SEMEM416

Evaluate engineering risk assessments

Overview

This standard identifies the competences you need to meet the requirements necessary for accident risk analysis and assessment on engineering activities within your organisation. You will be responsible for analysing risks, assessing the extent of the risk and for ensuring that all relevant information is communicated and recorded in the appropriate information systems.

Your responsibilities will require you to comply with organisational policy and procedures for ensuring the successful analysis of risks, 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 organisational processes and procedures, including risk analysis and assessment. Your general and discipline-specific knowledge of engineering principles and processes will allow you to take an informed approach towards analysing the engineering activities, helping to resolve related problems and to make sound decisions.

You will be fully aware of any health, safety and environmental requirements applicable to your area of responsibility and will be conversant with legislative and regulatory frameworks. 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.

Performance criteria

You must be able to:

1. work safely at all times, complying with health and safety and other relevant regulations, directives and guidelines
2. establish clear criteria for the evaluation activity
3. plan the most appropriate method for evaluating the risk assessments
4. confirm the completed risk assessments are current, valid and reliable
5. ensure that any relevant regulations, directives or guidelines relating to the risks have been identified
6. evaluate and rank the potential impact of the risks identified
7. ensure that the evaluation outcomes of the risks are communicated to the appropriate people
8. monitor and review the effectiveness of the risk assessment process
9. make amendments to the process where improvements have been identified
10. record the evaluation of risk assessments in the appropriate information system

Knowledge and understanding

You need to know and understand:

1. the specific health and safety precautions to be observed when carrying out a risk analysis
2. the organisational engineering activities where risk analysis is deemed to be necessary
3. the process-related attributes from which risks could occur
4. the types of risk that can arise from different engineering activities
5. the factors that could relate to the risks
6. how to obtain information on the risk factors
7. the types of risk analysis and evaluation methods that are appropriate to different types of risk
8. the type of supporting information and documentation that is required
9. the amount of supporting information that should be provided
10. who is affected by the risks
11. who requires information on the risks
12. the potential implications of the risks
13. the regulations, directives and guidelines that are relevant to the areas being analysed
14. how to obtain and interpret information on regulations, directives and guidelines
15. the various company systems for recording risks and risk-related issues
16. the importance of using the appropriate company information systems
17. 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.

Evaluate risk assessment activities for **one** of the following:

1.1 manufacturing (such as machining, fabrication, welding, material finishing or manufacture, assembly, joining)
1.2 design
1.3 research
1.4 product or system installation
1.5 commissioning
1.6 decommissioning or recycling
1.7 environmental or sustainability
1.8 operational processes (such as movement of materials and logistics)
1.9 maintenance practices (such as preventative, corrective, predictive, reactive or prevention)
1.10 processing operations
1.11 service supplies (such as gas, water, electricity)
1.12 engineering support functions (such as procurement, quality assurance, inspection, testing, scheduled safety audits and risk assessments, business improvement)

2.

Evaluate the potential risks by considering the impact on **three** of the following:

2.1 personnel
2.2 equipment
2.3 property/assets
2.4 quality
2.5 environment
2.6 impact on the business (such as finance, branding, market)
2.7 other specific factor

3.

Recommend appropriate actions that includes **three** of the following:

3.1 a risk reduction process
3.2 continuing (such as the risk ranking result is acceptable)
3.3 allowing a period of time before re-analysis
3.4 implementing a special monitoring processes
3.5 suspending operation and rectifying immediately
3.6 implementing interim containment action

4.

Record the risk information and include references to **six** of the following:

4.1 the company health and safety policy
4.2 a description of the risk(s) and their ranking
4.3 accident and or `near miss' reports
4.4 the implication of a risk occurring
4.5 identification of regulations and or guidelines
4.6 general management organisation

4.7 the method of assessing and ranking the risk
4.8 frequency and duration of exposure
4.9 predictable and preventable risks
4.10 analysis, decisions and recommendations

Behaviours

Additional Information

You will be able to apply the appropriate behaviours required in the workplace to meet the job profile and overall company objectives, such as:

- strong work ethic
- positive attitude
- team player
- dependability
- responsibility
- honesty
- integrity
- motivation
- commitment

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Developed by	Enginuity
Version Number	3
Date Approved	30 Mar 2017
Indicative Review Date	31 Mar 2020
Validity	Current
Status	Original
Originating Organisation	Semta
Original URN	SEMEM4-16
Relevant Occupations	Corporate Managers and Senior Officials, Engineering, Engineering and Manufacturing Technologies, Functional Managers
Suite	Engineering and Manufacture Suite 4
Keywords	Engineering; leading; design; process; maintenance; quality; customer; function; features; objectives; manufacturing; installation; commissioning; testing; carrying out; problems; specifications; quality; research; evaluate; risks; analyse