

UNIVERSITY OF BATH HEALTH AND SAFETY STANDARD

Safe Use of Pressure Systems

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| Version Number | 2025- Version 2 | Date of Approval | June 2025 | Review Date | 3 years from acceptance at UHSC |
| Author and Lead | Debbie Robarts, Scientific Safety Advisor | | | | |
| Aims | <p>The University is committed to ensuring the health, safety and welfare of all staff, students and visitors. Fundamental to achieving this objective is to identify, assess and control risks in the workplace associated with the use of pressure systems. To achieve this the University shall aim to make a suitable and sufficient assessment of all significant pressure system hazards to reduce the risk of harm to a tolerable level.</p> <p>The aim of this standard is to describe the University's arrangements for identifying and assessing risks associated with the use of pressure systems that could result in serious injury from the hazard of stored energy as a result of the failure of a pressure system or one of its component parts, and to ensure that control measures are identified and implemented to reduce the risk, so far as is reasonably practicable, to a tolerable level.</p> | | | | |
| Scope | <p>The requirements of this standard apply to all employees of the University of Bath while undertaking their work activities both on and off campus.</p> <p>It also applies to all persons including students, members of the public, contractors etc. whilst on University of Bath property and who may be affected by the Universities' work activities with pressure systems.</p> <p>Typical pressure systems at the University to which this standard applies include (but are not limited to):</p> <ul style="list-style-type: none"> • Heating Boilers and associated equipment • Air Compressors, Air Receivers and associated equipment (fixed and portable) • heat exchangers and refrigeration plant • Steam Boiler Coffee machines • Gas System manifolds and pipework • Autoclaves • Liquid Nitrogen storage vessels <p>Hydraulic systems and vacuum systems fall outside the scope of these regulations. These systems are regulated under the Provision and Use of Work Equipment Regulations 1998. The Supply of Machinery (Safety) Regulations 2008 may also apply.</p> <p>A full list of exceptions is listed in the Regulations and Approved Code of Practice (ACoP) - Schedule 1 Part I. Schedule 2 of the ACoP identifies modified duties where pressure systems are leased, hired etc.</p> | | | | |
| Relevant Legislation | <ul style="list-style-type: none"> • Health & Safety at Work etc. Act 1974 (HASWA) • The Management of Health & Safety at Work Regulations 1999 (MHSWR) • Pressure Systems Safety Regulations 2000 (PSSR) • The Pressure Equipment (Safety) Regulations 2016 (PE(S)R) | | | | |

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| | <ul style="list-style-type: none"> • The Pressure equipment Regulations 1999 <p>Safety of Pressure Systems Approved Code of Practice L122</p> <p>HSE Guide to Pressure System Safety</p> <p>HSE Guidance Pressure Equipment (Safety) Regulations 2000</p> <p>HSE - Pressure Systems</p> |
| Definitions | <p>Pressure System</p> <p>A pressure system is one that contains or is likely to contain a relevant fluid over 0.5 bar.</p> <ul style="list-style-type: none"> • a system comprising one or more pressure vessels of rigid construction, any associated pipework and protective devices • the pipework with its protective devices to which a transportable pressure receptacle is, or is intended to be, connected • a pipeline and its protective devices <p>which contains or is liable to contain a relevant fluid but does not include a transportable pressure receptacle.</p> |
| | <p>Relevant Fluid</p> <ul style="list-style-type: none"> • steam at any pressure • any fluid or mixture of fluids which is at a pressure above 0.5 bar above atmospheric • a gas dissolved under pressure in a solvent (acetylene) |
| | <p>Competent Person</p> <p>The body which employs the person charged with carrying out required duties under PSSR. The legal duty to comply rests with a competent person's employer, and not with an individual.</p> <p>The competent person will:</p> <ul style="list-style-type: none"> • draw up or certify schemes of examination (regulation 8) • carry out examinations under the scheme (regulation 9) <p>This may be a direct employee of the user's/owner's organisation, but there should be a suitable degree of independence from the operating functions of the organisation or a body external to the organisation who should be accredited to BS EN ISO/IEC 17020:2012.</p> |
| | <p>Transportable pressure receptacle</p> <p>any receptacle, other than an aerosol, and including any permanent fitting of such a receptacle, which is used or intended to be used for the carriage of gas and which</p> <p>(a) has a volume not exceeding 1000 litres: or</p> <p>(b) if seamless, has a volume not exceeding 5000 litres,</p> <p>and includes a transportable assembly of such receptacles, in which each receptacle has a volume not exceeding 150 litres, held firmly together and interconnected by a manifold.</p> |

| Responsibility for implementation | | Faculty Deans Heads of Departments Technical Managers Principal Investigators (PIs)/Supervisors/Managers Dept. of Campus Infrastructure | |
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| Training availability: | | n/a | |
| Standard to meet | | Accountability | Reference documents and more information |
| 1 | Administer the management system for regulatory inspections and examinations required under PSSR. | Dept. of Campus Infrastructure | Management system is provided currently by appointed body acting as competent person. The appointment of the body is the responsibility of the University Insurance Service. |
| 2 | Ensure all pressure systems under ownership of the department are known and identified. Ensure all pressure systems are made known to Dept. of Campus Infrastructure for inclusion on management system. Ensure Campus Infrastructure are informed of any changes to pressure systems, e.g., new systems, major changes, change of use, taken out of service and disposed of. Ensure Campus Infrastructure are informed of changes to the department contact person for examinations. | Heads of Departments Technical Managers | ACoP contains a decision tree to aid in decision making on p9 |
| 3 | Provide safe and suitable equipment Pressure systems should be suitable for intended purpose. Suitable protective devices to be provided ensuring they function properly Pressure systems installed under the ownership of the University are done so in such a way as to not give rise to danger or impair the operation of any protective device or ability to inspect. | Heads of Departments Technical Managers Principal Investigators (PIs)/Supervisors/Managers | Regulation 6 of PSSR |
| 4 | Do not use/operate pressure systems or allow them to be operated until Safe Operating Conditions have been established. This includes the characteristics of the relevant fluid in the system and the safe operating limits of the equipment. Safe Operating Limits to be reviewed and kept up to date, for example when major changes are made to the system. | Technical Managers Principal Investigators (PIs)/Supervisors/Managers | Regulation 7 of PSSR |

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| 5 | Do not operate/use a pressure system without a Written Scheme of Examination (WSoE) in place. | Technical Managers Principal Investigators (PIs)/Supervisors/Managers | Regulation 8 of PSSR WSoE is generated by the competent person; this will be produced once system is added to the Management system. |
| 6 | Ensure examinations are carried out in accordance with the requirements of the WSoE: <ul style="list-style-type: none"> • within intervals specified • where the WSoE requires • before system used for first time | Dept. of Campus Infrastructure Technical Managers Principal Investigators (PIs)/Supervisors/Managers | Regulation 8 of PSSR |
| 7 | Ensure that any necessary preparatory work is completed so that the competent person can carry out the examination safely. This could include taking the system out of service, cooling, isolating, venting and generally ensuring the area is accessible. | Technical Managers Principal Investigators (PIs)/Supervisors/Managers | Regulation 9 of PSSR |
| 8 | Where serious defects requiring immediate attention are identified during the examination, take the system out of service and do not use/operate the system until actions are completed and confirmed safe to operate. | Technical Managers Principal Investigators (PIs)/Supervisors/Managers | Regulation 10 of PSSR |
| 9 | Provide to persons using pressure systems adequate and suitable training and instruction for: <ul style="list-style-type: none"> • safe operation of the system • actions to take in the event of an emergency Also, consider need for refresher training | Technical Managers Principal Investigators (PIs)/Supervisors/Managers | Regulation 11 of PSSR |
| 10 | Ensure that pressure systems are properly maintained in good repair, to ensure safe operation and condition of the system. This maintenance is separate from the examination under the WSoE. Records of this maintenance may be requested by the competent person. | Technical Managers Principal Investigators (PIs)/Supervisors/Managers | Regulation 12 of PSSR |
| 11 | Ensure that any modifications or repairs to a pressure system do not increase the risk of system failure. Even if an external company is engaged to carry out the work the legal duty is still with the University. | Technical Managers Principal Investigators (PIs)/Supervisors/Managers | Regulation 13 of PSSR |

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| 12 | Records to be kept of: <ul style="list-style-type: none">• Written Schemes of Examination• Examination Reports and actions | Dept. of Campus Infrastructure | Records of WSoE need to be available readily as a written copy, be authenticated by the competent person and be protected from unauthorised alteration. |
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