

Health and safety in UK

Case Study 1

An oil storage tank is located below ground level. Access is by one hatch in the top. The tank has been drained and has been out of use for some time. An inspection is to be carried out on the condition of the tank base and it has already been identified that welding will be necessary at one location.

Task 1, Learning Outcomes 1.1, 1.2, 1.3

Be able to select and apply safe working procedures to engineering operations.

Describe in detail a procedure where the tank can be inspected and welded safely. Consider what aspects of the environment require monitoring and how that will be achieved. Identify any personal protective equipment required and any procedures to be followed to ensure the safety of any operative(s) during the inspection and welding operation.

Deliverables: This can be bullet points or a report, with justification of any recommendations for equipment or procedures. Maximum 600 words.

Case Study 2

An engineering workshop contains five pillar drills, six milling machines and six lathes, all powered by 3-phase 415V. Up to twelve people may be undertaking manufacturing operations in there in a normal working day.

Task 2, Learning Outcomes 2.1, 2.2, 2.3

Understand the nature and use of current health and safety legislation.

- (a) Identify all the UK legislation, regulations and relevant codes of practice which must be complied with to ensure the safety of personnel in the workshop.
- (b) Describe the role of the Health and Safety Inspectorate in respect of day-to-day management of Health and Safety and in the event of an accident.
- (c) Create a bullet-point list of all the aspects of the workshop which should be considered in a Safety Audit, and suggest how often each aspect should be audited.

Deliverables: A report for the first part, which must clearly state which documents you consider relevant. Maximum 600 words. The second part should be a list of aspects to be inspected, with a suggested frequency for each.

Case Study 3

A cement plant has multiple operations, each of which is controlled by PLCs which are controlled from a central control room in a different building. One of the PLCs for the stone-crushing operation has malfunctioned; it is located inside a cabinet on the wall in the crusher house. It requires replacement.

Task 3, Learning Outcomes 3.1, 3.2, 3.3

Be able to analyse engineering activities for the assessment of risk.

Using the template in the Appendix at the end of this document, start a Risk Assessment for the operation of replacing the PLC. Consider three of the main hazards and complete the template for those only.

Deliverables: Completed Risk Assessment.

Case Study 4

A distribution warehouse for a manufacturing company has vehicles both delivering and collecting from one end and movement of both fork-lift vehicles and people in the main warehouse area. Routes for the road vehicles, lifts and pedestrians are segregated. The company are proposing to undertake a study into the warehouse to make the operation safer, after one worker sustained a minor injury in a collision with a fork-lift truck.

Task 4, Learning Outcomes 3.4, 4.1, 4.2, 4.3, 4.4, 4.5

Be able to manage and minimise risk to life, property and engineering activities within an industrial environment.

Write a report for the company management outlining a strategy for the study. Suggest three different sources of safety / accident data to base the study on and explain how the data can be used to identify hazards and analyse the risks. Explain how the risk analysis can be developed into an action plan for the workplace and suggest how this can be implemented, including any staff training which might be required, and how and when the process should be reviewed.

Deliverables: A report on the strategy for risk reduction. Actual data and detailed recommendations are not required. Maximum 400 words.

Useful resources:<http://www.hse.gov.uk/>

Essentials of Health and Safety at Work (free download from HSE website)

Health and Safety at Work etc. Act 1974

Management of Health and Safety at Work Regulations 1999

Workplace (Health, Safety and Welfare) Regulations 1992

Provision and Use of Work Equipment Regulations 1998

Control of Substances Hazardous to Health Regulations 2002

Noise at Work Regulations 2005

Electricity at Work Regulations 1989

Health and Safety in Engineering Workshops (free download from HSE website)

Five Steps to Risk Assessment (free download from HSE website)