SEMTS218

Assisting in the monitoring of engineering activities

Overview

This standard identifies the competences you need to support colleagues with the monitoring of engineering activities, in accordance with approved procedures. You will be required to assist in monitoring the engineering activity and the supply and use of resources. In addition, you may be required to assist with the monitoring of suppliers and contractors associated with the activity. During the monitoring process, you will be required to check that the outputs and materials used are within the required specification, and to report on adherence or deviation from schedules and timescales.

Your responsibilities will require you to comply with organisational policy and procedures for the engineering activities being monitored, 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 the techniques and procedures used to monitor the specific engineering activity. You will have an understanding of the engineering activities being monitored, in sufficient depth to enable you to carry out the monitoring activities to the required standards.

You will be aware of any health, safety and environmental requirements applicable to your area of work. 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:

P1 monitor the engineering process at suitable opportunities

P2 monitor the supply and use of resources for the monitoring activities

P3 confirm that the materials used during the engineering process comply with specifications

P4 confirm that suitable engineering methods and procedures have been used during the monitoring activities

P5 identify any variations from agreed plans and schedules

P6 deal with problems within your control and report those that cannot be solved

P7 ensure that the outputs of the engineering process comply with specifications

P8 ensure that the engineering process 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 organisational procedures for determining when monitoring should occur and how it should be undertaken

K4 the monitoring methods and procedures that should be used for the engineering activity, within your area of responsibility

K5 the potential variations from plans and schedules that might occur during monitoring

K6 the basic principles of operation of the engineering process/activity being monitored

K7 the quality assurance systems that are being used

K8 the types of issues that could occur with the monitoring process, and the organisational methods and procedures for resolving them

K9 the importance of solving issues quickly

K10 the measures that need to be monitored for the particular process

K11 how to assess whether the resources are being used effectively

K12 the importance of maintaining records of the monitoring activities

K13 the types of information to be recorded, and the amount of detail that is required

K14 where records are kept, and the procedure for obtaining them

K15 the importance of ensuring that any records you use are correctly updated and returned to the appropriate location

K16 the importance of customer care and satisfaction

K17 the different ways of presenting information to different people

K18 the organisational reporting processes and lines of communication

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 during the monitoring activities:
   1.1 obtain the specifications and documents required for the monitoring process
   1.2 obtain approval to carry out the monitoring activities
   1.3 ensure that all appropriate personnel are fully informed of your intended activities
   1.4 use appropriate personal protective equipment (PPE) for the area in which you are carrying out the monitoring activities
   1.5 apply safe working practices and procedures at all times
   1.6 follow the defined monitoring procedures at all times
2. Carry out the monitoring activities on 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 relevant information from the appropriate sources, to include two of the following:
   3.1 work orders
   3.2 planning documentation
   3.3 contracts
   3.4 quality standards
   3.5 plans/designs

3.6 equipment or materials supplier information
3.7 purchase orders
3.8 schedules
3.9 standard operating procedures
3.10 production control documentation

4. During the monitoring activity, carry out all of the following:
4.1 check that resources (such as people, materials, equipment) are being used effectively
4.2 check that materials or equipment used are within specification
4.3 check the outputs of the engineering process and compare these with specifications
4.4 record any deviations from agreed plans and schedules
4.5 ensure that relevant people are kept informed

5. Monitor the engineering activity, using one of the following techniques:
5.1 scheduled monitoring
5.2 random monitoring
5.3 reactive monitoring
5.4 preventive monitoring

6. Use two of the following during the monitoring activity:
6.1 observation
6.2 data collection
6.3 sampling
6.4 consultations with relevant people

7. Ensure that the process being monitored complies with relevant regulations, standards and guidelines from all of the following, as appropriate:
7.1 organisational guidelines and codes of practice
7.2 customer standards and requirements
7.3 equipment manufacturer's operating specification/range
7.4 BS and/or ISO standards
7.5 recognised compliance agency/body's standards
7.6 health, safety and environmental requirements

8. Communicate the outcomes of the monitoring activity to the relevant people, using one of the following methods:
8.1 specific company documentation
8.2 written or typed report
8.3 verbal report
8.4 electronic mail

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