



Legionella Bacteria Management

Written Scheme of Control

Mottram C of E Primary School
Warhill
Mottram
SK14 6JL

	Company	Representative	Signed
Prepared by	Mottram C of E Primary School	Paul Marrow	
Reviewed by	Mottram C of E Primary School	Paul Marrow	
Approved by	Mottram C of E Primary School		
Valid from Jan 2019 until further notice			

ACOP(L8) AND THE ASSOCIATED TECHNICAL GUIDANCE HSG274 WRITTEN SCHEMES HOT AND COLD WATER SYSTEMS

Mottram C of E Primary School

The legionella bacteria risk assessment, LRA273979, dated May 2018, has indicated that the following components of the Hot and Cold Water systems require a written scheme to prevent exposure and control the risk.

Component

Written Scheme

Introduction
Roles and Responsibilities
Schematic Drawings
Hot and Cold Water services
Point of use water heaters
Combination water heaters with integral tanks
Spray taps and sluice sprays
TMVs
Legionella Bacteria Risk Assessment
Expansion vessels

In accordance with L-8, a Written Scheme has been drawn up which specifies measures to be taken to prevent exposure and control the risk from the systems listed above.

The Written Scheme for control for each system includes:

- .0 A description of the correct and safe operation
- .1 Procedure
- .2 Troubleshooting/escalating procedures
- .3 Record keeping
- .4 Operators undertaking the tasks

This Written Scheme is valid for the period May 2018 until further notice. Where site personnel are appointed to carry out any of the control measures, they will be properly trained to a standard which ensures tasks are carried out in a safe, technically competent manner and regular Legionella Refresher training will be carried out. All records will be reviewed annually by the Responsible Person.

Introduction

To comply with the Approved Code of Practice L-8 applies to the control of Legionella bacteria in any undertaking involving a work activity managed by you or on your behalf. The associated technical guidance HSG274 part 2 gives practical advice on the operation and maintenance of hot and cold water systems.

There is a statutory requirement to prevent or control outbreaks of legionellosis in the workplace. An outbreak of the disease could result in prosecution under the Health & Safety at Work etc. Act 1974 (H&SWA) And Control of Substances Hazardous to Health Regulations 1999 (COSHH).

In the new L8 there is specific guidance with regard to Shared Premises and the Duty Holder's responsibilities (refer to page 89 of the HSG274).

Those who have, to any extent, control of premises for work-related activities or the water systems in the building, have a responsibility to those who are not their employees, but who use those premises. A suitable and sufficient assessment must be carried out to identify, assess and properly control the risk of exposure to legionella bacteria from work activities and the water systems on the premises.

In other cases, there may be an agreement to pass the responsibilities to a managing agent. Where a managing agent is used, the management contract should clearly specify who has the responsibility for maintenance and safety checks, including managing the risk from legionella.

Where there is no contract or tenancy agreement in place or it does not specify who has responsibility, the duty is placed on whoever has control of the premises, or part of the premises.

A suitable and sufficient assessment must be carried out to identify and assess the risk of exposure to Legionella bacteria from work activities and water systems on the premises and any precautionary measures needed. The duty holder is responsible for ensuring the risk assessment is carried out.

The duty holder also needs to review the assessment regularly and specifically when there is a reason to believe that the original risk assessment may no longer be valid, he or she will also review the management and communication as appropriate.

Mottram C of E Primary School is a single storey building comprising of reception, main kitchen, staff room, Hall, classrooms, various toilet facilities and a basement.

There are approximately 30 staff and 140 pupils who attend or work at the Primary School. Among the cross section of people who visit or work at the site some may be susceptible to legionella due to age and health conditions.

The site is open between the hours of 06.00am – 18.00pm with pupils attending between the hours of 08.50 – 15.15pm unless they participate in the after school club which extends to 16.15pm.

Domestic cold water services are fed by mains supply.

Domestic hot water services are supplied by 2 POU Water Heaters, 3 combination water heaters and one instant water heater.

Site Personnel currently carry out monthly monitoring of the system to minimise the risk of legionella bacteria growth.

Roles and responsibilities

Name	Role	Contact Number	Email Address
Paul Marrow	Duty Holder	07931 952541	paul.marrow@mottram.tameside.sch.uk
Paul Marrow	Responsible Person	07931 952541	paul.marrow@mottram.tameside.sch.uk
Karen Johnson	Deputy Responsible Person		admin@mottram.tameside.sch.uk

Service Providers			
Company	Responsible For	Name	Contact Details
Alchem Industries Ltd	Legionella Risk Assessment Survey	A.Casey	AndyCasey@alchem-industries.co.uk 0161-929-1482
Alchem Industries Ltd	Cleaning & Disinfection	A.Casey	AndyCasey@alchem-industries.co.uk 0161-929-1482
Alchem Industries Ltd	Audits/ Advisors	A.Casey	AndyCasey@alchem-industries.co.uk 0161-929-1482

Table of Responsibilities

Task	Frequency	Responsible
Weekly Flushing as detailed	Weekly	Mottram C of E Primary School nominated staff
Monthly monitoring as detailed	Monthly	Mottram C of E Primary School nominated staff
Bi Annual LRA	Bi Annual	Alchem Industries Staff

HOT AND COLD WATER SERVICES

The legionella bacteria risk assessment has indicated that there may be a reasonably foreseeable risk from exposure to Legionella bacteria arising from the hot and cold water services on site if these are not monitored or controlled.

Temperature control is the strategy on site for reducing the risk from Legionella and other waterborne organisms in water systems. Legionella cannot survive above 50°C and will not proliferate below 20°C. This will require monitoring on a regular basis.

In addition, the risk from Legionella growing in peripheral parts of the domestic water system may be minimized by regular flushing of these outlets.

The recommended task frequencies are included in this Written Scheme and include:

1. **WEEKLY TASK**

Flushing little used outlets
Temperature monitoring

2. **MONTHLY TASK**

Temperature monitoring

3. **ANNUAL TASK** (on a monthly rotational basis)

Temperature profilin

HOT AND COLD WATER SERVICES

1 WEEKLY TASK

Flushing little used outlets

1.0 Correct and safe operation Before carrying out the following procedures, consideration will be given to removing infrequently used showers and taps.

When outlets are not in regular use (i.e. not used for a period equal or greater than seven days), flushing of these devices for several minutes can significantly reduce the risk of Legionella proliferation in the system.

Water draw off will form part of the daily cleaning process to achieve temperature control for both hot and cold water and/or biocide flow through.

Once started, this procedure has to be sustained and logged, as lapses can result in a critical increase in Legionella at the outlet.

At Mottram C of E Primary School, the little used outlets currently identified are :-

Outside tap/side of the building
Outside tap/kitchen
Shower room/ Room 14

1.1 Procedure

Identify sporadically used outlets. Flush these outlets through for several minutes until the temperature stabilises and is comparable to supply water. Purge to drain.

1.2 Troubleshooting/escalating procedure

Review outlet usage on a regular basis to ensure any outlets which are not being used weekly are identified.

1.3 Record keeping Log flushing dates.

All records will be signed, verified and authenticated by those people performing the task assigned to them.

Retain flushing records for at least six years.

File completed fault report sheets and dates of corrective actions.

Records may be kept either electronically or in the site log book for water services.

1.4 Operators undertaking the tasks

Work undertaken by site personnel.

HOT AND COLD WATER SERVICES

2 MONTHLY TASK

Temperature monitoring

2.0 Correct and safe operation

Take temperature at sinks taps..

Hot water taps should be at least 50°C after 1 minute of running and below 20°C within 2 minutes running in the cold tap.

Taps which are supplied via a TMV will show temperatures between 38°C and 46°C

2.1 Procedure

Using a thermometer, check that the water temperature at the hot taps is at least 50°C within a minute of running the water.

Using a thermometer, check that the water temperature in the cold taps is below 20°C after running the water for up to two minutes.

Taps with TMV fitted should have the temperature taken before the valve.

Record results.

2.2 Troubleshooting/escalating procedure

If inspection indicates incorrect temperatures, investigate and rectify. If no immediate reasons are apparent, enter a fault report sheet for the site supervisor to follow up.

If achieving the temperatures required is slow, it will be confirmed that the outlet is on a long leg and not that the flow and return has failed in the local area.

Additional monitoring will be required, which will involve taking samples for microbiological analysis.

2.3 Record keeping

Record inspection results, including the date and person undertaking the task in the relevant section of the log book for water services.

File completed fault report sheets and dates of corrective actions.

Records will be retained for at least six years.

Records may be kept either electronically or in the site log book for water services.

2.4 Operators undertaking the tasks

Work undertaken by site personnel.

3 ANNUAL TASK (on a rotational basis)

Temperature profiling

3.0 Correct and safe operation

Tap outlets are checked monthly, but a representative selection of other outlets will be checked over a 12 month period to confirm these are representative and the whole system is reaching satisfactory temperatures for Legionella control.

At Mottram C of E Primary School, all outlets are listed in the outlet register included in the Legionella Bacteria Risk Assessment dated 29.05.2018.

3.1 Procedure

Using a thermometer, confirm the cold water temperature is below 20°C after running the water for up to two minutes and confirm the hot water temperature is above 50°C within a minute of running in other hot and cold water points. Intermediate outlets of single pipes systems and tertiary loops in circulating systems will be included.

Temperatures will be measured on a monthly rotational basis.

3.2 Troubleshooting/escalating procedure

If inspection indicates out of specification temperatures, investigate and rectify. If no immediate reasons are apparent, enter a fault report sheet for the site supervisor to follow up.

Cold water peak temperatures or any temperatures that are slow to meet specifications could be an indicator of a localised problem. Additional monitoring will be required.

Records will be retained for at least six years.

3.3 Record keeping

All records will be signed, verified and authenticated by those people performing the task assigned to them.

Records may be kept either electronically or in the site log book for water services.

3.4 Operators undertaking the tasks

Work undertaken by site personnel.

POINT OF USE WATER HEATERS

The legionella bacteria risk assessment has indicated that there may be a reasonably foreseeable risk from exposure to Legionella bacteria arising from the point of use hot water heaters (> 15 litres) on site if these are not monitored or controlled.

Temperature control is the preferred strategy for reducing the risk from Legionella and other waterborne organisms in water systems. Legionella bacteria cannot survive for more than a short period of time when the water temperature is above 50°C. This will require monitoring on a regular basis.

The recommended task frequencies are included in this Written Scheme and include:

1. MONTHLY TASK

Temperature monitoring

1.0 Correct and safe operation

Check point of use hot water heater to confirm the heater operates at 50-60°C.

1.1 Procedure

Using a thermometer, check that the water temperature at the hot taps is at least 50°C within a minute of running the water.

1.2 Troubleshooting/escalating procedure

If inspection indicates low temperatures, investigate and rectify. If no immediate reasons are apparent, enter a fault report sheet for the site supervisor to follow up.

1.3 Record keeping

Record inspection results. All records will be signed, verified and authenticated by those people performing the task assigned to them.
File completed fault report sheets and dates of corrective actions.

Records will be retained for at least six years.

Records may be kept either electronically or in the site log book for water services.

1.4 Operators undertaking the tasks

Work undertaken by site personnel

COMBINATION WATER HEATERS

The legionella bacteria risk assessment has indicated that there may be a reasonably foreseeable risk from exposure to Legionella bacteria arising from combination water heaters with an integral cold water header tank if these are not monitored or controlled.

Temperature control is the strategy on site for reducing the risk from Legionella and other waterborne organisms in water systems. Legionella cannot survive above 50°C and will not proliferate below 20°C. This will require monitoring on a regular basis.

This will require monitoring on a regular basis. The recommended task frequencies are included in this Written Scheme and include:

1. MONTHLY TASK

Temperature monitoring

2. ANNUAL TASK

Tank inspection/cleaning

Note Where possible both tasks will be undertaken at the same time.

COMBINATION WATER HEATERS

1. MONTHLY TASK

Temperature monitoring

1.0 Correct and safe operation

Check water temperature fed from the hot water heater at an outlet to confirm the heater operates at 50-60°C.

At Mottram C of E Primary School, the following combination water heaters are monitored: -

- Combination water heater No.1, No.2, No.3

1.1 Procedure

Using a thermometer, check that the water temperature at the hot taps is at least 50°C within a minute of running the water.

1.2 Troubleshooting/escalating procedure

If inspection indicates low temperatures, investigate and rectify. If no immediate reasons are apparent, enter a fault report sheet for the site supervisor to follow up.

File completed fault report sheets and dates of corrective actions.

Records may be kept either electronically or in the site log book for water services.

1.3 Record keeping

Log inspection results. All records will be signed, verified and authenticated by those people performing the task assigned to them.

Retain flushing records for at least six years.

Records may be kept either electronically or in the site log book for water services.

1.4 Operators undertaking the tasks

Work undertaken by site personnel.

2. ANNUAL TASK

Tank inspection/cleaning

2.0 Correct and safe operation

Cold water tanks including integral cold water header tanks will be inspected on an annual basis to check the condition of the inside of the tank and the water within it. The lid should be in good condition and fit closely. The insect screen on the water overflow pipe should be intact and in good condition. The thermal insulation on the cold water storage tank should be in good condition so that it protects it from extremes of temperature. The water surface should be clean and shiny and the water should not contain any debris or contamination.

In addition, if evidence shows that the unit regularly overflows hot water into integral cold water header tank, instigate a temperature monitoring regime to determine the frequency and take precautionary measures as determined by the findings of this monitoring regime.

Tanks will be cleaned, disinfected and faults rectified, if considered necessary. If debris or traces of vermin are found, then the inspection will be carried out more frequently.

2.1 Procedure

Remove lid and visually inspect tank

Inspect insulation

Check ball float for correct operation

Check for any evidence that the unit regularly overflows hot water into integral cold water header tank

Complete annual tank inspection report

2.2 Troubleshooting/escalating procedure

If after inspection tank needs cleaning and disinfection, work will be carried out as soon as possible in accordance with the approved Method Statement.

If evidence shows that the unit regularly overflows hot water into integral cold water header tank, instigate a temperature monitoring

regime to determine the frequency and take precautionary measures as determined by the findings of this monitoring regime.

Any other out of specification conditions will be reported on a fault report and submitted to the supervisor for follow-up.

2.3 Record keeping

Complete a tank inspection report.

All records will be signed, verified and authenticated by those people performing the task assigned to them.

File completed fault report sheets and dates of corrective actions.

Records will be retained for at least six years.

Records may be kept either electronically or in the site log book for water services.

2.4 Operators undertaking the tasks

Work undertaken by Alchem Industries personnel.

SPRAY TAPS AND SLUICE SPRAYS

The legionella bacteria risk assessment has indicated that there may be a reasonably foreseeable risk from exposure to Legionella bacteria arising from the spray taps and sluice sprays on site if these are not monitored or controlled.

Spray taps, sluice sprays and fittings are required to be kept clean and sanitised on a regular basis.

The recommended task frequencies are included in this Written Scheme and include:

1.0 Correct and safe operation

As part of the management of hot and cold water systems, spray taps and sluice sprays, including all removable parts, will be cleaned, descaled and sanitised on a quarterly basis (or as indicated by the rate of fouling) using a disinfection. Work is carried out in accordance with the approved Method Statement.

At Mottram C of E Primary School, the following spray taps and sluice sprays are monitored: -

- 1 sluice – Main kitchen
- 1 Shower Head—Shower room (room 14)

1.1 Procedure

Prepare a solution of Clean Fresh diluted with water.

Where possible, dismantle all removable parts, heads, inserts and hoses and immerse in a solution of Clean Fresh. Leave to soak for 2-15 minutes until scale deposits have been removed. If the fittings cannot be dismantled, use the Clean Fresh as a spray onto the shower. Rinse thoroughly for at least 1 minute before allowing back into service.

1.2 Troubleshooting/escalating procedure

If inspection indicates a high rate of fouling, increase cleaning frequency.

Any deterioration in the condition of spray tap/sluice spray will be reported on a fault report sheet for the site supervisor to follow up.

1.3 Record keeping

Log cleaning results. All records will be signed, verified and authenticated by those people performing the task assigned to them.

Retain flushing records for at least six years.

Records may be kept either electronically or in the site log book for water services.

1.4 **Operators undertaking the tasks**

Work undertaken by Alchem Industries personnel.

TMVs

The legionella bacteria risk assessment has indicated that there may be a reasonably foreseeable risk from exposure to Legionella bacteria arising from the TMVs on site if these are not monitored or controlled.

Temperature control is the preferred strategy for reducing the risk from Legionella and other waterborne organisms in water systems. Legionella bacteria cannot survive for more than a short period of time when the water temperature is above 50°C.

At temperatures above 50°C there may be a risk of scalding and a comparative assessment of scalding risk against risk of infection from Legionella will be undertaken. If the risk of scalding is insignificant then TMVs will be removed.

The recommended task frequencies are included in this Written Scheme and include:

1.0 **Correct and safe operation** TMVs are valves that use a temperature sensitive element and blend hot and cold water to produce water temperature that safeguards against the risk of scalding, typically basically between 38°C and 46°C depending on outlet use.

The blended water downstream of TMVs may provide an environment in which Legionella can multiply, thus increasing the risk of exposure.

To maintain protection against scalding and Legionella proliferation, TMVs require regular routine maintenance carried out by a competent person in accordance with the manufacturer's instructions.

At Mottram C of E Primary School, the TMVs monitored are listed in the outlet register in the Legionella Bacteria Risk Assessment dated 29.05.2018.

TMVs

WS-PM-005

1.1 Procedure

TMVs will be checked and tested annually in accordance with the manufacturer's guidelines and as follows.

- Examine for leaks, corrosion, hose connections and fixings
- Descale in accordance with the manufacturer's instructions
- Sterilise filters/parts where applicable
- Where applicable check failsafe
- Verify flow temperature post valve is in the range of 38-46°C

1.2 Troubleshooting/escalating procedure

If inspection indicates a high rate of fouling, increase cleaning frequency.

Any deterioration in the condition of the TMV will be reported on a fault report sheet for the site supervisor to follow up.

1.3 Record keeping

Log cleaning results. All records will be signed, verified and authenticated by those people performing the task assigned to them.

Retain flushing records for at least six years.

Records may be kept either electronically or in the site log book for water services.

1.4 Operators undertaking the tasks

Work undertaken by Alchem personnel.

LEGIONELLA BACTERIA RISK ASSESSMENT

WS-PM-006

There is a statutory requirement to prevent or control outbreaks of legionellosis in the workplace. An outbreak of the disease could result in prosecution under the Health & Safety at Work etc. Act 1974 (H&SWA) And Control of Substances Hazardous to Health Regulations 1999 (COSHH).

A suitable and sufficient assessment must be carried out to identify and assess the risk of exposure to Legionella bacteria from work activities and water systems on the premises and any precautionary measures needed. The duty holder is responsible for ensuring the risk assessment is carried out.

The duty holder also needs to review the assessment regularly and specifically when there is a reason to believe that the original risk assessment may no longer be valid, he or she will also review the management and communication as appropriate.

In accordance with the ACOP L-8, a written scheme has been drawn up to ensure the Legionella Bacteria Risk Assessment remains current and up-to-date.

Based on the assessment of risk and our experience over the last 20 years, Alchem Industries recommend continuing the current inspection programme and reviewing the Legionella Bacteria Risk Assessment for hot and cold water systems every two years.

The recommended task frequencies are included in this Written Scheme and include:

1.0 Correct and safe operation

Any water system that has the right environmental conditions could potentially be a source for Legionella bacteria growth. There is a reasonably risk in your water system if:

- stored water stored is recirculated as part of your system;
 - the water temperature in all or some part of the system may be between 20-45°C.
 - there are deposits that can support bacterial growth such as rust, sludge, scale and organic matter;

LEGIONELLA BACTERIA RISK ASSESSMENT

WS-PM-006

- it is possible for water droplets to be produced and, if so, they can be dispersed;
 - It is likely that any of your employees, contractors, visitors etc. could be exposed to any contaminated water droplets.

The risk assessment will especially take into account any "at risk" persons who are likely to be more susceptible to infection by legionella bacteria.

Alchem Industries recommend that this assessment will be reviewed regularly (at least every two years) or whenever there is a reason to believe that the original assessment may no longer be valid.

This may result from, for example:-

- changes to the water system or its use
- changes to the use of the building in which the water system is installed
- the availability of new information about risks or control measures • the results of checks indicating that control measures are no longer effective
- a case of Legionnaires' disease / legionellosis is associated with the system

When the assessment demonstrates that there is no reasonably foreseeable risk or that risks are insignificant and unlikely to increase, no further assessment or measures are necessary. However, should the situation change, the assessment needs to be reviewed and any necessary changes implemented.

1.1 **Procedure**

Identify any systems which may indicate a potential risk together with photographic evidence as required in accordance with the BS8550:2010 British Standard Risk Assessments for Legionella Control.

Evaluate potential sources of risk and indicate how the risk will be controlled and monitored.

LEGIONELLA BACTERIA RISK ASSESSMENT

WS-PM-006

1.2 **Troubleshooting/escalating procedure**

The assessment will be reviewed every two years and whenever there is reason to believe that the original assessment is no longer valid.

1.3 **Record keeping**

The risk assessment will be retained throughout the period for which it remains current and for at least 5 years.

1.4 **Operators undertaking the tasks**

Work undertaken by Alchem Industries personnel

EXPANSION VESSELS

WS-PM-007

The legionella bacteria risk assessment has indicated that there may be a reasonably foreseeable risk from exposure to Legionella bacteria arising from the expansion vessels on site if these are not monitored or controlled

The risk from Legionella growing in peripheral parts of the domestic water system, such as expansion vessels, may be minimized by regular flushing of these units. The recommended task frequencies are included in this Written Scheme and include:

1.0 Correct and safe operation

Expansion vessels in systems operating at steady temperature and pressure may have long periods without exchanging any significant amount of water and therefore can be at risk of aiding microbiological growth.

To comply with current L-8 legislation, expansion vessels where practical, will be flushed through and purged to drain monthly-six monthly as indicated by the risk assessment.

Where this is not practical and dependant on the level of risk, expansion vessels will be fitted with a drain valve.

At Mottram C of E Primary School, the following expansion vessel is monitored:-

- Basement plant room

1.1 Procedure

Flush and purge to drain the water in the expansion vessel.

Ensure bladders are changed in accordance with the manufacturer's guidance.

EXPANSION VESSELS

WS-PM-007

1.2 Troubleshooting/escalating procedure

In case of poor water quality results and to minimize the risk microbial growth, expansion vessels will be installed:

- in cool areas on cold flowing pipes
- mounted as close to incoming water supply as possible
- mounted vertically on pipework to minimise any trapping of debris
- with an isolation and drain valve to aid flushing and sampling
- to minimise the volume retained within them
- designed to stimulate flow within the vessel

1.3 Record keeping

Log flushing procedure. All records will be signed, verified and authenticated by those people performing the task assigned to them.

Retain flushing records for at least six years.

Records may be kept either electronically or in the site log book for water services.

1.4 Operators undertaking the tasks

Work undertaken by site personnel.