

Overview

This standard identifies the competences you need to carry out a health and safety risk assessment, in accordance with regulatory requirements and approved procedures within your organisation. You will be expected to obtain appropriate authorisation and information to conduct a risk assessment on an engineering activity under your responsibility, and to make this information known to the appropriate people. The standard requires you to identify hazards in the engineering environment that have the potential to injure people, cause ill-health, or cause damage or loss to property or the environment. You will then be expected to assess the level of the risks, and to recommend actions to eliminate, mitigate or control the risks.

Your responsibilities will require you to comply with organisational policy and procedures for the risk assessment, 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 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 health and safety risk assessment procedures in an engineering environment. You will understand how to conduct a risk assessment, and the organisational procedures that impact upon the results. You will also know about the implications and application of risk assessments, in adequate depth to provide a sound basis for carrying out the activities to the required standard.

You will be aware of any health, safety and environmental requirements applicable to the engineering activities being assessed. 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. define clearly why, when and where the risk assessment will be carried out
3. ensure you have accurate and up-to-date information on the engineering activities for which the risk assessment is to be carried out
4. select a method of identifying hazards which is appropriate to the area being assessed
5. identify engineering work areas, processes, tools, equipment or materials that have the potential to cause harm or damage to people, property or the environment
6. assess the level of risk, and consider how the risks can be eliminated, mitigated or controlled to minimise harm
7. prepare a risk assessment report containing recommendations for minimising the risks
8. present the results of the risk assessments to all relevant people
9. record information on the risk assessment in the appropriate format and organisational information systems
10. deal with problems within your control, and report those that cannot be resolved

Knowledge and understanding

You need to know and understand:

1. the responsibilities for health and safety risk assessment, and your legal duties with regard to health and safety, as required by the latest health and safety regulations
2. the work areas, people and their responsibilities, for whom you are carrying out the risk assessment
3. the specific work activities of the people in the workplace where you are carrying out the risk assessment
4. the specific organisational health and safety procedures covering the area/tasks for which you are carrying out the risk assessment
5. how to obtain information on the engineering activity, and the health and safety regulations and requirements to be observed
6. the particular health and safety risks which can arise from different engineering activities, and the precautions that can be taken
7. the various hazard spotting and safety assessment methods and techniques that can be used
8. how to identify hazards which might arise from changes in working practices within your work area
9. how to ensure that the hazard identification causes minimal disruption and concern to other people
10. the types of hazard that are most likely to cause harm to health and safety
11. how to identify whether all reasonable precautions are in place to minimise the risk from the hazard
12. the people who require information on the hazards/risks, and the type and amount of information that is required
13. the potential implications of the risks
14. methods of identifying hazards and assessing the probability of a risk situation occurring (to include direct observation, examining records and interviewing people)
15. methods of clarifying risk and hazard issues, and of assessing the potential consequences of the risk
16. how to prioritise and manage hazards
17. the types of risk assessment methods that are appropriate to different types of risk
18. qualitative and quantitative risk assessment techniques
19. where to obtain information that may be required about health and

safety within the workplace

20. ways of influencing, monitoring and controlling human behaviour
21. opportunities, procedures and formats for communicating and promoting safety and environmental awareness within the engineering activities
22. methods of collecting and evaluating information on risk assessment activities
23. techniques for defining and controlling measurable outcomes
24. the importance of using the company information systems for recording the health and safety information
25. problems that can occur during risk assessments, and how these problems can be avoided or rectified
26. the sources of technical expertise if you have problems that you cannot resolve
27. the extent of your own responsibility, and whom you should report to if you have problems that you cannot resolve

Scope/range related to performance criteria

1. Carry out **all** of the following during the health and safety risk assessment activity:
 1. adhere to procedures or systems in place for COSHH, personal protective equipment and other relevant safety regulations
 2. obtain the required risk assessment documentation
 3. ensure that you understand the purpose and scope of the risk assessment to be carried out
 4. obtain approval to carry out the risk assessment activities from the appropriate person in the relevant area
 5. ensure that all appropriate personnel are fully informed of your intended activities
 6. use appropriate personal protective equipment for the area in which you are carrying out the risk assessment
 7. ensure any problems are resolved as they occur
 8. ensure that risk assessment records are stored in a manner suited to future audit or investigation

2. Conduct a health and safety risk assessment on **one** of the following engineering activities:
 1. drawing/design activities (such as mechanical, electrical/electronic, motor vehicle, aerospace, marine)
 2. manufacturing activities (such as machining, detail fitting, fabrication of components, pressing)
 3. material processing activities (such as heat treatment, casting, injection moulding, purification)
 4. composite manufacture (such as wet lay-up, pre-preg laminating, resin infusion, blow moulding)
 5. finishing activities (such as stripping finishes, painting, plating, anodising, veneering, lacquering)
 6. assembly activities (such as mechanical, structural, fluid power, electrical/electronic, woodworking)
 7. installation activities (such as mechanical, electrical/electronic, avionic, structural, environmental equipment)
 8. plant and equipment (such as site preparation, plant layout, equipment changeover, equipment replacement)
 9. workplace layout (such as positioning of stairways, floors, emergency doors)
 10. particular groups of people (such as young people, pregnant)

- women, people undertaking repetitive exercises)
11. risks to the environment arising from workplace activities (such as emission of gases, fumes or dust; disposal of waste materials, use of substances or materials hazardous to the environment)
 12. equipment capability studies/performance measurement
 13. movement of materials, components or finished goods
 14. quality control/quality assurance
 15. business improvement activities
 16. engineering support services
 17. maintenance activities
 18. modification and repair activities
 19. commissioning/decommissioning
 20. testing and trialling
 21. research and development
3. Carry out a health and safety risk assessment, to include using **three** of the following:
1. direct observation
 2. examination of internal records
 3. interviewing people at work
 4. examination of published information
 5. safety, environmental or other specialist expertise
4. Identify the potential risks, considering **all** of the following:
1. process or operations being carried out (such as machining, chemical treatments, unshielded processes/emissions, electrical activities, process complexity and ergonomics)
 2. tools and equipment used (such as hand tools, power tools, automatic and computer or robotic controlled machinery, equipment condition, guarding and other safety aids)
 3. working practices (such as poor housekeeping, unsafe behaviour, working alone or with others, working at height or in confined spaces, job instructions and procedures)
 4. materials and substances (such as lifting and handling, transportation and storage, contact with and emissions from using them, volatile/toxic materials)
 5. environmental related (such as location, noise, ventilation, lighting, access and egress, weather conditions)
 6. people related (such as competency, teamworking, physical

and mental demands, training, stress)

5. Identify and recommend actions to deal with **all** of the following categories of risk:
 1. risks which can be eliminated
 2. risks which can be reduced
 3. risks which remain constant

6. Produce a health and safety risk assessment report, which includes references to **all** of the following:
 1. the purpose and scope of the risk assessment carried out
 2. the specific methods used to identify the potential risks
 3. a description of the risk(s) identified, their ranking and severity
 4. the potential consequences from the risk occurring
 5. any breaches in health and safety legislation and workplace procedures
 6. the recommended action(s) to take to eliminate or minimise the risks
 7. identification of regulations and/or guidelines applicable to the risk
 8. the company health and safety policy relative to the risk
 9. implementation of the risk assessment, and follow-up action required

7. Review existing workplace health and safety risk assessment practices and procedures for **all** the following:
 1. review all legal requirements that are appropriate to the workplace and work activities being assessed, to ensure that effective control measures are in place
 2. review any previous accidents or incidents, to ensure that relevant experience has been considered and included in the latest risk assessment
 3. compare the latest risk assessment to current workplace and working practices
 4. identify any significant differences between previous and new working practices
 5. investigate the action taken as a result of your recommendations (as specified in the latest risk assessment report)

6. identify any new hazards arising from changes in the workplace or working practices
 7. make changes to your risk assessment, in line with the review
 8. inform promptly everyone affected by the changes
8. Carry out **all** of the following, on completion of the health and safety risk assessment activities:
1. validation and evaluation of the risk assessment procedures used
 2. suggested improvements to your process of carrying out a risk assessment
 3. recommendations for improvements or changes to the risk assessment systems and procedures in place
9. Communicate the outcomes of the health and safety risk assessment to the appropriate people, using the following:
1. specific company documentation
- Plus one** of the following:
2. verbal report
 3. written or typed report
 4. electronic mail
 5. computer-based presentation

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| Developed by | Semta |
| Version Number | 2 |
| Date Approved | February 2015 |
| Indicative Review Date | March 2018 |
| Validity | Current |
| Status | Original |
| Originating Organisation | Semta |
| Original URN | SEMETS3-60 |
| Relevant Occupations | Engineering Technicians; Engineering and manufacturing technologies; Engineering |
| Suite | Engineering Technical Support Suite 3 |
| Keywords | engineering; technical; support; direct observation; examination of internal records; interviewing people at work; safety; environmental or other specialist expertise; modification and repair activities; engineering support services; business improvement |