

# Pressure Systems Management Policy



Title:

## Pressure Systems Management Policy

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**Author/s:**

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**Policy Owner:**

Head of Hard FM

**Executive Lead:**

Deputy Chief Executive

**Target Audience:**

Estates maintenance staff, specialist contractors, capital projects staff, security and portering staff

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Pressure Systems Management Policy v1

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## Version Control

Date	Author	Version	Reason for change
Sept 2018 – April 2019	Estates Operations Officer, AP(PS)	v0.1-0.8	Under development
Jan 2020	Estates Operations Officer, AP(PS)	v1.0	Approved by Policy Approval Group
Dec 2022	Assurance Manager	v1.1	Policy under review
Mar 2023	Assurance Manager	V2.0	Approved by Policy Approval Group

## Executive Summary

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NHS Lothian acknowledges the requirement to have measures in place to effectively manage pressure systems, as part of its responsibility as an employer for providing a safe work environment for its employees and others affected by its work.

This policy will help NHS Lothian to reinforce its commitment to health, safety and welfare of its employees and stakeholders and ensure that controls are in place to:

- comply with current legislation; primarily the Pressure Systems Safety Regulations 2000, along with the Health and Safety at Work etc Act 1974 and all other relevant Regulations and the Approved Code of Practice and guidance;
- comply with current Scottish Health Technical Memorandums (in this case primarily SHTM 08-08 Pressure Systems: Policies and Guidance);
- implement operational procedures for the effective management of pressure systems;
- provide adequate training and awareness information to employees who work on pressure systems, or who manage or supervise those who do, relevant to their level of responsibility; and
- review this policy in line with NHS Lothian policy review guidelines, in the event of an adverse event related to pressure systems, or as a result of change to any related legislation.

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## 1.0 Purpose

The purpose of this policy is to set out the necessary duties and responsibilities of NHS Lothian staff to ensure safety and compliance with regard to all aspects of work on pressure systems.

## 2.0 Policy statement

To ensure that all persons responsible for the management, operation and maintenance of any pressure system carry out their duties in compliance with the Pressure Systems Safety Regulations 2000 (PSSR), and the Approved Code of Practice (L122).

The purpose of PSSR is to secure the safety of people at work from the serious harmful effects of the sudden release of stored energy should a pressure system, or a component of that system, fail in service.

Compliance with this policy and associated procedures helps safeguard all persons using NHS Lothian premises. It also protects all NHS Lothian property and equipment against an uncontrolled release of stored energy from the failure of a pressure system, or a component within such a system, and/or the scalding effects of steam (or pressurised hot water above 100°C).

This policy also aims to support the implementation of the principles of HSE Guidance “HSG253 – The Safe Isolation of Plant and Equipment”. In doing so, and by adherence to a safe system of work, the risks associated with working on pressure systems will be effectively controlled.

This policy, and its associated operating procedure, has been written to co-exist with, and enhance the aims of Scottish Health Technical Memorandum 08-08, “Pressure Systems: Policies and Guidance”. Observance of this policy, and associated operating procedures, along with SHTM 08-08, will allow duty holders, users and all those working on pressure systems to comply with the law:

- Pressure Systems Safety Regulations 2000 (PSSR), but also the relevant facets of:
- Health and Safety at Work etc Act 1974 (HSW Act);
- Pressure Equipment Regulations 1999 (PER);
- Management of Health and Safety at Work Regulations 1999 (the Management Regulations);
- Provision and Use of Work Equipment Regulations 1998 (PUWER).

To provide a safe system of work, those responsible for implementing this policy, and accompanying operational procedures, should also abide by the relevant guidance documents available (for example HSG253 – The Safe Isolation of Plant and Equipment), as following such guidance can demonstrate our intentions to comply with the law.

## 3.0 Scope

This policy relates to the management, safe operation and maintenance of pressure systems in premises under the ownership, management or control of NHS Lothian, where staff, contractors, patients, visitors and other users may be at risk.

Particular persons whose work activities may involve work on pressure systems include estates maintenance staff, specialist contractors, capital projects staff and portering staff.

## 4.0 Definitions

By “pressure system”, we mean the term which is defined by the Pressure Systems Safety Regulations 2000 (PSSR) (see also L122 – “Safety of Pressure Systems” Approved Code of Practice).

### 4.1 The Regulations define three types of system:

- a) A system comprising a pressure vessel, its associated pipework and protective devices. There must be at least one pressure vessel in the system for the Regulations to apply under this definition.

Examples include:

- a steam boiler and ancillary equipment;
- a compressed air receiver;
- an autoclave or steriliser; and
- refrigeration equipment (above 25kW).

- b) Pipework with its protective devices to which a transportable pressure vessel is, or intended to be, connected.

For example, a medical gas manifold.

(A transportable pressure receptacle on its own (ie, a gas cylinder) is not defined as a pressure vessel.)

- c) A pipeline with its own protective devices.

(On NHS Lothian premises, only definitions a) and b) above are likely to apply.)

The Regulations also set out the term relevant fluid:

- a) The pressure must be greater than 0.5 bar above atmospheric (except for steam).
- b) Either the fluid should be a gas or a mixture of gases under the actual conditions in that part of a system,  
or a liquid which would turn into a gas if system failure occurred.

For example, the Regulations will include:

- compressed air;

- medical gases above 0.5 bar;
- pressurised hot water, which would be contained at a temperature above its boiling point at atmospheric pressure, and therefore would flash off as steam if a leak were to occur; and
- steam at any pressure above atmospheric.

The Regulations give specific examples of systems which are exempted and excluded by virtue of volume and pressure and whether the vessel contains a relevant fluid.

For instance, the following are not regarded as pressure systems:

- A domestic kettle;
- A domestic fridge;
- A pneumatic tyre;
- A fully-flooded pressurised water system or hydraulic system; or
- A braking system on a vehicle.

All other relevant definitions are given throughout the text within this document.

#### 4.1.1 Regarding medical gas pipeline systems

The testing and maintenance of medical gas pipeline systems can present special problems for technical staff, due to the requirement not to endanger the safe operation of connected medical devices and the need to conserve gas stocks. Reference should be made to SHTM 02-01 Part A, especially at paragraph 13.93, prior to undertaking work.

## 5.0 Implementation roles and responsibilities

NHS Lothian is responsible for providing a safe working environment, in compliance with the relevant health and safety legislation, for all those who work within or on its premises.

Organisational examples of NHS Lothian's responsibilities in terms of being the *owner* or *user* of equipment, along with an explanation of the terms *owner* and *user* in relation to a *mobile* or *installed* system, in accordance with PSSR, are given in the document [PSSR – Understanding the role between user and owner](#) and the difference between an installed system and a mobile system.

An outline of the implementation roles and responsibilities under this policy is provided below. Further detail is set out in the document [Pressure Systems Management - Organisational roles and summary of associated responsibilities](#)

Please also see the [Roles and Responsibilities Organisational Chart](#) for the main post-holders with responsibilities mentioned below.

### 5.1 Chief Executive (the Duty Holder)

Ultimate accountability for this policy lies with the Chief Executive, who on behalf of NHS Lothian recognises and accepts its responsibility as an employer to provide a safe and

healthy work environment for its employees and others, including patients, visitors, contractors and other users who may be affected by its work.

## 5.2 Director of Estates and Facilities

The Director of Estates and Facilities has the devolved specific responsibility for the implementation of this policy. In their absence, the Associate Director of Estates and Facilities will deputise.

## 5.3 Head of Operations Hard FM (appointed as Designated Person by the Duty Holder)

The Head of Operations Hard FM has the overall delegated management responsibility for operational procedures within premises owned by NHS Lothian.

## 5.4 Area Manager Hard FM

The Area Manager Hard FM has the overall responsibility for the implementation of this policy within their area.

## 5.6 Sector Estates Managers and/or Estates Operations Officers

Sector Estates Managers and Estates Operations Officers have the day-to-day responsibility for the implementation of compliance with the Pressure Systems Safety Regulations, and the NHS Lothian Pressure Systems Management Operational Procedure, within the area or upon the equipment which they control. Further duties are incumbent upon Sector Estates Managers or Operations Officers that are appointed as Authorised Persons (Pressure Systems).

## 5.7 Competent Person (Pressure Systems)

The Regulations envisage that, in all cases, the competent person referred to shall be a body corporate rather than an individual employed by that company.

NHS Lothian shall ensure that the appointed competent person has suitable expertise and resource to examine the equipment held across the board, is a member of the Safety Assessment Federation (SAFed) and has UKAS accreditation to BS EN ISO/IEC 17020:2012.

The competent person should provide all required information relating to the engineer surveyors being suitably qualified and experienced staff with the requisite skills and training to carry out their duties in a safe and competent manner.

## 5.8 Authorising Engineer (Pressure Systems)

The Authorising Engineer shall be independent of NHS Lothian and will be suitably qualified and experienced to audit the pressure systems and the work procedures employed within NHS premises.

## 5.9 Capital Projects Manager, Capital Planning and Project Team Officers

The project managers have responsibility for the implementation of this policy within their area of responsibility. They also have overall responsibility for ensuring that all pressure systems or equipment that is procured, purchased, designed, installed, modified or commissioned conforms to all relevant aspects of PSSR, the Pressure Equipment Regulations, and the Construction (Design & Management) Regulations 2015, in addition to any relevant requirements contained within the NHS Lothian procedures and guidance.

It is essential to acknowledge that in order to comply with the aforementioned Regulations, the design drawings, construction, modification and installation of any pressure system or vessel will require the independent verification of a competent person (as defined by PSSR) for approval, and to enable a written scheme of examination to be drawn-up or modified as appropriate.

## 5.10 Assurance Managers

The Assurance Managers will carry out periodic audits and will record the results on the NHS Scotland audit tool (SCART).

## 5.11 Employees (Skilled Persons)

NHS Lothian employees who have been tasked to carry out work on any pressure system or equipment (either equipment operation or maintenance) shall follow the safe systems of work as set out.

## 5.12 Contractors (Skilled Persons)

Contractors, and non-NHS Lothian organisations, will have their own health and safety arrangements including specific ones for working on pressure systems which they must follow in conjunction with the requirements of this policy. These should be submitted in writing and discussed with their on-site sponsor (usually the Authorised Person (Pressure Systems) or similar nominated manager) prior to the work being carried out. Contractors must adhere to the [NHS Lothian Control of Contractors Policy](#).

## 6.0 Associated materials

[Pressure Systems Management - Organisational roles and summary of associated responsibilities](#), approved by Estates and Facilities Policy Review Group, February 2023

[Pressure Systems – Roles and Responsibilities Organisational Chart](#), approved by Estates and Facilities Policy Review Group, February 2023

[PSSR – Understanding the role between user and owner](#), approved by Estates and Facilities Policy Review Group, February 2023

[Pressure Equipment Summary](#), approved by Estates and Facilities Policy Review Group, February 2023



[NHS National Services Scotland / Health Facilities Scotland: Scottish Health Technical Memorandum 08-08 Pressure Systems: Policies and Guidance](#)

NHS National Services Scotland / Health Facilities Scotland: Scottish Health Technical Memorandum 02-01 Medical gas pipeline systems Part A: Design, installation, validation and verification

NHS National Services Scotland / Health Facilities Scotland: Scottish Health Technical Memorandum 02-01 Medical gas pipeline systems Part B: Operational management

[NHS Lothian: Control of Contractors Policy](#) approved by Policy Approval Group, December 2021

[NHS Lothian Adverse Event Management](#) approved by Policy Approval Group, June 2018

[NHS Lothian Adverse Event Management Procedure](#) approved by Policy Approval Group, July 2018

## 7.0 Evidence base

This policy is based upon various statutory regulations and guidance, or Approved Code of Practice (ACOP) documents published by the Health and Safety Executive (HSE), as well as content within various documents produced by NHS Lothian or NHS Scotland.

The principal source for this policy is [L122 – Safety of Pressure Systems](#)

### 7.1 Legislation

- [Health and Safety at Work, etc Act 1974 \(HSW Act\)](#)
- [Pressure Systems Safety Regulations 2000 \(S.I 2000 No.128\) \(PSSR\)](#)
- [Pressure Equipment Regulations 1999 \(PER\)](#)
- [Management of Health and Safety at Work Regulations 1999 \(MHSWR\)](#)
- [Provision and Use of Work Equipment Regulations 1998 \(PUWER\)](#)
- [Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 \(RIDDOR\)](#)
- [Confined Spaces Regulations 1997](#)
- [Construction \(Design and Management\) Regulations 2015 \(CDM\)](#)

### 7.2 Health and Safety Executive guidance and procedures:

- [L122 – Safety of Pressure Systems: \*The Pressure Systems Safety Regulations 2000. Approved Code Of Practice and Guidance.\*](#)
- [L153 – Managing health and safety in construction: \*CDM Regs 2015 Approved Code of Practice and Guidance.\*](#)
- [L22 – Safe Use of Work Equipment: \*Provision and Use of Work Equipment Regulations 1998. Approved Code of Practice and Guidance\*](#)

- [GS4 – Safety Requirements for Pressure Testing](#)
- [INDG178 – Written Schemes of Examination](#)
- [INDG261 – Pressure Systems – A brief guide to safety](#)
- [INDG436 - Safe Management of Industrial Steam and Hot Water Boilers](#)
- [PM73 – Safety requirements for Autoclaves](#)
- [HSG39 – Compressed Air Safety](#)
- [HSG65 – Managing for Health and Safety](#)
- [HSG129 – Health and Safety in Engineering Workshops](#)
- [HSG253 – The Safe Isolation of Plant and Equipment](#)

## 8.0 Stakeholder consultation

This policy was originally formulated by consultation with key stakeholders and was circulated via the Policy Consultation Zone. It has since undergone further development, again with key stakeholders, and was reviewed and refreshed with input from the NHS Lothian Estates & Facilities Risk, Quality & Assurance Department.

NHS Lothian shall be committed to provide sufficient resources to ensure that this policy is widely understood, consistently communicated and is effectively implemented. The following key information is required to be communicated:

- the meaning and purpose of this policy;
- the commitment of senior management to its implementation;
- plans, standards, procedures and systems relating to its implementation and measurement of performance;
- factual information to help secure the involvement and commitment of all employees;
- comments and ideas for improvement from staff and outside specialist advisers as appropriate; and
- lessons to be learned from adverse events including near misses.

NHS Lothian, through the relevant management structures, shall enhance its management of pressure systems through effective co-operation with the following:

- the Health and Safety Executive;
- Health and safety related or specialist working groups or committees containing advisors internal or external to the organisation;
- the Authorising Engineer (Pressure Systems);
- the Competent Person (Pressure Systems);
- specialist contractors, sub-contractors and other external sources.

## 9.0 Monitoring and review

In order to ensure the implementation and effectiveness of this policy, and associated management strategies and procedures, local statistics and incident reports should be reviewed regularly by NHS Lothian health and safety committees and management advisory or steering groups.

This policy will be reviewed and revised on a regular basis (currently 3-yearly) or sooner as a result of any changes in legislation, healthcare facilities guidance, NHS Lothian management structure or following an adverse incident.