



UHSP-31: Pressure Systems and Compressed Gases



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UHSP-31: Pressure Systems and Compressed Gases	2.0	28/02/2023	28/02/2026

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1. Objective

The University of Leicester recognizes its responsibilities under the Pressure System Safety Regulations (2000) to reduce and control the risks associated with pressure systems. This policy details the University's arrangements for managing pressure systems.

By doing so, the University complies with the requirements of the following legislation:

- Pressure System Safety Regulations (PSSR 2000)
- Pressure Equipment (Safety) Regulations (PESR 2016)

2. Scope

The main hazards identified in the Pressure System Safety Regulations and associated with pressure systems are:

- Impact from blast energy (from the release of stored pressure energy)
- Impact from fragments of or components of the failed pressure system
- Scalding from the released heat energy of steam

The scope of this policy will cover all systems where the above hazards may be present. This will include, but will not be limited to:

- All autoclaves
- Air compressors
- Expansion vessels
- Piped gas systems and regulator (but not mains natural gas)
- Catering equipment eg coffee machines
- Rigid and flexible pressure systems
- Steam at any pressure
- Pressure systems with a size exceeding 250bar litre

3. Definitions

Duty Holder: A person with overall responsibility for pressure systems at the University. This is the President and Vice-Chancellor.

Delegated Duty Holder: A person with overall responsibility for pressure systems within a College or Estates and Campus Services (ECS) Asset Management and Compliance (AMC). This will typically be the Head of College for academic areas and the Director of Asset Management and Compliance for AMC (who manage the majority of pressure systems which sit outside of the Colleges). These duties may be delegated further.

Responsible Person: A person who has been assigned management and organisational responsibilities in relation to pressure systems within a College or ECS (AMC). This is typically the Director of Operations for academic areas or the Head of Asset Management for AMC.

Ops Competent person: A person within an operational area (e.g. Department) who has been assigned the responsibility to ensure that pressure systems are managed, examined and tested. This

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will typically be Operations Managers or Technical Services Managers within academic areas, and Asset Managers for AMC.

Competent person (examination): Competent person, normally a third party contracted to provide this service who has the skills, knowledge, experience and authority to undertake statutory inspections within their area of specialism. A competent person may also carry out maintenance and testing where their knowledge, skills, training and experience permit this (and where they hold the appropriate licences – where applicable).

Competent person (written scheme): Competent person, normally a third party contracted to provide this service who has the skills, knowledge, experience and authority to prepare written schemes of examination.

Authorising Engineer (AE): A person designated by the University to provide independent auditing and advice on critical assets and systems and to review and witness documentation on validation.

Pressure systems maintained by Asset Management and Compliance (AMC) These are typically pressure systems that are fixed or integrated into the physical infrastructure and relate to the functioning of the building e.g. boilers, heating systems, water systems, compressors in plant rooms, fixed specialist gas installations.

Pressure systems maintained by schools, department or divisions: Any pressure system which is owned and operated by any organisational unit outside of EDS(AMC). While these are typically movable e.g. benchtop autoclaves, compressors or stand-alone gas installations these can include pressure systems that are fixed to a building e.g. plumbed in autoclaves or coffee machines

4. Responsibilities

The Duty Holder (through the Executive Board) will

- Provide leadership to ensure that these procedures are followed, including the provision of adequate resources

Director of Asset Management & Compliance will

- Ensure that this policy is implemented within Estates-controlled areas
- Ensure that all employees that they have control over are made aware of this policy and any responsibilities they have therein
- Appoint an Ops Competent person to manage pressure systems within Estates-controlled areas
- Appoint a pressure systems Authorising Engineer
- Ensure that a competent person (examination) is appointed to undertake all examination and testing of relevant pressure systems across the University
- Ensure that a competent person (written scheme) is appointed to prepare all required written schemes
- Ensure that pressure equipment to be supplied as part of any capital projects which are undertaken by Estates meet the requirements of PSSR 2000 and PESR 2016
- Ensure that the Ops Competent Person within their area of control has sufficient instruction, information and training to discharge their duties under this procedure

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Heads of College or other Delegated Duty Holder:

- Taking responsibility for and owning the PSSR 2000 obligations within their College
- Ensure that this policy is implemented in their College
- Appoint a responsible person (or persons) in order to manage statutory inspection and testing of equipment in their area or under their day-to-day control. The responsibilities and duties are communicated and defined through the “Legal Duties” document and its summary

Director of Operations or other Responsible Person will:

- Ensure that this policy is implemented in their area of responsibility and that all employees they have control over are made aware of this policy and any responsibilities they have therein
- Ensure that all pressure systems are identified, added to an asset list and such lists are maintained in accordance with the standards set out by the Director of Finance in the financial regulations
- Appoint an Ops Competent Person (or persons) in order to manage statutory inspections and testing of equipment in their area or under their day-to-day control. The responsibilities and duties are communicated and defined through the “Legal Duties” document and its summary

Heads of Schools, Departments or Corporate Service Divisions (Heads) will

- Be responsible for all pressure systems owned by their school/department/division.
- Ensure that this policy is implemented within their areas of control
- Ensure that all employees that they have control over are made aware of this policy and any responsibilities they have therein
- Ensure that the Ops Competent Person has sufficient instruction, information and training to discharge their duties under this procedure

Department Ops Competent Person will

- Take day to day managerial responsibility for pressure systems within their area(s) of control
- Maintain an inventory of all pressure systems within the University’s preferred asset management system for pressure systems
- Ensure that any new stand-alone pressure systems are in compliance with the Pressure Equipment (Safety) Regulations 2016 and are appropriately CE or UKCA marked
- Notify the Authorising Engineer via the Ops Competent Person in Estates and Campus Services of any new pressure systems installed within the University before the system is brought into use for the first time
- Make arrangements for the competent person (written scheme) to prepare a written scheme of examination before a new pressure system is brought into use for the first time
- Make necessary arrangements to have pressure systems examined and tested by the competent person (examination) in accordance with frequencies determined within the written scheme of examination. This is typically every 14 months
- Ensure that pressure systems are safely prepared for examination by a competent person in accordance with the written scheme of examination
- Ensure any actions arising from an examination are satisfactorily completed
- Ensure that pressure systems are maintained, serviced and repaired by a competent person in accordance with manufacturers or standard industry guidelines

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- Ensure that any documentation relating to modifications to any pressure system is added to the asset management system for pressure
- Ensure that pressure systems that have not been examined in accordance with a written scheme are taken out of service and not operated until the necessary examinations have been satisfactorily completed
- Ensure systems that have been notified as dangerous or potentially dangerous via a defect notice are positively managed, including liaison with the Health and Safety Executive as required
- Ensure that the documentation is kept up to date, including written schemes of examination, examination reports, and repair and modification documentation
- Ensure that piped gas systems that are supplied via flexible piping are suitably maintained, serviced and regulators changed every five years or sooner depending on the gas type
- Notify Health and Safety Services of any incidents involving pressure systems

Estates Ops Competent Person will

In addition to the duties outlined in the Ops Competent Person section above, the Estates Ops Competent Person (s) will be responsible for:

- Liaising closely with departmental managers and others who need to be informed of any interruption, testing or examination of a pressure system or part thereof
- Providing technical advice to those responsible for the purchase of any equipment that may be a pressure system or become part of an existing pressure system
- Providing advice on the provision and/ or replacement of pressure systems or components of such systems
- Organising training for Estates office staff (and other staff if required) to ensure compliance with the regulations
- Seeking the advice of the Authorising Engineer whenever there is any doubt as to any aspect of a pressure system
- Notifying the Authorising Engineer of all new or modified pressure systems within the University
- Ensuring that piped gas systems using rigid pipe (i.e. copper) are suitably examined, serviced and regulators changed every five years or sooner depending on the gas type

Line managers or principal investigators

Those with supervisory duties are responsible for:

- Ensuring staff and students who need to use pressure systems are suitably trained and competent to do so
- Ensuring risk assessments for the use of the pressure system are in place and regularly reviewed
- Cooperating with the Ops Competent Person / Authorising Engineer to allow service, maintenance, and examination and test, to be conducted at appropriate intervals not exceeding those specified in the written scheme of examination
- Reporting any incident involving pressure systems directly to Health and Safety Services or the Ops Competent Person in their area
- Liaising with the Ops Competent Person when procuring any new pressure system to be used in their area

Health and Safety Services are responsible for:

- Advising on matters relating to pressure systems, including any changes in legislation and how these impact on the University activities

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- Reviewing the effectiveness of this policy and advising on changes

Authorising Engineer (PSSR)

The University, via Estates and Campus Services will engage the services of an Authorising Engineer (PSSR), who will undertake the following duties:

- To ensure that all Ops Competent Person have satisfactorily completed appropriate training
- To ensure that all Ops Competent Person are re-assessed every three years and have attended a refresher or other training course before such re-assessment
- To review the Management systems in support of the PSSR, including accuracy of the records database Written Schemes of Examination and Inspection Reports
- To monitor the implementation of this policy and its associated procedures
- To provide technical advice and support to the Ops Competent Person in relation to PSSR
- To initiate and coordinate the investigations of reported injuries and dangerous occurrences within the Authorising Engineers sphere of responsibility

5. Procedure

5.1. Asset Lists

All pressure systems falling under the scope of this policy should be recorded on a suitable asset list. This is currently LMP Prime.

5.2. Putting equipment into service for the first time

Any pressure system within the scope of this policy will need to be certified to ensure compliance with PSSR200. Pressure systems will require a written scheme of examination produced by the University's Competent Person (written scheme) and examined by the University's Competent Person (examination) before the system can be brought into use for the first time. Therefore, new pressure systems should be notified to LMP through the Ops Competent Person (Estates) and then directly to the University's insurer.

5.3. Examination, Inspection and testing

5.3.1. Implement suitable regimes –

The Ops Competent person will need to contact the Competent Person (examination) to arrange the thorough examination and test. Depending on the equipment being examined, a service engineer may have to be present to prepare the pressure system. Typically, pressure systems must be examined every 14 months but this will be indicated within the written scheme of examination.

All examination and testing must be completed by a competent person. The University has made arrangements with our insurer to undertake these through examination and test.

There is no grace period. Any pressure system that requires a thorough examination and test which is either outside its examination period or has not been examined MUST be taken out of service

5.3.2. Record

The results of any thorough examination and test must be recorded using the University preferred systems (LMP Prime). Certificates from the Competent person (examination) are automatically imported into Prime. These certificates should be reviewed for defects or anomalies. The University must receive the certificates within 28 days of the inspection.

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5.3.3. Rectify

Any equipment that fails its thorough examination and test must be taken out of service immediately and remain out of service until it has been repaired and re-examined successfully.

Where equipment has passed its examination and test but recommendations have been made by the competent person (examination), you must consider possible safety ramifications and resolve all that are reasonably practicable.

It is the responsibility of the school, department or division to arrange any repair or undertake the recommendations of the insurer for pressure systems that they own.

6. Related documents

- Pressure System Safety Regulations (2000)
- Pressure Equipment (Safety) Regulations 2016
- Pressure Systems Safety Regulations 2000. Approved Code of Practice and Guidance on Regulations – L122 (HSE)
- Pressure systems: A brief guide to safety INDG261
- Written schemes of examination – Pressure Systems Safety Regulations (2000) INDG178

<http://www.safed.co.uk/technical-guides/pressure-equipment>

7. Revision History

Date of Issue	Version	Reviewer	Amendments Made
31/01/2020	1.0	Christopher Bruce	First issue
14/12/2020	1.1	Christopher Bruce	Minor amendments: Estates and Campus Services changed to Estates and Digital Services in Section 4
28/02/2023	2.0	Christopher Bruce, Neale Goff, Miki Brocklehurst, Mubin Chowdhury	Updated the duties section to include the duty holders as per UHSP-36. Procedure reworded to reflect UHSP-36/ Estates and digital services amended to Estates and Campus Services throughout.

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