

Pearson BTEC Levels 4 Higher Nationals in Engineering (RQF)

Unit 18: Maintenance Engineering

Unit Workbook 1

in a series of 4 for this unit

Learning Outcome 1

Statutory Regulations and Safety

INTRODUCTION

LO1 Analyse the impact of relevant statutory regulations and organisational safety requirements on the industrial workplace

Statutory regulations:

The responsibility of employers and employees with regard to statutory regulations in the workplace, including:

HASWA 1974

MHSWR 1999

PUWER 1998

COSHH

LOLER 1998

Working at Height Regulations

Manual Handling Operations Regulations 1992

PPE at Work Regulations 1992

Confined Spaces Regulations 1997

Electricity at Work Regulations 1989

Control of Noise at Work Regulations 2005

RIDDOR 1995

CDM Regulations 2015

ACoP HSE Guidance Notes and Safety Signs

Organisational safety requirements:

The responsibility of the employee with regard to organisational safety requirements such as the role of the HSE and the power of inspectors, right of inspection, improvement notices and prohibition notice

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SAMPLE

- suitable for the intended use
- safe for use, maintained in a safe condition and inspected to ensure it is correctly installed and does not subsequently deteriorate
- used only by people who have received adequate information, instruction and training
- accompanied by suitable health and safety measures, such as protective devices and controls. These will normally include emergency stop devices, adequate means of isolation from sources of energy, clearly visible markings and warning devices
- used in accordance with specific requirements, for mobile work equipment and power presses

Some work equipment is subject to other health and safety legislation in addition to PUWER. For example, lifting equipment must also meet the requirements of LOLER, pressure equipment must meet the Pressure Systems Safety Regulations and personal protective equipment must meet the PPE Regulations PDF.

COSHH

COSHH stands for 'Control of Substances Hazardous to Health' and under the Control of Substances Hazardous to Health Regulations 2002, employers need to either prevent or reduce their workers' exposure to substances that are hazardous to their health.

The majority of organisations today use substances that could cause harm to employees, contractors and other people. These hazardous substances can come in many different forms such as:

- Chemicals
- Fumes
- Dusts
- Vapours
- Mists
- Nanotechnology
- Gases
- Asphyxiating gases
- Biological agents

The HSE has a free downloadable guide called 'Working with substances hazardous to health' – which is a brief overview of COSHH. This guide explains that hazardous substances make thousands of workers ill by contracting lung diseases such as asthma; cancer and skin diseases such as dermatitis. As a result, these diseases cost many millions of pounds to industry, society and individuals. The guide illustrates how you should assess the risk of your own COSHH substances and what control measures you should have in place to reduce employee exposure.

LOLER 1998

Lifting Operations and Lifting Equipment Regulations 1998 (LOLER)

These Regulations (often abbreviated to LOLER) place duties on people and companies who own, operate or have control over lifting equipment. This includes all businesses and organisations whose employees use lifting equipment, whether owned by them or not. In most cases, lifting equipment is also work equipment so the Provision and Use of Work Equipment Regulations (PUWER) will also apply (including inspection and maintenance). All lifting operations involving lifting equipment must be properly planned by a competent person, appropriately supervised and carried out in a safe manner.

LOLER also requires that all equipment used for lifting is fit for purpose, appropriate for the task, suitably marked and, in many cases, subject to statutory periodic 'thorough examination'. Records must be kept of all thorough examinations and any defects found must be reported to both the person responsible for the equipment and the relevant enforcing authority.

Working at Height Regulations

The purpose of The Work at Height Regulations 2005 is to prevent death and injury caused by a fall from height. If you are an employer or you control work at height (for example facilities managers or building owners who may contract others to work at height) the Regulations apply to you.

Employers and those in control of any work at height activity must make sure work is properly planned, supervised and carried out by competent people. This includes using the right type of equipment for working at height. Low-risk, relatively straightforward tasks will require less effort when it comes to planning.

Employers and those in control must first assess the risks.

Employees have general legal duties to take reasonable care of themselves and others who may be affected by their actions, and to co-operate with their employer to enable their health and safety duties and requirements to be complied with.

Manual Handling Operations Regulations 1992

The Regulations define manual handling as:

"...any transporting or supporting of a load (including the lifting, putting down, pushing, pulling, carrying or moving thereof) by hand or bodily force".

The load can be an object, person or animal.

The MHOR 1992 set out a clear ranking of measures for dealing with risks from manual handling, these are:

- first : avoid hazardous manual handling operations so far as is reasonably practicable;
- second : assess any hazardous manual handling operations that cannot be avoided; and

Hands and arms

Hazards

Abrasion, temperature extremes, cuts and punctures, impact, chemicals, electric shock, radiation, vibration, biological agents and prolonged immersion in water

Options

Gloves, gloves with a cuff, gauntlets and sleeving that covers part or all of the arm

Note

- Avoid gloves when operating machines such as bench drills where the gloves might get caught
- Some materials are quickly penetrated by chemicals – take care in selection, see HSE’s skin at work website
- Barrier creams are unreliable and are no substitute for proper PPE
- Wearing gloves for long periods can make the skin hot and sweaty, leading to skin problems. Using separate cotton inner gloves can help prevent this

Feet and legs

Hazards

Wet, hot and cold conditions, electrostatic build-up, slipping, cuts and punctures, falling objects, heavy loads, metal and chemical splash, vehicles

Options

Safety boots and shoes with protective toecaps and penetration-resistant, mid-sole wellington boots and specific footwear, eg foundry boots and chainsaw boots

Note

- Footwear can have a variety of sole patterns and materials to help prevent slips in different conditions, including oil- or chemical-resistant soles. It can also be anti-static, electrically conductive or thermally insulating
- Appropriate footwear should be selected for the risks identified

Lungs

Hazards

- Oxygen-deficient atmospheres, dusts, gases and vapours

Options – respiratory protective equipment (RPE)