INTRODUCTION AND LEGISLATION

The Provision and Use of Work Equipment Regulations 1998 (PUWER) applies to all work equipment used at work.

The Provision and Use of Work Equipment Regulations 1998 (PUWER) support and make more explicit the general duties contained in the Health and Safety at Work, etc Act 1974 (HSAWA).

The PUWER regulations include generic requirements that relate to all types of work equipment, eg. maintenance, suitability, inspections, training and information, EC conformity, lighting, markings and warnings. In addition, more specific provisions cover operating, stop and emergency controls and isolation from power sources. Dangerous parts and specified hazards are also detailed.

There are also requirements relating specifically to mobile work equipment and power presses.

The regulations apply to all work equipment, including second-hand, hired or leased equipment. They also apply to work equipment owned by an employee which the employer allows for use at work.

Employers, the self employed and those in control of work equipment such as hirers of work equipment, all have duties under the regulations. Employees on the other hand, have no specific duties under these particular regulations.

DEFINITIONS

Generally, any equipment which is used by an employee at work is covered, for example, hammers, knives, ladders, drilling machines, circular saws, laboratory equipment, lifting equipment, woodworking equipment, welders, gardening and grounds maintenance equipment, vehicles and trailers.

FIXED EQUIPMENT AND MACHINERY

Fixed equipment and machinery includes anything that is fixed in a permanent location by virtue of electrical, gas, pneumatic or hydraulic connections.
PORTABLE EQUIPMENT

Portable equipment includes electrical and non-electrical equipment such as vehicle jacks, battery operated drills, grounds maintenance equipment, cleaner’s equipment, catering and food handling equipment, metal fabrication equipment and wood working equipment.

Portable electrical equipment requires to be tested to comply with the ACOP for In-service Inspection and Testing of Electrical Equipment. The specific requirements of the LCC Electricity at Work Policy must also be complied with.

All items of lifting equipment require to comply with the requirements of the Lifting Operations and Lifting Equipment Regulations (LOLER).

RISK ASSESSMENT

The risks posed by the use of work equipment and the appropriate control measures can, to a large extent, be ascertained by compliance with the provisions of the Provision and Use of Work Equipment Regulations 1998. It is important that consideration is given to PUWER when conducting risk assessments for all tasks and processes undertaken at Lews Castle College.

ARRANGEMENTS FOR COMPLIANCE WITH THE PROVISION AND USE OF WORK EQUIPMENT REGULATIONS AT LEWS CASTLE COLLEGE

SUITABILITY

Lews Castle College will ensure that any equipment provided for work is constructed or, adapted so as to be suitable for its intended purpose. This includes taking account of reasonably foreseeable working conditions, inherent health and safety risks where the equipment is to be used and any risks associated with the equipment itself. Work equipment must only be used for tasks and under the conditions for which it is suitable. Responsibility for ensuring that equipment being purchased is suitable for its intended purpose is delegated to the respective Head of Department as the competent person. Generally, all equipment purchased for use at Lews Castle College should be commercially suitable equipment and not that intended for domestic use.

MAINTENANCE

Work equipment must be maintained in an efficient state, in efficient working order, and in good repair. All machinery and items of high-risk equipment owned or used at Lews Castle College will be subject to routine periodic maintenance and will be included in a pre-arranged maintenance schedule.

An equipment maintenance log must be kept for each item of work equipment to substantiate and provide evidence that maintenance work has been carried out.

The Lews Castle College Form: - Equipment Record Maintenance Log will be used for this purpose.
INSPECTION

Where the safety of work equipment depends on the installation conditions, the work equipment must be inspected after installation and before it is used for the first time, or after it has been installed at a new location or premises.

In addition, work equipment which is exposed to conditions which may cause deterioration must be inspected at suitable intervals, and whenever exceptional circumstances have occurred that may have had adverse effects on the safety of the work equipment.

Inspections will ensure that health and safety conditions are maintained, and that defects are identified and remedial action is taken quickly. Records of all inspections must be maintained using the Lews Castle College Form: Equipment Record Maintenance Log. No work equipment may leave Lews Castle College’s undertaking, or be used in the undertaking if supplied by another person, unless there is accompanying physical evidence that the last inspection was carried out.

Testing may also be part of any examination scheme to the extent that it may be necessary to ensure adequate inspection. Those who determine inspection procedures and those who carry them out must be competent to do so. Such competent persons will be included in the Lews Castle College Competent Persons Register.

Power presses have specific and more stringent inspection procedures outlined elsewhere.

Equipment that requires to be inspected by virtue of other health and safety legislation must be inspected under that regulation only to the extent that such inspection falls short of the requirements of PUWER.

Examples of this are:

- Testing of LEV systems to comply with COSHH;
- Testing of pressure vessels to comply with the Pressure Systems Safety Regulations;
- Testing of lifting equipment to comply with LOLER.

SPECIFIC RISKS AND COMPETENT AUTHORISED PERSONS

Lews Castle College will ensure that where work equipment poses a specific risk to health and safety, the use and maintenance of such equipment will be restricted to designated persons who have received adequate training and have been authorised by the management of Lews Castle College in the operations they have been designated to carry out.

A suitable and sufficient Risk Assessment must be in place before any item of work equipment is used.

All risk assessments must be carried out in accordance with the Lews Castle College Risk Assessment Policy.
INFORMATION, INSTRUCTION AND TRAINING

Employers are required to make available to all persons using work equipment adequate health and safety information and, where appropriate, written instructions on the use of such equipment. In addition, the employer must also provide adequate health and safety training in the use of the work equipment, including any associated risks, necessary precautions and control measures.

Adequate information and training, and written instructions where appropriate, must also be made available to persons who supervise or manage the use of work equipment.

The information and instructions must be comprehensible and include:

- The conditions and methods of use of the equipment;
- Foreseeable abnormal situations and any necessary actions;
- Any conclusions drawn from experience in the use of the equipment.

Written instructions must make reference to information provided in the manufacturers/suppliers’ instruction manuals, etc.

Consideration may need to be given to foreign language translations, illustrations, etc in order for the information and instructions to be comprehensible.

Training must take into account any additional requirements for young and/or inexperienced persons. These requirements fall into the remit of the LCC Young Persons Risk Assessment Policy.

It will be the responsibility of the respective Head of Department as the competent person to identify training needs when new items of equipment are sourced and when new members of staff are recruited by Lewis Castle College.

It will also be the responsibility of the Head of Department to ensure that the manufacturers/suppliers’ instruction manual is available at all times to users of work equipment within their Section.

A library of manufacturer’s instruction manuals should be kept in each Department to ensure that these are readily available to users.

CONFORMITY WITH EC REQUIREMENTS

Employers have a duty to ensure that work equipment provided for use after 31 December 1992 conforms to any essential EC requirements except where such requirements did not apply to that of work equipment at the time it was first supplied or put into service.

In practice, this means, for example, that duty holders need to check that adequate instructions, information relating to residual hazards, the product carries a CE mark and that the relevant certificates or declarations have been supplied. In addition, a check should be made to ensure that there are no obvious faults.

It should be noted that the provision of a CE mark is not a guarantee of safety. The HSE has emphasised that it should be treated as a claim by the manufacturers/supplier that the machine conforms to the relevant EC requirement.
DANGEROUS PARTS OF MACHINERY

Employers are required to take measures to prevent access to dangerous parts of machinery or rotating stock-bars before any part of a person enters a danger zone. The danger zone is an area on or around machinery in which there is a risk of contact between any person and a dangerous machinery part or rotating stock-bar.

The hierarchy of such measures includes, to the extent that it is practicable, the provision of: fixed guards, then other guards or protection devices, then jigs, holders, push sticks or similar protection appliances. Information, instruction, training and supervision, as necessary must also be provided.

All guards, protection devices and protective appliances must:

- Be suitable for their intended purpose;
- Be of good construction, sound material and adequate strength;
- Be maintained in an efficient state, in efficient working order and in good repair;
- Not increase any risks to health and safety;
- Not unduly restrict the view of the operating cycle where such a view is necessary.

In addition, guards and protection devices must:

- Be situated at a sufficient distance from the danger zone;
- Be constructed/adapted to allow replacement, repair or maintenance work, but only in the area where such work is necessary, and where possible without dismantling the guards or protective devices;
- Not be easily by-passed or disabled.

PROTECTION AGAINST SPECIFIC HAZARDS

It is the employer’s responsibility to ensure that appropriate measures are taken to prevent, or if this is not reasonably practicable then to adequately control, exposure to any of the “specified hazards” arising from the use of work equipment. Such measures must be by means other than personal protective equipment (PPE) or information, instruction and training, so far as is reasonably practicable, and include measures to minimise the effects of the hazards as well as reducing the likelihood of the hazard occurring.

The “specified hazards” are:

- Falling or ejected articles or substances;
- Component rupture or disintegration;
- Equipment overheating or catching fire;
- Unintended or premature discharges or exposures.

HIGH OR VERY LOW TEMPERATURE

Employers must ensure that work equipment components or any articles or substances which are at high or very low temperatures are protected so as to prevent burns, scald or sear injuries through contact with the offending surface.
CONTROLS AND CONTROL SYSTEMS

Employers must ensure, where appropriate, that start and operating controls (ie. controls that change speed, pressure, etc) are fitted to work equipment, and that where these controls are fitted, they can only be operated by a deliberate action. The normal operation of automatic devices is exempt from this requirement.

STOP CONTROLS

Work equipment must be provided with readily accessible stop controls, where appropriate, that will bring the equipment to a safe condition in a safe manner. In some cases this may mean bringing the equipment to a complete stop and/or switching off all energy services. Stop controls must have priority over start and operating controls.

EMERGENCY STOP CONTROLS

Work equipment must be provided with readily accessible emergency stop controls, unless these controls are unnecessary by the nature of the hazard and the time required to bring the equipment to a complete stop as a result of activating a normal stop control. Emergency stop controls must have priority over any normal stop controls. The guidance emphasises that emergency stop control should be provided where other safeguards are inadequate to prevent the risk of some irregular event – they are not substitutes for safeguarding and should never be used to stop the equipment in normal work routines.

Wall mounted emergency stops located within work areas must be clearly signed and remain unobstructed at all times. They should be easily reached and activated.

Emergency stops must be checked for operation as part of the daily before-use checks and will be checked by Estates and Maintenance on a weekly basis.

CONTROLS

Where controls are fitted to work equipment then such controls must be clearly visible and identifiable, including appropriate marking if necessary and in such a position so as not to create risks to the health and safety of the control operator.

The regulation also defines a hierarchy of other measures including: ensuring that the control operator can determine that no person is in any place of danger due to the activation of the controls, where that is not reasonably practicable, ensuring that safe systems of work are devised to prevent persons being in a danger zone created by the starting of a piece of work equipment; where work equipment is about to start. Where persons are in a place of danger due to starting or stopping of work equipment, employers must take appropriate measures to ensure such persons have sufficient time and means to avoid the danger.

CONTROL SYSTEMS

So far as is reasonably practicable, all work equipment control systems must be safe, ie. the operation of a control system must not increase any risks to health and safety. In addition, they must also be chosen taking into account any failures, faults and constraints that may be expected during the planned circumstances of use.
Additionally, faults in or damage to control systems, or the loss of any energy supply should not result in further or increased risks to health and safety, so far as is reasonably practicable, and must not impede any stop or emergency stop controls.

The guidance defines “Control System” as a system or device which responds to input signals and generates an output signal causing the work equipment to operate in a particular way.

**ISOLATION FROM POWER SOURCES**

Employers must ensure that work equipment is provided with a clearly identifiable and readily accessible means of isolating it from its energy source, where appropriate. Reconnection of the equipment to the energy source must not expose persons using the equipment to any risks to their health and safety.

All items of work equipment at Lews Castle College undergoing maintenance work or repair must be isolated from all applicable power sources unless otherwise stated the manufacturer’s instruction and maintenance manuals.

All isolators located in work areas must be clearly signed to indicate the item of work equipment that they provide power for.

**STABILITY**

Employers must ensure all work equipment is stabilised where necessary to protect health and safety. For example, equipment liable to fall over, collapse or overturn must be fixed to the ground, stabilised, tied, fastened or clamped as appropriate.

**LIGHTING**

Suitable and sufficient lighting must be provided, which takes account of the operations carried out on a particular piece of equipment. Additional lighting may be necessary for precision tasks.

**MAINTENANCE OPERATIONS**

So far as is reasonably practicable, work equipment must be constructed or adapted to allow maintenance work that involves a risk to health and safety to be carried out while the equipment is shut down or inactive. Where this is not possible, the maintenance operations should be carried out in such a way that the person doing the maintenance work is not exposed to health and safety risks and appropriate measures should be taken for their protection.

The provision of temporary guards, limiting the movement, power or speed of the equipment, etc and the provision of PPE, instruction and supervision, are ways of preventing or reducing risks in situations where it is not reasonably practicable to stop the machine for maintenance.

**MARKINGS AND WARNINGS**

Work equipment must have appropriate and clearly visible health and safety markings. Any appropriate health and safety warning or warning devices must be incorporated. Such warnings must be unambiguous and easily perceived and understood.
EMPLOYEES CARRIED ON MOBILE WORK EQUIPMENT

Mobile work equipment must not be used to carry employees unless it is suitable for that purpose and incorporates measures to reduce any risks to safety (including risks from wheels or tracks).

ROLLING OVER OF WORK EQUIPMENT

Risks to employees riding on mobile work equipment from its rolling over must be minimised by:

(a) Stabilising the work equipment.

(b) Incorporating structures that restrict work equipment from doing anything other than roll on its side, or that provide sufficient clearance to anyone being carried if it does roll over further.

(c) Providing any device offering comparable protection. Fork lift trucks which comply with (b) above are exempt from the requirements of this regulation.

Suitable restraining systems must be fitted to prevent anyone being carried on mobile work equipment being crushed in the event of the work equipment rolling over.

Non compliance with the regulation is permitted where:

(a) Compliance would increase safety risks;
(b) It would not be possible to operate mobile work equipment as a result of complying;
(c) It is not reasonably practicable in relation to items of work equipment provided for use prior to 5 December 1998.

OVERTURNING OF FORK-LIFT TRUCKS

Fork-lift trucks used to carry employees must be adapted or equipped to reduce, as low as is reasonably practicable, the risk to the employees’ safety from overturning. This should include the fitting of restraining systems where possible.

SELF PROPELLED WORK EQUIPMENT

Where there are risks to safety from self propelled work equipment which is in motion, there must be:

- Facilities for preventing unauthorised start up;
- Appropriate facilities for minimising the consequences of collisions in situations where more than one item of rail maintained work equipment is in motion at the same time;
- Devices for braking and stopping;
- Emergency facilities, operated by readily accessible controls or automatic systems, capable of braking or, stopping the work equipment in the event of the main braking or stopping devices failing;
- Devices for improving the driver’s field of vision, so far as is reasonably practicable, where the original field of vision is inadequate to ensure safety;
- Appropriate lighting on the vehicle, if it is used at night or in dark places (it must also be otherwise safe for such use);
• Appropriate fire fighting equipment, if the self-propelled work equipment carries or tows anything that may represent a fire hazard and is liable to endanger employees – this requirement is not necessary if fire fighting equipment is kept sufficiently close to the work equipment.

REMOTE CONTROLLED SELF PROPELLED WORK EQUIPMENT

Where there is a risk to safety from remote controlled self propelled work equipment, such work equipment must stop automatically when it leaves its control range, and have devices to prevent risks from crushing or impact (unless other devices are capable of preventing this).

DRIVE SHAFTS

In situations where there is a risk to safety from the seizure of a drive shaft between mobile work equipment and any accessories or objects being towed, there must be means for preventing such seizures, or, if this is not possible, measures must be taken to avoid any adverse effects on employees’ safety. In addition, there must be a system for safeguarding the transmission shafts on mobile work equipment, where such shafts could become soiled or damaged through contact with the ground.

ABRASIVE WHEELS

Abrasive wheels that are mounted incorrectly can cause serious injury or death. Typical control measures that should be introduced for the safe use of abrasive wheels include ensuring that:

• The use of abrasive wheels is restricted to trained, authorised persons;
• Abrasive wheels are mounted correctly by a competent person;
• The condition and trueness of the abrasive wheels are checked regularly and that the wheels are dressed and adjusted as necessary;
• All guards are in position and splinter shields are fitted, correctly positioned and adjusted;
• Suitable personal protective equipment is provided and used as appropriate (eg. eye protection);
• Operatives do not wear loose clothing (including ties);
• Suitable dust extraction is provided (if required by risk assessment);
• Other related hazards are assessed, such as noise and vibration.

Only those staff members who have been trained and authorised will be permitted to maintain abrasive wheel equipment at Lews Castle College premises.

CHAINSAWS

Chainsaws are mainly used in agriculture and forestry; however, they may also be used on construction sites and in yards. They are potentially very dangerous machines because:

• Of the manner in which they work;
• The dangerous parts (the teeth of the cutter chain) are necessarily exposed;
• Only limited guarding is possible.
The duty to provide safe systems of work and adequate training and supervision are therefore paramount, as is the need to carry out a suitable and sufficient risk assessment.

Operators should be provided with suitable protective clothing:

- Safety boots;
- Helmets;
- Visors;
- Ear protectors;
- Gloves.

Training should include the checking and maintenance of the chainsaw and its safety devices, safe fuelling and starting of the chainsaw, correct use of the chainsaw, and other specialised tools, for filing, cross cutting and other related tasks. Where saws are designed for right handed operation, they should not be used by left handed persons.

Only those staff members who have been trained and authorised will be permitted to operate chain saws on Lews Castle College premises.

**POWER PRESSES**

The following power presses, though subject to the general provisions of PUWER, are excluded from the particular requirements relating to power presses:

- Those used for hot metal work;
- Those incapable of a stroke greater than 6mm;
- Guillotines;
- Combination punching and shearing machines, turret punch presses and similar punching, shearing or cropping machines;
- Machines for handling steel sections, other than press brakes;
- Machines for straightening, upsetting, heading, riveting, eyeleting, press-steel attaching, zip fastener bottom stop attaching, stapling and wire stitching;
- Those used for compacting metal powders.

**THOROUGH EXAMINATION OF POWER PRESSES, GUARDS AND PROTECTION DEVICES**

Power presses may not be used for the first time after installation, or after re-assembly at a new location or site, unless they have undergone a thorough examination to ensure correct installation, safe operation and remedy of any defects. Similarly guards, protection devices and any part of a closed tool acting as a fixed guard, on power presses, may not be brought into service for the first time unless they have undergone a thorough examination (while in position on the power press) to ensure their effectiveness, and the remedy of any defects.

In order to maintain health and safety conditions and prevent any dangerous deterioration of power presses, their guards and protection devices must be thoroughly examined:

- At least every 12 months in the case of fixed guards;
- At least every 6 months in other cases;
- After any exceptional events which are liable to compromise the safety of power presses, guards or protection devices.
The above prescribed intervals do not apply to parts of closed tools acting as fixed guards.

All defects must be remedied prior to the power press being used again.

The following information must be included in the thorough examination report:

- The nature of item being examined, ie power press, interlocking or fixed guard, any other type of guard or protection device;
- The type, make and year of manufacture if known;
- Identifying marks of manufacture and employer;
- Confirmation of a first thorough examination after assembly or re-assembly;
- Confirmation, or otherwise, of safe installation and operation;
- Identification of the defective parts and a description of the defects for power presses undergoing other thorough examinations;
- Confirmation of the nature of the thorough examination;
- Confirmation, or otherwise, of safe operation – including details of reasons why it is not safe to operate, if appropriate identification of defective parts causing or liable to cause a danger, and a description of defects.

General information required includes:

- The employer’s name;
- The address of premises where thorough examination was undertaken;
- Details of repairs, renewals or alterations necessary to remedy a dangerous defect, including details of those implemented;
- For defects liable to represent a danger, details of the time period in which they could become dangerous and any repairs, renewal or alterations necessary to remedy the defects, including details of the date the defects were notified to the employer;
- Details of other defects requiring remedial action;
- Details of the qualifications, employment status (self-employed or employed) and address of the person carrying out the thorough examinations, including where appropriate the name and address of the person’s employer;
- The date of the thorough examination;
- The date of the report;
- The name of the person making the report where this is different to the authenticating name.
INSPECTION OF POWER PRESS GUARDS AND PROTECTION DEVICES

All guards and protection devices fitted to power presses must be inspected and tested after the fourth hour of a working period. The inspections and tests must be carried out with the guards and protection devices in position.

Guards and protection devices must also be inspected and tested before a power press can be used following the setting, re-setting or adjustment of any of its tools – except where the tools are being tried out, or in die–proving operations. The requirement to inspect and test does not apply where the guards and protection devices were not altered or disturbed while the tools were being adjusted.

The person carrying out the inspections and testing must be appointed in writing, and be competent, or be undergoing training under the supervision of a competent person. The person carrying out the inspections and testing must also sign a certificate which contains information on:

- The identity of every guard and protection device, inspected and tested, and the power press to which they are fitted.
- The date and time of the inspection and test. The certificate must also state that all guards and protection devices are in position and are effective for their purpose.

REPORTS (POWER PRESSES)

The person carrying out the thorough examinations must:

- Notify the employer of any defects in the power press, guards or protective devices, which could become dangerous – where such defects are considered to represent a danger, a copy of the report must also be sent to the enforcing authority for the premises.
- Make an authenticated report of the thorough examination to the employer as soon as practicable after the examination – authentication may be by signature or other secure means.

Any defects found during inspections and testing which could become dangerous must be notified to the employer, along with the competent person’s reasons for arriving at that opinion.

RETAINING INFORMATION (POWER PRESSES)

Information provided in thorough examination reports must be kept available for inspection for two years after it is made.

In addition, the certificate required for inspections and testing must be kept available for inspection at or near the power press to which it relates until it is superseded by a later certificate. All superseded certificates must be retained for six months from the date on which they were signed.
SPECIFIC STATUTORY THOROUGH EXAMINATION, INSPECTION AND TESTING INTERVALS

To comply with the Control of Substances Hazardous to Health Regulations all items of local exhaust ventilation equipment must be tested at least every 14 months.

To comply with the Lifting Operations and Lifting Equipment Regulations all lifting accessories and items of equipment used for lifting persons must be examined at least every 6 months. All other lifting equipment must be examined at least every 12 months.

To comply with the Electricity at Work Regulations all items of portable and fixed electrical equipment must be tested in accordance with the Approved Code of Practice for the In-Service Inspection and Testing of Electrical Equipment. Specifically, all items of electrical equipment used at LCC must be inspected and tested in accordance with Annex A to the LCC Electricity at Work Policy.

To comply with the Pressure Systems Safety Regulations 2000 a Report of Thorough Examination of an item within a Pressure System will be produced unless otherwise stated every 12 months.

REMEDIAL ACTION ON DEFECTS IDENTIFIED DURING THOROUGH EXAMINATION, INSPECTION AND TESTING

Remedial action on defects identified during Thorough Examination, Inspection and Testing must be progressed without delay by means of the Lews Castle College Form – Defect Action Record Sheet.

Defective equipment must remain out of service until remedial action has been taken and the equipment has been passed as fit for use by the competent person.

The respective Head of Department will be responsible for ensuring that defective equipment is not put into use.

ACTION TO BE TAKEN ON DEFECTIVE EQUIPMENT

When it is deemed that a defective item of work equipment could pose any risk it must be removed from service immediately and tagged accordingly. Faulty equipment must be reported without delay using the Lews Castle College Fault Report Form.

In the event of a serious fault occurring, items of work equipment must be isolated from all power sources. Where other items of work equipment develop serious faults they must be placed in secure storage to prevent unauthorised use.

Suitable lockout devices must be used to isolate work equipment from power sources.

MODIFICATION AND ADAPTATION OF EQUIPMENT

All modification or adaption of equipment is prohibited unless that modification or adaptation complies with recommendations made by the equipment manufacturer.