

Overview

This standard identifies the competences you need to support colleagues in the implementation of engineering activities, in accordance with approved procedures. You will assist in gathering all the information necessary to carry out the implementation activities, in accordance with the implementation plan. You will be required to assist in applying appropriate methods and procedures to implement the engineering activity, and to ensure that the resources and systems available to you are used effectively and efficiently.

Your responsibilities will require you to comply with organisational policy and procedures for the implementation of the engineering activities, and to report any problems that you cannot personally resolve, or that are outside your permitted authority, to the relevant people. You will be expected to work to instructions, either alone or in conjunction with others, taking personal responsibility for your own actions and for the quality and accuracy of the work that you carry out.

Your underpinning knowledge will be sufficient to provide a sound basis for your work, and will enable you to adopt an informed approach to implementing engineering activities. You will have an understanding of your organisation's methods of operation and quality assurance systems, in sufficient depth to enable you to carry out the implementation activities to the required standard.

You will be aware of any company, legislative or regulatory health, safety and environmental requirements applicable to the engineering activity being implemented. You will also understand the safety precautions required when carrying out the implementation activities, especially those involved with moving machinery/equipment. You will be required to demonstrate safe working practices throughout, and will understand your responsibilities for safety and the importance of taking the necessary safeguards to protect yourself and others in the workplace.

Performance criteria

You must be able to:

- P1 confirm the conditions to implement engineering methods and procedures
- P2 provide instructions to all the relevant people involved in the engineering activities
- P3 obtain information on the activities being undertaken
- P4 ensure that quality assurance systems are implemented
- P5 ensure that engineering support systems are operating
- P6 control the use of resources to achieve the results
- P7 identify opportunities to improve the engineering methods and procedures
- P8 ensure that the implementation of engineering methods and procedures complies with all relevant regulations and guidelines

Knowledge and understanding

You need to know and understand:

- K1 how to work safely at all times, complying with health and safety and other relevant regulations, directives and guidelines
- K2 the importance of wearing the appropriate personal protective equipment (PPE), and of keeping the work area clean and tidy
- K3 the implications of not taking account of legislation, regulations, standards and guidelines when implementing the engineering activities
- K4 how to obtain information on the engineering requirements, and the types of information that are available
- K5 how to access and use the appropriate information and documentation systems
- K6 the types of information that you will require in order to implement the engineering activity
- K7 how to extract information from drawings, documents and related specifications in relation to work being implemented
- K8 the factors to be taken into account when implementing the engineering activity
- K9 the main types of resource involved with different types of engineering activity, and the typical timescales for providing them
- K10 how to verify that resources are suitable, and are available within or to the organisation
- K11 the timescales for carrying out specific engineering activities, and why they must be adhered to
- K12 the use of the engineering plans and instruction, along with their purpose and content
- K13 the procedures for changing the plans, to take account of changed circumstances or improvements in the process

K14 the importance of maintaining records; what needs to be recorded, and where records are kept

K15 the quality assurance systems that are being used

K16 the importance of providing the right information at the right time

K17 the roles and responsibilities of key personnel associated with the engineering activity

K18 the types of issues that can occur during the implementation of the engineering activity, and how these issues can be avoided or rectified

K19 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 implementing the engineering activities:
 - 1.1 check that all essential information and data needed to implement the engineering activity are available
 - 1.2 collect relevant information on the customer requirements and engineering operations and methods
 - 1.3 use the information collected to assist in determining an implementation plan
 - 1.4 identify potential issues which may influence the implementation of the engineering activity
 - 1.5 check that the appropriate resources will be available at the time they are required
 - 1.6 ensure that health and safety regulations and safe working practices are taken into account
2. Assist in carrying out the implementation of one of the following engineering activities:
 - 2.1 drawing/design activities (such as mechanical, electrical/electronic, motor vehicle, aerospace, marine)
 - 2.2 manufacturing activities (such as machining, detail fitting, fabrication of components, pressing)
 - 2.3 material processing activities (such as heat treatment, casting, injection moulding, purification)
 - 2.4 composite manufacture (such as wet lay-up, pre-preg laminating, resin infusion, blow moulding)
 - 2.5 finishing activities (such as stripping finishes, painting, plating, anodising, veneering, lacquering)
 - 2.6 assembly activities (such as mechanical, structural, fluid power, electrical/electronic, woodworking)
 - 2.7 installation activities (such as mechanical, electrical/electronic, avionic, structural, environmental equipment)
 - 2.8 plant and equipment (such as site preparation, plant layout, equipment changeover, equipment replacement)
 - 2.9 equipment capability studies/performance measurement
 - 2.10 movement of materials, components or finished goods
 - 2.11 engineering safety audits or risk assessments
 - 2.12 business improvement activities
 - 2.13 quality control/quality assurance
 - 2.14 maintenance activities
 - 2.15 modification and repair activities
 - 2.16 commissioning/decommissioning
 - 2.17 testing and trialling
 - 2.18 research and development
 - 2.19 engineering support services
3. Obtain information on activities and resources required for the engineering activity to be implemented, from two of the following

Assisting in implementing engineering activities

- 3.1 design office
- 3.2 production engineering
- 3.3 process engineering
- 3.4 sales department
- 3.5 quality engineering
- 3.6 contractor
- 3.7 planning department
- 3.8 plant engineering
- 3.9 customer
- 3.10 management/directors
- 3.11 health and safety/environmental engineering
- 3.12 other specific areas or persons
4. Confirm all of the following during the implementation:
 - 4.1 appropriate plant and equipment is available
 - 4.2 health and safety requirements can be met
 - 4.3 materials and components are ready for use
 - 4.4 environmental conditions are suitable
 - 4.5 required resources are available
 - 4.6 work area/site is suitably prepared
 - 4.7 timescales for undertaking the activities are as planned
 - 4.8 relevant people are informed
 - 4.9 quality control systems and procedures are in place
5. Provide clear and accurate information/instructions to all relevant parties, using one of the following methods:
 - 5.1 specific company documentation
 - 5.2 verbal report
 - 5.3 written or typed report
 - 5.4 electronic mail
6. Ensure that quality assurance systems are implemented correctly, and confirm that support systems are operating effectively, including one of the following:
 - 6.1 resource supply (such as materials, equipment and people)
 - 6.2 transport
 - 6.3 logistics
 - 6.4 procurement
 - 6.5 utilities
7. Ensure that implementation methods and procedures used comply with relevant regulations and guidelines, from one of the following:
 - 7.1 organisational guidelines and codes of practice
 - 7.2 equipment manufacturer's operating specification/range
 - 7.3 health, safety and environmental requirements
 - 7.4 recognised compliance agency/body's standards
 - 7.5 customer standards and requirements
 - 7.6 BS and/or ISO standards

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