- 3.1 quality assurance department
- 3.2 product specifications
- 3.3 legal/patented information
- 3.4 manufacturers' manuals/specifications
- 3.5 regulations, directives and guidelines
- 3.6 company documentation
- 3.7 international/national standards
- 3.8 customer specifications
- 3.9 engineering drawings/models

4.

Identify suitable quality assurance methods and procedures for **four** of the following:

- 4.1 design
- 4.2 research and development
- 4.3 product and material specifications
- 4.4 production methods
- 4.5 maintenance and repair
- 4.6 installation methods
- 4.7 commissioning/decommissioning methods
- 4.8 the use of appropriate international/national standards
- 4.9 process parameters

Implement quality assurance methods and procedures

- 4.10 patents
- 4.11 quality assurance
- 4.12 company procedures and policy
- 4.13 product/component performance checks
- 4.14 schedule monitoring
- 4.15 contractor performance
- 4.16 business improvements
- 4.17 purchasing
- 4.18 logistics
- 4.19 legal requirements
- 4.20 inspection/testing
- 4.21 staff training and development plans
- 4.22 other specific method

5.

Ensure that the quality assurance methods and procedures comply with **four** of the following:

- 5.1 organisational guidelines and procedures
- 5.2 recognised compliance agency/body's standards, directives or codes of practice
- 5.3 equipment manufacturer's operating specification/range
- 5.4 customer standards and requirements
- 5.5 British, European or International standards or directives
- 5.6 health, safety and environmental requirements

6.

Report and communicate quality assurance methods and procedures, using:

- 6.1 a verbal report

plus **one** from the following:

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

Implement quality assurance methods and procedures

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| Developed by | Enginuity |
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| Originating Organisation | Semta |
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| Original URN | SEMEM4-18 |
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| Relevant Occupations | Corporate Managers and Senior Officials, Engineering, Engineering and Manufacturing Technologies, Functional Managers |
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| Suite | Engineering and Manufacture Suite 4 |
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| Keywords | Engineering; leading; design; process; maintenance; quality; customer; function; features; objectives; manufacturing; installation; commissioning; testing; carrying out; problems; specifications; quality; research; evaluate; implement; assurance; methods |
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