

SEMEM4-31

Commission engineering products, processes or facilities



Overview

This standard identifies the competencies you need to commission engineering products, processes or facilities, in accordance with approved procedures. You will be required to apply appropriate methods and procedures to the commissioning activity. This will include liaising with customers to determine the relevant specifications, scheduling and obtaining resources, ensuring compliance with all regulations, directives and guidelines, ensuring that requirements are achieved, and evaluating, recording and communicating the results of the commissioning process to the appropriate people.

Your responsibilities will require you to comply with organisational policy and procedures for ensuring the successful commissioning of engineering products and 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 be fully conversant with organisational procedures and systems. You will understand the commissioning process, product and service configurations, and installation principles and processes. You will also know about evaluation methods and resource management techniques, 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.

SEMEM4-31

Commission engineering products, processes or facilities

Performance criteria

- You must be able to:*
- P1 specify the methods and procedures for commissioning the engineering product or process
 - P2 plan the most appropriate way to commission the engineering product or process
 - P3 confirm that conditions are suitable to implement the commissioning
 - P4 determine and obtain the resources required to undertake the commissioning
 - P5 ensure that the commissioning is implemented correctly
 - P6 identify and solve any commissioning problems
 - P7 assess the results of the commissioning to identify the outputs of the engineering product or process
 - P8 confirm that the engineering product or process meets specifications and complies with all relevant regulations, directives and guidelines
 - P9 ensure that the results of the commissioning are recorded in the appropriate information systems

SEMEM4-31

Commission engineering products, processes or facilities

Knowledge and understanding

You need to know and understand:

- K1 the health, safety and environmental requirements applicable to the commissioning activities, location and product/process/facility being commissioned
- K2 how to obtain details of which engineering products, processes or facilities require commissioning
- K3 the commissioning methods and procedures to be used, and whom to consult with in the planning process
- K4 the alternative commissioning practices that could be used for different engineering products, processes or facilities
- K5 the factors that should be taken into account when planning the commissioning
- K6 the range of conditions that could be encountered, and potential effects on the commissioning process
- K7 how to ensure that the commissioning is being implemented correctly
- K8 the types of problem that could occur, and how to solve them
- K9 the specifications and expected outputs from the engineering products, processes or facilities being commissioned, and how to evaluate that they are being achieved
- K10 the assessment techniques for confirming that the commissioning process is being carried out correctly
- K11 how to obtain information on resources
- K12 how to determine what resources are necessary
- K13 how to determine the availability of resources
- K14 the relevant regulations, directives and guidelines applicable to your area of responsibility
- K15 how to obtain and interpret information on regulations, directives and guidelines
- K16 how to assess the results of the commissioning process
- K17 the company information and recording systems available
- K18 the importance of using the appropriate company information and recording systems
- K19 the extent of your own responsibility and to whom you should report if you have issues that you cannot resolve

SEMEM4-31

Commission engineering products, processes or facilities

Additional Information

Scope/range related to performance criteria

- You must be able to:*
- 1 Carry out all of the following during the commissioning process:
 - 1.1 identify products, processes or facilities to be commissioned
 - 1.2 clarify the commissioning requirements with the customer
 - 1.3 plan the commissioning to minimise disruption to others
 - 1.4 ensure that the commissioning complies with specifications, regulations and guidelines
 - 1.5 identify and obtain the necessary resources
 - 1.6 implement and monitor the commissioning process
 - 1.7 communicate appropriate information to all relevant people
 - 2 Establish four of the following during commissioning:
 - 2.1 timing plan
 - 2.2 preparation of products
 - 2.3 authorisation channels
 - 2.4 preparation of site
 - 2.5 environmental requirements
 - 2.6 testing and/or trials
 - 2.7 configuration process
 - 2.8 handover
 - 3 Ensure that the commissioning complies with three of the following:
 - 3.1 organisational guidelines and procedures
 - 3.2 recognised compliance agency/body's standards, directives or codes of practice
 - 3.3 equipment manufacturer's operating specification/range
 - 3.4 customer standards and requirements
 - 3.5 health, safety and environmental requirements
 - 3.6 British, European or International standards or directives
 - 4 Ensure that the commissioning meets specifications for all of the following:
 - 4.1 functions
 - 4.2 materials used
 - 4.3 performance
 - 4.4 environmental
 - 4.5 aesthetics
 - 5 Obtain appropriate resources, including two of the following:
 - 5.1 equipment
 - 5.2 materials
 - 5.3 personnel
 - 5.4 facilities
 - 5.5 plant equipment

SEMEM4-31

Commission engineering products, processes or facilities

- 5.6 services
- 5.7 finance
- 5.8 other specific resources
- 6 Confirm that conditions are suitable to implement the commissioning process, including all of the following:
 - 6.1 the implementation plan for the commissioning activity is agreed and authorised
 - 6.2 appropriate resources are available
 - 6.3 contingency plans are in place to deal with problems as they occur
 - 6.4 outputs of the commissioning process have been identified for the subsequent handover report
- 7 Communicate with two of the following during the commissioning process:
 - 7.1 customer
 - 7.2 management
 - 7.3 suppliers
 - 7.4 sub contractors
 - 7.5 colleagues
 - 7.6 other (to be specified)
- 8 Record and communicate the results of the commissioning process to the appropriate people, using:
 - 8.1 a verbal report
 - plus one from the following:
 - 8.2 electronic mail
 - 8.3 computer generated report
 - 8.4 specific company document
 - 8.5 commissioning hand over documentation

SEMEM4-31

Commission engineering products, processes or facilities

Developed by SEMTA

Version number 2

Date approved February 2013

Indicative review date February 2016

Validity Current

Status Original

Originating organisation SEMTA

Original URN EL4.21

Relevant occupations Corporate managers and senior officials; Engineering and Manufacturing technologies; Engineering; Functional managers

Suite Engineering and Manufacture Suite 4

Key words Engineering; leading; design; process; maintenance; quality; customer; function; features; objectives; manufacturing; installation; commissioning; testing; carrying out; problems; specifications; quality; research; evaluate; processes; facilities