SEMETS357

Carrying out project management of engineering activities

Overview

This standard identifies the competences you need to project manage various engineering activities, time and resources, in accordance with approved procedures. The scope of the standard requires you to produce project plans for significant engineering activities with multifaceted requirements, having multiple operations and resources. In producing the project plans, you will need to clearly identify the aims and objectives of the project, the milestones that must be met and the resources and processes required to achieve this, along with the estimated timescales and costs involved, the quality control requirements, and how the project will be monitored to ensure it meets its aims. You will also be required to ensure that the project management plans effectively integrate with existing processes.

Your responsibilities will require you to comply with organisational policy and procedures for the project management of engineering activities. You will report any problems with the project that you cannot personally resolve, or that are outside your permitted authority, to the relevant people. You will be expected to work with a minimum of supervision, taking personal responsibility for your own actions and for the quality and accuracy of the work that you carry out.

Your underpinning knowledge will provide a good understanding of your work, and will provide an informed approach to applying project management principles and procedures to engineering activities. You will understand the project management process and its application, and will know about the engineering activities in adequate depth to provide a sound basis for carrying out the project management to the required standard. You will understand your organisation's methods of operation in sufficient detail to enable you to make informed decisions.

You will be aware of any health, safety and environmental requirements applicable to the various engineering activities being project managed. You will be required to demonstrate safe working practices 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 legislation, regulations, directives and other relevant guidelines
2. contribute to determining the scope of the project, and the processes required to achieve it
3. produce a full project plan which accurately identifies the project aims and objectives and seek appropriate approval to proceed
4. produce project objectives, work plans and schedules that are realistic and achievable, and that will meet the overall project aims
5. contribute to the formation of the project team, comprising the correct mix of subject and technical experts to deliver the project objectives
6. determine and agree individual roles and responsibilities within the project team
7. produce a monitoring process to review the progress of the project, adjusting the project plan as required
8. obtain authority and support for the release of the necessary resources to carry out the project
9. conduct and manage the project in accordance with the plan, consulting with subject experts and specialists according to the needs of the project
10. report project progress to relevant parties, at the agreed stages
11. deal effectively with problems within your control and report any that cannot be solved

Knowledge and understanding

You need to know and understand:

1. how to access information on health and safety regulations and guidelines relating to the engineering activities to be project managed
2. the implications of not taking account of legislation, regulations, standards and guidelines when producing the engineering project plans
3. how to identify the project scope, to determine the need for a full project plan and management approval
4. how to access and use the appropriate information and documentation systems to obtain information on the engineering requirements, and the type of information that is available (such as customer specifications and instructions, quality control requirements, product drawings/specification, manufacturing methods)
5. the different project management methods that can be used, and how to select the methods appropriate to your own circumstances
6. the information that should be included in the engineering project plans to allow the project progress to be monitored and measured (such as aims and objectives of the project, timescales, quality, cost and delivery requirements, resource requirements)
7. how to arrive at an estimate of timescales for the project, and the need to set milestones for achievement
8. the tools and techniques available for project planning and monitoring (such as graphs, gantt charts, critical path analysis)
9. how to break the project down into individual deliverable tasks
10. how to form and develop a project team to meet the identified objectives
11. how to allocate specific tasks and responsibilities to the project team members, according to individual skills and abilities
12. how to determine the specialist help you may require in the project, and how this can be obtained
13. how to monitor and evaluate the project progress effectively
14. the importance of authorising all stages of work to start, continue or finish, according to your evaluation of progress
15. how to assess resource requirements; the main types of resources involved with different types of engineering activity, and the typical timescales for providing them

16. the obvious (and hidden) costs of resources/activities, and how to estimate the likely costs of the project (including the cost of raw materials, people and overheads)
17. the normal timescales for carrying out the specific engineering activities, and how and why they vary
18. how to prepare the plans (to include the structure, style, clarity and compliance with relevant standards, guidelines or directives)
19. why contingency plans need to be drawn up, and the procedures for changing the plans
20. how to conduct a project meeting, and the importance of obtaining team members' agreement to changes in plans
21. the importance of ensuring that all stakeholders are advised and kept involved with project progress
22. how to communicate effectively, listen and question, provide feedback, support and coach others
23. how to present information effectively to management, peers, team members and customers
24. the different ways of presenting information to different people, and the importance of providing the right information at the right time
25. how to monitor progress of the project in terms of delivery on time, to budget and within agreed levels of quality
26. how to report project closure, completion and final status to management, teams and customers
27. how to solve problems and overcome barriers/difficulties encountered during the life of the project
28. when to act on your own initiative, and when to seek help and advice from others
29. whom to liaise with and whom to obtain relevant and specific information from, to support and assist you in running the project
30. the extent of your own responsibility, and to whom you should report to in the event of problems that you cannot resolve

SEMETS357

Carrying out project management of engineering activities

Developed by	Enginuity
Version Number	3
Date Approved	30 Mar 2021
Indicative Review Date	01 Mar 2024
Validity	Current
Status	Original
Originating Organisation	Enginuity
Original URN	SEMETS357
Relevant Occupations	Engineering, Engineering and Manufacturing Technologies, Engineering Technicians
Suite	Non Destructive Testing, Engineering Technical Support Suite 3
Keywords	engineering; technical; support; machining; detail fitting; fabrication of components; pressing