

LEGIONELLA



POLICY & MANAGEMENT PLAN

UNIVERSITY OF ESSEX

HUMAN RESOURCES / ESTATE MANAGEMENT SERVICE

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DOCUMENT CONTROL

Revision	Author	Date	Detail
1.2	C Saunders / R Green	Jan 18	Updates to responsibilities to align with new EMS structure. Revised flushing procedures.

SECTION 1: POLICY STATEMENT

The University of Essex recognises its responsibility to comply with current legislation and appropriate guidelines in the management of water services systems, particularly in regard to the assessment of risk, monitoring and control of Legionella bacteria within its estate.

The University sets out in this Policy:

- Roles & responsibilities within the University
- Purpose and format of risk assessment
- Training and awareness
- Record keeping
- Safe methods of work
- Appointment of specialists
- Control measures

This Policy will be reviewed and updated by the University Health and Safety Advisory Service on a regular basis.

SECTION 2: RESPONSIBILITIES OF THE DUTY HOLDER AND RESPONSIBLE PERSONS

2.1 UNIVERSITY OF ESSEX

Full details of health and safety responsibilities of all employees can be found in the University's Health and Safety Policy. The general responsibilities given in the Health and Safety Policy apply to the management of health and safety risks arising from legionella. This document sets out specific duties and responsibilities for the implementation and management of the Legionella Management Plan as follows:

Key:

EMS = Estate Management Section, DD = Deputy Director Estate Management Section (EMS), DH = Duty Holder, RP = Responsible Person (RPs can only be responsible for areas under their control). (Deputy acts as the person with the main responsibility in their absence)

Position	Role	Responsibility
Registrar and Secretary (N/A)	DH	Overall responsibility for ensuring that there are effective arrangements in place and that there are adequate resources allocated to the control of Legionella on the University's Estate.
Director of Estates and Campus Services (Director Maintenance, Capital and Development).	RP	<ul style="list-style-type: none"> ■ Overall responsibility for the strategy and implementation of the University's Legionella Management Plan. ■ Ensuring that the Legionella Management Plan is reviewed at least once every three years and in the event of Legionella Bacteria incident being identified within the Estate.
Director Maintenance, Capital and Development (Building Services Manager, Compliance Contracts Assets)	RP	<p>Responsible for legionella management within the built environment on the Southend, Loughton and Colchester Campuses (with the exception of commercial buildings overseen by the Head of Commercial Properties and Knowledge Gateway) including:</p> <ul style="list-style-type: none"> ■ Day-to- day management of the control of Legionella bacteria. ■ Ensuring that the Legionella Management Plan is delivered via the Estate Management Maintenance Team and competent specialist contractor(s). ■ Ensuring that the Legionella Management Plan is delivered via appointed competent Facilities Management (FM) Contractor for the Southend and Loughton campuses. ■ Monitoring the performance of the contractor and informing the Director of Estates and Campus Services of any failures in performance so appropriate action can be taken.

Position	Role	Responsibility
<p>...cont</p> <p>(For capital projects: EMS Project Manager)</p> <p>(Facilities Manager (Southend Campus) and Campus Facilities Manager (Loughton))</p>		<ul style="list-style-type: none"> ■ Ensuring that the Estate Management Maintenance team are suitably trained, competent and equipped to perform their role. ■ Ensuring that the control of legionella is taken into account as part of refurbishment and new build projects. ■ Risk assessments for new buildings are undertaken prior to hand-over to the University. ■ Risk assessments for new installations (including modification to existing installations) are undertaken prior to commissioning of the works. ■ Ensuring that legionella risk is managed for newly constructed buildings until responsibility is formally handed over for ongoing management of the legionella risk.
<p>Contracts Manager Colchester Campus</p> <p>(Director of Maintenance, Capital and Development)</p>	RP	<p>Responsible for appointing, managing and monitoring the specialist legionella contractor for the Colchester Campus (with the exception of commercial buildings overseen by the Head of Commercial Properties & Knowledge Gateway): This includes:</p> <ul style="list-style-type: none"> ■ Appointment of a competent specialist contractor to raise suitable and sufficient legionella risk assessments and to support and advise the University on legislation and HSE Guidance on the control of Legionella. ■ Overseeing and monitoring the performance of the contractor and informing the Director of Maintenance, Capital and Development of any failures in performance so appropriate action can be taken. ■ Reviewing contractor water risk assessments to ensure they are suitable and sufficient and that necessary remedial work is carried out. ■ Ensuring that there is a robust method of recording (with a suitable audit trail) of: <ul style="list-style-type: none"> ○ Water risk assessments and works arising from them; ○ Completion of remedial works within required timescales; ○ Temperature, inspections and other monitoring carried out by the specialist contractor. ■ Reviewing records and challenging any areas of non-conformity. ■ Ensuring that appropriate action is taken in response to a positive microbiological sample result outside normal parameters. (See section 7.3). ■ Taking action (as identified in section 9) in the event of a reportable case of Legionnaires Disease or of being notified of an outbreak.
<p>Deputy Director of Estate Management (Services – Covering Domestic Services)</p> <p>(Domestic Services Manager)</p>	RP	<p>Appointed as the RP for the EMS cleaning staff.</p> <ul style="list-style-type: none"> ■ Ensuring that EMS cleaning staff fulfil their responsibilities, including, where required, flushing of relevant little used outlets and descaling outlets, including shower heads, where required.
<p>Head of</p>	RP	<p>Appointed as the RP for the Colchester Campus grounds.</p>

Position	Role	Responsibility
Sustainability and Grounds (Grounds Manager)		<ul style="list-style-type: none"> ■ Ensuring that Grounds Section staff are suitably trained, competent and equipped and fulfil their responsibilities, including flushing of little used outlets and any action required to control risk in the external water and fountains and any relevant stand-alone equipment holding or circulating water.
Facilities Manager Southend campus (Campus Facilities Manager (Loughton))	RP	<p>Appointed as the RP for the Southend Campus with responsibility for overseeing the management and control of Legionella bacteria.</p> <ul style="list-style-type: none"> ■ Ensuring that the Legionella Management Plan is delivered via the Southend campus FM Provider (contractor). ■ Overseeing and monitoring the performance of the contractor and informing the Director of Maintenance, Capital and Development of any failures in performance so appropriate action can be taken. ■ Ensuring that the FM Provider reviews the water risk assessments to ensure they are suitable and sufficient and that necessary remedial work is carried out. ■ Ensuring that there is a robust method of recording (with a suitable audit trail) of: <ul style="list-style-type: none"> □ Water risk assessments and works arising from them; □ Completion of remedial works within required timescales; □ Temperature, inspections and other monitoring carried out by the specialist contractor. ■ Reviewing records and challenging any areas of non-conformity. ■ Ensuring that appropriate action is taken in response to a positive microbiological sample result outside normal parameters. (See section 7.3). ■ Taking action (as identified in section 9) in the event of a reportable case of Legionnaires Disease or of being notified of an outbreak.
Campus Facilities Manager (Loughton) (Facilities Manager Southend campus)	RP	<p>Appointed as the RP for the Loughton Campus with responsibility for overseeing the management and control of Legionella bacteria.</p> <ul style="list-style-type: none"> ■ Ensuring that the Legionella Management Plan is delivered via the Loughton campus FM Provider (contractor). ■ Overseeing and monitoring the performance of the contractor and informing the Director of Maintenance, Capital and Development of any failures in performance so appropriate action can be taken. ■ Ensuring that the FM Provider reviews the water risk assessments to ensure they are suitable and sufficient and that necessary remedial work is carried out. ■ Ensuring that there is a robust method of recording (with a suitable audit trail) of: <ul style="list-style-type: none"> □ Water risk assessments and works arising from them; □ Completion of remedial works within required timescales; □ Temperature, inspections and other monitoring carried out by the specialist contractor. ■ Reviewing records and challenging any areas of non-conformity. ■ Ensuring that appropriate action is taken in response to a positive microbiological sample result outside normal parameters. (See section 7.3). ■ Taking action (as identified in section 9) in the event of a reportable case of Legionnaires Disease or of being notified of an outbreak.

Position	Role	Responsibility
Head of Commercial Properties & Knowledge Gateway (Director Maintenance, Capital and Development)	RP	Responsible for overseeing the management and control of Legionella in University owned leased premises (commercial buildings), including ensuring that: <ul style="list-style-type: none"> ■ Responsibilities in relation to the control of legionella are adequately addressed through tenancy agreements. ■ Ensuring that tenants are aware of their responsibilities as detailed in the Legionella Management Plan. ■ Legionella Management Plans are delivered by appointed competent Facilities Management Contractors or by tenants/licensees as appropriate to the tenancy agreement. ■ Appropriate action is taken in response to a positive microbiological sample result outside normal parameters. (See section 7.3). ■ Action is taken (as identified in section 9) in the event of a reportable case of Legionnaires Disease or of being notified of an outbreak.

2.2 UNIVERSITY OF ESSEX CAMPUS SERVICES, WIVENHOE HOUSE HOTEL, STUDENTS’ UNION, KNOWLEDGE GATEWAY, TENANTS

As separate legal entities these organisations are responsible for complying with legal requirements and relevant HSE guidance in so far as it relates to their business. They must identify their duty holders and responsible people for the control of legionella risk within their organisation’s policies for health and safety and Legionella Management Plan.

As users of the University of Essex premises they are required to support the University of Essex in meeting its responsibilities in relation to management of Legionella risk on its Estate. This support includes the weekly flushing of little used outlets in accordance with the *Legionella Management Plan Method of Work Sheet: LEG03* (See Section 10.2).

SECTION 3:

OTHER RESPONSIBILITIES

The University has identified key people within the above organisations who have a specific role in relation to the control of legionella risk in the sections below.

3.1 HEADS OF DEPARTMENT / SECTION

Responsible for:

- The control of risks arising from Legionella, where it relates to activities and equipment that is outside of the “built environment”. This includes stand-alone equipment holding or circulating water.
- Informing EMS of little used water outlets in their areas of responsibility
- Supporting EMS in meeting its responsibilities in relation to management of Legionella risk in the management of the Estate.

3.2 BUILDING SERVICES MANAGER, TECHNICAL MANAGER (MECHANICAL)

Responsible for the day-to-day activities of the Mechanical Craft Team and ensuring that their staff:

- Are provided with adequate and appropriate information, instruction, training and supervision.
- Are aware of their responsibilities to comply with the Legionella Management Plan.
- Work in accordance with University of Essex procedures, industry guidance and legislative requirements.
- Accurately record the works undertaken in the manner prescribed.
- Undertake monitoring, audit and compliance checks regularly and recorded results.
- Understand and follow the recording and reporting process in the event of a positive/unsatisfactory microbiological sample result outside of normal parameters.
- Understand and follow the reporting procedure and recording process in the event of a legionellosis outbreak.

3.3 MECHANICAL CRAFT TEAM

Undertake the day-to-day activities to maintain and repair the mechanical systems on the Estate. It is the responsibility of the team members to:

- Be aware of their responsibilities to comply with the Legionella Policy and Management Plan.
- Understand the risk to themselves and others associated with their works.
- Work in accordance with University of Essex procedures, industry guidance and legislative requirements.
- Accurately undertake and record works in the prescribed manner.
- Understand and follow the recording and reporting process in the event of a Legionella incident.

3.4 MANAGERS RESPONSIBLE FOR OUTLET FLUSHING /CLEANING/SCALE REMOVAL OF SHOWER HEADS ETC.

Responsible for ensuring that:

- They understand their responsibilities to comply with the Legionella Management Plan
- Works are undertaken in accordance with University of Essex procedures for flushing, cleaning and scale removal.
- Where appropriate, accurate records of the works undertaken are kept.
- Reporting incidents and concerns relating to legionella risk to the relevant Responsible Person.

Also for ensuring that staff who carry out flushing, cleaning and scale removal are:

- Provided with adequate and appropriate supervision and information, instruction and training on legionella risks, the University of Essex procedures for flushing, cleaning and scale removal, recording requirements, and reporting incidents and concerns.
- Aware of their responsibilities to comply with the Legionella Management Plan.
- Provided with appropriate personal protective equipment, as detailed in risk assessments, to reduce their risk of exposure to Legionella.

3.5 STAFF CARRYING OUT OUTLET FLUSHING/CLEANING/SCALE REMOVAL OF SHOWER HEADS ETC.

Responsible for ensuring that they:

- Understand their responsibilities to comply with the Legionella Management Plan
- Understand the risks to themselves and others associated with their works.
- Understand and follow the University of Essex procedures for flushing, cleaning and scale removal.
- Wear personal protective equipment, as detailed in risk assessments, to reduce their risk of exposure to Legionella and report defects.
- Where required, keep accurate records of the work undertaken.
- Understand the recording and reporting processes in the event of a Legionella incident.
- Raise concerns with their supervisor/manager where a Legionella risk has been identified.

3.6 COMPETENT SPECIALISTS CONTRACTORS

Will undertake all work as detailed in the contract and provide professional water hygiene related advice as required (as the Competent Person). The Contractor staff will be competent and will:

- Ensure that their staff are competent.
- Be aware of their responsibilities to comply with the Legionella Policy and Management Plan.
- Be aware of the risk to themselves and others associated with their works.
- Work in accordance with industry guidance and legislation.
- Accurately undertake and record works in the prescribed manner.
- Understand the University of Essex reporting and recording process in the event of a Legionella incident.

3.7 BUILDING SERVICES MANAGER (COMPLIANCE, ASSETS & CONTRACTS)

- Carry out periodic sample audits and inspections of the University's properties against compliance with this Policy and Plan

3.8 HEALTH & SAFETY ADVISORY SERVICE (HSAS)

HSAS Health and Safety Advisors are responsible for:

- Advising the Duty Holder or their appointed representative (in writing) of any changes in legislation or HSE guidance in relation to control of legionella.
- Ensuring that the Legionella Policy and Management Plan is updated in a timely manner to reflect these changes
- Undertaking periodic audit of the Legionella Management Plan to review documentation for compliance with this Legionella Management Plan and to review training needs.
- Developing and keeping under review the Legionella Policy and Management Plan, in consultation with Responsible Persons within EMS and the appointed specialist contractor.

SECTION 4: RISK ASSESSMENT

The purpose of a risk assessment is to identify:

- The potential of the legionella bacteria (the hazard) to cause harm (the hazardous event)
- The likelihood of hazardous event
- The risks to health
- Methods to remove the risk
- Methods to reduce/manage the risk if it cannot be eliminated

Each building (or system where external) shall be the subject of a separate risk assessment, as this will determine the unique risk and inform the frequency of any required control measures.

Risk assessments should be undertaken by a Competent Person, and should include (but not be limited to) the following;

- Potable & Non-Potable Cold-Water Storage Systems
- Cold Water Distribution Systems
- Hot Water Storage Systems
- Hot Water Distribution Systems
- Process Plant
- Rainwater Harvesting Systems
- Irrigation & Water Feature Systems
- Fire Fighting Systems
- Swimming Pool/Spa Pool Systems
- Emergency Wash Facilities (Drench/Eye-Wash)
- Vending Machines/Water Dispensers
- Humidifiers
- Stand-alone equipment holding or circulating water.
- Lakes and fountains

Existing risk assessments should be reviewed as required or where there are:

- Changes to legislation or HSE guidance
- New Buildings/Systems added to the Estate
- New stand-alone equipment which holds or circulates water is purchased
- Significant changes to an existing installation
- Significant changes to building use/occupancy levels
- Noted changes in Legionella bacteria levels that require a change to procedures.

SECTION 5: RECORD KEEPING

All Responsible Persons appointed by the University must understand their responsibilities for record keeping, and undertake the following:

Maintain safe and complete records of the following for at least 5 years, to be kept on a Secure shared University of Essex Drive:

- Current Legionella Policy and Management Plan (LPMP) (and an archive of previous LPMPs)
- Records of formal consultation on the LPMP
- Current risk assessments and an archive of previous risk assessments
- Remedial action arising from risk assessments
- Completed work sheets
- Incident reports and investigations
- Reports of temperature checks
- Reports of bacteriological tests
- Evidence of regular flushing of little used outlets
- Evidence of regular descaling
- Reports from specialist contractors
- Records of information, instruction and training recorded on iTrent
- Training certificates for UofE staff to be forwarded to relevant administration support put on iTrent and Human Resources to keep with Personal Records.)
- Information from Designers / Contractors / Construction Companies for new or modified installations.
- Records of correspondence with external consultants and contractors

SECTION 6: COMPETENCY, TRAINING AND AWARENESS

The University recognises the legal obligation to provide adequate training to Staff and to review their awareness and competency for the required tasks.

Director of Estate Management:

The Director of Estate Management will need to attend a Legionella Awareness Course at least once every 5 years.

Responsible Persons:

All other listed Responsible Persons will need to attend formal Responsible Persons training at least once every 5 years.

Other Responsibilities:

All job roles listed under section 3 (Other Responsibilities) will have to have attended Legionella Awareness training at least once every 5 years.

U of E Staff Carrying out Flushing of Little Used Outlets

All staff who carry out flushing of little used outlets will need to be trained at least once every 3 years.

The Responsible Persons will ensure that relevant staff members are made aware of the Legionella Management Plan and associated safe systems of work relevant to them.

For works undertaken by the Site Team, the relevant Director / Deputy Director of Estate Management, or appointed representative, will undertake an assessment of training requirements associated with the level of works to be undertaken. Where there is a recognised risk, only staff that are trained for the task will be appointed to undertake the task, and shall follow the procedures set-out in the University of Essex procedures.

Contractors and Consultants:

External Contractors and Consultants will be required to demonstrate that their staff are adequately trained.

SECTION 7:

PREVENTION, CONTROL AND MONITORING

The following prevention controls will be adhered to where practical:

- Remove scale at outlets
- Maintain cold water storage temperatures below levels at which bacteria can develop
- Reduce cold water temperature rise within distribution systems
- Maintain hot water storage temperatures above the levels at which bacteria can develop
- Reduce hot water temperature loss within distribution systems
- Reduce the risk of water stagnation (where occupancy levels and use change)
- Maintain cleanliness of water storage and distribution systems
- Maintain water quality within non-potable water systems (irrigation/rain-water harvesting/water features)
- Maintain cleanliness of third party equipment (vending machines etc)
- Maintain cleanliness of potable water outlets
- Ensure outlets are regularly flushed or removed from the system where frequency of use is low.
- Ensure that maintenance tasks are undertaken by trained personnel in a timely manner, in accordance with the University of Essex procedures and industry guidance and legislation, ensuring accurate record keeping and prompt reporting of non-conformities
- Undertake regular temperature monitoring of hot and cold-water service system.
- Undertake regular water sampling for water quality and bacteria levels

Methods of control will be reviewed periodically and amended to reflect changes in Legislation, Health and Safety Executive Guidance and Legionella Contractor/Consultant recommendations. Changes to methods of control may be required in response to out-of-limits bacteria levels, presumptive results and positive results.

7.1 DESIGN INSTALLATION, MAINTENANCE AND REPAIR

The design, installation, maintenance and repair of water services systems shall be undertaken in strict accordance with The control of legionella bacteria in water systems Approved Code of Practice and guidance on regulations L8:

- So far as is reasonably practicable eliminate the production of air-borne water droplets (aerosols)
- Where not practical to eliminate aerosols, to reduce the quantity and carry-over of aerosols
- Eliminate stagnant water accumulating adjacent to ventilation intakes
- Where known and reasonably practicable, eliminate dead-legs in water service systems. Where removal is not practicable or dead-legs exist are suspected to exist undertake appropriate risk management.
- Provide adequate facilities to safely isolate, drain and repair installations
- Ensure that systems are installed in accordance with the design
- Ensure materials used are appropriate and are approved for use.

Prior to the installation of new water service systems, the Responsible Person (or appointed representative) shall undertake a review of the design of the proposed installations taking into account the details above and identify any areas of concern.

7.2 WATER SAMPLE MONITORING

The University may appoint a specialist to undertake this task, but the Responsible Person must (on behalf of the Duty Holder) review and agree with the recommendations to ensure that areas with previous issues are retained within the monitoring process. Water samples for analysis must:

- Only be collected by suitably trained staff or contractors.
- Be undertaken in strict accordance with current Codes of Practice and British Standards or equivalents.
- Ensure (but not limited to) compliance with the method of collection, materials of containers used, transportation and identification of samples.
- Be tested for temperature at the point of sampling
- Be tested for water quality, general bacteria (total viable colony count) and the presence of Legionella bacteria.

Testing must be undertaken by a UKAS registered laboratory.

7.3 ACTIONS FOR POSITIVE MICROBIOLOGICAL SAMPLE RESULT OUTSIDE OF NORMAL PARAMETERS

The Guidelines regarding ‘Normal Parameters’ will be reviewed on a regular basis by the Legionella Contractor/Consultant and the Responsible Person, as site specific targets may be required to be more onerous than minimum recommended standards.

Unless identified otherwise, ‘Normal Parameters’ for water sample results are as follows:

<p>TOTAL VIABLE COUNT Up to 100 cfu/ml – Pass Greater than 100 cfu/ml but less than or equal to 1000 cfu/ml – Low Level Failure Greater than 1000 cfu/ml – High Level Failure</p>
<p>LEGIONELLA PNEUMOPHILIA COUNT None detected - Pass Up to 100 cfu/l – Re-sample to ensure no increase above 100 cfu/l Greater than 100 cfu/1000ml but less than or equal to 1000 cfu/l – Low Level Failure Greater than 1000 cfu/l – High Level Failure</p>
<p>E-COLI AND COLIFORMS None detected – Pass Up to 1 cfu/ml – Low Level Failure Greater than 1 cfu/ml – High Level Failure</p>

Actions to be undertaken for a 'Low Level' failure:

- Legionella Contractor advises the relevant Responsible Person, their Deputy and the University Health & Safety Advisory Service of the necessary action to be taken to deal with the failure.
- Any necessary remedial work is undertaken by appropriately trained staff or contractor, and recorded.
- If advised by the Legionella Contractor, samples taken by Legionella Contractor for re-testing.
- New sample results reviewed by Legionella Contractor
- If sample results 'Pass' no further action required
- If sample results 'Fail' then Legionella Contractor will advise on the following course of action.
- Appropriate action will be undertaken as necessary.

Actions to be undertaken for a 'High Level' failure:

- As "Action for 'Low Level'" failure but in addition:
- informing the Director of Estates and Campus Services and the University's Head of Health and Safety

SECTION 8: ACTION TO TAKE IF THERE IS AN OUTBREAK OF LEGIONELLOSIS

Legionnaires' disease is notifiable under the Health Protection (Notification) Regulations 2010. Under these Regulations, human diagnostic laboratories must notify Public Health England (PHE), who will determine whether there is an outbreak. An outbreak is defined as two or more cases where the onset of illness is closely linked in time (weeks rather than months) and where there is epidemiological evidence of a common source of infection.

Where an outbreak is identified PHE are responsible for appointing an officer (unusually the Consultant in Communicable Diseases) to investigate the outbreak. If the source of the outbreak is suspected of being the University, PHE will inform the HSE who will conduct a joint investigation. The University will be required to cooperate with the investigation.

SECTION 9: SUSPECTED CASES OF LEGIONELLOSIS

Cases of Legionellosis are reportable under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) if:

- A medical practitioner notifies the University of Essex about an employee with Legionellosis, and;
- That employee's current job involves work on water service systems located in the workplace, which are likely to be a source of contamination.

Where a Responsible Person has been notified of an employee contracting Legionellosis then the Responsible Person must immediately report this to the University of Essex Health and Safety Advisory Service, who will inform the HSE under RIDDOR as an "exposure to a biological agent". The Health and Safety Advisory Service will then carry out an investigation.

SECTION 10: APPENDICES

10.1 SCHEDULE OF DOCUMENTS

Below are the lists of documents that support and evidence the management of the Legionella risk management of the University of Essex.

	Document description	Person Responsible
Colchester Campus		
1	Schedule of Assets covered by the University of Essex Legionella Policy covering the Colchester Campus.	Contracts Manager
2	Summary Schedule of Assets by Building for Colchester Campus. (This schedule covers frequency of inspection and control works).	
3	Schedule of Risk Assessments completed by Appointed Legionella Specialist Contractors covering the Colchester Campus.	
4	Schedule of Risks for Colchester identified by Appointed Legionella Specialist Contractors including :- - Works undertaken to remedy / remove risk - Works undertaken to mitigate / manage risks	
5	Summary of contractual terms and conditions regarding appointment of Legionella contractors for Colchester.	
Southend Campus		
6	Schedule of Assets covered by the University of Essex Legionella Policy covering Southend.	Facilities Manager (Southend)
7	Summary Schedule of Assets by Building for Southend Campus. (This schedule covers frequency of inspection and control works).	
8	Schedule of Risk Assessments completed by Appointed Legionella Specialist Contractors covering Southend.	
9	Schedule of Risks for Southend identified by Appointed Contractors including :- - Works undertaken to remedy / remove risk - Works undertaken to mitigate / manage risks	
10	Summary of contractual terms and conditions regarding appointment of Legionella contractor for Southend.	
Loughton Campus		
11	Schedule of Assets covered by the University of Essex Legionella Policy covering Loughton.	Facilities Manager (Loughton)
12	Summary Schedule of Assets by Building for Loughton Campus. (This schedule covers frequency of inspection and control works).	
13	Schedule of Risk Assessments completed by Appointed Legionella Specialist Contractors covering Loughton.	
14	Schedule of Risks for Loughton, identified by Appointed Contractors including :- - Works undertaken to remedy / remove risk - Works undertaken to mitigate / manage risks	
15	Summary of contractual terms and conditions regarding appointment of Legionella contractor for Loughton.	

	Document description	Person Responsible
General		
16	Schedule of Assets covered by the University of Essex Legionella Policy covering Commercial buildings	Head of Commercial Properties and Knowledge Gateway
17	Summary Schedule of Assets by Building for Commercial buildings Campus	
18	Schedule of Risk Assessments completed by Appointed Legionella Specialist Contractors covering Commercial buildings.	
19	Summary of Legionella Management Contractual Terms for the tenanted properties	
Health and Safety		
20	Example of Compliance Inspection Reports for Colchester, Loughton and Southend.	Health and Safety Advisory Service
21	Summary Schedule of Compliance Inspection Reports undertaken for Colchester, Loughton and Southend.	
22	Log of all training by U of E staff – records to go onto iTrent	Relevant administrator.

10.2 LEGIONELLA MANAGEMENT PLAN SUPPORTING “METHOD OF WORK SHEETS”

The following University of Essex procedures have been raised to support University of Essex staff in carrying out some of the tasks required in the Management of Legionella. Tasks not listed below are carried out by the Competent Specialist Contractors.

	Legionella Management Plan Method of Work Sheet
Document Reference	LEG 01
Work Task	Procedure for Measuring and Recording Temperature at Hot Water Outlets
Frequency	Monthly
Limits	Temperature greater than 50°C within 1 minute of full flow for hot outlets nearest and furthest from source (sentinel outlets)

Review installation to identify whether a thermostatic blending valve is provided.

If no blending valve installed:

- Run the outlet at full flow, measuring the temperature using a hand-held calibrated thermometer and noting/recording the reading at 1 minute duration.
- If the temperature fails to reach 50°C within 1 minute, review the source of hot water.
- If hot water is generated by electronic water heater, check & adjust thermostat setting and repeat test.
- If hot water is generated remotely, repeat test at adjacent outlets.
- Allow time for hot water to recover if there has been a recorded demand.
- Repeat test.
- If temperature fails to reach set point, record results and advise the relevant “Responsible Person” of non-conformity to generate additional investigation and take appropriate remedial action.
- Record any evidence of scale, corrosion, sludge, slime, debris or water discolouration.

Where outlet is provided with a thermostatic blending valve:

- record temperature of hot water service to valve with touch probe or by use of test points.
- If temperature fails to reach set point, record results and advise the relevant “Responsible Person” of non-conformity to generate additional investigation and take appropriate remedial action.
- Record any evidence of scale, corrosion, sludge, slime, debris or water discolouration.

	Legionella Management Plan Method of Work Sheet
Document Reference	LEG 02
Work Task	Procedure for Measuring and Recording Temperature at Cold Water Outlets
Frequency	Monthly
Limits	Temperature less than 20°C within 2 minute of full flow for cold outlets nearest and furthest from source (sentinel outlets)

Review installation to identify whether a thermostatic blending valve is provided.

If no blending valve installed:

- Run the outlet at full flow, measuring the temperature using a hand-held calibrated thermometer and noting/recording the reading at 2 minute duration.
- If the temperature fails to fall below 20°C within 2 minute, review the source of cold water.
- If cold water is provided by means of water storage tank, test water temperature.
- Repeat test.
- If temperature fails to reach set point, record results and advise the relevant “Responsible Person” of non-conformity to generate additional investigation and take appropriate action.
- Record any evidence of scale, corrosion, sludge, slime, debris or water discolouration.

Where outlet is provided with a thermostatic blending valve:

- Record temperature of cold water service to valve with touch probe or by use of test points.
- If temperature fails to reach set point, record results and advise the relevant “Responsible Person” of non-conformity to generate additional investigation and take appropriate action.
- Record any evidence of scale, corrosion, sludge, slime, debris or water discolouration.

	Legionella Management Plan Method of Work Sheet
Document Reference	LEG 03
Work Task	Procedure for flushing of outlets that have not been flushed within the last 7 days
Frequency	When an outlet that has not been flushed for over a week has been identified. Following initial flushing a weekly regime following LEG 04 to be implemented.

If practical remove low-use outlets.

Internal Outlets

- Ensure that flushing can be undertaken in a manner that avoids creating an aerosol spray or excessive splash-back. Run tap slowly at first.
- Flush the outlets until the temperature at the outlet stabilises and is comparable to supply water and purge to drain.
- For removable shower heads:
 - Remove head from hose and run hose. Place the end of the hose in a prefilled container so the hose is submersed during flushing so as to eliminate any possibility of releasing aerosols. Flush at full bore for 2 minutes.
 - Clean & disinfect shower head in accordance with LEG 06, reconnect to hose.
- For fixed head showers:
 - Cover the shower head with a plastic bag sealed to the top of the shower head. Cut a hole in the plastic bag and seal the hole end onto a hose then place the end of the hose in a prefilled container so the hose is submersed during flushing so as to eliminate any possibility of releasing aerosols. Flush at full bore for 2 minutes.
 - Clean & disinfect shower head (following local procedures/risk assessment for cleaning and disinfection).
- Record date of flushing. Also record any evidence of scale, corrosion, sludge, slime, debris or water discolouration and report to EMS Helpdesk.

External Outlets (Including Plantrooms)

- Ensure that flushing can be undertaken in a manner that avoids creating an aerosol spray or splash-back.
- Utilise hose to extend outlet to drain point or a suitable container. Prefill the container to the hose is submersed during flushing so as to eliminate any possibility of releasing aerosols.
- Run outlet at full bore until the temperature at the outlet stabilises and is comparable to supply water and purge to drain.
- Where service is provided with a lock-shield device or similar locking mechanism, return system to original condition and re-lock.
- Record and report any evidence of scale, corrosion, sludge, slime, debris or water discolouration.

Legionella Management Plan Method of Work Sheet	
Document Reference	LEG 04
Work Task	Procedure for weekly flushing of outlets (Flushing must always take place within 7 days of previous flush)
Frequency	No more than weekly. (If period between flushing exceeds weekly follow LEG 03)

Internal Outlets

- Ensure that flushing can be undertaken in a manner that reduces the chances of creating an aerosol spray or excessive splash-back.
- For removable shower heads:
 - Angle head to rear of shower and run hose at full bore for 2 minutes.
- For fixed head showers:
 - Direct spray to wall and run for 2 minutes.
- Record date of flushing. Also record any evidence of scale, corrosion, sludge, slime, debris or water discolouration and report to EMS Helpdesk.

External Outlets (Including Plantrooms)

- Ensure that flushing can be undertaken in a manner that that reduces the chances of creating an aerosol spray or excessive splash-back.
- Utilise hose to extend outlet to drain point or a suitable container.
- Run outlet at full bore until the temperature at the outlet stabilises and is comparable to supply water and purge to drain.
- Where service is provided with a lock-shield device or similar locking mechanism, return system to original condition and re-lock.
- Record and report any evidence of scale, corrosion, sludge, slime, debris or water discolouration.

	Legionella Management Plan Method of Work Sheet
Document Reference	LEG 05
Work Task	Procedure for Hot and Cold Water Outlets – disinfect and remove scale
Frequency	Weekly

Internal Outlets

For internal tap outlets:

- Run in a manner that avoids creating an aerosol spray or excessive splash-back until temperature has stabilised.
- Where scale is evident, apply chemical scale remover and allow 10 minute contact time (or as product manufacturers' guidance), agitate if required. Follow your local safe working procedures / risk assessment for use of descaler.
- If scale remains, repeat process using a scourer pad to release scale deposits.
- Apply disinfectant to outlet/nozzle and allow 2 minute contact time. Follow your local safe working procedures / risk assessment for use of disinfectant.
- Run tap, clean with proprietary cleaning solution and rinse/dry.
- If outlet remains scaled, record with supervisor to raise report with maintenance supervisor for additional remedial action.

External Outlets (Including Plantrooms)

For external tap outlets:

- Run in a manner that avoids creating an aerosol spray or excessive splash-back until temperature has stabilised, use hose or bucket as required.
- Where scale is evident, apply chemical scale remover and allow 10 minute contact time (or as product manufacturers' guidance), agitate if required.
- If scale remains, repeat process using a scourer pad to release scale deposits.
- Apply disinfectant to outlet/nozzle and allow 2 minute contact time.
- Run tap, clean with proprietary cleaning solution and rinse/dry.
- Record any evidence of scale, corrosion, sludge, slime, debris or water discolouration to maintenance supervisor for additional investigation.

Legionella Management Plan Method of Work Sheet	
Document Reference	LEG 06
Work Task	Procedure for Shower Heads – Visual Inspection, disinfect and descale
Frequency	3 Months
Limits	Shower head to be clear of scale, dirt or slime

During general cleaning process, inspect the shower head and hose for signs of scale, dirt or slime.

Where shower head has low levels of scale/dirt:

- Remove shower head from hose, lay head flat and spray with proprietary de-scaling solution.
- After 5 minutes (or as identified by the chemical manufacturer), run the shower head under flowing water and rinse with a clean cloth.

Where shower head has moderate levels of scale/dirt:

- Remove shower head from hose, immerse in a bucket/container with the appropriate concentration of proprietary de-scaling solution. Follow your local safe working procedures / risk assessment for use of de-scaling solution.
- After 10 minutes (or as identified by the chemical manufacturer), run the shower head under flowing water and rinse with a clean cloth.

If scale and dirt has been removed from the shower head, re-fit.

Where scale or dirt has not been adequately removed:

- Immerse all components in a chlorine solution (above 100ppm) for a period of not less than 20 minutes. Follow your local safe working procedures / risk assessment for use of chlorine solution.
- Remove assembly and flush/immerse assembly with fresh water.
- Allow assembly to dry.
- Store in a clean/dry/cool environment until required

Where shower head or hose still has high levels of scale/dirt:

- Dispose of shower head/hose and install new/cleaned head from stock and return to maintenance team for cleaning/disposal.

Where a flexible hose is provided, undertake similar cleaning process and replace hose if required.