Empowering our unique schools to Excel

St John's CE School
Water Services Hygiene, Legionellosis and Scalding

Policy, Strategy & Management Procedures
Managing the Risk

	ODBST	
Policy Level:	2	**ODBST Statutory and Mandatory Policy** All schools must adopt these policies with local amendment strongly discouraged. These policies are centrally amended and binding on LGBs from the date of Board approval. They must be displayed on the School's website. Approval for all proposed local amendments must be sought from the ODBST Governance Lead prior to Local Governing Body resolution.
Other related ODBST policies and procedures:		
Committee responsible:	FRAPP	
Approved by:	FRAPP and Trust Board	
Date Approved:	18th October 2022	
Date for Next Review:	October 2025	

In reviewing this policy the Trust Board has had regards to the Equality act 2010 and carried out an equality impact assement. It is satissfied that no group with a protected charecteristic will be unfairly disadvantaged

Approved October 2022

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1.0 Legionellosis and Scalding Risk Management Policy Statement

1.1 Policy statement

The Policy of the Oxford Diocesan Bucks Schools Trust (ODBST) is to:

- Maintain a safe and healthy environment in premises where ODBST is the landlord or has responsibilities for water services hygiene, including prevention of legionellosis and scalding.
- Comply with all statutory requirements, regulations & Approved codes of Practice (ACoPs) concerning the control of legionellosis and scalding.
- Manage the risks relating to legionellosis and scalding where they remain in buildings in order that they are minimised as far as reasonably practicable.
- Remove, or reduce to an acceptable level, the legionellosis risk where the risk to building users is assessed as being unacceptable.
- Implement procedures through awareness to ensure legionellosis and other water hygiene risks are minimised.
- Ensure that all ODBST sites are risk assessed with regard to legionellosis and scalding and that these risk assessments are reviewed at least every two years or longer if no changes to the building has taken place and all checks are carried oud correctly.
- Ensure that the policy statement is being complied with and regularly reviewed.
- Review all policies and procedures on an annual basis.

1.2 Contact Details

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2 Introduction

2.1 Purpose of Policy

The purpose of this policy and logbook is to communicate to site staff and property service providers the importance of water hygiene, their responsibility for maintaining water hygiene, the role of ODBST, the precautions which both ODBST and site staff are required to implement and the responsibility for record keeping.

It is important that the reader understands fully the actions necessary to control the risk and their role in the control process. If there is any doubt about the content or implications of this document, the reader should first refer to Section 7 Management Procedures and, if still in doubt, refer to the appropriate contact.

Failure to adopt appropriate measures for the minimisation of legionellosis risk (in accordance with the Health and Safety at Work etc Act 1974, the Management of Health and Safety at Work Regulations 1999, the Control of Substances Hazardous to Health Regulations 2002, BS 8580:2010 Risk assessments for Legionella control code of practice and the Health and Safety Executive document HSG 274 part 2 – Legionnaires' disease Part 2: The control of legionella bacteria in hot and cold water systems) renders ODBST, Headteachers, Site or Facilities Managers, ODBST staff and others liable to prosecution.

There is a legal duty to adopt measures of the type presented in this policy document.

The following information must be retained in the site logbook:

- Copy of the risk assessment;
- Any correspondence relating to water hygiene;
- Any certificates relating to water hygiene;
- Copy of the site plan showing the location of boiler and heater plant, hot and cold water outlets etc;
- Details of any water treatment systems;
- Copies of all record keeping sheets.

3 Background to Legionellosis:

3.1 What is Legionellosis and Legionnaires' Disease?

Legionellosis is the collective term used to cover the group of illnesses caused by legionella bacteria.

Legionnaires' disease is an uncommon form of pneumonia caused by the legionella bacteria. The majority of cases are reported as single (isolated) cases but outbreaks can occur. All ages can be affected but the disease mainly affects people over 50 years of age, and generally men more than women. Smokers and the immuno-compromised 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 diarrhea occurs and confusion may develop. Deaths

occur in 10-15% of the general population that contract the disease and may be higher in some groups of hospital patients. The incubation period can range from 2 to 10 days with a median of 6 to 7 days after exposure.

Pontiac fever is a mild flu-like illness caused by legionella bacteria, often affecting previously healthy and young individuals. Symptoms can include fever, headaches and muscle aches but, unlike Legionnaires' disease, Pontiac fever does not cause pneumonia. The illness will usually clear up without treatment within two to three days.

Between 400 and 500[1] cases of legionellosis are reported in England and Wales each year, compared with 180,000 cases of pneumonia from all causes.

3.2 How is it caught?

People become infected when they inhale legionella bacteria which have been released into the air in aerosolised (mist/spray) form from a contaminated water source. Once in the lungs the bacteria multiply and cause either pneumonia or a less serious flu like illness (Pontiac fever).

There is no evidence to show that the disease can be contracted from someone who is already infected or from drinking water containing the bacteria.

3.3 What is the Risk?

It principally affects those who are susceptible due to age, illness, immuno-suppression, smoking etc. and can be fatal. Most cases have been diagnosed in people aged between 40-70. Legionella bacteria can also cause less serious illnesses which are not fatal or permanently debilitating but which can affect all people.

A number of factors are required to create a risk of acquiring legionellosis, such as:

- the presence of legionella bacteria;
- conditions suitable for multiplication of the organisms e.g. suitable water temperature (20°C-45°C) and a source of nutrients e.g. sludge, scale, rust, algae and other organic matter;
- a means of creating and disseminating breathable droplets e.g. the aerosol generated by a cooling tower or shower, spray tap, spa pool etc. and
- the presence (and numbers) of people who may be exposed, especially in premises where occupants are particularly vulnerable, e.g. the elderly, people with underlying illness and those who are immuno-compromised.

3.4 How is it Controlled?

The aim is to reduce the risk of the proliferation of legionella bacteria and all other common water borne bacteria to an acceptable level by:

- Keeping the hot water storage temperature at greater than 60°C or fitting a water treatment system;

1 Health Protection Agency (HPA) (2010) General Information and FAQs available online from http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/LegionnairesDisease/GeneralInformation/

- Ensuring hot water distribution temperatures are above 50°C or fitting a water treatment system;
- Maintaining cold water temperatures at less than 20° C;
- Keeping water systems clean and in good condition;
- Cleaning shower heads and hoses regularly;
- Maintaining thermostatic mixing valves (TMVs);
- Controlling contamination of the water systems;
- Preventing stagnation due to the unnecessary storage of water;
- Where fitted, maintaining and keeping in good working order any water treatment systems installed.

4 Background to safe hot water and surface temperatures

4.1 What is Scalding?

Hot Water Scalding is a burn to the skin or flesh caused by very hot water and hot vapours such as steam.

4.2 What is the Risk?

ODBST sites are used by people who are more vulnerable to the risk of scalding or burns. The risk will be greater for the following groups of people:

- Young children of nursery and foundation stage age;
- older people;
- people with reduced mental capacity, mobility or temperature sensitivity;
- people who cannot react appropriately, or quickly enough, to prevent injury.

4.2.1 Hot water

If hot water used for showering or bathing is above temperatures in Table 1(see 4.4.1) there is increased risk of serious injury or fatality. Where large areas of the body are exposed to high temperatures, scalds can be very serious and have led to fatalities.

4.2.2 Hot surfaces

Contact with surfaces above 43°C can lead to serious injury. Prolonged contact often occurs because people have fallen and are unable to move, or are trapped by furniture. Incidents often occur in areas where there are low levels of supervision, for example in residential accommodation, bathrooms and some communal areas.

4.3 Scalding Risk Assessment.

A suitable and sufficient risk assessment is made of all outlets and surfaces to enable the production of an action plan or risk minimisation scheme. The scalding risk assessment report provides a risk minimisation scheme similar to the legionellosis scheme. This scheme identifies areas that do not meet the recommendations and includes a prioritised plan of action.

The extent of scalding risk control measures necessary depends on the vulnerability of the occupants at each property. For the purposes of the on-site risk assessment study, in order to determine

vulnerability, three broad scalding risk categories have been adopted - **high, medium and low.** Categorisation is made on the basis of the property use and the nature of its occupants.

In addition, all managers responsible for premises or activities should follow the Council's procedure for **Safe Bathing – Prevention of scalding and drowning** (this guidance is published separately on the Council's H&S Intranet site)

Under normal circumstances the exposure to most other people from the temperatures of hot water and surfaces found in ODBST buildings does not present a significant risk.

4.4 How is it Controlled

4.4.1 Hot water

For areas/activities that present a scalding risk to vulnerable persons the following table provides the maximum allowed temperatures.

Table 1. Maximum Safe Hot Water Temperatures

Application	Risk Rating	Maximum Hot Water Temperatures
Baths	High (Full body immersion)	**44°C**
Shower	High (Full body immersion)	**41°C**
Wash hand basins/sinks	Medium	**41°C**
Bidet	Medium	**38°C**
Babies and Infants: When bathing or washing babies and infants (very young children that can neither walk nor talk) the recommended safe water temperature is 37°C or body temperature.		

Engineering controls should be provided to ensure that water hotter than stated in Table 1 is not discharged from outlets that may be accessible to vulnerable people and where there is the potential for whole-body immersion. Similar controls may be needed at other outlets where people are especially vulnerable (e.g. wash hand basins where people have skin sensitivity impairment).

Engineering controls can include:

- thermostatic mixing valves (TMVs);
- BEAB CARE approved showers;
- temperature-restricted, instant water heaters.

TMVs should be located as close as possible to the outlet, where they are necessary. Further information on TMVs can be obtained from the Thermostatic Mixing Valve Association (TMVA) or at www.beama.org.uk .

Regular safety testing and servicing should ensure that the equipment remains safe at all times.

Where TMVs are not fitted to baths or showers other equally effective controls should be in place.

The Council require 'healthcare standard' showers to be fitted in settings used by vulnerable persons to prevent unsafe hot water temperatures under all conditions. Although electric showers are likely to have temperature regulation features, water temperatures above 41°C may still occur if there are fluctuations in flow or pressure.

4.4.2 Hot surfaces

Many radiators and associated pipework are likely to operate at temperatures which may present a burn risk. Where assessment identifies that vulnerable people may come into prolonged contact, such equipment should be designed or covered so that the maximum accessible surface temperature does not exceed 43°C.

The risk of burns from hot surfaces may be reduced by:

- providing low surface temperature heat emitters;
- locating sources of heat out of reach;
- guarding the heated areas (e.g. providing radiator covers, covering exposed pipework);
- reducing the flow temperatures, although this should not reduce their effectiveness or increase risk from legionella.

5 Legal Requirements

5.1 Legislation

There are statutory duties to manage the risks of exposure to legionella bacteria in the work place, specifically:

- The Health and Safety at Work Act 1974 (sections 2,3,4 & 6)
- The Management of Health and Safety at Work Regulations 1999 as amended (regulations 3 & 5)
- The Control of Substances Hazardous to Health Regulations 2002 (as amended) (regulations 6, 7, 8, 9 & 12)

In 2013 / 2014 the Health and Safety Executive published HSG 274 Parts 1, 2 & 3.

- Part 1 Controlling legionella bacteria in evaporative cooling tower systems,
- Part 2 The control of legionella bacteria in hot and cold-water systems
- Part 3 Controlling legionella bacteria in other risk systems.

HSG 274 identifies the need for the following key actions:

- A suitable and sufficient assessment must be carried out to identify and assess the risk of legionellosis from work activities and water sources and any necessary precautions;
- Produce an action plan for the management of risk in the form of a written risk minimisation scheme;
- Implement and manage the precautions to control risk (both ODBST and the Heads of Establishment are responsible for this action);

- Ensure that adequate records are maintained.

5.1 The Private Water Supplies Regulations 2009

Where water is supplied to site via a borehole or other private water supply then these regulations apply. A risk assessment to ensure the water supply is wholesome must be completed by the relevant local authority and subsequently every five years thereafter.

Check and Audit monitoring must be completed at appropriate time intervals as detailed in Schedules 1 and 2 of the regulations[2], results of this sampling must be made available to all relevant parties as detailed in Section 8.4.

5.2 Water Supply (Water Fittings) Regulations 1999

5.2.1 What are the Water Supply (Water Fittings) Regulations?

The Water Supply (Water Fittings) Regulations 1999 are a statutory instrument that amends the Water Industry Act of 1991. These regulations lay down how water systems within buildings should be installed and operated. In most cases the regulations are not retrospective and therefore if a system was installed prior to 1999 and the installation complied with the former water bylaws then such a system will be deemed to be up to standard.

However, irrespective of installation date the Regulations will apply retrospectively where it can be shown that the system will or could cause one of the following:

- Contamination
- Waste
- Misuse
- Undue consumption
- Erroneous Measurement

5.2.2 ODBST policy re Water Supply (Water Fittings) Regulations

It is ODBST policy that any new installations or system modifications must also comply with the 1999 Regulations and must only be installed by engineers approved under the Water Regulation Advisory Scheme (WRAS) approved plumber scheme.

Regulation 9 of the Water Regulations enables the water undertaker to enter premises and carry out inspections to ensure sites comply with the regulations.

5.2.3 Thames Water Enforcement of the Water Fittings Regulations

Should Thames Water visit ODBST properties any actions it requires must be carried out to ensure compliance with the regulations. If a school is given notice, these notices are legally binding and, if ignored, can result in legal action being taken against the site by Thames Water.

The areas in which Thames Water have typically found non-compliance include:

- Water cisterns and tanks

[2] The Private Water Supplies (England) Regulations 2016 [Available online] http://www.legislation.gov.uk/uksi/2016/618/contents/made

- Food preparation and kitchen areas including connections of appliances
- Toilet connections
- School Laboratory Areas
- Laundries
- Fire hose reels and systems

Should a site receive such a notice they should not ignore it as legal proceedings will follow if they do so. Further advice can be obtained by phoning WRAS on 0333 207 9030 or visiting the WRAS website on http://www.wras.co.uk/ and Thames Water themselves can provide sites with guidance on how to comply with the regulations.

If/when you do receive such a letter please acknowledge receipt to Thames Water and immediately seek specialist advice..

6. Organisational and Management Responsibilities

6.1. Chief Executive and Chief Operating Officer

The Chief Executive Officer has overall responsibility for the management of health and safety within the Trust with the strategic management of water hygiene and legionellosis in Trust properties being delegated to the Chief Operating Officer

6.2. Headteacher - Appointed Person (School based)

A person is appointed by the local Governing body to be managerially responsible and to provide supervision for the implementation of precautions. Guidance is available to enable ODBST to achieve these requirements in the form of two documents:

- HSG 274 Legionnaires' disease Part 2: The control of legionella bacteria in hot and cold-water systems.
- Health Technical Memorandum 04-01 – The control of Legionella, hygiene, "safe" hot water, cold water and drinking water systems issued by DH Estates and Facilities.

6.3. Site Manager- Responsible Person (School based)

The **Responsible Person** is appointed to take day-to-day responsibility for the implementation of the water hygiene, legionella and scalding precautions. The **Responsible Person** will be supported by a **Appointed Person (**Headteacher)

The Site Manager/Caretaker – Responsible Person will ensure:

- Records of temperature checks are maintained and recorded in the **Water Services Hygiene Logbook or on Safesmart- Smartlog**

- Records are freely available for inspection;
- That hot and cold-water temperatures are monitored, and the temperatures recorded

- Hot water systems are operated at the correct temperatures as identified on the record sheets;

- Cold water systems are maintained at or below the correct temperatures as identified on the record sheets;
- Infrequently used showers are removed or run weekly for at least 2 minutes;
- Regularly used shower heads are cleaned quarterly as a minimum;
- That, to avoid stagnation of water in pipework, all outlets are run on a regular basis, at least weekly for a minimum of 3 minutes. If a basin or other outlet is no longer used, consider removal of the item;
- That contamination of the water systems is avoided;
- That the creation of unnecessary aerosols of water is avoided;
- That any water treatment systems fitted are operated and maintained as instructed;
- That a risk assessment of hot water services is carried out when altering the operational use of an area or integrating persons with special needs into the working environment to consider any actions that may be necessary to protect all persons who may be at risk from scalding.
- Water Testing and Management Methodology, incorporating Scalding Risk document, details how ODBST will satisfy all legislative and accepted codes of practice requirements.

The Responsible Person ensures the following essential practical maintenance/management actions are taken:

- Where non-compliant water storage temperatures are identified the cause is rectified and, where necessary, the system subsequently subjected to a full clean and chlorination.
- Hot water systems are operated at or above the approved minimum temperature. Storage temperature shall be greater than 60°C unless the risk assessment indicates otherwise. Outlet (tap) temperatures are greater than 50°C unless fitted with a thermostatic mixing valve.
- Outlet temperatures from point of use water heaters do not exceed the temperature stated in section 4.4.1 Table 1 when fed via thermostatic mixing valves for scalding issues.
- Cold water systems are maintained at or below the approved maximum water temperature. Cold water storage and outlet temperatures are maintained below 20°C. It is permitted for the temperature to be 2°C greater than the incoming mains water temperature. However, this temperature should not exceed 25°C;
- Infrequently used showers and outlets are identified in agreement with the Appointed Person for removal if no longer required for operational reasons. If retained, the showers should be run weekly for at least 3 minutes to avoid water stagnating in pipework;
- All outlets are run on a regular basis. Where a basin or other outlet is no longer used it is removed and the pipework serving it removed back to the last flowing point;
- Potential contamination of the water systems is avoided e.g. storage of substances on top of cold-water tanks;
- The creation of unnecessary aerosols of water is avoided; and
- Cleansing and disinfection of the system if any activity or occurrence has jeopardized water hygiene, when recommended by the risk action plan or if bacteriological analysis requires it.

There is a risk of scalding at temperatures above those stated in section 4.4.1 Table 1. The risk is dependent on temperature and duration of contact and is greater for young children, the elderly

and persons with sensory or mobility impairment. Where there is a risk of scalding the following measures may be implemented:

- Installation of local point-of-use thermostatic mixing valves; and
- The fitting of low surface temperature radiators or protective guards to pipe work and heat emitting surfaces.

6.4. Competent Advisor - from Oxford county Council Health and Safety Team

The Competent Person will:

- Act as the Trust's competent person in respect of water hygiene and legionellosis.
- Review annually the water hygiene risk assessments for all ODBST schools.

6.5. Headteachers and Site Managers

- Familiarise themselves with the Trust's policy and procedures for managing water hygiene and legionellosis
- Complete water hygiene and legionellosis training.
- Ensure access is available to an up-to-date premises policy and risk assessment
- Make all water hygiene and legionellosis information available to employees and anyone else working on the premises.

6.6. Additional Actions for Schools

Headteachers are responsible for ensuring:

- That a person is nominated to be responsible for maintaining records of temperature checks as specified in the **Water Services Hygiene, Legionellosis and Scalding Logbook**
- Records are freely available for inspection;
- Hot water systems are operated at the correct temperatures as identified on the record sheets;
- Cold water systems are maintained at or below the correct temperatures as identified on the record sheets;
- Infrequently used showers should preferably be identified for removal or be run weekly for at least 3 minutes;
- Regularly used shower heads are cleaned quarterly as a minimum;
- That, to avoid stagnation of water in pipework, all outlets are run on a regular basis, at least weekly for a minimum of 3 minutes. If a basin or other outlet is no longer used, removal of the item should be considered;
- That contamination of the water systems is avoided;
- That the creation of unnecessary aerosols of water is avoided;
- That any water treatment systems fitted are operated and maintained as instructed;
- That a risk assessment of hot water services is carried out when altering the operational use of an area or integrating persons with special needs into the working environment to consider any actions that may be necessary to protect all persons who may be at risk from scalding.

That hot and cold-water temperatures are monitored, and the temperatures recorded (See Section

4.0 of the 'Water Hygiene Logbook' - Temperature Monitoring Records).

6.7. Employees

All employees will:

- Comply with water hygiene related instructions issued by the Competent Advisor or the Chief Operating Officer.

6.8. Responsibilities for Managing Trust and other Relevant Buildings

6.8.1. Properties leased by the Trust

Duty holder responsibilities will depend on the nature or extent of the lease, for example, full repair and maintenance or Shared Use Agreements. Refer to the terms of the lease for details.

The Trust is responsible for ensuring that the management of the premises includes water hygiene and legionellosis management where applicable.

6.8.2. Properties leased to a third party by the Trust

The Trust is responsible in the first instance for leasing the premises in a suitable condition and ensuring that water hygiene and legionellosis management is in place prior to the occupation of the premises by a new tenant. The Trust may retain some responsibilities as the Duty Holder for parts of the building. Refer to the terms of the lease for details.

6.8.3. Premises where the Trust is tenant

Where the Trust has responsibility for repairs and maintenance it may have responsibility for water hygiene and legionellosis management. Refer to the terms of the lease for details.

Where the Landlord is responsible, ODBST staff have a duty to co-operate with the landlord, so that the landlord's arrangements, policies and procedures regarding water hygiene and legionellosis management are complied with.

Where the Trust is responsible for water hygiene and legionellosis management in the premises it will undertake regular re-inspections as necessary.

6.8.4. Academy Schools

Each School (academy) in the trust has responsibility for the maintenance and/or repair of their own school. In academy Schools the duty holders are the school governors.

6.9 Allocation of Management Responsibilities

The responsibility for design, operation and maintenance of water systems and procedures for the control of legionellosis is divided between a range of individuals and organisations and is summarised below:

Table 2 Allocation of Responsibilities

Action	Person(s) Responsible
Setting Policy with regards to legionellosis risk	Trust Chief Operations Officer
Provision of general guidance on legionellosis	OCC Competent Advisor
Risk management actions	Schools
Decision regarding approved operating temperatures	OCC Competent Advisor
Operation under approved temperatures and conditions	Schools
Maintain a record of temperature checks in order to evaluate performance	Schools

7.1 Risk Assessment

All water hygiene and scalding risk assessments will be carried out by an LCA Accredited Surveyor under the Legionella Control Association scheme.

The risk assessments are completed with reference to HSG 274 part 2 and BS 8580:2010

A water hygiene and scalding risk assessment will be carried out at all sites every two years or when changes to the systems are made[3]. At high risk sites, to include health and wellbeing centres, learning disability daytime support services and special schools the risk assessment will be reviewed 12 months after it is carried out.

For staff housing which falls under the requirements of HSG 274 part 2, the risk assessments will be reviewed at a change of tenant or when changes to the system are made with ODBST's knowledge. This is based on these sites being defined as a work place by the HSE as maintenance is conducted within these properties by staff or contractors[4].

The risk assessment comprises of a systematic questionnaire applied to the water systems with particular reference to the factors which influence proliferation of the bacteria (i.e. cleanliness, condition, temperature, etc.). The survey results are used to produce recommendations for the control of the bacteria.

7.2 Schematic Diagrams

Schematic diagrams will be prepared as part of the risk assessment in accordance with HSG 274 part 2. Schematics must be reviewed at the time of the risk re-assessment. If there has been any change to the system since the previous assessment, then the schematic drawing shall be updated.

For each water system that presents a risk from Legionella bacteria, a schematic diagram shall be held showing:

- Origin of water supply;
- General layout of the system;
- How the system operates;
- All associated storage and header tanks;
- All standby equipment;
- Any parts of the system that may be out of use temporarily;
- Any problem areas such as dead legs;
- Regular operation and test points such as nearest and furthest outlets to the CWS tanks and hot water sources.

The schematic diagram may also show:

- All system plant, e.g. water softeners, filters, strainers, pumps, non-return valves, thermostatic mixer valves, and all outlets, for example showers, wash hand basins etc;
- All associated pipework and piping routes.

7.3 Prioritisation

The remedial measures are prioritised in terms of 'Risk', 'Cost' and 'Difficulty'. Details are included in the risk assessment for each property.

[3] HTM 04-01 The control of Legionella, hygiene, "safe" hot water, cold water and drinking water systems. Management policy para 3.3

[4] L8 the control of Legionella bacteria in water systems- approved code of practice and guidance. Para 12

7.4 Implementation

The high-risk low-cost items are to be addressed first, followed by high risk high cost items in order to reduce, remove or manage any risk. The majority of low-risk items are effectively controlled through management, not remedial work. A database is used to monitor implementation progress and to identify and coordinate remedial works that are carried out.

7.5 Records

A **Water Services Hygiene, Legionellosis and Scalding Logbook** is available alongside this policy. This was produced to aid temperature monitoring and to ensure adequate records are kept on site.. Records are to be maintained for a period of five years.

8.0 Training and competence

OCC and Buckinghamshire county Council conduct regular CPD accredited training to ensure that personnel have the necessary instruction, information, training and resources to carry out their legionella control tasks competently and safely.

9.0 Course of Action – Outbreak of Legionnaires Disease

9.1 Proper Officer

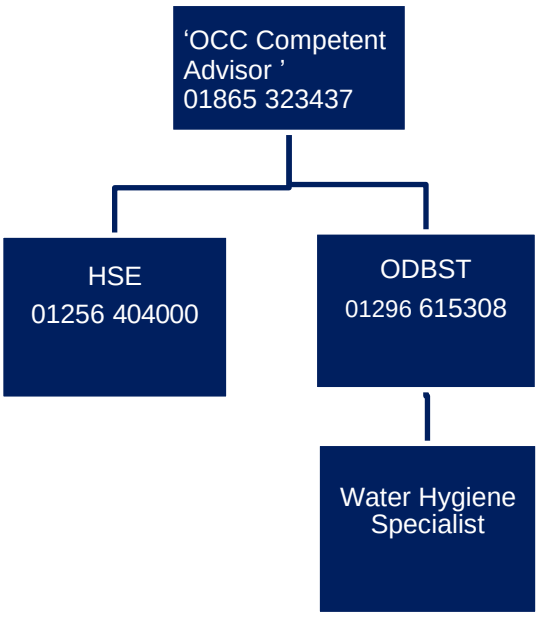
It is the responsibility of the 'Proper Officer', who is appointed by the relevant local authority under public health legislation for an outbreak to be declared.

9.2 What is an Outbreak?

An outbreak is defined as two or more confirmed cases of legionellosis occurring in the same locality within a six-month period. Location is defined in terms of the geographical proximity of the cases and requires a degree of judgement.

9.3 Communication Flowchart

In the event of an outbreak the following chart will apply:



ODBST will comply with any requirements of the Proper Officer and will liaise with the HSE representative and the onsite personnel, as to the best approach for preventing any further cases. As part of the outbreak investigation, the following is carried out:

- Contact site to stop the use of water from the suspected risk areas;
- Isolate all hot and cold-water systems identified from the risk assessment report and restrict access to any areas where outlets are located;
- Continue to isolate services until sampling procedures and any remedial action has been carried out;
- Take water samples before disinfection takes place;
- Review current risk assessment and monitoring procedures;
- Carry out a full chemical disinfection of all water systems in the suspect premises. This must allow 50 ppm chlorine to come into contact with all wet surfaces for at least one hour;
- Re-sampling takes place immediately on completion of chlorination and one week after;
- Conduct a formal risk assessment on the premises and implement any remedial works as a matter of priority;
- Provide staff health records to discern whether there are any further undiagnosed cases of illness and to help prepare case histories of the people affected;
- Carry out a review of the above procedures subject to the analytical results

11.0 Hot & Cold Water Systems

11.1 Cold Water Cisterns and Cold Feed Tanks

All new cold-water storage cisterns and tanks must comply with the requirements of the Water Supply (Water Fittings) Regulations 1999 for cold water storage. All tanks are subject to a cleaning and disinfection regime before being put into service.

All cold-water storage tanks will be inspected on 6 monthly basis and water temperatures taken at the ball valve and remote from the ball valve. An annual visual inspection of the cold-water storage tanks will be made with any remedial works carried out where required.

Routine microbiological monitoring of hot and cold-water systems is not necessary as they will be fed with water that is fit to drink and the systems should be enclosed. However, monitoring for legionella (and TVCs, coliforms & E Coli) is recommended when:

- Water systems are treated with biocides and the water storage and distribution temperatures are reduced from those recommended for controlling legionella bacteria by the control of temperature.
- Control levels of the treatment regime are routinely not being met (temperature and biocide levels).
- An outbreak is suspected or has been identified.
- Premises have ‘at risk’ patients – e.g. those immunologically compromised

Bacteriological sampling, when including sampling for legionella bacteria, must comply with BS 7592:2008, Sampling for Legionella bacteria in water systems – Code of Practice. Samples must be taken by competent personnel, using a sterile bottle containing an appropriate agent for removing chlorine (such as sodium thiosulphate). Analysis must be completed in a United Kingdom Accreditation Service (UKAS) accredited laboratory and certificates of analysis must detail the date of sampling, the date of delivery to the laboratory and the date of analysis.

Certificates of analysis must be from the analysing laboratory and not retyped and must contain details of the laboratory’s UKAS accreditation.

The supply temperature from the cold-water storage tank is checked on a monthly basis and recorded in the ODBST School Water Services Hygiene Logbook or Safesmart. Any failures to satisfy the temperature must be rectified by the school.

ODBST’s policy is that drinking water outlets must be supplied from the mains cold water service.

11.2 Cold Water Services - Pressurisation / Supply Pumps

Where two or more pumps have been fitted for pressurisation systems in a duty/standby configuration, the pumps must be sequenced to automatically allow each pump to run alternately on a daily basis. This avoids stagnation in the pump in ‘standby’ status.

11.3 Cold Water Tanks - Identification of Water Temperature Greater Than 20°C

If the cold-water tank temperature rises above 20°C (and the incoming mains is below 20°C), ODBST Facilities Management /School is responsible for resolving the issue.

The policy is to investigate the cause of temperature increase, carry out remedial work to prevent its recurrence and clean and disinfect the system.

11.4 Hot Water Systems

In general, the hot water treatment method used by ODBST is that of full temperature control as advocated in HTM 04-01, this requires the storage and flow temperature of hot water to be maintained at 60°C, and distributed to all outlets (or to thermostatic mixing valves) at a minimum of 50°C.

Where an alternative water treatment regime is used ODBST establishes the efficacy of the system in its control of legionella for each site by:

- Achieving a control level; and
- Providing the assurancethat the control level is maintained by sampling and reviewing on an annual basis.

ODBST Facilities Management/School ensures that all that is reasonably practicable is done to keep hot water below 44°C at point of delivery in properties which accommodate people vulnerable to scalding. This involves the reduction of outlet temperature in high risk areas either by the reduction of storage temperature (possibly along with an alternative means of legionella control) or, preferably, by the use of thermostatic mixing valves (TMVs).

11.5 Thermostatic Mixing Valves (TMVs)

At temperatures above those stated in section 4.4.1 Table 1 there is a risk of scalding which increases with temperature. The risk depends on temperature and duration of contact and will be greater for the following groups of people:

- Young children of nursery and foundation stage age
- The elderly;
- Persons with sensory and mobility impairment;
- People with a learning difficulty.

In sites used by such vulnerable groups TMVs **must** be used at outlets to control any scalding risk.

Where TMVs are used they should be sited as short a distance as possible from the terminal fitting but no more than one metre from the outlet and each TMV should only feed one sink or outlet. TMVs are not used to serve low volume spray taps in buildings with susceptible user groups.

It is particularly important that where TMVs are provided they are maintained to at least the standard recommended by the manufacturer. As a minimum the fail-safe of each device must be tested 6-monthly and results recorded in the Logbook. Failed valves and associated outlets must be taken out of service immediately until the failed valve is repaired or replaced and the outlet is safe to use again.

A documented maintenance schedule (Section 5.4, Form F of the School Logbook) which takes into account local conditions (e.g. hard water) and the risk of valve failure, should be followed and recorded. Any variation in the monthly temperature testing of outlets fitted with TMVs may indicate that a fault has occurred and should be investigated. This may require further temperature checks.

The new standard for thermostatic mixing valves is supported by a testing system managed by the Water Research Council. ODBST requires that TMVs used for baths and showers should have a certificate of testing under this 'TMV Scheme'.

NSF International (http://www.nsf.org/services/by-company/nsf-buildcert) currently provide an independent third party certification scheme for thermostatic mixing valves.

11.6 Monitoring Requirements

A monthly check of the outlets is undertaken by the School and recorded in the School **Water Services Hygiene Logbook or in Safemart** Where a mixing valve is fitted, the nearest unmixed outlet is tested to assess the actual temperatures of the unblended supply of hot and cold water. Records of temperature checks are retained for a minimum of five years.

11.7 Distribution Pumps

Normally only one hot water distribution pump is installed near the calorifier to assist the distribution of water around the system. This should be sized appropriately to ensure all outlets are capable of delivering hot water at 50°C or above.

11.8 Pressurisation/Booster Units

Where there are two or more pressurisation/booster units these are set up to operate in sequence so as to prevent any accumulation of stagnant water within the system. The sequence ensures all pipe work is flushed at least daily.

11.9 Low Volume Hot Water Systems. e.g. Point-of-Use Hot Water Heaters

Point-of-use heaters, i.e. water heaters of 15 litres or less, will be set at 50°C for legionella control. In buildings used by young children of nursery and foundation stage age; the elderly; persons with sensory impairment or people with a learning difficulty a TMV will be installed prior to the terminal fitting for scald control to reduce the temperature to that stated in section 4.4.1 Table 1.

11.10 Showers and Unused Outlets

Showers which are infrequently used together with unused outlets should be removed or run weekly for 3 minutes. Showerheads should be cleaned and descaled at least quarterly.

11.11 Fire Hose Reels

Fire hose reels should not be fitted unless specifically requested by Thames Valley Fire and Rescue Service.

In agreement with Thames Valley Fire and Rescue Service existing fire hose systems should be removed from site and the pipe work capped off so as not to create a dead leg. Alternative suitable portable firefighting equipment must be provided.

Where a wet riser system remains in place, the cold-water service to the building should be protected from it with double check valves.

11.12 Cleaning and Disinfection of Water Systems

Water systems will be chemically disinfected in accordance with HSG 274 part 2 & BS 6700: 2006 + A1: 2009 where the following conditions are applicable:

- If the risk assessment conducted by the specialist third party consultant shows that this is necessary;
- If unsatisfactory bacteriological water quality results are obtained;
- If physical contamination or extremely dirty tanks are identified, the tank and system must be cleaned and disinfected as soon as is practicable.
- When a building has been closed for more than 60 days.

11.13 Protection of Maintenance Personnel

The disinfection procedures presented for cold water storage tanks, hot water vessels and water systems are designed to minimise the risk to staff and others who may come into contact with water which may have been contaminated with legionella bacteria. In all instances of draining, water should be drained in such a way as to avoid the creation of an aerosol.

The contractor must submit a method statement outlining all relevant safety measures that are implemented to carry out the work for approval by ODBST Facilities Management/School.

If plant is located in confined spaces, procedures for confined space entry are to be included in the method statement.

Because water treatment chemicals, including chlorine-containing chemicals and solutions, are often toxic or corrosive they are to be used prudently to ensure that they do not endanger the users or other occupants of the building. Water treatment is carried out by, or under the direction of, people who are suitably qualified, competent and experienced in accordance with the method statement.

The use of water treatment chemicals are subject to a COSHH assessment. This may take the form of a generic assessment or site specific where necessary.

Permission is required from the water authority prior to any discharge to sewers, storm water drains and watercourses. Where necessary the Environment Agency is contacted prior to direct discharge to watercourses.

12.0 Other Risk Systems

12.1 Swimming Pools /Hydrotherapy Pools

A detailed log is kept recording the treatment method, filter cleaning and results of tests for pH, free residual halogen and other key parameters.

Pools are operated according to the guidance given in the OCC Health and Safety Management in Swimming Pools[5]. A copy of this publication is held by each site and used as the primary source of guidance for the management of such pools.

All information on condition, cleanliness, servicing and monitoring is recorded in a pool log book.

Monitoring is conducted in accordance with the procedures set out in the Health and Safety Management in Swimming pools document. Swimming pools are monitored by an independent specialist contractor two times per year. Hydrotherapy pools are monitored by an independent specialist contractor every 2 months.

12.2 Hot Tubs/Jacuzzis/Spa Pools

Spa pools (also known as hot tubs, whirlpool spas, whirlpools and commonly as Jacuzzis) are designed to allow users to sit together in warm water which is pumped around the pool often along with water or air jets which can generate breathable aerosols. The system water is not replaced after each use but disinfected and recirculated. If these systems are not managed properly they can be the cause of infections including Legionnaires' disease.

Spa pools are a recognised source of Legionnaires' disease and thus the Health Protection Agency (HPA) (now Public Health England) and Health and Safety Executive (HSE) have published separate guidance which sets out the specific responsibilities of those who manage spa pools to ensure both staff working with the pool and pool users are protected.[6]
OCC recommends that these systems are NOT installed or used on ODBST premises; however, where they are installed, they must be operated and managed in strict accordance with the guidance published by the HPA and HSE and a separate legionella and scalding risk assessment should also be completed prior to use.

12.3 Reclaimed Water Systems (Rainwater & Greywater Systems).

The use of any reclaimed water system as part of a new build project will need to be subject to a risk assessment for each application. Rainwater systems should be installed in accordance with BS 8515: 2009 Rainwater Harvesting Systems – Code of Practice. The risk assessment will need to take into account:

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[5] Health and Safety Management in Swimming Pools WOXPVC70
[8] HPA/HSE (2006) *Management of Spa Pools - Controlling the Risks of Infection*. London, TSO.

- Purposes for which the water is to be used;
- Storage arrangements;
- Temperature of stored water (Below 20˚C);
- Health implications to persons using the site;
- Cost benefits;
- Discharge of surplus water.

In addition, ODBST Schools should ensure:

- That pipework is clearly labelled in accordance with the Water Supply (Water Fittings) Regulations 1999;
- That water quality standards meet requirements laid down in BS 8515: 2009.

12.4 Ornamental Water Fountains

The risk of legionella growth within ornamental fountains is dependent on two factors:

- Temperature of the water (above 20°C) and / or
- A biofilm builds up within the unit which will provide a source of nutrient.

The risk of contracting legionellosis should the water become infected is dependent on an aerosol being created that is inhaled by a susceptible person.

To reduce the risk of exposure the following precautionary procedures should be adopted:

- When purchasing an ornamental water feature choose one that is very unlikely to produce an aerosol. e.g. A cascading type of water feature rather than a fountain;
- Keep the unit free of bio film growth. Check on a weekly basis and if a build-up is noticed the unit should be drained down and all accessible parts cleaned with detergent and a mild abrasive such as a nylon scourer. The unit should then be flushed clean, taking care not to create an aerosol, and then refilled with clean water ready for use. This process should be repeated as necessary;
- To keep the growth of bio film to a minimum a water clarifying solution such as a pond clear solution may be used. The manufacturer's guidance on the use of such agents must be clearly followed and in particular any requirements relating to the Control of Substances Hazardous to Health Regulations;
- Details of the checking and cleaning should be recorded within the site **Water Services Hygiene Logbook** stating the date and any action taken using a form similar to the one used for shower head cleaning records;
- The temperature of the water should be monitored weekly. If the temperature of the stored water is above 20°C the unit should be drained down and refilled with clean cold water. If the temperature of the water cannot be maintained below 20°C specialist advice is to be sought.

Details of the temperature monitoring should be recorded within the site **Water Services Hygiene Logbook or Safesmart** stating the date and any action taken using a form similar to the one used for temperature records for cold water outlets.

12.5 Fire Drill practice CWS Tanks

All fire drill practice water storage cisterns and tanks must comply with the requirements of the Water Supply (Water Fittings) Regulations 1999 for cold water storage. All tanks are subject to a cleaning and disinfection regime before being put into service. Fire drill practice tanks, wherever possible, should be kept drained when not in use.

All cold-water storage tanks (including fire drill practice tanks) should be inspected on an annual basis a visual inspection made, the temperature taken and bacteriological samples taken. A judgement is then made to determine if a clean and disinfection is required.

The water in fire drill practice tanks should be stored below 20°C. If the stored temperature rises above 20°C (and the incoming mains is below 20°C), specialist advice is to be sought.

An investigation must take place to identify the cause of temperature increase, carry out remedial work to prevent its reoccurrence and clean and disinfect the system.

13.0 Cooling Water Systems

5.1The current ODBST policy is to not have any wet evaporative cooling systems such as cooling towers or evaporative condensers in place to remove the risk of Legionnaires' disease. Should a school wish to install such a piece of equipment they should seek permission from ODBST before doing so.

Currently there are no evaporative cooling towers in use on ODBST owned property. Site specific procedures will be required for safe operation should a change in policy occur and systems be used in the future.

13.1 Adiabatic & Eco-cooling Systems

It is the policy of ODBST that Eco-cooling devices and adiabatic coolers with a wet pre-cool system will be treated as evaporative wet cooling systems (refer to section 11.1 above).

13.2 Air Conditioning Plant

Air conditioning, humidifiers, ventilation plant and duct-work is inspected at the access point(s) on an annual basis in order to check cleanliness and general condition[7]. If found dirty the system is cleaned. Any remedial work is reported during the risk assessment.

All information on condition, cleanliness etc. is recorded in a log book, with any non-compliance or incidents being identified to the responsible engineer. Investigate the cause of contamination and/or failure and carry out remedial action.

[7] CIBSE Technical Memorandum 13 – Minimising the risk of Legionnaires' Disease

14.0 Radiant Surfaces (radiators)

Hot surfaces such as radiators and other such radiant surfaces are identified as part of the scalding risk assessment. On site assessments identify the need for low surface temperature radiators and/or encasing of pipe work.[8]

If there is change of occupancy in the building a further risk assessment must be carried out to determine if the scalding risk has changed.

15.0 Changes to Premises and Occupation of New Premises

15.1 Building Change of Use

Where a change of use of a building is planned a risk assessment must be carried out to determine whether new building users will be more vulnerable to exposure to legionella from the new activity.

15.2 New Build, Alterations, Extensions, Refurbishment and Maintenance

All new water systems in buildings and refurbishments are to be designed in accordance with HSG 274 part 2 to prevent the risk from legionellosis and scalding during the future use of the building.

Ensure system is disinfected and cleaning is completed in accordance with HSG 274 part 2 and BS 6700: 2006 + A1: 2009 and that a certificate of disinfection is forwarded as part of the handover documentation

The responsibility for maintaining the water system remains with the contractor until handover. After handover and up to occupation the responsibility lies with theSchool.

At the point of handover all relevant information on system performance together with as-fitted drawings and design criteria of the hot water systems and cold water services will be stored at the site for use by ODBST School.

Occupancy of the new property is as soon after handover as possible to prevent further costs being incurred due to the need for re-chlorination of the water systems.

15.3 Building Handover - Documentation

When a **new building** is completed or **acquired** the Service Provider/Consultant must create a water hygiene logbook prior to occupation.

When any **alterations**, **refurbishment** or **extensions** at **existing establishments** add to or change the hot and cold-water systems, ODBST School must update the water hygiene logbook prior to occupation.

[8] HTM 04-01 The control of Legionella, hygiene, “safe” hot water, cold water and drinking water systems.

16.0 Procedure in the Event of Building Closure

16.1 Background

Where a property or building is to be closed for an extended period of time, ODBST Schools must ensure that the following procedures detailed in sections 14.3 -14.6 are implemented and recorded in the **Water Services Hygiene Logbook**

16.2 Period of Closure

It is essential to establish the period of closure as early as possible as this affects the measures that have to be taken and the cost implications of such actions.

16.3 Closure of Less Than 60 Days

16.3.1 Non-School Properties

Where a closure is less than 60 days a nominated individual is identified to run every tap for a period of three minutes and flush every toilet once per week.
Before the property is re-occupied it may be necessary to carry out an inspection and bacteriological test of the water systems. Results are reported to the Responsible Person (Legionella) identifying any remedial works that may be required.

It is the responsibility of the Headteacher to notify ODBST Chief Operating Officer of their intention to re-open a temporarily closed building. This does not apply to systems that are on timed circuits.

16.3.2 School Closures during Holiday Periods

In most schools the hot water systems are switched off during holiday periods. This creates temperatures at which legionella can breed. School hot water systems must be taken up to operating temperature at least 7 days prior to re-occupation and all taps nearest and furthest to any CWS tanks, hot water calorifiers and incoming mains water taps are then run each day to create good circulation prior to re-occupation.

16.4 Closure of Greater than 60 Days

DO NOT DRAIN DOWN. Any work carried out must comply with the requirements of HSG274 part 2.

16.5 Re-occupation of an Area Closed for Greater than 60 Days

In the event of re-occupation of a building or property closed for greater than 60 days, ODBST Chief Operating Officer will require the following information:

- The planned re-opening date;
- Any proposed changes of use of the building;
- Any areas that are not to be used.

Before the water system is put back into service, any necessary modifications and maintenance are carried out prior to the cleaning of the system in accordance with the requirements of HSG 274 part 2.

17.0 Funding for Legionella Control Work

17.1 Risk Assessments

Water hygiene and scald risk assessments are funded on a rolling biennial basis to all corporate buildings. For schools funding is in accordance with the Scheme of Delegation for schools.

17.2 Remedial Works

The remedial measures are prioritised in terms of 'Risk', 'Cost' and 'Difficulty', and, where applicable, are broken down into delegated and non-delegated items. Details are included in the risk assessment for each property.

17.2.1 Schools

Remedial works on School sites remain the delegated responsibility of the site.

18.0 Appendix 1: Designation of Responsible and Competent Person

Responsible Person for Legionella and Scalding Control

- Each School's Site Manager

Competent Person(s) for Legionella and Scalding Control

- Jackie Hemmings OCC Health and Safety Advisor