LEGIONELLA POLICY

Approved and signed by the Board of Trustees by virtual meeting

15.12.21

RENEWAL: OCTOBER 2023

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CHANGES

May 2016
Policy first issued by PLP

January 2017
Policy adopted by Discovery MAT, with appropriate minor amendments

October 2017
Updated Legionella Written Scheme of Control from PLP.

January 2020
Updated Policy to reflect changes to the Management Structure

Oct 2021
Reviewed

LEGIONELLA WRITTEN SCHEME OF CONTROL

AIM

The Control of Substances Hazardous to Health 2002 (COSHH 2002) and Management of Health & Safety at Work Regulations 1999 (MHSWR 1999) require employers to ensure that any control measures are properly applied and employees are provided with suitable and sufficient information, instruction and training. A written scheme of control should be devised and implemented (as stated in the ACOP L8) to design, maintain and operate the water services under conditions that prevent or control the growth and multiplication of legionella bacteria.

POLICY STATEMENT

Discovery MAT acknowledges and accepts its responsibilities under the Health & Safety at Work etc. Act 1974, COSHH 2002, MHSWR 1999 and the HSE Approved Code of Practice L8 'The control of legionella bacteria in water systems' 2013. The School will comply with relevant guidance (HSG 274) issued by the Health and Safety Executive in this respect. The School will take all reasonable precautions to prevent risk to health from exposure to legionellosis by implementing the appropriate control measures in all of its relevant buildings.

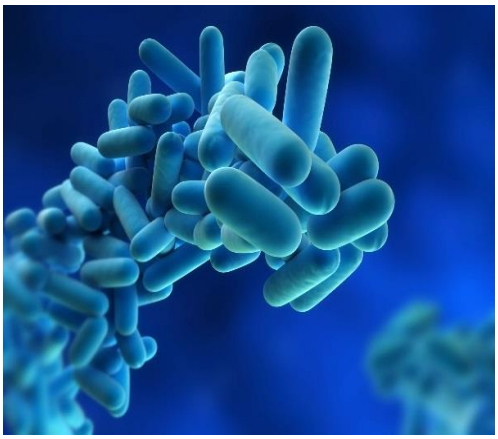
WRITTEN SCHEME REVIEW

This written scheme will be subject to review every 2 years, or as necessary in line with any risk assessment findings.

ISSUE RECORD SHEET		
Issue	**Amendment Date**	**Comment**
Draft	April 2016	First Draft
One	April 2016	First Issue
Two	October 2017	Second Issue as a MAT
Three	December 2019	Third Issue as a MAT
Forth	January 2020	Fourth issue as a MAT

DOCUMENT AUTHORS			
Name	**Position**	**Signature**	**Date**
Liam Cottrell	Consultant, Liam Cottrell -LCS		October 2017
Carl Challinor	PLP - Property & Compliance	CNChallinor	October 2017

WHAT IS LEGIONNAIRES DISEASE?



Legionnaires' disease is an uncommon form of pneumonia caused by the legionella bacterium. The majority of cases reported are as single (isolated) cases but outbreaks can occur. All ages may be affected but the disease mainly affects people over 50 years of age, and generally men more than women. Smokers and the immunocompromised are at a higher risk.

The early symptoms of Legionnaires' disease include a 'flu-like' illness with muscle aches, tiredness, headaches, dry cough and fever. Sometimes diarrhoea occurs and confusion may develop. Deaths occur in 10-15% of the general population and may be higher in some groups of patients. The incubation period can range from 2 to 19 days with a median of 6 to 7 days after exposure.

Infection occurs when legionella bacteria that have been released into the air in aerosolised form from a contaminated source are inhaled. Once in the lungs the bacteria multiply and cause either pneumonia or a less serious flu like illness (Pontiac fever).

The bacteria are widely distributed in the environment. They can live in all types of water including both natural sources such as rivers and streams, and artificial water sources such as water towers associated with cooling systems, hot and cold-water systems and spa pools. They only become a risk to health when the temperature allows the legionellae to grow rapidly, such as in water systems of poor design or installation or when poorly maintained.

Control and prevention of the disease is through treatment of the source of the infection, i.e. by treating the contaminated water systems, and good design and maintenance to prevent growth in the first place.

1 MANAGEMENT STRUCTURE FOR THE CONTROL OF LEGIONELLA

Academy	Name	Position	Responsibility	Tel Number
Central	Alison Nettleship	CEO	Duty Holder	01752706361
	Leslie Rust	FM/ICT	Dep Duty Holder	01752279830
Weston Mill	Rachel Dinnis	HOS	Responsible Person	01752365250
	Simon Wilkins	AHOS	Dep Responsible Person	01752365250
Beechwood	Tamsin Bailey	HOS	Responsible Person	01752706360
	Sarah Dominguezz	AHOS	Dep Responsible Person	01752706360
Oakwood	Jackie Sparrow	HOS	Responsible Person	01752775478
	Kathryn Catherwood	AHOS	Responsible Person	01752775478

LEGIONELLA CONTROL CONTRACTOR			
Company:	Liam Cottrell, Legionella Control Specialist		
Contact:	Liam Cottrell		
Position:	Proprietor		
Contact Number:	01822 481953		
Email:	liam@lclegionellaspecialist.com		
Address:	Tavistock Enterprise Hub Pearl Assurance House Brook Street Tavistock, PL19 0BN		
Tasks Assigned:	Risk Assessment	Training	Consultancy

Staff will be properly trained and competent to carry out the appropriate measures, and the MAT shall facilitate such training as is necessary. No changes to this written scheme or its procedures shall be made without the agreement of the Duty Holder.

2 MANAGEMENT RESPONSIBILITIES AND STAFF FUNCTIONS

2.1 THE DUTY HOLDER

The duty holder is the owner, occupier, employer or other person ultimately accountable and on whom the duty falls for the safe operation of the academies within the MAT. In the case of the MAT, this is the Chief Executive Officer. It is their responsibility to ensure that the necessary resources are available to the responsible person to ensure compliance with this document.

2.1a THE DEPUTY DUTY HOLDER

The deputy duty holder is formally appointed by the duty holder to be managerially responsible for the MAT's overall legionella management system.

Specifically, the role will involve:

- Ensuring overall compliance with the written scheme
- Ensuring building water system schematics are updated after any significant changes.
- Ensuring risk assessments are carried at least every two years or as necessary via a competent contractor.
- Ensuring the management team are competent to carry out the aspects of legionella control to which they have been assigned.
- To provide support to the responsible persons.

2.2 THE RESPONSIBLE PERSON

The responsible person is formally appointed by the duty holder to be managerially responsible for their individual school's legionella management system. The nominated person must be a manager and have sufficient authority to ensure that all operational procedures are carried out in an effective and timely manner. The responsible person must also possess a sound understanding of the control of legionella through appropriate training

It is recognised that the responsible person cannot be an expert on all matters and must be supported by specialists in the necessary area of expertise.

Specifically, the role will involve:

- Managing the day to day risks associated with Legionella
- To follow up recommendations, implement control measures following Health & Safety reports.

2.3 THE DEPUTY RESPONSIBLE PERSON

The responsible person will appoint a deputy, to whom delegated responsibilities may be given when the responsible person is unavailable. The deputy must meet the criteria set out above under **2.2 THE RESPONSIBLE PERSON.**

2.4 THE APPOINTED CONTRACTOR

The appointed contractor for designated aspects of legionella control will be a member of a relevant trade professional body and the responsible person shall request, inspect and hold contractor staff- competency records.

3 DESIGN AND USE OF HOT & COLD-WATER SYSTEMS

3.1 CONDITIONS THAT PROMOTE THE GROWTH OF LEGIONELLA BACTERIA

Legionella bacteria may contaminate water systems where the temperature is between 20 and 45˚C. It is uncommon to find any significant growth below 20˚C, the bacteria do not survive for any lengthy period above 60˚C. The optimum temperature growth is 37˚C

The presence of sediment, sludge, scale and organic material can act as a source of nutrients for Legionella bacteria. Commonly encountered organisms in water systems such as algae, amoebae

and other bacteria may serve as a nutrient source for Legionella. The formation of a biofilm (slime) within a water system will also play an important role in harbouring and providing favourable conditions in which Legionella can proliferate.

The presence of water stagnation can also play a significant part in legionella growth. An example of this would be a building that has little to no use of its water systems within a school holiday or disused pipework that is still live.

If the conditions mentioned above are eliminated or controlled, the likelihood of legionella growth will be significantly reduced.

3.2 DESIGN AND INSTALLATION OF NEW OR REFURBISHED BUILDING SERVICES

All domestic water systems new or refurbished installations shall comply with current water regulations and ACOP L8 / HSG 274 guidance. It is important to ensure that potential hazards are designed out where possible before installation.

3.3 COLD WATER SYSTEMS & STORAGE TANKS

Ideally, cold water should not be stored or distributed above 20˚C. However, the water supply regulations allow the water companies to supply cold water at up to 25˚C so maintaining a water temperature of below 20˚C may not be possible. Where water is supplied at temperatures of above 25˚C, the cold water in storage and at outlets should not be more than 2˚C above the supply water temperature. Cold-water temperatures of above 20˚C must be brought to the attention of the responsible person.

Wherever practicable domestic water storage tanks should not be used within the school properties and instead provided by the mains water supply

Where water storage tanks are in use to supply cold water services, the storage tanks shall be suitable for potable water, easily cleaned, equipped with a close-fitting cover, suitably insulated to minimise heat gains, and having overflow pipes properly screened. Tanks should ideally have take-off and entry points at opposite ends to ensure a sufficient flow through the tank.

Tank capacity shall be such that under normal use complete turnover takes less than 24 hours.

Where possible the layout of cold services and tanks should ensure that water in the system does not gain heat. Tanks and pipe work should not be positioned close to heat sources, or where they could be affected by solar gain, unless they are effectively insulated.

3.4 DOMESTIC HOT WATER SERVICES

Calorifiers' stored water should be maintained at 60˚C with secondary return loops (where fitted) at no less than 50˚C and should be suitably accessible for cleaning. It should be possible to isolate them, and they should incorporate drain connections at the lowest points which are large enough to permit the removal of sludge and quick drainage of the vessel. Hot water should reach at least 50˚C at all outlets within one minute of running.

Combination type water heaters (with feed pans) should be maintained at 55-60°C. This type of water should not be fitted in any new installation scenarios due to the increased legionella growth risk by design.

Point of use water heaters should be maintained at 50-55˚C.

Pipe work should be as short and direct as possible especially where it serves intermittently used taps and appliances. On new systems, spurs from circulation loops shall not exceed 5 metres in length.

Where people at risk of scalding are served by the hot water system, "fail-safe" thermostatically controlled mixing valves shall be used to reduce the hot water temperature at the outlet to 43°C. These are valves that are unaffected by changes in water pressure and automatically close the hot water supply if the cold water fails. They will be positioned as close as possible to the hot water outlets. Those people at risk of scalding include young children, the very old, and those with sensory loss.

Mixed water pipework from the thermostatically controlled mixing valve should be kept as short as possible.

3.5 COOLING TOWERS

The MAT has no wet cooling towers, and such equipment will not be installed or operated by the MAT.

3.6 AIR CONDITIONING SYSTEMS

Ventilation and air conditioning systems shall be designed so that water, whether from the supply or from other sources such as condensation, cannot accumulate in ductwork or plant, which is subject to an air stream. All condensate drains shall incorporate an air break as near to the ventilation or air conditioning system as possible, to prevent potentially contaminated water from being drawn back into the system.

No domestic type air humidifiers, or any similar equipment which may compromise air quality, shall be put into use on MAT premises without the prior approval of the Responsible Person.

3.7 ORNAMENTAL WATER FEATURES

The MAT currently does not have any type of ornamental water feature installed.

The MAT will not install or operate any type of indoor ornamental water feature. If installation of an outdoor type ornamental water feature is under consideration then a risk assessment will be carried out at the pre-construction stage and then reviewed at post construction before commissioning is to commence.

3.8 OPERATION OF GROUNDS SPRINKLER WATER SYSTEMS

The MAT does not currently operate ground sprinkler systems. In any future installations, a risk assessment will be carried out and the written scheme revised to take this into consideration.

3.9 HANDLING AND EXPOSURE TO COMPOST

Legionella is often found in compost and legionnaire's disease has resulted in a small number of cases from inhalation of dust or moisture droplets.

All staff who come into physical contact with compost must ensure the following:

- Staff must ensure that themselves and any children wash their hands as soon as is possible after contact
- Compost bags should not be stored in direct sunlight
- Compost bags should be opened carefully as not to disturb contents
- Compost bags ideally should not be opened in enclosed spaces such as sheds or green houses

3.10 USE OF WATER TRAYS (CHILDREN'S PLAY)

When water is allowed to stagnate, bacterial growth can occur which can be harmful to persons who interact with it.

Water trays must be:

- Emptied after each use
- Must be covered or left in an inverted position to prevent water build up
- Used with fresh water (mains water supply)

3.11 USE OF RAINWATER SUPPLY (WATER BUTTS)

Water butts collect contain rainwater. Non-potable water may contain potentially harmful bacteria. The water is often stagnant and may warm up during the summer months leading to significant bacteria growth.

They may be used for gardening purposes such as watering of plants through a water can or similar.

They must NOT be used in the following scenarios:

- Be used for children's play
- Be used in conjunction with a power washer

4 OPERATION AND MAINTENANCE OF BUILDING SERVICES

4.1 WATER TEMPERATURES AT OUTLETS

The flow temperature from hot water calorifiers should not be less than 60˚C. The minimum temperature of the secondary recirculation pipework should not be less than 50˚C.

It is acceptable for point of use water heaters with storage no greater than 10 Litres to have a flow temperature of between 50-55˚C due to the lower associated risk. Combination water heaters (with feed pan fitted) should have a flow temperature of between 55-60°C

Water temperatures (including Calorifier or combination water heater flow / return) at sentinel hot and cold outlets shall be measured and recorded monthly. Results should be recorded on a log sheet and filed in the legionella control log book.

Low volume water heater (15L or less) flow temperatures (and associated sentinel's outlets) can be measured and temperatures recorded at a frequency of up to six monthly intervals, depending on the associated risk.

Cold water outlet temperatures shall be measured after allowing the water to run at full flow for 2 minutes. The temperature should be less than 20˚C, or if above 20˚C should be less than 2˚C above the incoming supply from the water supply company.

Hot water outlet temperatures shall be measured after allowing the water to run at full flow for up to 1 minute. The temperature should be at least 50˚C. However, where mixing or blending devices are used which prevent the outlet reaching this temperature, the pipe surface immediately before the device should reach 50˚C within 1 minute.

Representative outlets (outlets in between sentinels) should be measured on a rotational basis over a period of a year

4.2 DOMESTIC WATER STORAGE

The condition of domestic cold-water storage tanks shall be checked annually and any remedial work carried out (see also 4.3 Disinfection of Water Tanks).

Tank water temperatures shall be checked annually (ideally summertime)

Water storage capacity should be such that ideally complete turnover will occur within 24 hours. Wherever unnecessary tanks are located, they will be taken out of use and drained to ensure the necessary turnover rate.

Maintenance staff who have undertaken "dirty" jobs (i.e. unblocking drains) must change into clean protective clothing and wash their hands thoroughly before working on domestic hot or cold water systems where there is a risk of contaminating that system.

Every year hot water calorifiers shall have their drain valve (where fitted) water visually inspected for signs or sludge, rust or scale. If visual contamination is identified then cleaning should be carried out as necessary.

Before any hot water calorifier is returned to service following temporary disuse or servicing, the entire contents is to be brought up to and held at a temperature of at least 60˚C for at least 1 hour. After this time, all associated outlets should be flushed to achieve and maintain a temperature of 50˚C for 5 minutes

4.3 DISINFECTION OF DOMESTIC WATER STORAGE TANKS

Water tanks will be inspected annually (summer) by the appointed contractor. The contractor should provide an inspection report and (if cleaning is required) a certificate of cleaning after the completed works.

This work shall be carried out in accordance BS EN 806 and method statements will be obtained by the Responsible Person before the work is carried out.

Note Unless otherwise directed by the Responsible Person, this written scheme does NOT cover the cleaning and disinfection of water storage tanks, which do NOT supply domestic cold water or domestic hot water systems. In particular heating system feed and expansion tanks are outside the scope of this document due to the low inherent risk these systems pose.

4.4 INFREQUENTLY USED OUTLETS AND SHOWERS

The need for intermittently or infrequently used taps and appliances (particularly showers) shall be reviewed from time to time, by the Responsible Person. If such taps and appliances are not

necessary the supplies shall be cut off close to the in-use supply pipe to ensure that no dead leg is formed. If it is not reasonably practicable to remove these outlets then a weekly flushing regime should be implemented.

During periods of little use of the water systems such as school holidays, both hot & cold outlets should be flushed weekly for a determined period.

On a quarterly basis, or less frequently if it is shown to be necessary, shower heads and hoses will be dismantled, cleaned and descaled and the work logged on the shower maintenance log sheet. The completed log will be located within the legionella control log book.

4.5 PLANNED PREVENTATIVE MAINTENANCE SCHEDULES

The following table shows an example the frequency of the necessary control measures to be scheduled as planned preventative maintenance.

The master PPM schedule will be retained in the legionella log and copies given to other relevant staff.

4.5.1 PPM EXAMPLE FOR SCHOOL PREMISES

Month	Week 1	Week 2	Week 3	Week 4	Week 5
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					

W	Weekly - Flushing of little used outlets
M	Monthly - Temperature checks of sentinel hot and cold water outlets &Calorifier flow & return temperature
Q	Quarterly - Cleaning and disinfection of shower heads
AC	Annual - Calorifier drain valve sample (if fitted) visual check
AV	Annual - Visual inspection of domestic cold water tank and cleaning where necessary

5 RECORD KEEPING

The following records shall be kept on file for a period of 5 years in a log book held within each academy's premises. Additionally, electronic records can also be kept.

Test Records (with dates) or work carried out to prevent or control legionellosis.

Completed report sheets for:

- Weekly flushing of infrequently used outlets
- Monthly hot & cold-water temperature checks including flow and return temperature
- Quarterly shower head cleaning
- Annual domestic water tank visual inspection and cleaning (where necessary) certification
- Annual calorifier visual sampling of drain valve water

6 ACTION IN THE EVENT OF AN INCIDENT

In the event of a single case of legionellosis, possibly acquired within the School then an emergency meeting shall be set up of a group comprising of:

- Chief Executive Officer
- Board of Trustees Member(s)
- Head of School
- Facilities Manager

The group should meet daily as necessary, with others as appropriate, to co-ordinate investigation of the problem, and progress any necessary action. Minutes are to be kept and a log of actions taken, and results of tests and inspections are to be recorded by the Responsible Person

Immediate action may include:

- Stopping admissions to affected site /area
- Sampling water from taps and showers prior to any disinfection or pasteurisation.
- Sampling of water from calorifiers serving the affected site prior to any disinfection or pasteurisation
- Increasing hot water temperatures at outlets to a minimum of 60˚C
- Inspection of maintenance records for legionellosis preventative work
- Disinfection of water services in accordance with BS EN 806

Legionnaire's disease is not a notifiable disease in England and Wales but if staff acquire the disease, cases may be notifiable under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR)

The Health & Safety Executive may be involved in the investigation of outbreaks under the Health & Safety at Work Act 1974.

7 MICROBIAL MONITORING FOR LEGIONELLA

Legionella water samples shall be taken under the following circumstances:

- Where control levels of the treatment regime (temperature control) are not being consistently achieved
- When an outbreak or incident is suspected or has been identified:
    - Samples will be taken in accordance with BS EN 7592 by suitably trained persons.

- Analysis of water samples for legionella will be carried out by a UKAS accredited laboratory.

7.1 INTERPRETING LEGIONELLA SAMPLE RESULTS

Legionella water samples shall be taken under the following circumstances:

- Where control levels of the treatment regime (temperature control) are not being consistently achieved.
- When an outbreak or incident is suspected or has been identified.
- Samples will be taken in accordance with BS EN 7592 by suitably trained persons.
- Analysis of water samples for legionella will be carried out by a UKAS accredited laboratory.

ACOP L8 table 4 details the action required following legionella sampling in hot and cold-water systems.

LEGIONELLA BACTERIA (CFU/L)	RECOMMENDED ACTIONS
>100 cfu/l and up to 1000	Either: • if the minority of samples are positive, the system should be resampled. If similar results are found again, a review of the control measures and risk assessment should be carried out to identify any remedial actions necessary or, • if the majority of samples are positive, the system may be colonised, albeit at a low level, An immediate review of the control measures and risk assessment should be carried out to identify any other remedial action required. Disinfection of the system should be considered
>1000 cfu/l	The system should be resampled and an immediate review of the control measures and risk assessment carried out to identify any remedial actions, including possible disinfection of the system. Retesting should take place a few days after disinfection and at frequent intervals afterwards until a satisfactory level of control is achieved

If disinfection of the water systems is necessary then this work will be carried out by trained persons who have been deemed competent to carry out this task. Sections 2.5 and 4.3 should be observed.

8 PROCEDURES FOR LEGIONELLA CONTROL MEASURES

Procedures for cleaning and disinfection of water tanks and any other control measure will be obtained from the contractor by the MAT, prior to the works taking place.

All procedures used by MAT staff will be held with the Responsible Person and distributed to other relevant staff.

8.1 FLUSHING OF INFREQUENTLY USED WATER OUTLETS PROCEDURE (WEEKLY)

- Identify little used outlet(s)
- Open outlet whilst minimising the release of water aerosol (reduce spray)
- Flush the outlet until the temperature at the outlet stabilises and is comparable with the supply water e.g. until cold water is cold or hot water is hot
- Keep written records of action and report any defects to site manager.

Things to consider:

- Toilets should also be flushed by flushing through one cycle
- Drinking water vending machines and outside taps should also be included

8.2 WATER TEMPERATURE CHECKS AT OUTLETS (MONTHLY)

Outlets without TMV's:

- Identify outlet to be checked by following customised temperature form for the correct month
- Run hot tap on full flow for 1 minute and cold tap for 2 minutes
- Place temperature probe under outlet and record reading
- Report any defects to the Site Manager

Outlets with TMV's fitted

- Follow steps 1-2 then place surface probe attachment against hot inlet pipe to TMV ensuring a good contact and record reading. Due to heat loss through pipework material, add 2 degrees to final temperature reading.
- Cold water temperatures cannot be taken with surface probe attachment and must be taken as step 3.

8.3 MONTHLY TEMPERATURE CHECKS OF CALORIFIERS

Ensure that you are confident in identifying the secondary hot water flow and return (where fitted) pipework and that it is safely accessible

- Place surface probe attachment against flow pipe ensuring a good contact and record reading. Due to heat loss through pipework material, add 2 degrees to final reading
- If secondary return loop is fitted, follow step 1
- Record results and report any defects to the relevant member of staff

8.4 WATER SAMPLE FROM CALORIFIER DRAIN VALVE (ANNUALLY)

- Locate cold water supply drain valve on (or close) to calorifier
- Isolate cold water supply to calorifier
- Place a clear plastic container / bottle under calorifier drain valve
- Turn off drain valve and visually inspect sample for water condition
- Record results and report any concerns such as water discoloration to the Facilities Manager

8.5 CLEANING OF SHOWER HEADS AND HOSES (QUARTERLY OR AS NECESSARY)

- Flush shower through to purge any potential water stagnation

- Remove shower head and hose (if fitted)
- Place in a disinfection solution and clean thoroughly
- Refit and flush through to remove any residual disinfectant
- Record cleaning and report any defects to the Site Manager

8.6 COLD WATER STORAGE TANK INSPECTION

Water tanks should be inspected by a trained competent person with a written assessment made of the current condition of the water tank. This should include:

- Internal condition – Signs of sediment, rust, biofilm, water stagnation
- External condition – Insulated, close fitting lid, insect screen, breather fitted and inspection of pipework configuration
- Photographs of findings

Outside contractors should supply their own method statement to the responsible person prior to the work phase.

If water tank cleaning/disinfection is recommended then a further method statement should be provided and all disinfection works carried out in line with BS EN 806

Related resources:

https://www.hse.gov.uk/legionnaires/