Safety Services Guidance

Guidance on Statutory Inspections

Key word(s):	Inspections, written scheme of examinations, pressure systems, lifting equipment, local exhaust ventilation
Target audience:	Heads of School, Directors, Technical Service Managers, Technical Operations Managers, Project Managers, School Safety Advisors

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Introduction

1. The University has a statutory duty to manage pressure systems, lifting equipment and local exhaust ventilation (LEV). This document provides guidance on how the University will manage the statutory obligations associated with these assets.

2. The University is required to put in place management arrangements to ensure that all statutory inspections are undertaken at the correct intervals and that any defects identified are managed appropriately.

3. The University has engaged Allianz Engineering Inspection Services Limited ("Allianz") to undertake statutory inspections on its behalf. The cost for the undertaking of statutory inspections is covered by the University Insurance Office.

4. A guide to the frequency of statutory inspections can be found in Appendix 1.

Roles and responsibilities of Responsible Persons

5. In order to manage statutory inspections of lifting equipment, pressure systems and LEV, the Head of School / Faculty / Directorate should appoint, in writing, a 'Responsible Person'; usually the Technical Services Manager (TSM), Technical Operations Manager (TOM), Team Lead, Project Manager or equivalent to coordinate this activity. This appointment should be recorded in the local safety arrangements.

6. A School or Local Safety Advisor / other competent person should be appointed, in writing, to have overview of the statutory inspection process, to ensure that the School / Faculty / Directorate remain compliant. This appointment should be recorded in the local safety arrangements.

Chapter 23 Interface between Estates & Facilities and building occupiers

7. Responsibility for the maintenance of plant and/or equipment is outlined in Chapter 23 of the University's Arrangements 'Interface between Estates and Facilities and building occupiers'. This document can be found at: http://documents.manchester.ac.uk/display.aspx?DocID=14843

Pressure systems

8. A pressure system can be defined as:

- Any system comprising of one or more pressure vessels of rigid construction, their 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, which contain or is/are liable to contain a relevant fluid, but does not cover transportable pressure receptacles.

9. The asset owner should seek advice from the Responsible Person to decide if a pressure system requires a statutory inspection in order to comply with the Pressure Systems Safety Regulations 2000 (PSSR). A 'decision tree' is shown in Appendix 2 to assist with this.

10. Each pressure system that is required to comply with the PSSR, should be risk assessed prior to being brought into operation. In addition, each system should be examined in accordance with a 'written scheme of examination'.

11. All pressure systems at the University are covered by the definition of 'work equipment', and therefore, the Provision and Use of Work Equipment Regulations 1998 (PUWER) will also apply.

Written Scheme of Examination

12. The Health and Safety Executive (HSE) define a Written Scheme of Examination (WSE) as a document setting out the period of inspection for selected items of plant or equipment which form a pressure system, operate under pressure and contain a 'relevant fluid'.

13. The term 'relevant fluid' is defined in the PSSR as:

- Steam at any pressure;
- Any fluid or mixture of fluids which is at a pressure >0.5 bar above atmospheric pressure;
- A gas dissolved under pressure in a solvent (eg acetylene)

14. Inspection frequencies may vary between different types of pressure systems; this will be determined by the WSE.

15. To comply with the PSSR, the WSE must be maintained throughout the lifetime of the equipment. Most WSE associated with University equipment were reviewed in 2010/11; these documents are held electronically on Allianz's eServices web portal. However, a number of paper copies exist in various locations across the University. Safety Services should be contacted if you become aware of a paper

copy WSE. The WSE will be added electronically to the Allianz eServices web portal.

16. Schools and Faculties who purchase equipment requiring a WSE must ensure that a WSE is drawn up by a competent person. The legal responsibility for defining the scope of the WSE rests with the 'asset owner' who may need to seek advice from other sources such as the Responsible Person, Allianz Engineer, Safety Services or external consultants. The WSE must be drawn up at the time of installation and before the equipment is first put into operation.

17. Any Project Manager undertaking project / refurbishment works on behalf of the Directorate of Estates and Facilities will need to appoint a competent person to produce a WSE. The WSE must be drawn up at the time of installation and before the equipment is first put into operation. The Project Manager should ensure that the Responsible Person / asset owner receive a copy of the WSE. The WSE will specify the nature and frequency of examinations (including any special measures needed to prepare the system for safe examination), and carry out the examination itself as required by Regulation 9.

18. Where an asset is found to be operational and requiring a WSE and a WSE is not in place, the asset must be taken out of service immediately. Allianz are able to provide competent engineers who are able to produce WSE, when requested to do so. Please note however, that there may be additional costs for this service.

19. The Responsible person / asset owner must advise Allianz, immediately in writing, of any change or modification to a pressure system which has a written scheme of examination.

20. In general, most pipework installed at the University does not require a WSE due to its materials of construction (typically copper or stainless steel) the relevant fluid (non-corrosive, non-erosive, dry) and operating conditions (non-fatigue duties). However, there have been reported failures of carbon steel pipes under lagging caused by undetected external corrosion. Insulated carbon steel lines may therefore require a WSE. Cryogenic, insulated lines are not considered to be susceptible to under-lagging corrosion as they are constructed from non-ferrous or stainless steel material.

Notification

21. The details of all systems which fall under PSSR and require statutory inspections must be notified at the time of installation or purchase to the nominated Responsible Person within the relevant School/Faculty/Directorate, who will arrange for them to be added to Allianz's web portal (see paragraph 47).

Pressure system information

22. The safe operating limits of the system must be clearly marked on it preferably in a location that can be easily observed. As a minimum this should include the maximum pressure for safe working. Larger, complex systems may also require marking with additional information including; temperature, time, volume, flow-rate, heat input or coolant flow limits, as appropriate.

23. Operating instructions should be available and contain all the information needed for safe operation of the system including; start-up, shutdown, standby and emergency procedures.

24. Allianz Engineers have been instructed to label each system with an asset number, inspection date and date of the next inspection.

Routine maintenance

25. In addition to any inspection in accordance with the WSE, the pressure system should be subject to routine maintenance and inspection checks, where these are specified by the manufacturer. The responsibility for ensuring that these checks are carried out lies with those responsible for that asset.

Lifting equipment

26. The HSE define lifting equipment as any work equipment for lifting and lowering loads, and includes any accessories used in doing so (such as attachments to support, fix or anchor the equipment). Examples of lifting equipment include:

    - overhead cranes and their supporting runways
    - patient hoists
    - motor vehicle lifts
    - vehicle tail lifts and cranes fitted to vehicles
    - a building cleaning cradle and its suspension equipment
    - goods and passenger lifts
    - telehandlers and fork lifts
    - lifting accessories*

27. Lifting accessories are pieces of equipment that are used to attach the load to lifting equipment, providing a link between the two. Examples of lifting

accessories include fibre or rope slings, chains (single or multiple leg), hooks, eyebolts, spreader beams etc.

28. Equipment such as lifts, cranes, lifting chairs, ropes and slings must not be loaded beyond the specified safe working load. Safe loads must be clearly marked on each piece of equipment and the lifting accessories should be tested periodically, as advised by the Allianz Engineer.

29. Lift trucks must only be operated by competent persons who have been authorised in writing. The standard to which operators should be trained and authorised is specified in the HSE Approved Code of Practice L117.

Inspection intervals

30. Unless there is an 'examination scheme' specifying other intervals, inspection frequencies for lifting machinery should be conducted every:

    - 6 months for lifting equipment and any associated accessories used to lift people;
    - 6 months for all lifting accessories such as chains, 'D' shackles, slings; and
    - 12 months for all lifting equipment ie overhead cranes, chain blocks, lift trucks

31. All new items of lifting equipment must be notified at the time of installation or purchase to the Responsible Person who will arrange for them to be added to Allianz's web portal and ensure that they are regularly inspected in line with the Lifting Operations and Lifting Equipment Regulations 1998.

Maintenance of lifting equipment

32. Maintenance of lifting equipment to ensure it remains safe for use is a requirement under PUWER. Visual and user checks on lifting equipment should be undertaken between inspections. The nature, need for and frequency of such checks should be determined through risk assessment, taking full account of any manufacturer's recommendations.

33. These checks need to be undertaken by suitably trained and competent persons, which can often be the lifting equipment operator or maintenance personnel. Records of such checks should be recorded, preferably in a log book located near to the asset.

34. Lifting accessories do not normally need any formal examinations between their statutory inspections, provided that proper pre-use checks as detailed by the manufacturer are made.

Harnesses and lanyards

35. Legislation does not define a usable life for harnesses and lanyards; however, the HSE support the consensus reached by industry bodies with regard to the maximum recommended service life of such equipment. The 'in service life' of harnesses and lanyards is considered to be a maximum of five years with a maximum 'total asset life, from manufacture,' of ten years. This takes into account the effect on the materials of construction owing to UV radiation, chemical and dirt ingress into the fibres, which are all likely to cause degradation and compromise performance.

36. Where the University is unable to provide an accurate date of manufacture, or the date when an asset was first put into service, Allianz Engineers will make an experience based judgement and recommend the replacement of the asset to the owner when appropriate. This recommendation to replace an asset will be made through the normal inspection reporting procedures. The asset owner is expected to comply with any recommendations made by Allianz Engineers.

Local Exhaust Ventilation

37. Local exhaust ventilation (LEV) systems use extract ventilation to prevent or reduce the level of airborne hazardous substances entering the breathing zone of people in the workplace. For these systems, the purpose of the inspection is to assess the performance of the system as a whole, demonstrating that the plant and associated ducting is performing in a manner consistent with the design specification.

38. The University is required to undertake thorough examinations of LEV such as fume hoods, spray booths, etc at least every 14 months to comply with the Control of Substances Hazardous to Health Regulations 2002 (COSHH) (as amended), Regulation 9. This requirement extends to all mechanical equipment installed to reduce or control exposure to airborne contaminants. These examinations will be carried out centrally by Allianz, and monitored by Safety Services.

39. Please note: Microbiological Safety Cabinets are not currently included in the statutory inspection programme.

40. Allianz Engineers have been instructed to label each LEV which identifies the date of inspection.

Allianz eServices web portal

41. eServices is a web based application owned by Allianz which assists the University with the management of its plant / equipment by providing secure access to inspection records, written schemes of examination and historical data

Access to Allianz eService web portal

42. Responsible Persons and any other nominated persons will require access to the Allianz eServices web portal, which can be arranged by following the attached link: https://www.eservices-allianzengineering.co.uk/eServices/ExternalRegister_1.asp.

    Select the 'Register' button on the left hand side of the page and insert the policy number NZ17688256 when requested to do so. Generally, it takes two weeks to confirm registration.

43. Safety Services will authorise all applications to access the web portal. Please note that once access is provided, the system must be accessed regularly otherwise your password will expire following periods of inactivity.

44. The web portal has various levels of access which determine which 'eNotifications' Responsible Persons receive. Please note higher levels of access to the web portal to allow for downloading and reporting are available upon request.

Allianz Email Notifications following inspections or attempted inspections 'Plant not available' (PNAs)

45. Allianz will notify Responsible Persons of instances when they have not been able to inspect items, either because they cannot be accessed, or because the equipment is not ready for inspection.

46. Any plant/equipment that does not have a current statutory inspection MUST be withdrawn from service. The Responsible person for that asset must coordinate a revisit by the relevant Allianz's Engineer Surveyor when the equipment is ready / available.

'New reports have arrived in InTerFACE'

47. These notifications alert Responsible Persons to relevant web portal updates that should be reviewed.

Defect Notifications

48. ‘A’ category defects - (those that pose a serious hazard and require an immediate response): email notification will be sent by the Allianz Engineer to the Responsible Person(s) generally within 2 to 4 hours. In addition, Allianz Engineers have been requested to verbally contact the Responsible Person immediately following identification of a Category ‘A’ defect, where this is practical. The Responsible Person or the Asset Owner must ensure that any equipment deemed unsafe cannot be used ie locked off, isolated, removed and / or labelled.

49. ‘B’ category defects - (those defects that require action but not necessarily immediately) will be notified by email generally within three days to the Responsible Person.

50. For all A and B defects, the Responsible Person should monitor and record any remedial action(s) (proposed or completed) on the Allianz web portal, in the Notes section associated with a specific item.

51. In order to ensure that School/Faculty/Directorate receive timely and relevant ‘eNotifications’ and ‘Email notifications’ any changes of the individual designated as the Responsible Person and local Nominated Persons should notify Allianz using the link: https://www.eservices-allianzengineering.co.uk/eServices/ExternalRegister_1.asp .

Adding new items of equipment requiring a statutory inspection or removing old items of equipment

52. To ensure that the University and its Responsible Persons are able to monitor lifting, pressure and LEV assets, it is vital that they are correctly recorded on the Allianz web portal.

53. The Responsible Person must arrange for new assets to be added to the web-portal and redundant assets to be removed. This can be done at: https://www.eservices-allianzengineering.co.uk/eServices/interface/userProfile.asp .

54. The add/delete buttons within the web portal will prompt you for information such as location; plant number; serial number; plant type; next inspection date.

55. It should be noted that the add/delete buttons do not directly change the web portal, they initiate an email to the Allianz Engineer who will either delete the asset upon receipt of the request, or make arrangements to attend site to inspect the asset.

It is also the responsibility of the Responsible Person to ensure that assets remain within 'inspection date' by monitoring the inspection dates of these types of assets and then liaising with the relevant Allianz Engineer to coordinate inspections as required. This should be done before assets go 'out of inspection date'. Appendix 3 contains the current contact list (2015 – 16) for Allianz Engineers for the University main site.

Asset Marking/Tagging System

56. The University has implemented an asset tagging system to help with monitoring.

- Pressure systems should be fitted with adhesive labels showing the date of next inspection.
- Lifting tackle, such as chains, 'D' shackles, slings etc. should be fitted with a colour coded ty-wrap. A 'current colour' board can be provided by Allianz.
- Lifting machinery such as overhead cranes, chain blocks, lift trucks etc. should be fitted with a PVC disc showing date of next inspection.

57. For complex assets and systems, it is the School/Faculty/Directorate's responsibility to provide the Allianz Engineer the support of a competent service engineer to disassemble/reassemble the system to enable improved access. The latter will usually only be required for the less frequent, more intrusive thorough examinations.

58. The Faculty / School / Directorate also have responsibility to make arrangements for ongoing routine maintenance and repairs or improvements required by the Allianz Engineer. The pictures below show examples of the types of tags used by Allianz.

Appendix 1 Inspection Guide Summary

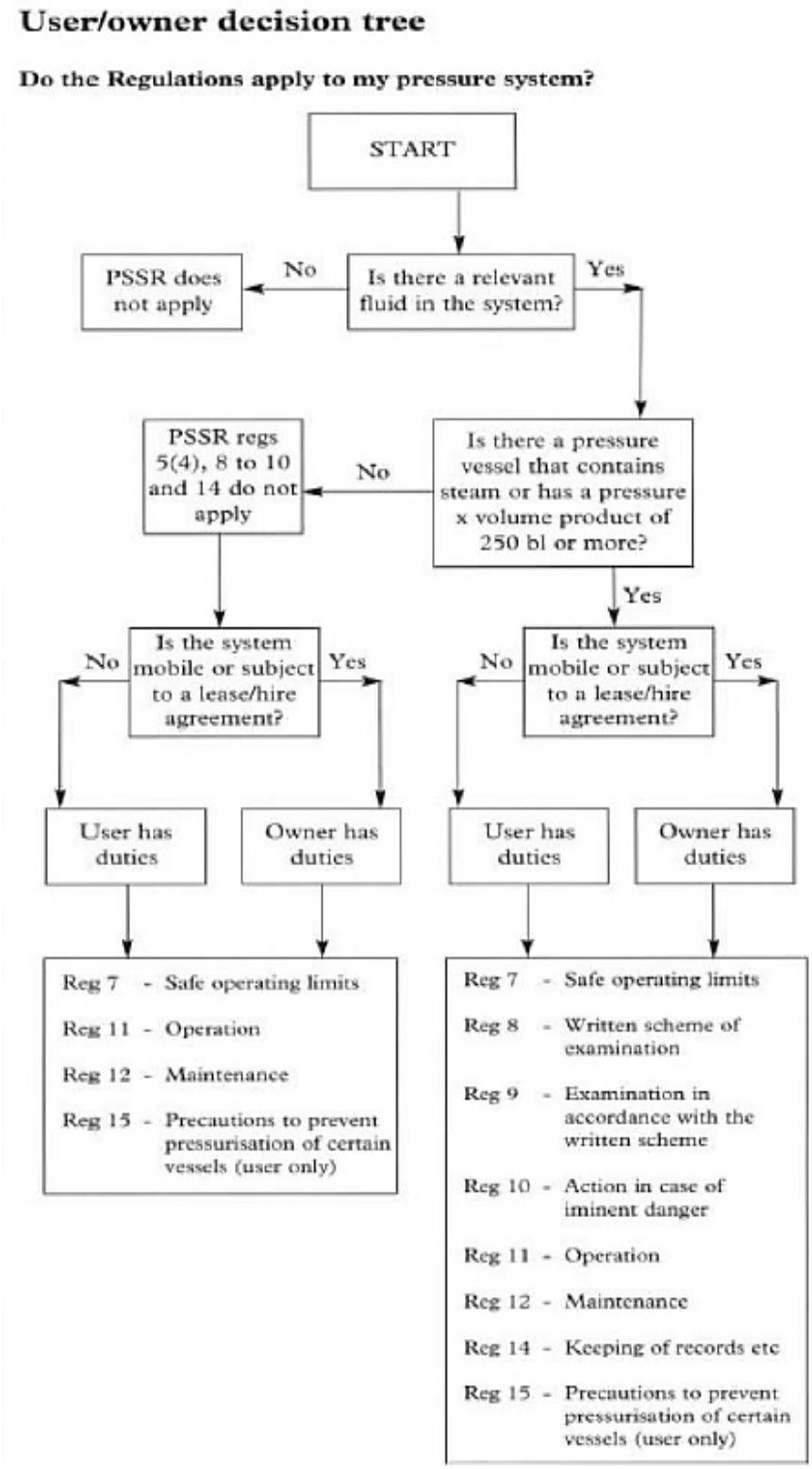
Lift and Crane		
Plant / Equipment type	**Applicable Legislation**	**Periodicity of inspection**
Crane	PUWER / LOLER	12 months
Escalators	Workplace (Health, Safety and Welfare) Regulations 1992	6 months (as per industry guidance)
Excavators and Loading Shovels	PUWER	12 months
Forklift Trucks	PUWER / LOLER	12 months (6 months if people carrying attachments are used)
Goods lift	PUWER / LOLER	12 months
Lifting appliances	PUWER / LOLER	12 months
Separate lifting accessories	PUWER / LOLER	6 months
Lifting machines	PUWER / LOLER	12 months
Mobile cranes	PUWER / LOLER	12 months (Goods) 6 months (People)
Pallet Trucks	PUWER	12 months
Passenger Lifts	PUWER / LOLER	6 months

Local Exhaust Ventilation (LEV)		
Plant / Equipment type	**Applicable Legislation**	**Periodicity of inspection**
Fume Cupboard	COSHH	14 months
Local Exhaust Ventilation (LEV) Systems	COSHH	14 months
Shot Blast Cabinets	COSHH	New Casting: 1 month Abrading metal: 6 months All other: 14 months
Spray Booths	COSHH	14 months

Pressure Plant		
Plant / Equipment type	**Applicable Legislation**	**Periodicity of inspection**
Air receivers	PUWER / PSSR	Typically 26 months
Autoclaves	PSSR	14 months
Blowdown vessels	PSSR	Same periodicity of the boiler to which it is connected: Shell boiler: 14 months Water Tube Boiler: 26 months
Bulk Storage Vessel	PUWER / PSSR / COMAH	Will vary dependant on risk assessment
Café Boilers	PUWER / PSSR	14 months
Calorifiers	PUWER / PSSR	26 months
Hot Water Boilers	PUWER / PSSR	PUWER 24 months PUWER applies to those boilers in which the temperature is below 100°C PSSR – 14 months: PSSR applies to boilers in which the water temperature at/above 100°C
Pressurisation Units	PUWER / PSSR	60 months
Refrigeration / Air Conditioning Plant	PUWER / PSSR	48 months
Steam Boilers	PSSR	Horizontal Multi-tubular Boilers; Vertical Boilers; Autoclaves: 14 months Water-tube Boilers: 26 months
Steam Vessels	PSSR	26 months

Appendix 2

Decision tree: Do I need to comply with the Pressure Safety Systems Regulations 2000? (Adapted from HSE's ACOP L122)



Appendix 3

Allianz Engineer Surveyors details (updated June 2016)

Lifting Equipment:
Mr Andrew Joel, (t) 07870 231699 (e) Andrew.Joel@allianz.co.uk

Pressure Systems:
Mr Steve Hett, (t) 07870 231200 (e) steven.hett@allianz.co.uk

Local Exhaust Ventilation:
Mr Neil Kent, (t) 07870 231205 (e) neil.kent@allianz.co.uk

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