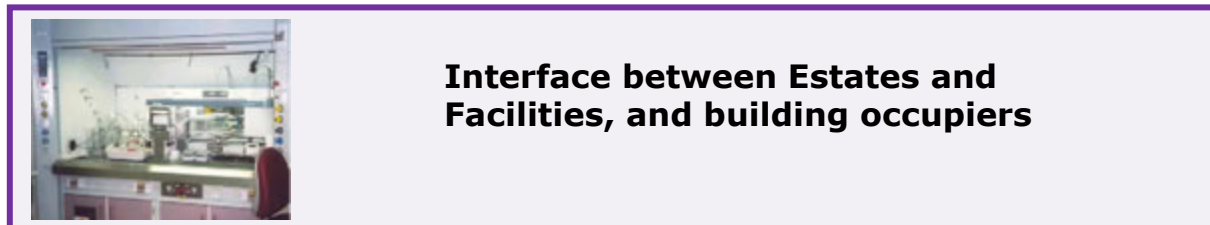


University Health & Safety Arrangements: Chapter 23



Key word(s) :	Responsibility for plant, machinery and installations
Target audience :	Estates and Facilities, Technical Managers, Workshop Managers, School Safety Advisors and others responsible for ensuring plant is maintained in a safe condition and satisfies legal obligations re statutory inspections.

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Introduction

1. For the purposes of this chapter, "plant" has a wide meaning and encompasses but is not limited to equipment, machinery or storage tanks installed as part of, or contained within a building.
2. Many health and safety hazards are related to buildings and plant. Boundaries of responsibility between those responsible for the safe design, installation, use, maintenance, repair and end of life replacement of plant may be ambiguous.
3. There are some general rules around ownership for specific items of plant; these are described in the sections below. In cases of doubt over plant ownership, a decision must be agreed with responsibility being allocated and recorded. The Senior Manager for the occupier(s) and the Director of Estates and Facilities are ultimately responsible for reaching agreement. Safety Services could advise in cases where agreement cannot be reached.
4. The University does not have a single asset database which details all plant. Estates and Facilities maintain an asset list of plant they are accountable for. Faculties, Directorates and Institutes may have developed their own asset list for plant falling under their responsibility.

5. Location of plant in plant rooms or risers may suggest it is Estates and Facilities responsibility to maintain, repair or replace but is not wholly definitive. There are examples of occupiers using secure space for plant such as air receivers. Where occupiers wish to site new equipment in these restricted access areas, they must seek the express permission of Estates and Facilities. There are examples of occupiers having located plant such as air receivers in plant rooms. Where occupiers wish to site plant in these restricted access areas, they must initially seek the permission of Estates and Facilities and must follow agreed Estates and Facilities protocols for access
6. Generally speaking, procurement of a building, facility or plant is not a good indicator of who is responsible for maintaining it. For example, a bulk storage tank of compressed gas may be procured as part of a major refurbishment project managed by Estates and Facilities, but if it is used in conjunction with commissioning occupiers research equipment, it will be "owned" by the occupier and therefore the occupier will be fully responsible for its safe maintenance, repair, replacement and compliance with legal requirements.
7. When Estates and Facilities Client Representatives (ex- Project Managers) hand over new or refurbished facilities to occupiers, the Client Representative will specify all plant that remains under the responsibility of Estates and Facilities and facilitate any planned preventative maintenance schedules. The detail of any planned preventative maintenance for safety-critical equipment must include all tests of functionality.
8. The Client Representative will also identify plant for which the occupier is responsible for. The Client Representative will provide the relevant sections of the health and safety file to the occupiers at handover including manufacturers' instructions which detail how to safely operate and maintain plant. The Client Representative will also ensure that any plant requiring a statutory inspection is added to the Engineering Inspection schedule.
9. The requirements to maintain plant is generally detailed within the manufacturer's instructions.
10. Heads of School / Department / Institute must ensure that procedures are in place to engage with their Faculty Estates Team where any 'construction work' is being considered. Construction work in this context may include, but not limited to, the construction, alteration, conversion, fitting out, commissioning, renovation, repair, upkeep, redecoration or other maintenance (including cleaning which involves the use of water or an abrasive at high pressure, or the use of corrosive or toxic substances), de-commissioning, demolition or dismantling of a structure
11. Estates and Facilities will liaise with building occupiers to agree timetables for shutdowns for maintenance activities affecting building occupier's plant, and also advise of any breakdown of infrastructure.
12. The Estates and Facilities Maintenance Services Unit and the Client Services Unit combined in April 2021 to form a new unit called 'Facilities, Maintenance & Compliance Unit' ("FMC")

A-Z of topics

A	Asbestos Autoclaves	<p>Estates and Facilities have arrangements for surveying and managing any work involving asbestos containing materials (ACMs) in the building structures, for dealing with inadvertent disturbance and for complying with specific legal requirements.</p> <p>The interface with Information Technology Services (ITS) and other contractors carrying out cabling (which typically involves penetration of structure elements, and access to risers and service ducts) is subject to an agreed procedure between Estates and Facilities and ITS.</p> <p>Occupiers</p> <ol style="list-style-type: none">(1) Any proposal from an occupier for work that affects or could affect the building structure and services should be referred to the relevant Faculty Estates teams or Helpdesk, so that Estates and Facilities procedures for managing the risk from ACMs can be instigated.(2) If occupiers require access to space where ACMs are known or suspected of being present, eg plant rooms, they must liaise with Estates and Facilities about safety measures to be taken.(3) Where ACMs occur in plant owned by a Faculty, Institute or Directorate, any work such as dismantling, servicing, replacement of parts or disposal must not be attempted until advice has been sought from Estates and Facilities. A risk assessment must be drawn up as it is necessary to take steps to prevent exposure to asbestos.(4) Any plant suspected or known to contain ACMs must be labelled and all those likely to use the plant should be informed of the (suspected) location and condition of the asbestos containing material (ACM). <p>Estates and Facilities manage a small number of very large steam generated autoclaves that are integrated into the building structure. These are historically retained on their planned preventative maintenance schedules and pressure system arrangements because of high water or other services demands.</p>
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	<p>Alarms</p>	<p>Estates and Facilities (FMC) arrange for the maintenance, servicing and repair of all free-standing (large) autoclaves under their control.</p> <p>The Head of FMC can provide a list of all steam generated autoclaves that Estates and Faculties manage, on request.</p> <p>Occupiers are responsible for maintaining smaller autoclaves; this also includes compliance with the Pressure Systems Safety Regulations and any validation of performance.</p> <p>Occupiers are responsible for the cost of any works / repairs required to free standing (large) autoclaves or replacement due to fault or end of life.</p> <p>In some cases, agreements can be reached where occupiers fund planned preventative maintenance; Estates and Facilities (FMC) will arrange for the inspection, manage any works required and keep appropriate records. The cost to undertake this work will be recharged back to the occupier.</p> <p>See entry for monitoring equipment</p>
<p>B</p>	<p>(Micro)biological safety and containment cabinets & facilities</p>	<p>Estates and Facilities are responsible for undertaking agreed planned preventive maintenance schedules for safety critical facilities, including containment level 3 laboratories which are reliant on plant and building systems to remain effective and compliant.</p> <p>Estates and Facilities AND occupiers have a joint responsibility to ensure that planned preventative maintenance schedules are suitable and include tests for safety-critical controls.</p> <p>Occupiers have responsibility for maintaining and performance testing of all cabinets that are used for biocontainment; this includes microbiological safety cabinets that are used in research and teaching (class I, II or III cabinets and glove boxes), and the arrangement and cost for the replacement of HEPA filters. These may be within CL2 or 3 suites of laboratories.</p> <p>Note: The laboratory ventilation itself, where it is part of the building remains the responsibility of Estates and Facilities to service, maintain and repair.</p>

C	<p>Compressors, air receivers</p>	<p>Estates and Facilities are responsible for plant supplying building services such as heating and compressed air supply up to the point of connection to occupier’s plant.</p> <p>Estates and Facilities will liaise with occupiers to agree timetables for shutdowns for maintenance activities affecting occupier’s plant, and also advise Schools of any breakdown of infrastructure.</p> <p>Occupiers using compressed air lines, or installing compressors and receivers directly serving research or teaching plant are responsible for that , whether or not it is installed in a riser or plant room controlled by Estates and Facilities.</p> <p>Arrangements for access into a riser or plant room will need to be agreed in advance with Estates and Facilities. Note: that Estates and Facilities require a ‘permit to access’ in place in order to access these areas</p> <p>See also P for pressure systems and the need to comply with the Pressure Systems Safety Regulations.</p>
	<p>Clinical Waste</p>	<p>Estates and Facilities are responsible for managing the collection contract; this includes deployment and collection of waste receptacles.</p> <p>Occupiers are responsible for classifying the waste streams correctly, placing the waste in the correct receptacles and co-operating with reasonable requests for co-operation with Estates and Facilities and contractors during routine collection and audits.</p>
	<p>Contractors</p>	<p>Estates and Facilities are responsible for liaising with occupiers when they arrange for contractors and in-house maintenance teams to visit, for providing relevant safety information and for carrying out any induction. . This will be in accordance with Estates and Facilities procedures document EPM PM6 Code of Practice for Contractors on Campus and their CDM Procedure EPM HS14 Construction Design and Management) Regulations 2015 Procedures</p> <p>Occupiers also invite contractors onto site, for example to service or repair specialist plant. In these circumstances, they are responsible for informing the contractor of relevant safety arrangements such as emergency evacuations, accident procedures and reporting, fire drills, first aid availability, etc.</p>

	<p>Cooling equipment</p>	<p>Note: Contractors listed on the University Framework are not necessarily subject to competence / health and safety checks. The 'employing occupier' (those procuring the services) must satisfy themselves that the contractor is competent to carry out the required work.</p> <p>Estates and Facilities (FMC) are responsible for maintaining all cooling plant that forms part of the building infrastructure that has been specifically designed to provide cooling to areas that generate 'excessive heat'. This may include computer clusters, data rooms, cold rooms or air conditioning systems that form part of the overall building infrastructure.</p> <p>Occupiers are responsible for the maintenance and repair of process cooling equipment. This may include local air conditioning, integrated cooling for experimental purposes or any process relating to comfort or for maintaining / controlling air temperatures.</p> <p>Prior to any installation of process / personal cooling equipment, advice and authorisation from Estates and Facilities must be sought. This is due to the complexity of some installations; associated pipework may need to pass through risers, plant rooms or false ceilings whilst chillers or external condensers are generally mounted on roofs or external faces of buildings. Additionally, installations will need to be compliant with University policies and procedures such as the University Carbon Management plan.</p> <p>Periodically, the management for ensuring regular servicing, maintenance and remedial works of occupiers' cooling equipment is agreed in advance with Estates and Facilities. Estates and Facilities (FMC) will arrange, and fund, the annual service to be carried out and maintain appropriate records. This process will also enable issues such as access to roofs or risers to be dealt with directly by Estates and Facilities. The cost to undertake this work will be recharged back to the occupier</p> <p>Note: Although Estates and Facilities (FMC) are responsible for the maintenance of all cooling plant that forms part of the building infrastructure, costs associated with call outs, breakdowns, repairs and eventual replacement will be facilitated by Estates and Facilities and recharged back to the occupier.</p>
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D	Drains (taking hazardous waste, radioactive waste)	<p>Estates and Facilities will on occasion need to access drains marked as suitable for disposal of low level liquid radioactive wastes and other waste streams.</p> <p>Occupiers must co-operate with Estates and Facilities in providing information, testing or otherwise making checks about the safety of opening up drains which they use.</p> <p>Note: Any works requiring access or repair to a drain or pipework that has been used for radiation waste disposal, prior to starting work, advice must be sought from the Radiation Safety Unit and the local Radiation Protection Supervisor.</p>
E	Electrical equipment	<p>Estates and Facilities are responsible for the provision, maintenance and regular testing of the electrical supply and infrastructure 'up to the point of a fixed outlet'. Testing is usually performed on a rolling programme every 5 years or more frequently if determined by risk assessment. The risk assessment process is undertaken by Estates and Facilities. During the inspection, it may be necessary to take plant out of service for a period of time.</p> <p>Occupiers are responsible for maintaining all electrical equipment – fixed, portable and transportable - used or owned by them. This includes larger pieces of plant or experimental rigs used during any research or teaching equipment up to the point of local isolation (eg a wall mounted isolation switch).</p> <p>For all occupier owned 'non-portable' or 'three-phase' electrical plant, the occupier will agree dates with Estates and Facilities to organise any testing.</p> <p>A piece of plant that has a plug attached to it, is generally classed as being "portable". This includes extension leads from a fixed outlet. Electrical plant including extension leads should be inspected, tested and maintained at regular intervals in accordance with the Electricity at Work Regulations 1989</p> <p>Visual inspection and testing should be carried out by a competent person (either in-house or contracted out) for all such equipment at intervals determined by a competent person. Guidance on whether someone is competent to carry out electrical work is available from the Estates and Facilities Principal Electrical Engineer.</p>

		<p>Note: The Institution of Engineering and Technology has produced guidance on the frequency of testing and inspection (IET Code of Practice for In-service Inspection and Testing of Electrical Equipment (5th Edition 2020)).</p>
F	<p>Fume cupboards</p> <p>Flues from gas appliances and supply/extract air</p>	<p>Estates and Facilities are responsible for the parts of fume cupboards embedded in the building structure, ie the flue, fan, roof extraction, and the casing that projects into the laboratory. Estates will complete planned preventative maintenance on the fan (s), filter (s) and associated controls beyond the fume cupboard. In addition, Estates will repair and replace these items.</p> <p>Estates and Facilities are responsible for general services to fume cupboards, eg water, electricity, mains gas (to local isolation tap), drainage.</p> <p>Estates and Facilities are responsible for ensuring that fume cupboards are designed and installed to the parameters specified by the occupier and commissioned in accordance with HSG 258. They will also provide user manuals, commissioning data and as-installed plans of the layout of the ductwork to both the building user and the Competent Person completing the thorough examination and testing of LEV</p> <p>Occupiers are responsible for</p> <ol style="list-style-type: none"> (1) Undertaking performance checks of face velocity, containment and day-to-day user checks as appropriate including effectiveness of 'sash stops' and calibration of high and low flow alarms, where fitted. (2) Ensuring that the extraction rate is sufficient for the activities being carried out inside the fume cupboard (with use of fume cupboard specified in risk assessments, as a control measure, as appropriate) (3) Day-to-day maintenance of the fume cupboard contents and surfaces <p>Estates and Facilities are responsible for flues from appliances providing building services such as heating and hot water, eg boilers, catering equipment, and for ensuring sufficient air supply and extraction and for complying with specific legal requirements.</p> <p>Occupiers are responsible for flues from any gas appliances under their control eg catering ovens, furnaces</p>

	<p>Fire</p>	<p>etc and for ensuring sufficient air supply and extraction and for complying with specific legal requirements.</p> <p>Estates and Facilities are responsible for the provision and maintenance of systems to detect smoke or fire, fire alarms, sprinklers, smoke alarms, beacons, fire dampers, smoke vents, fire hydrants, fire extinguishers, fire doors, refuge alarms, automatic door closers and fire safety signage.</p> <p>Estates and Facilities are responsible for the provision, maintenance and replacement of emergency evacuation aids including resQmats and evacuation chairs.</p> <p>Estates and Facilities are responsible for ensuring fire risk assessments are routinely undertaken at every University owned building and that all defects / works that are identified are effectively managed.</p> <p>Occupiers are responsible for the completion of works that are identified through the fire risk assessment process for which they are responsible for, in a timely manner.</p>
<p>G</p>	<p>Gas pipework and appliances; piped gases</p> <p>(See also pressure systems)</p>	<p>Estates and Facilities are responsible for mains gas associated pipework and fittings supplied from the University natural gas networks up to the point of appliance isolation. They have no responsibility for other piped gases unless this has been specifically agreed with them and documented or that the gas pipework is serving a location controlled and managed by Estates and Facilities.</p> <p>Estates and Facilities will comply with specific legal requirements and ensure regular maintenance of all fixed gas fuel burning plant under their control including the inspection and testing of gas supplies and flue installations, and regular maintenance of smoke and carbon monoxide alarms.</p> <p>Estates and Facilities will, when notified, respond to any unsafe situation relating to a reported gas leak or an unsafe gas appliance.</p> <p>Occupiers are responsible for maintaining mains gas appliances used by them eg furnaces, bunsen burners (including rubber tubing), glass blowing torches etc. Occupiers must comply with specific legal requirements.</p> <p>Occupiers are responsible for the maintenance and repair of piped gas systems from cylinder or tank to end use. Where such systems come under the Pressure Systems</p>

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K	Kitchens in catered hall accommodation	<p>Estates and Facilities are responsible for the kitchen and associated services/equipment (including gas supply, gas interlocks and ventilation to the kitchen). This includes all catering outlets operated by Hospitality & Events. Estates and Facilities must comply with specific legal requirements.</p>
L	Lifting equipment	<p>Estates and Facilities are responsible for maintenance, repair and replacement of cranes, 'I' beams, and other items of lifting equipment provided for the building as a whole or to serve building systems.</p> <p>Estates and Facilities are responsible for lifting equipment and accessories used by Estates and Facilities personnel as part of their work such as shackles and slings.</p> <p>Estates and Facilities are responsible for the maintenance of all passenger, disabled access, stair and goods lifts. Estates and Facilities are also responsible for ensuring that competent persons' examinations are completed in accordance with the Lifting Operations and Lifting Equipment Regulations (LOLER) for plant under their responsibility.</p> <p>Occupiers are responsible for the maintenance, repair and replacement of lifting equipment used in connection with their research and teaching, which may comprise large overhead cranes (eg MACE), 'I' beams over loading bays (eg Morton, Chemistry), and numerous small items of shackles and slings.</p> <p>Occupiers are responsible for the maintenance, repair, and end of life replacement of scissor lifts under their control.</p> <p>Occupiers are also responsible for ensuring the competent person's examinations are carried out in accordance with the Lifting Operations and Lifting Equipment Regulations (LOLER), via the University insurance providers (currently through Allianz and free of recharge to the University occupier).</p> <p>Occasionally, agreements can be reached where occupiers fund planned preventative maintenance; Estates and Facilities (FMC) will arrange for the inspection, manage any works required and maintain appropriate records. The cost to undertake this work will be recharged back to the occupier.</p>

		<p>Note: Costs associated with call outs, breakdowns, repairs or replacement of occupier’s plant will be facilitated by Estates and Facilities and recharged back to the occupier.</p>
	<p>Local exhaust ventilation (see also fume cupboards)</p>	<p>Estates and Facilities are responsible for structurally embedded sections of LEV such as flues, filters fans, termination and associated controls.</p> <p>Occupiers are responsible for the maintenance and testing/examination of free standing LEV or items such as ‘Nederman’ flexible extraction which is provided specifically to serve research processes as a measure to control occupational exposure to hazardous substances.</p> <p>Occupiers are responsible for ensuring that filter efficiency testing of free standing LEV is periodically carried out (as defined in a risk assessment) and filter replacement, when required, is undertaken to maintain the effectiveness of the system. Costs associated with filter replacement are the responsibility of the occupier.</p>
M	<p>Mothballed buildings</p> <p>Magnahelic differential pressure gauges</p> <p>Monitoring systems</p>	<p>Estates and Facilities are responsible for ‘mothballed’ buildings, once occupiers have vacated the premises. This includes security, maintenance of any protective arrangements such as fire detection and alarm, draining down water systems, asbestos management etc.</p> <p>Estates and Facilities may install these as part of a laboratory refurbishment if required by the occupier but are not responsible for their maintenance, repair or replacement unless a formal agreement has been agreed by Estates and Facilities (FMC) and the occupiers.</p> <p>Most gauges are not connected to the building management system (BMS). If they are connected to the BMS, Estates may include them on their PPMs.</p> <p>Occupiers are responsible for routine monitoring of magnahelic gauges, maintenance, calibration, repair or replacement and for initiating action(s) if they indicate pressure differentials of concern. In higher risk areas, an adverse measurement may alarm the BMS.</p> <p>Estates and Facilities are responsible for monitoring systems to protect buildings (eg smoke detection, fire alarms, CCTV), and for more localised monitoring systems within areas under their control (eg plant rooms).</p>

		<p>Occupiers are responsible for the provision, maintenance and testing of monitoring systems required as a result of risk assessments for their own activities. This will include, but not limited to, safety critical alarms such as oxygen deficiency alarms, toxic gas alarms, etc.</p>
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O	Oxygen depletion monitors	See entry for Monitoring systems
P	Pressure systems and vessels	<p>Estates and Facilities are responsible for planned preventative maintenance, safe operation, repair and replacement of pressures systems and vessels providing building services such as heating, ventilation, etc.; this includes compliance with the Pressure Safety Systems Regulations.</p> <p>Estates and Facilities will ensure that statutory inspections will be undertaken to plant under their responsibility as per the requirements set out in the written scheme of examination and any defects identified during inspection are completed in a timely manner for pressure systems and vessels under their control.</p> <p>Occupiers are responsible for safe use, maintenance and compliance with the Pressure Systems Safety Regulations for all pressure systems and vessels used in conjunction with their activities, including bulk storage of CO₂, liquid nitrogen, etc.</p> <p>It is the responsibility of the occupier to ensure that statutory inspections are undertaken to plant under their responsibility as per the requirements set out in the written scheme of examination and any defects identified during inspection are completed in a timely manner for pressure systems and vessels under their control.</p> <p>Note: Competent person's examinations are via the University insurance providers, currently through Allianz and free of recharge to the University occupier.</p>
R	Restricted areas (roofs, risers, plant rooms)	<p>Estates and Facilities have completed work to prevent unauthorised access by locking off restricted areas and have arrangements in place to access via the Estates and Facilities permit to access procedure (EPM HS 12).</p> <p>Occupiers who have plant in such areas must liaise with Estates and Facilities and comply with any conditions on permits to access or work.</p>

S	Shutters / automatic doors	Estates and Facilities (FMC) are responsible for the maintenance, servicing and repair of shutters, automatic doors, roller doors and revolving doors installed in public areas
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V	Ventilation	<p>Estates and Facilities are responsible for building ventilation systems, including the maintenance and repair of air supply and extraction for laboratories and workshops.</p> <p>Occupiers are responsible for testing biological safety cabinets and fume cupboards within higher biological containment facilities (CL3) or clean rooms, and for planned preventative maintenance including the replacement of HEPA filters.</p> <p>See also entry at B for (Micro) biological safety cabinets.</p>
W	Water supply & testing	<p>Estates and Facilities are responsible for the management of legionella risk associated with potable water supplies to service the built environment for occupation (academic buildings) and residence, within the University's building assets. This includes water storage, distribution systems and associated sanitary ware and plant. The responsibilities placed on Estates and Facilities are detailed in the following documentation;</p> <ul style="list-style-type: none"> • Estates and Facilities EPM HS4 The Management of Water Systems and Control of Legionella • Estates and Facilities EPM HS15 - Estate Ownership and Occupancy • Safety Services Guidance - Management of Water Systems and Control of Legionella in School Equipment <p>Dual responsibilities: Periodically, complex systems are designed and installed which result in hybrid system responsibilities between the Estates & Facilities and building occupiers, for example specialist air and water treated systems, bespoke to support Faculty activities. Where a dual responsibility exists, arrangements for the management of legionella must be implemented by formal agreement between Estates and Facilities and the occupier. Any formal agreement must determine demarcations and responsibilities for legionella risk and management requirements.</p>

	<p>Water dispensers (fixed)</p>	<p>Occupiers are responsible for the maintenance, repair and replacement of any local and dedicated research / teaching specific water storage and delivery facility. This includes plant and associated equipment (eg sediment and wave tanks, constant temperature water baths, safety showers, eye wash units, irrigation systems etc.). Occupiers are also responsible for the management of the risk of Legionella arising from such teaching/research specific facilities.</p> <p>In the event that any other complex specialist water system is required to service research and teaching processes, arising from occupiers activity (ie acid scrubbers, cooling systems, close control humidity, local steam generation etc.), the responsibility to manage the legionella risk for these systems shall be the responsibility of the building occupier.</p> <p>Where building occupiers are provided with safety showers or any other sanitary ware items for local use, they will need to liaise with Estates and Facilities regarding the management of hot and cold water tap temperatures, flushing, disinfections and any other arrangements as defined in the Estates and Facilities procedure document (EPM HS4) The Management of Water Systems and Control of Legionella.</p> <p>In residential campuses, the Directorate for the Student Experience and the Estates & Facilities (FMC) assist by undertaking routine flushing of little used water outlets and monitoring of tap water temperatures respectively. Documentation is completed and the findings reported on through the University Legionella Working Group.</p> <p>Estates and Facilities (FMC) have installed a number of fixed water dispensers across campus. Estates and Facilities (FMC) are responsible for the maintenance and repair of fixed water dispensers.</p>
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Document control box	
Title	Chapter 23: Interface between Estates and Facilities, and building occupiers.
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Version:	<p>1.5 May 2021 Clarification of roles and responsibilities</p> <p>Additional sections added:- Shutters / automatic doors Water dispensers (fixed)</p> <p>The Estates and Facilities Maintenance Services Unit and the Client Services Unit combined in April 2021 to form a new unit called 'Facilities, Maintenance & Compliance Unit'</p> <p>1.4 April 2016, personnel update 1.3 April 2015, with addition of section on Humidifiers 1.2 Sept 2013, with addition of text on Cooling Equipment 1.1 May 2013, with addition of para 5 1.0 (final), 2012/13</p>
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Owner of this chapter	Occupational Health, Safety & Training Advisory Group (OHSTAG) Chair : Professor Nalin Thakker Secretary: Dr Patrick Seechurn