Work Equipment and Machinery; responsibilities for suppliers and users

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INTRODUCTION
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• Company Safety Advisor
  – GEC Large Machines 1986 - 1995

Experience

• Machinery Directive Implemented in 1992
  – Member of the implementation team for company products.
• Introduced PUWER into factory on inception in 1993
LEGAL OVERVIEW

Health and Safety at Work etc. Act 1974

• Section 2
  – Employer to Employee
    • It shall be the duty of every Employer to ensure, So far as is Reasonably Practicable, The Health, Safety and Welfare at Work of all of his Employees
  – Specifically
    • The provision & maintenance of safe plant and systems of work
    • Articles and Substances - adequate arrangements to ensure safe use, handling, storage, transport
    • Necessary Information, Instruction, Training and Supervision
    • Provision of a safe place of work with a safe means of access & egress
    • Provision of a healthy working environment & welfare provisions
Health and Safety at Work etc. Act 1974

- **Section 6**
  - Designers, Manufacturers, Suppliers, of Articles
    - for use at work has duties to ensure so far as is reasonably practicable
      - That it is safe and without health risks when Cleaned, Used, Maintained Dismantled or Disposed
      - That it is adequately tested and examined
      - That information about safe use is made available
      - Supply revisions of information
  - Section 6 applies to new and second hand articles

Framework – for Worker Safety

- HSE
- Policy
- European Directives
- Regulations
  - CoSHH 2002
  - Electricity at Work 89
  - Noise at Work 2005
  - Asbestos 2012
  - First Aid at Work 81
  - Safety Signs 96
EU Freedoms

• Four freedoms of Europe are free movement of:
  – Goods,
  – People,
  – Services, and
  – Capital
• over EU borders
• Therefore standards of worker safety and product safety should be the same

EU Directives

Worker

- Workplace Regs
- DSE Regs
- PPE Regs
- Manual Handling Regs
- Work Equipment Regs
- Etc.

Sets down the minimum requirements for the safety of workers

Product

- Supply of Machinery Regs
- Electrical Equipment (Safety) Regs
- Lifts Regs
- Electromagnetic Compatibility Regs
- Etc.

Sets down the requirements for the supply of relevant equipment within Europe or imported into Europe

Implemented in UK as...

- Health and Safety at Work Act 1974
- European Communities Act 1972
Applicability

- EU Directives must be implemented by all EU member states. EU28

Product Directives also apply to the wider

- European Economic Area (EEA):
  - EU28 +
  - Three of the four members of the European Free Trade Association (EFTA)
    - Iceland
    - Lichtenstein
    - Norway
  - Switzerland is the fourth member of the EFTA but is not in the EEA. Local agreements include Switzerland within product directives
PROVISION AND USE OF WORK EQUIPMENT REGULATIONS 1998

Provision and Use of Work Equipment Regulations 1998 (PUWER)

• Implements EU Directive
• Came into force on 1st January 1993 (PUWER 92)
• Re-issued as PUWER 98 on 5th December 1998
  – Implemented amendment directive
    • Council Directive 95/63/EC
HSE Information

- Safe Use of Work Equipment
  - HSE Approved Code of Practice and Guidance to PUWER
    - L22

HSE Information

- Using Work Equipment Safely
  - HSE Guidance
    - INDG229 – Free Series
- Simple Guide to PUWER
  - HSE Guidance
    - INDG291 – Free Series
Provision and Use of Work Equipment Regulations 1998 (PUWER)

- Sets out the requirement on employers
  - For the safety of work equipment
  - Provided for use at work
  - Includes all work equipment
    - New
    - Existing
    - Owned
    - Hired
    - Etc
- No specific duties for employees

Provision and Use of Work Equipment Regulations 1998 (PUWER)

- Definition of work equipment:
  - “any machinery, appliance, apparatus, tool or installation for use at work”
Provision and Use of Work Equipment Regulations 1998 (PUWER)

• Can be arranged into 3 parts
  – Requirements for all work equipment
    • Regs 4-9
  – Requirements for new equipment
    • Reg 10
  – Requirements for relevant features of work equipment
    • Regs 11-24
    • (Plus mobile work equipment and power presses)

Provision and Use of Work Equipment Regulations 1998 (PUWER)

• Regs 4 to 9 Puts duties on employers for:
  – All work equipment
    • Suitable for the intended use;
    • Maintained in a safe condition
    • Inspected
    • Specific risks identified and controlled
    • Information, instruction and training
Regulation 10 – Conformity with Community Requirements

- Puts duties on employers for New work equipment
  - Conformity with Community Requirements
    - Every employer shall ensure that an item of work equipment conforms at all times
    - With any European Product Directive
    - That applied at the time of being put into service.

Product Directives

- Product directives follow the “New Approach Directive” of the EU
- In order to facilitate borderless trade
- A CE mark is a passport to pass through borders
- Subject to market surveillance
- 23 products are covered by product directives
Product Directives

• Duty on “Responsible Person”
  – Manufacturer, or
  – Person who puts into service for first time
• Follow a conformity procedure
• Compile a technical file
• Satisfy the EHSRs
  – (Presumption if harmonised standard followed)
• Affix CE mark
• Issue declaration of conformity
• Provide instructions

Conformity Procedure Examples

• Machinery
  – Not Annex IV
  – Annex IV constructed to standard
  – Annex IV not constructed to standard
• Pressure Equipment
  – Depends on Pressure / volume / vessels / pipes
• Simple Pressure Vessels
  – Depends on total energy in bar litres
Essential Health and Safety Requirements

- Manufacturer to comply with essential health and safety requirements
- Detailed in Annex I to the Machinery Directive, eg
  - Guarding – Emergency stop
  - Controls – Lighting
  - Handling – Isolation
  - Emissions – Warnings
  - Stability – Maintenance
  - Markings

Supply of Machinery (Safety) Regulations 2008

- Satisfying the EHSRs
  - Use of Standards
    - Machinery manufactured in conformity with specified published European transposed harmonised standards (EN standards), will be presumed to comply with the essential health and safety requirements covered by those standards.
    - Other standards or specifications may be used but no presumption of conformity with EHSRs given.
Supply of Machinery (Safety) Regulations 2008

• Use of Standards
  – Manufacturer who chooses to apply other technical specifications must demonstrate that his alternative solution is in conformity with the EHSRs
  – And provides a level of safety that is at least equivalent to that of the harmonised standard
  – Full risk assessment of the approach in the technical file

Harmonised Standards

• Three Types for Machinery
  – Type A
    • General principles for machinery
      – Apply to all machines
  – Type B
    • B1 - Ergonomics and safety aspects
    • B2 - Specific safety devices
      – Apply to specific aspects or devices that could be found on a variety of machines
  – Type C
    • Specific types or groups of machines
      – Only applies to that type of machine
Harmonised Standards

Examples

- EN 13149:2006 - Safeguarding systems
- ISO 15198:2006 - Safety of machinery - design, construction and manufacture of industrial robots and handling systems
- ISO 14395:1999 - Safety of machinery - design, construction and manufacture of industrial robots and handling systems
- EN 14119:2004 - Safety of machinery - design, construction and manufacture of industrial robots and handling systems

Declaration of Conformity

- Business name and address of responsible person
- Name and address of person authorised to compile the technical file
- Description of machine, type and serial number.
- A sentence declaring the machine fulfils the requirements of the directive, and a similar sentence for other relevant directives.
- Details (where necessary) of approval or notified bodies
- Reference to published harmonised standards
- Reference to other technical standards
- Place and date of declaration
- Identification of empowered person to sign on behalf of the responsible person
Provision and Use of Work Equipment Regulations 1998 (PUWER)

- Regs 11 – 24 Puts duties on employers for:
  - Relevant work equipment (ie where the equipment has that feature)
    - Dangerous parts
    - Other hazards
    - Hot/cold surfaces
    - Controls
    - Isolation
    - Stability
    - Lighting
    - Maintenance
    - Markings and warnings

PUWER & EHSRs
Machinery Guidance

- Available from HSE
  - Buying new machinery
    - CE marking is only a claim by the manufacturer that the machinery is safe
    - User has to check it is safe and conforms
    - indg271
CE Marked Machine

- Worker injured at mushroom farm
- Worker was rolling a net and polythene sheet – which lined the growing shelves – onto an emptying machine
- Machine consisted of rollers and a winch

Guilty under Reg 11 of PUWER (£12,000 fine)

HSE Commented
- “Incidents involving this type of machinery can cause serious, life-changing injuries, which is why the onus is on employers to ensure that appropriate guards are in place to protect workers from dangerous moving parts.”
- “In this case, the worker needlessly suffered terrible injuries because, although the machine was CE marked, Littleport Mushroom Farm failed to comply with their duty to make sure that the machinery met the essential guarding requirements.”
Regulation 10 – Conformity with Community Requirements

• Employers are to ensure that all new equipment provided
• Must comply with any current EU product Directive or implemented UK Regulations, eg:
  – Machinery Directive
  – Low Voltage Directive (Electrical equipment – not machines)
  – EMC Directive
  – Pressure Equipment Directive
  – Simple Pressure Vessels Directive
  – Atex Directive
  – Lifts Directive

Regulation 10 – Conformity with Community Requirements

• Check
  – CE Mark affixed
  – Content of Declaration of Conformity
  – Instructions provided
  – Free from obvious defects
  – It is in fact Safe
EXISTING WORK EQUIPMENT

Existing Machines

• PUWER applies to all equipment provided for use by employer.
  – Existing
  – New
  – Leased
  – Own equipment
Existing Machines

• Standards are not retrospective but standards improve, however it may not be feasible to upgrade a machine to latest specification.
  – “Old non-CE marked machinery (pre 1995) should, where reasonably practicable, meet the requirements of PD 5304:2014 - Guidance on the safe use of machinery which contains the text of the last British Standard on the safety of machinery which would have applied to such pre 1995 machinery.”

Existing Machines

• PD5304
  – Current edition takes account of the requirements of the current harmonized European machinery safety standards, to help the user maintain those safety requirements when upgrading, refurbishing or changing the use of machinery.
## Common Standards to Consider

- EN 13850 – Emergency stops
- EN 14119 – Interlock systems
- EN 14120 – Fixed and movable guards
- EN 13857 – Safety distances
- EN 349 – Safety gaps
- EN 13855 – Position of protective devices
- EN 13849 – Control systems
- EN 14122 – Access / platforms / guardrails
- EN 60204 – Electrical safety