Procedures for the Control of Legionella Bacteria

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**Version Control and Summary of Changes**

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| --- | --- | --- |
| **Version number**  | **Date**  | **Comments** **(Description of change and amendments)**  |
| 2.0  | 12/07/2022 | Removal of TVC samples, Removal of Dentist chairs |
| 3.0 | 05/02/2025 | Review of documentation following the change in FM delivery model. |
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Contents

[**Version Control and Summary of Changes** 1](#_Toc198210299)

[1. Purpose 5](#_Toc198210300)

[2. Extent of application 6](#_Toc198210301)

[3. Legionnaires’ disease 6](#_Toc198210302)

[4. Legislation 6](#_Toc198210303)

[5. Scope 7](#_Toc198210304)

[6. Management Structure 8](#_Toc198210305)

[7. Duties and Responsibilities 9](#_Toc198210306)

[7.1. Duty Holder 9](#_Toc198210307)

[7.2. Responsible Person 9](#_Toc198210308)

[7.3. Water Treatment Service Provider 9](#_Toc198210309)

[8. Strategy for prevention 9](#_Toc198210310)

[9. Risk Assessment for the System 10](#_Toc198210311)

[9.1. Schematic diagram of the system. 13](#_Toc198210312)

[10. Bacteriological Control Measures 13](#_Toc198210313)

[10.1. Temperature Control: 13](#_Toc198210314)

[10.2. Prevention of Stagnation 14](#_Toc198210315)

[10.3. Other controls 14](#_Toc198210316)

[11. Thermostatic Mixing Valves 15](#_Toc198210317)

[11.1. Thermostatic Mixing Valves Testing and Maintenance 16](#_Toc198210318)

[12. Monitoring the Control Measures 16](#_Toc198210319)

[13. Cold Water Storage Tank Inspections 23](#_Toc198210320)

[14. Instrument Calibration 24](#_Toc198210321)

[15. Remedial action to take if the Control Measures are shown not to be effective. 24](#_Toc198210322)

[15.1. Failure of temperature control 24](#_Toc198210323)

[15.2. Higher than recommended CWS temperatures 25](#_Toc198210324)

[15.3. Lower than recommended HWS temperatures 26](#_Toc198210325)

[16. Removal of Dead Ends 30](#_Toc198210326)

[17. Infrequently Used Outlets: 30](#_Toc198210327)

[17.1. Contamination of water supply 31](#_Toc198210328)

[17.2. Failure of Dosing systems (where used) 31](#_Toc198210329)

[18. Monitoring for legionella 31](#_Toc198210330)

[18.1. Positive Legionella Sample 33](#_Toc198210331)

[19. Systemic Disinfection 34](#_Toc198210332)

[20. Closure Notification of facility 35](#_Toc198210333)

[20.1. Temporary Closures 35](#_Toc198210334)

[20.2. Long-term Closures 35](#_Toc198210335)

[20.3. Closures where minor-works are planned 36](#_Toc198210336)

[20.4. Closures where major works are planned 36](#_Toc198210337)

[21. Change of use of facility 36](#_Toc198210338)

[22. Point-of-Use filtration 37](#_Toc198210339)

[23. Assurance and Auditing 37](#_Toc198210340)

[24. Cold Water Storage Tanks - capacity determination 37](#_Toc198210341)

[25. New System Design and Alterations to Existing Systems 38](#_Toc198210342)

[26. Repairs and Rectification 38](#_Toc198210343)

[27. New Installations 38](#_Toc198210344)

[28. Competency of Staff 39](#_Toc198210345)

[29. Toolbox Talks 39](#_Toc198210346)

[30. Case or outbreak of Legionnaires’ disease 40](#_Toc198210347)

[31. RIDDOR 41](#_Toc198210348)

[32. COSHH 41](#_Toc198210349)

[33. Other Risk Systems 42](#_Toc198210350)

[34. Definitions 43](#_Toc198210351)

[35. Related Documents 44](#_Toc198210352)

[36. Elderly, At-Risk and Vulnerable Persons 46](#_Toc198210353)

##

## Purpose

The Control of Legionella Bacteria in Norfolk County Council (NCC) managed property is described in three documents:

|  |  |  |
| --- | --- | --- |
| **Document** | **Propose** | **Owner** |
| Policy for the Control of Legionella Bacteria | Explains how NCC will fulfil the legal requirements. | Duty Holder |
| Procedure for the Control of Legionella Bacteria (this document)  | Detail management processes and actions | Head of FM |
| Written Scheme of Control for Control of Legionella Bacteria | The site-specific measures and records for each property are contain in the individual written schemes of control. This will also record and audit the precautions in place.The Written Scheme shall detail responsibilities for all tasks required, location of records, task frequencies, and reporting structure. | Responsible Person for each property |

The purpose of this Procedure for the Control of Legionella Bacteria is to set out how NCC will control the risk from exposure to Legionella bacteria in properties managed by NCC and specify the measures to ensure the control remains effective.

NCC occupy and manage a large and varied range of properties, under various Service Level Agreements (SLAs) this procedure cannot describe the precautions required in all premises, but sets out the requirements for assessing risks, documenting the precautions required, ensuring precautions are suitable, and review of the control schemes.

## Extent of application

This procedure shall apply to all properties managed and occupied by NCC. A current site list is available in the Policy for the Control of Legionella Bacteria, Appendix A List of Properties.

Where any of the requirements of this procedure cannot be conducted as described, a formal derogation application shall be issued by the Responsible Person for the property. No deviation from the requirements of this procedure, both implicit and explicit, is allowed without written instruction from the Responsible Person. Whenever derogation is agreed, this shall be recorded on a derogation schedule, kept under control of the Responsible Person.

## Legionnaires’ disease

Legionnaires’ disease is a potentially fatal pneumonia caused by legionella bacteria. It is the most well-known and serious form of a group of diseases knows as legionellosis. Other similar (but usually less serious) conditions include Pontiac fever and Lochgoilhead fever.

Infection is caused by breathing in small droplets of water contaminated by the bacteria. The disease cannot be passed from one person to another.

Everyone is potentially susceptible to infection, but some people are at higher risk, e.g., those over 45 years of age, smokers, heavy drinkers, those suffering from chronic respiratory or kidney disease and people whose immune system is impaired.

The bacterium Legionella pneumophila and related bacteria are common in natural water sources such as rivers, lakes and reservoirs, but usually in low numbers. Legionella bacteria are therefore widespread in the environment and may contaminate and grow in purpose-built water systems.

Water system design and operation, methods of routine control, treatment and monitoring of the water contained in these systems along with recommended cleaning and disinfection procedures must be considered if the risk is to be minimised as any water system that has the right environmental conditions could potentially be a source for legionella bacteria growth.

Legionnaires’ disease is a statutorily reportable disease (see requirements of section 35).

## Legislation

There is no health and safety legislation specific to the management of Legionella, instead it is addressed through general duties defined under the:

* Health and Safety at Work etc. Act 1974, Sections 2, 3 and 4;
* Health and Safety Guidance (HSG 274 pt. 2)
* Management of Health and Safety at Work Regulations 1999, particularly Regulations 2, 3, 4 and 6;
* Control of Substances Hazardous to Health Regulations (COSHH) 2002, particularly Regulations 6, 7, 8, 9 and 12, where the definition of hazardous substances includes harmful microorganisms;
* Notification of Cooling Towers and Evaporative Condenser Regulations, 1992;
* Public Health (Infectious Diseases) Regulations 1988;
* The Water Supply (Water fittings) Regulations 1999;
* The Water Supply (Water Quality) Regulations 2010; and
* Food Safety Act 1990.

HSE Approved Code of Practice (ACOP) ‘Legionnaires Disease – The control of Legionella bacteria in water systems’, L8, and Health and Safety Guidance Note (HSG 274 parts 1-3) provides specific guidance for managing the risk from Legionella bacteria. Following this procedure will allow responsible persons to comply with the requirements of the ACOP L8 and related HSG 274.

Other guidance is available in:

* Department of Health – Water Systems Health Technical Memorandum 04-01: Safe Water in Healthcare Premises: Parts A, B, C & Supplement: 2016.
* Health Technical Memorandum 00: Policies and principles of healthcare engineering: 2014.
* BS7592:2022 – Sampling for Legionella bacteria in water systems – Code of practice.
* BS 8580-1:2019 – Water Quality – Risk assessments for Legionella Control – Code of Practice.
* PWTAG Treatment and Quality Standards for Pools and Spas 2017
* The Health and Social Care Act 2008 COP of Practice on the prevention and control of infections and related guidance

## Scope

This procedure applies to the design, operation and maintenance of all water systems where there is the potential for Legionella to grow and become dispersed as a respirable aerosol.

The sources include, but are not limited to, the following domestic or non-domestic systems:

* Incoming main supply and bore hole supply;
* Cold Water Services – Storage and Distribution;
* Hot Water Services – Generation Storage and distribution;
* Taps, showers, bib taps, etc;
* Thermostatic Mixing Valves (TMV)/Thermostatic Mixing Taps (TMT);
* Temporary hand-wash basins;
* Water Dispensers, Water Coolers and Ice Making Machines.
* Emergency Showers/Eye Washers.
* Dental Chairs and Dental Lines;
* Water features or fountains,
* Portable humidifiers;
* Portable Air Conditioning Units;
* Temporary buildings/facilities;
* Wet Air Handling Systems;
* Chemical dosing systems;
* Pools used for Hydrotherapy;
* Car Washers;
* Machine Tool Coolant Systems e.g., lathes etc; and
* Fire-fighting systems for example sprinkler systems.

Other plant and systems containing water that is likely to exceed 20ºC and has the potential to release a spray or aerosol (i.e., a cloud of droplets and/or droplet nuclei) during operation or when being maintained.

## Management Structure

For Properties managed by NCC the following management structure will apply:

|  |  |
| --- | --- |
| **ACOP L8 Accountabilities** | **Role within establishment** |
| Statutory Duty Holder | Director of Property |
| Responsible Persons | FM Operations Manager |
| Water Treatment Service Provider |  |

The names of individuals at each property are to be recorded on the cover page of the site specific “Written Scheme of Control”.

## Duties and Responsibilities

### Duty Holder

The Duty Holder is ultimately responsible for legionella management in NCC and directly responsible for ensuring the appointment of the Responsible Persons by NCC.

### Responsible Person

The NCC appointed Responsible Person (RP) for each property is to regularly audit the records for the buildings that they are responsible for to ensure that the necessary checks and controls are in place and being completed.

It is recommended that auditing is conducted at least annually. The Infinity Annual Monitoring reports shall be used for an annual check, if there is not Annual Monitoring the Written Scheme of Control Appendix B “Annual Review of Risk Assessment” should be used.

### Water Treatment Service Provider

NCC will appoint competent organisation(s) to:

* Provide expert advice;
* Complete Control of Legionella Bacteria Risk Assessments;
* Review Water Risk Assessments;
* Carryout maintenance and monitoring of the water systems; and
* Conduct the periodic sampling of water from various outlets or storage points as determined by either the Risk Assessment or due to a loss of control.

## Strategy for prevention

To comply with our legal duties NCC will adopt, so far as is reasonably practicable, the principles of control and management identified in the ACOP L8 and parts 1-3 of HSG 274.

The means by which NCC will control the risk from exposure to the bacteria will be a joint function of external expertise and self-delivery.

The Written Scheme of Control will contain all records of control measures implemented for each property. These will be held at each property by the Responsible Person and contain the following:

* Risk Assessment for the system;
* Schematic diagram of the system;
* Control measures;
* Checks to ensure the Control Measures are effective, the frequency of such checks, and records of control checks;
* The remedial action taken if the Control Measures were shown not to be effective; and
* Disinfection record certificates (where applicable).

## Risk Assessment for the System

A suitable and sufficient assessment must be conducted 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.

Risk Assessments and full system reviews will be conducted by external experts. The external expert shall be a member of the Water Management Society or Legionella Control Association.

The assessments, compilation of written schemes (including this procedure) and implementation of precautionary measures, will be conducted by someone with the necessary competence and resources to complete the tasks proficiently and safely. If the expertise required is not available within NCC, it may be necessary to appoint one or more experts from outside NCC with clear, written responsibilities and lines of communication.

Where NCC occupies sites that are not directly maintained, and the risk assessments are carried out by others, the risk assessments and determined actions should be assessed by the Responsible Person for their suitability. Where the risk assessments are found to be unsuitable, or inaccurate, the Responsible Person shall decide if any required interim controls are required.

All Risk Assessments will be subject to time limited review by the Responsible Person. Risk Assessments will also be recommissioned where the Responsible Person in discussion with the Duty Holder determines the Risk Assessment is no longer valid. This may be for the following reasons:

1. Case or Outbreak of Infection;
2. Changes in Key Personnel;
3. Control Regime monitoring showing the controls are not effective;
4. Updates in guidance, legislation or manufacturer’s instructions.
5. Change in the risk profile of area users;
6. Change in building or area use;
7. Refurbishment or major change of infrastructure;
8. Change in Water Supply;
9. Change in Primary Control Regime, or institution of Secondary Control; or a
10. Change in Management Documents.

If a new risk assessment is not undertaken due to any of the above conditions, a risk assessment will be conducted for all sites and all hazards determined to need assessment no less frequently than every 3 years.

Risk Assessments shall be conducted following the good practice in:

* British Standard BS 8580-1:2019 “Water quality. Risk assessments for Legionella control. Code of practice”.
* UKAS ISO/IEC 17020:2012;
* HSG274 Part 2 (2014) – ‘The control of *Legionella* bacteria in hot and cold water systems’;
* BSRIA’s (1999) FMS 4/99 – ‘Guidance and the standard specification for water services risk assessment’; and
* BSRIA’s (2015) BG 57/2015.

The record of the assessment is a living document that must be *reviewed* to ensure it remains up-to-date.

In identifying and assessing the risks and in drawing up and applying the necessary control measures, notice must be taken of the HSE Guidance Notes, appropriate HTMs and British Standards.

All new builds and refurbished areas shall be subject to a risk assessment, to the specification detailed above, upon completion of domestic water system installation and before hand-over, and a few weeks after full occupation.

Once potential hazards and hazardous events have been identified, the severity of risk shall be assessed so that priorities for risk management can be established. The risk assessment shall consider the likelihood and severity of hazards and hazardous events in the context of exposure (type, extent and frequency) and the vulnerability of those exposed. Although many hazards may threaten water quality, not all will represent a high risk. The aim shall be to distinguish between high and low risks so that attention can be focused on mitigating risks that are more likely to cause harm.

Risk Assessments shall not only assess physical systems in place but shall also assess management controls and historical performance of the control schemes in place. The Risk Assessments shall assess:

1. Presence and adequacy of all implemented Monitoring and Maintenance Programmes in place by all relevant departments.
2. Completion of control scheme checks.
3. Presence of and adequacy of all implemented Record Keeping Programmes in place.
4. Presence of and adequacy of all implemented Auditing Programmes in place.
5. Presence of and adequacy of Management Documentation.
6. Compliance with Management Documentation.
7. Defects management.
8. Training and Competence of Staff and Contractors assigned monitoring and management tasks.
9. Previous risk assessment findings and their resolution.

As part of the risk assessment report, a written ‘Action Plan’ shall be provided to the Responsible Person. Actions required in the Risk Assessments shall provide a priority on a scale of 1 (Very Low) to 5 (Recommended Immediately).

|  |  |  |
| --- | --- | --- |
| Level | Priority Rating | Timeframe |
| 1 | Very Low | Recommended within 2 years |
| 2 | Low | Recommended within 1 year |
| 3 | Medium | Recommended within 6 months |
| 4 | High | Recommended within 1 month |
| 5 | Very High | Recommended immediately |

The Responsible Person shall receive all risk assessments, upon receipt of each risk assessment, the Responsible Person shall:

1. Assess the validity of the Risk Assessments and accept or reject the assessments.
2. Assign timescales for completion to the actions required in the Action Plan.
3. If timescales cannot be met, the Responsible Person shall action suitable interim control measures to protect area users.
4. Monitor the progress of risk assessment remedial completion.

### Schematic diagram of the system.

Each property is required to have as part of the Risk Assessment an up-to-date, simple but accurate schematic plan of the configuration of the water system showing the layout of the plant or water system, including parts temporarily out of use.

The Responsible Person on receipt of the Risk Assessment is to organise a check of the validity of the schematic diagram to check that it includes an accurate layout of the system(s) and location(s) within and around the premises. The schematic should identify piping routes, storage and header tanks, calorifiers, plate heater exchanges and relevant items of plant, especially water softeners, filters, strainers, pumps and all water outlets, which should include all parts of the system where water may be used or stored.

Hot and cold water sentinel points are to be marked on the schematic or listed in the risk assessment.

If the schematic requires an update due to changes the Risk Assessment for the building concerned shall have a full review.

## Bacteriological Control Measures

NCC will follow the guidance in the ACOP to control the growth of legionella bacteria in the system and reduce exposure to water droplets and aerosols.

### Temperature Control:

NCC shall employ 'Temperature Control' as the primary method of water-borne bacteria control within the domestic water systems. This is achieved by maintaining temperatures of:

1. Cold water storage and distribution at temperatures of < 20oC, reaching sentinel outlets at below 20oC within two minutes.
2. Stored hot water at >60oC;
3. Hot Water Services (HWS) Flow at >60oC;
4. HWS Distribution – where recirculation is fitted, >55oC at all Primary, Secondary and Tertiary HWS return loops, within 1 minute;
5. HWS Return – where recirculation is fitted at >50oC at the return to each hot water generator within 1 minute; >55oC in areas deemed to fall under HTM04-01 requirements.
6. HWS Distribution – where recirculation is not fitted or present - >55oC within 20 within 1 minute.

### Prevention of Stagnation

Pipework legs from the main recirculating hot water and direct fed cold water systems remain stagnant where the end of line outlets and other facilities are not used. These legs are usually located in areas that are subject to temperatures within the growth ranges for pathogens, and the temperature of the water within these pipes quickly returns to temperatures suitable for growth after the end of line facilities are used. To minimise growth in these areas, these end legs must be run through to remove any stagnation, and contamination. This usage of each outlet or facility is to be conducted and recorded by:

1. The outlet or facility is frequently used, and recorded as having been frequently used by the area users, or
2. The outlet or facility is under an agreed cleaning procedure where sufficient water is used during the process to define the dead legs to have been flushed, or
3. The outlet or facility is determined not frequently used and has been flushed.

The method of recording usage will be described in the Written Scheme for each property. Whosoever is determined responsible for the assessment of usage, and the flushing shall be suitably trained to their tasks, and their competence assessed on an annual basis.

### Other controls

NCC will:

1. Avoid water stagnation which may encourage the growth of biofilm;
2. Avoid the use of materials that harbour bacteria and other microorganisms or provide nutrients for microbial growth;
3. Control the release of water spray;
4. Maintain the cleanliness of the system and water in it;
5. Use suitable water treatment techniques;
6. Take action to ensure the correct and safe operation and maintenance of the water system; and
7. On sites with historical control problems as an extra precaution install a Chlorine dioxide generator or dosing system.

To aid identification of assets all items listed in the Risk Assessment (cisterns, tanks, plate heat exchangers, calorifiers, water softeners, thermostatic mixing valves etc) shall be labelled with unique identifying numbers which relate to the Risk Assessment and water management records.

Materials used in building water systems must be compatible with the physical and chemical characteristics of water supplied to the building to reduce corrosion or prevent excessive scale formation of system pipework and components. Domestic water systems must not use materials that support microbial growth, such as those containing natural rubber, hemp, linseed oil-based jointing compounds and fibre washers. Similarly, any synthetic materials used should not adversely affect water quality by supporting microbial growth. Water fittings and components should be used that comply with the Water Regulations Advisory Scheme (WRAS) which lists products that have been tested and comply with BS 6920.

The cleanliness of the system must be maintained, as legionella bacteria are more likely to grow in a system fouled with deposits. In hard water areas, softening of the cold water supply to the hot water distribution system should be considered to reduce the risk of scale being deposited at the base of the calorifier and heating coils, and to reduce the potential for scale build-up within the system pipework and components.

## Thermostatic Mixing Valves

Thermostatic Mixing Valves (TMVs) are valves that use a temperature sensitive element and blend hot and cold water to produce water at a temperature that safeguards against the risk of scalding, typically between 38°C and 44°C depending on outlet use. The blended water downstream of TMVs may provide an environment in which legionella can multiply, thus increasing the risks of exposure. HSG 274 Part 2 requires an annual comparative assessment of scalding risk versus the risk of infection from legionella. Where a risk assessment identifies the risk of scalding is insignificant, Thermostatic Mixing Valves (TMVs) are not required, and if not, are to be removed. The finding of this assessment should be recorded on, Written Scheme of Control, Appendix M - TMV Annual Comparative Assessment.

Where a risk assessment identifies the risk of scalding is insignificant, TMVs are not required and are to be removed. The most serious risk of scalding is where there is whole body immersion, such as with baths and showers, TMVs should be fitted at these outlets. Where a risk assessment identifies a significant scalding risk is present, e.g., where there are very elderly, infirm or significantly mentally or physically disabled people or those with sensory loss, fitting TMVs at appropriate outlets, such as hand wash basins and sinks, is required.

Where scalding assessment determines thermostatic mixing is required, Thermostatic Mixing Valves (TMVs) and/or Thermostatic Mixing Taps (TMTs) shall be installed, and maintained at:

1. <41oC for showers
2. <41oC for basins
3. <44oC for baths
4. <38oC for bidets

Scalding control in non-thermostatically controlled outlets shall be identified with “Warning! Hot Water” notices, fitted directly within eye line above the tap or other outlet.

### Thermostatic Mixing Valves Testing and Maintenance

TMVs/TMTs shall be maintained in the following manner:

* TMVs/TMTs and associated components shall be serviced regularly, including descale and decontamination of the mixer, strainers and associated check valves.
* TMTs with blending integral to the body of the tap/shower shall be considered instead of TMVs, as they always draw cold water through every time the outlet is used, thus helping to minimise the risk of stagnation.
* Taps shall be able to be removed for maintenance purposes and they shall be periodically removed for descaling and decontamination.
* Whenever TMVs or cartridges are replaced with new, or new devices are fitted to the system, commissioning shall be in line with HTM 0401 supplement 2017 D08 requirements to include increased frequency of testing for the first 6 months.

## Monitoring the Control Measures

Monitoring shall include:

(a) Checking the performance and operation of the system and its component parts;

(b) Inspecting the accessible parts of the system for damage and signs of contamination;

(c) Monitoring to ensure that the treatment regime continues to control to the required standard.

The frequency of such checks, and records of control checks are as follows:

| Service | Task | Min Frequency | Carried out by | Records recorded in Written Scheme of Control |
| --- | --- | --- | --- | --- |
| Hot Water Services – Calorifiers and Plate Heat Exchangers | Check flow > 60°C and return > 50°C temperature at calorifiers and PHE | Monthly | Competent persons listed in written scheme | Appendix E Temperature Monitoring |
| Visual check on internal surfaces of calorifiers for scale and sludge (where practicable). Inspect via inspection hatch or boroscope and clean if required. If no hatch is fitted, then purge any debris in the base to drain. | Annually or as indicated by the rate of fouling | Competent persons listed in written scheme | Appendix J Calorifier Inspection |
| Hot Water Services – Outlets | Reached 50°C in the sentinel taps within 1 minute.55°C in the sentinel taps within 1 minute in areas deemed to fall under HTM04-01 requirements.(Furthest outlet first before any other monitoring) | Monthly |  | Appendix E Temperature Monitoring |
| Recirculating Hot Systems Sentinel Hot Monitoring (taken from return pipework) | Monthly | Competent persons listed in written scheme |
| Reached 50oC at a representative selection of other points. A55°C in the sentinel taps within 1 minute in areas deemed to fall under HTM04-01 requirements. | Monthly | Competent persons listed in written scheme  |
| POU Water heaters (Less than 15 litres) | Confirm the unit operates at 50-60°C within 1 minute or check the installation has a very high turnover | Monthly | Competent persons listed in written scheme | Appendix E Temperature Monitoring |
| Combination Water Heaters | Check water temperatures at an outlet to ensure the unit operates at 50-60°C | Monthly | Competent persons listed in written scheme  | Appendix E Temperature Monitoring |
| Visually inspect integral cold water storage tanks and carry out remedial work where necessary.  | Annually | Competent persons listed in written scheme | Appendix G Annual Monitoring |
| Cold Water Services – Cold Water Storage Tanks | Inspect cold water storage tanks and carry out remedial work where necessary | Annually | Competent persons listed in written scheme  | Appendix H Cold Water Storage Tank Inspection |
| Check tank water temperature at nearest and furthest possible position (inside tank) from tank inlet.  | Six Monthly (Summer & Winter) | Competent persons listed in written scheme  | Appendix H Cold Water Storage Tank Inspection |
| Cold Water Services - Outlets | Check the temperature at Sentinel Outlets is below 20°C after running the water for up to two minutes.(Furthest outlet first before any other monitoring) | Monthly | Competent persons listed in written scheme  | Appendix E Temperature Monitoring |
| Check the temperature is below 20oC after running the water for up to two minutes at a representative selection of other points | Monthly | Competent persons listed in written scheme |
| Shower Heads, . Spray Taps and hand-held spray units | Dismantle, clean and descale removable parts, heads, inserts and hoses where fitted. | Quarterly or as risk reports necessary | Competent persons listed in written scheme | Appendix J Shower and Spray tap cleaning |
| Infrequently Used Outlets and Equipment | Flush through and purge to drain until the temperature at the outlet stabilises and is comparable to supply. | Weekly | Site based team | Appendix Flushing |
| Thermostatic Mixing Valves Risk Assessment | Comparative assessment of scalding risk versus the risk of infection from legionella | Annually | Responsible Person | Appendix M - TMV Annual Comparative Assessment - |
| Thermostatic Mixing Valves | In accordance with manufacturer’s instructions or SFG 20 61-22 | Six 6 monthly Functional check | Competent persons listed in written scheme  | Appendix L TMV Servicing |
| Annually in- Service Testing, Clean and Service |
| Water Softeners | Visually check the salt levels and top up if required. Check water hardness before and after blending valve. | Weekly | Competent persons listed in written scheme  | Appendix O Water Softeners Weekly Checks |
| Service and disinfect. | Six Monthly | Competent persons listed in written scheme  | Appendix P Water Softeners Six Monthly Service |
| Water Softeners Multiple use filters | Backwash and regenerate as specified by the manufacturer | According to manufacturer’s guidelines | Competent persons listed in written scheme  | Appendix P Water Softeners Backwash and Regeneration |
| Chlorine Dioxide Equipment | Check the system operation and chemical stocks in the reservoir | Weekly | Competent persons listed in written scheme | Appendix XX Chlorine Dioxide Equipment Weekly reports |
| Measure the concentration of chlorine dioxide at the sentinel taps, the concentration should be at least 0.1 mg/l; and adjust the chlorine dioxide dosage to establish the required residual at the sentinel sample points. | Monthly | Competent persons listed in written scheme | Appendix XX Chlorine Dioxide Equipment Monthly and Annual Reports |
| Test the chlorine dioxide and total oxidant/chlorite concentration at a representative selection of outlets throughout the distribution system, the concentration should be at least 0.1 mg/l chlorine dioxide. | Annually | Competent persons listed in written scheme | Appendix  XX Chlorine Dioxide Equipment Monthly and Annual Reports |
| Legionella Monitoring | Test outlets, tanks outlets and calorifiers (flow and base) for legionella using laboratory culture techniques | As required by risk assessment | Competent persons listed in written scheme  | Appendix R Positive Legionella Sample Results |
| Expansion vessels | Where practical, flush through and purge to drain | Monthly–six monthly, as indicated by the risk assessment | Competent persons listed in written scheme  | Appendix S Expansion Vessels |
| Air Handling Units  | Inspection, cleaning and disinfection of drip trays and traps  | Quarterly  | Competent persons listed in written scheme  | Air handling PPM Records |
| Servicing of Humidification Equipment  | In line with Manufacturer’s Recommendations, and Risk Assessment  | Competent persons listed in written scheme  | Air handling PPM Records |
| Water Dispensers/Water Coolers & Vending Machines  | Outlet inspection and cleaning  | Daily  | Competent persons listed in written scheme  | PPM Records |
| General Maintenance including clean and disinfection and Filter replacement  | 6 Monthly  | Competent persons listed in written scheme  | PPM Records |

## Cold Water Storage Tank Inspections

When completing a CWST inspection using Appendix 15, the condition of the CWST inside and out and water condition will be inspected for cleanliness. Below are examples of the condition of cold water storage tanks and when action should be taken.



*(Source HSG 274 part 2)*

## **Instrument Calibration**

Temperature and chemical measurement equipment and water sampling equipment for conducting monitoring works, whether these are used by NCC staff or contractors' staff, shall be calibrated on an annual basis and the certification of calibration appropriately provided and appropriately retained in the Critical Records System. Calibration service providers shall be accredited via UKAS calibration and accredited to ISO 17025.

## Remedial action to take if the Control Measures are shown not to be effective.

The situations where the Control Measures are shown not to be effective include:

* Failure of temperature control;
* Contamination of water supply;
* Failure of dosing systems where used;
* Positive Legionella sample over 100 cfu\*/litre; or
* Case or outbreak of Legionnaires’ disease.

\* cfu - colony-forming unit

### Failure of temperature control

Where the records indicate a failure of the temperature control, the Responsible Person should take the following actions.

* Recheck temperatures at different time on the same day to see if the failure is due to system refill times.
* Consider the temperatures across the whole building water supply system.
* If the temperature failure is limited to a single outlet review what would cause this outlet to fail. Flush the affected outlet twice weekly to background temperature until the temperature control can be re-established.
* If temperature failure is across the building, organise a meeting with the Water Service provider to review the controls and additional action required. Dependant on the temperature and time system has failed for consider taking Legionella samples from the failing system to establish the condition of water. Flush the affected system twice weekly until the temperature control can be re-established.

### **Higher than recommended CWS temperatures**

 **Results Interpretation and Specific Action Required:** The information below is meant to indicate some possible causes and suitable remedial action and shall not be considered exhaustive. Each failure must be considered in detail and the causes suitably addressed.

| **Result**  | **Immediate Action**  | **Remedial Action to be considered by Responsible Person**  |
| --- | --- | --- |
| Mains temperature >20oC  | Review temperature records to understand the time site has been affected and temperatures Review sampling history  | If a summer problem due to temperature of water supplied by the water undertaker increase flushing to reduce the temperature and remove any bacteria that may be multiplying in the system.If this is a long-term problem, consider on site generation of disinfectant via on site generation to supplement temperature control as primary bacterial control method.  |
| Tank, or distribution temperatures greater than 20oC  | Conduct biological sampling to ascertain effect of increased CWS temperatures.  | Investigate: * Heat sources near CWS pipes
* Lack of adequate insulation
* High incoming water temperature
* Heat gain in tanks
* Risk assessment validity

Consider conducting biological sampling weekly until the issue is resolved If this is a long-term problem, consider on-line disinfectant to augment temperature control as primary bacterial control method.  |

### **Lower than recommended HWS temperatures**

**Results Interpretation and Specific Action Required:** The information below is an indication of the possible causes and suitable remedial action and must not be considered exhaustive. Each failure must be considered in detail and the causes suitably addressed.

| **Result** | **Immediate Action** | **Remedial Action to be considered by Responsible Person** |
| --- | --- | --- |
| Stored and/or Flow temperatures <60oC | * Check heat source, increase temperature to achieve ≥60oC.
* Conduct routine monthly distribution monitoring to determine risk to system
 | * Faulty thermostat.
* Carry-out pasteurisation of vessel before use.
* Increase frequency of temperature monitoring to weekly until temperatures are back within recommended limits.
* Repair primary heating supply.
* Carry-out pasteurisation of vessel before use.
* Consider capacity vs demand and replace unit with more suitably sized vessel.
* Calibrate all gauges and/or BMS monitoring points and reconsider results.
* Review risk assessment
 |
| Return temperature <50oC when Flow temperature >60oC | * Conduct biological sampling to ascertain effect of decreased HWS temperatures.
* Investigate pump or non-return valve failure
 | * Distribution system is insufficiently insulated
* Increase storage temperatures to achieve suitable return temperature
* Circulation pump faulty
* Increase frequency of temperature monitoring to weekly until temperatures are back within recommended limits.
* Upgrade circulation pump to a suitable rating.
* Conduct biological sampling to ascertain effect of decreased HWS temperatures
* Check loop return temperatures are in line with commissioning data
* Service all non-return valves
* Clean strainers
* Review risk assessment
 |
| Temperature taken at Tertiary Return points <50oC (recirculating systems) | Check HWS recirculating system balanceConduct biological sampling to ascertain effect of decreased HWS temperatures. Investigate pump or non-return valve failure | * Increase storage temperatures to achieve suitable return temperature
* Distribution system is insufficiently insulated
* Increase frequency of temperature monitoring to weekly until temperatures are back within recommended limits.
* Upgrade circulation pump to a suitable rating.
* Service all non-return valves
* Clean strainers
* Increase frequency of biological sampling until the issue is resolved
* Check flow on Tertiary return is in line with commissioning data
* Check loop return temperatures are in line with commissioning data
* Check balancing valves are in line with commissioning setting.
* Review risk assessment
 |
| Temperature taken at sentinel points <50oC (non-recirculating systems only) | * Check source temperature
* Revisit after recovery of source vessel
* Check for passing non return valves
* Conduct biological sampling to ascertain effect of decreased HWS temperatures
 | * Investigate source of lower than recommended temperature to determine if additional hot water generation is required.
* Consider capacity vs demand and replace unit with more suitably sized vessel.
* Increase frequency of temperature monitoring to weekly until temperatures are back within recommended limits.
* Investigate the presence of heat loss due the presence of space heating (towel rails, linen cupboard heaters, etc.) and remove from the system.
* Check for extended pipe runs
* Review risk assessment
* Increase frequency of biological sampling until the issue is resolved
 |

## Removal of Dead Ends

All facilities which are no longer required must be removed from the system by cutting back their supply leaving no blind end. If a facility is required for future use, the supply pipework should be temporarily disconnected leaving no blind end.

When identified, any blind ends or redundant pipe work must be removed completely. Where not possible, or practicable to remove, a flushing point should be installed, and the Dead end flushed on a weekly basis, with the location logged in the Usage Evaluation and flushing record.

The Responsible Person shall ensure that accurate records and drawings are available, which cover all the hot and cold-water systems. All drawings shall be reviewed on an annual basis and updated as required.

 Staff engaged in the installation, removal and replacement of outlets and associated pipework and fittings shall be suitably trained to prevent contamination of the outlet and water system.

## **Infrequently Used Outlets:**

The risk from waterborne bacteria proliferating in infrequently used outlets and dead ends / legs may be minimised by regular use of these outlets. When outlets are not in regular use, regular and frequent flushing of these facilities can significantly reduce the risk of waterborne bacteria proliferation local to the outlet flushed and, consequently, in the system.

The ‘User’ shall be responsible for carrying out a review of all facilities under their control in order to ascertain the ones which are not adequately used so that they can be flushed.

Where there are high building users more frequent flushing may be required as indicated by the risk assessment and/or as instructed by the Responsible Person.

 All outlets assessed and deemed to be 'disused' shall be considered for removal from the system ensuring that their removal does not create dead-ends.

All temporary or permanent areas of low flow in the plant areas shall be flushed on a weekly basis; these shall include but are not limited to: standby pumps, bypasses, single entry expansion vessels, Hot Water Generator drains, legs to pressure sensors, emergency supply legs, legs to closed system fill points, legs to humidifiers (including those in use unless usage evaluation is carried out weekly), tank drains, fill systems for water features.

### Contamination of water supply

If the water is contaminated the Responsible Person is to organise via the Water Service provider for the system concerned to be cleaned, flushed and disinfected in the following situations, as specified in BS 8558. Disinfection certificates should be recorded in Written Scheme of Control Appendix T Disinfection Certificate.

### Failure of Dosing systems (where used)

If the dosing system fails, the Responsible Person is to organise via the Water Service provider:

* For the system to be sampled for Legionella Bacteria;
* Repair of the dosing system;
* Any additional checks required whilst the dosing system is not working; and
* In the event of positive results follow the actions for Positive Legionella Sample.

## Monitoring for legionella

Legionella monitoring will be carried out:

1. Where identified in the risk assessment to monitor in some high risk situations.
2. In locations with known historical bacterial problems.
3. When there is doubt about the efficacy of the control regime or it is known that recommended temperatures, disinfectant concentrations or other precautions are not being consistently achieved throughout the system.
4. If water systems are treated with biocides and hot water is stored or distributed at reduced temperatures.
5. Water systems suspected or identified in a case or outbreak of legionellosis.

The Water Service Provider will arrange for tests to be conducted and to present the results with an interpretation to the Responsible Person for the property. They will also make recommendations where required and provide technical support to ensure the water quality is of a high standard and meets all current legislation.

Any sample failures or remedial actions identified by the Water Services Provider of the water system that does not meet the requirement of ACOP L8 and HSG274, will be brought to the attention of the Responsible Person.

If remedial work or a re-test is required which cannot be completed while on site the contractor will inform the Responsible Person or the site representative of all outstanding faults and failures and receive instruction on how to proceed.

Microbiological water samples will be collected from outlets following sterilisation of the outlets with Sodium Hypochlorite Solution and flushing to remove residual disinfectant.

Water samples will be collected prior to sterilising of outlets.

Legionella samples are to be collected from high risk outlets such as shower heads etc. prior to any sterilisation and flushing (i.e., the first (pre) flush sample will be taken).

Water samples will be collected into suitably labelled sterile bottles provided by the contractor containing Sodium Thiosulphate to neutralise any residual Chlorine.

The microbiological water samples will be transported in a refrigerated container to arrive at a UKAS accredited testing laboratory for analysis within six hours of collection. Legionella water samples will be tested in a UKAS accredited laboratory within forty eight hours of sampling.

Legionella sampling should be carried out in accordance with:

* BS 7592:2022 Sampling for Legionella organisms in water and related materials.
* BS EN ISO 5667-1:2006 BS 6068-6.1:2006 - Water quality Sampling - Part 1: Guidance on the design of sampling programmes and sampling techniques.
* BS ISO 5667-24:2016 Water quality - Sampling Part 24: Guidance on the auditing of water quality sampling.
* BS 7592:2008 - Sampling for Legionella bacteria in water systems – Code of practice.
* BS 8554:2015 Code of practice for the sampling and monitoring of hot and cold water services in buildings.

Microbiological Sampling must be conducted by suitable trained personnel, preferably accredited to ISO/IEC 17025:2010 and/or ISO/IEC 17020:2012,

Legionella, Microbiological and chemical water sampling records shall be retained for 5 years from the date of sample.

### Positive Legionella Sample

The action to take on positive Legionella Sample is as follows:

| **Result** | **Actions** |
| --- | --- |
| 1. Where a result of 100 cfu/litre or less is recorded | System is under control − no action is necessary |
| 2. Where a result of 100 to 1000 cfu/litre is recorded | A second sample should be tested immediately to confirm the result.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. The review should include the Responsible Person, and the Water Service provider. |
| 3. Where a result of greater than 1000 cfu/litre is recorded | Responsible Person to organise the following procedures:A. The outlet and/or area affected should be closed to all non-essential personnel.B. Second sample to be taken to confirm the result.C. An immediate review of the control measures and risk assessment carried out to identify any remedial actions, including possible disinfection of the system. The review should include the Responsible Person, Water Service provider and Site or Service manager.D. Carry out the actions agreed at the review meeting.E. A third sample should be tested to confirm the actions taken are successful.F. Responsible Person and Water Service provider will review the risk assessment and control measures to identify further remedial actions and additional testing requiredAll positive legionella sample results are to be recorded on Appendix R Positive Legionella Sample Results. |

## **Systemic Disinfection**

When the methods of bacterial control are shown by the task and temperature monitoring to be failing, the water quality may be recovered by the use of shot-dosing of a suitable disinfecting agent.

Prior to the process being carried out, a suitable and sufficient risk assessment shall be carried out to determine the risk to the building users, staff, visitors, processes and system fabric from exposure to the disinfecting agent. The risk assessment shall require input from Facilities and require final approval from the Responsible Person.

The chemical to be used, dose rates, contact times, chemical testing plan and requirement for outlet labelling including locations, and water sampling plan shall be included in the risk assessment.

## Closure Notification of facility

If a facility is to be closed, it is the responsibility of the facility manager to notify of the impending facility closure by submitting a closure notice to the Deputy Responsible Person at least one week (where practicable) prior to the Facility closure.

### Temporary Closures

(Closures of less than one month) where no modifications, alterations and/or refurbishments are planned:

During the temporary closure of a facility, where no major modifications, alterations and/or refurbishments are planned, a procedure for flushing hot and cold water systems shall be instituted by the facility manager. This process shall be implemented, and its implementation recorded using the site Usage Evaluation and flushing record. Disinfection of the domestic water services would *not* be required before re-occupation under these circumstances. Microbiological sampling of the domestic water services would also *not* be required unless expressly requested by the Responsible Person. It is important, however, to ensure that the biological control scheme monitoring is carried out and all scheduled PPM up to date before re-occupation can be permitted.

### Long-term Closures

(Closures of more than one month) where no modifications, alterations and/or refurbishments are planned:

During the long-term closure of the facility for more than one month, the system, where practicable, shall be isolated from the domestic hot and cold supplies and dosed with chemical to maintain bacteriological cleanliness. The system should be tested on a regular basis for chemical reserves, and redosed if found below agreed parameters. Upon recommissioning, the system shall be flushed before reconnection to the hot and cold water systems. Microbiological sampling of the domestic water services *would* also be required, as instructed by the Responsible Person. The system must be fully recommissioned in line with procedures for a new system. The Facility Manager shall inform the Responsible Person of closure over 1 month.

### Closures where minor-works are planned

If the facility is subject to minor works projects (small sized pipework and associated components installations) it is the responsibility of the Responsible Person to ensure that the appropriate actions are taken.

Disinfection of the domestic distribution water services would not be required before re-occupation under these circumstances as long as all fittings have been subject to handling, disinfection, fitting and subsequent flushing in line with the requirements of this procedure

Microbiological sampling of the domestic water services would also not be required unless expressly requested by the Responsible Person. It is important, however, to ensure that the control scheme is within suitable parameters before the area is occupied.

### Closures where major works are planned

Where a facility is to be closed for major works, the Facility Manager shall inform the Responsible Person, who will then ensure Project Manager is instructed in the requirements of this procedure.

Disinfection of the domestic water services *would* be required before re-occupation under these circumstances, and this must be carried out in accordance with the processes included in this procedure. Microbiological sampling of the domestic water services *would* also be required, and this must be carried out in accordance with this section of the Procedure. It is also important to ensure that the system is commissioned in line with the requirements of this procedure before re-occupation can be permitted.

Re-occupation shall be subject to the appropriate authorisation by the Responsible Person.

## **Change of use of facility**

Where ‘Change-of-Use’ of a facility is planned, whether following major or minor works, or otherwise, the impact of this change must be reported and considered, by completing and submitting Notification of Change of Use of Facility, in order to ensure that use of the facility, under this change, remains safe to use and to allow for additional works to be carried out to ensure that the facility is safe to use.

A review, or new, Legionella Risk Assessment will be carried out following change of use, as the risk to the building users will have changed.

## **Point-of-Use filtration**

Use of Point-Of-Use (POU) filtration shall be agreed by the Responsible Person only as an interim safeguard where control measures have been ineffective. To facilitate the use of POU filters, the Responsible Person shall ensure that all outlets are capable of receiving a filter.

Management of POU filters shall include:

1. Outlets to be fitted with POU filters shall be selected by the Responsible Person and/or Infection Prevention and Control committee.
2. POU filters shall be fitted by suitably and adequately trained staff.
3. POU filters shall be replaced according to manufacturer's instructions or when there is a significant fall in flow-rate/pressure at the outlet indicating filter blockage.
4. POU filters, when installed and/or replaced must be dated and signed. An adequate log-book shall be maintained.

## Assurance and Auditing

To comply with HSE and healthcare guidance, whenever new sites are to be occupied, and on an annual frequency in any case, an audit of water safety and assurance for each site shall be undertaken. The audit shall include but not be limited to:

1. Risk Assessment validity
2. PPM task completion
3. Review of the Written Scheme
4. Compliance with this procedure
5. Review of outstanding defects from PPM and risk assessments

The check shall be conducted by the Responsible Person. The Audit shall be recorded.

## Cold Water Storage Tanks - capacity determination

Where the Control of Legionella Bacteria Risk Assessments recommends a Cold Water Storage Tank drop test. The water service provider will advise on the most suitable method of doing this.

## New System Design and Alterations to Existing Systems

The design and installation of cold water & hot water distribution systems will comply with the relevant parts of:

* The Water Supply (Water Fittings) Regulations 1999
* BS 6700
* BS EN 806-2
* BS 8558
* HSG 274 Part 2 Paragraphs 240 -249

Prevention and growth of Legionella in such water systems will be paramount when a new system is being designed. Consideration and effect will be given to the maintenance and repair of such systems in respect of normal running and operation.

When existing systems are being considered for alteration, the introduction of measures for prevention and minimisation of the growth of Legionella as described in HSG 274 Part 2 within these systems will be a priority within the design. Prior to the alterations being undertaken, the proposed modifications to the resulting system will be reviewed in respect of the modifications and the system as a whole, to ensure that all reasonable measures have been taken to eliminate or, if not possible, minimise the system supporting the growth of Legionella.

## Repairs and Rectification

When additional works are identified during routine pre planned maintenance or remedial works. The responsible person shall schedule these works as soon as reasonably practicable do so. Observations are to be recorded within the Model Office folder 1, Appendix 20.

## New Installations

Prior to handover all new installations and or water system alterations shall be subject to an appropriate Risk Assessment to determine the maintenance requirements for the Control of Legionella. The system should also have evidence of pre-commission cleaning and disinfection if appropriate.

## Competency of Staff

The minimum competency requirements are as follows;

* Responsible Person, Role of the Responsible Person.
* Those responsible for the safe operation and maintenance of water systems within buildings will be trained to have an Awareness of the Control .

NCC shall appoint Responsible. The appointment shall be made for a Three year period by NCC’s Duty Holder.

The Responsible Person will have successfully completed an approved Legionella management course from an accredited provider. Refresher courses will be provided every three years.

The Responsible Person shall be assessed for competency in the management of Legionella and their role by NCC or an NCC advisor. All concerns raised during the assessment shall be satisfactorily addressed before a Competency Assessment Form is completed and a recommendation for appointment is made.

Upon receipt of a completed competency assessment form, the Responsible shall be formally appointed in writing by the Duty Holder. The letter of appointment shall last for a period of three years from the date of the assessment.

Approximately 30 months after the letter of appointment has been issued or following the removal of appointment for any other reason, the appointed person shall advise their line manager that their appointment is due to expire so that refresher training and a re-assessment can be arranged.

The Responsible Person appointment can be suspended at any time by a senior manager should they have concerns about competence. Following the removal of appointment, the Responsible Person shall be re-trained / reassessed prior to the appointment being reissued.

## Toolbox Talks

To aid awareness NCC Talk Box Talks will be given as follows:

* Introduction to Legionella - All Staff Bi-Annually
* Flushing of Infrequently Used Outlets – Staff involved in flushing - Bi-Annually
* L8 Temperature Check – Staff involved in Temperature Checks – Bi-Annually

All staff working under this procedure will be competent to conduct the required tasks, adequate and recognised training will be provided for staff.

## Case or outbreak of Legionnaires’ disease

Public Health England (PHE) will inform the establishment of a confirmed case or outbreak of Legionnaires’ Disease.

PHE will issue a request for information, to the Responsible Person which is likely to include:

* NCC Policy and Procedure;
* NCC Written Scheme of Control containing the
	+ Establishment Risk Assessment for the property;
	+ Temperature records;
	+ Flushing records;
	+ Positive Legionella Bacteria sample results;
	+ CWST inspections; and any
	+ Disinfection Certificates;

The Responsible Person is to ensure that the Duty Holder is aware of the situation.

1. An outbreak is defined by the Public Health Laboratory services as two or more confirmed cases of Legionellosis occurring in the same locality within a six month period.
2. If the water system has been implicated in an outbreak of Legionnaires Disease emergency cleaning of this system has to take place as soon as possible.

If the one of the above situations is to arise, the following action is to be taken, where appropriate;

1. Responsible Person to organise the emergency cleaning procedure and sampling as below.
2. Notify the Duty Holder of the legionella outbreak situation.
3. The system should be isolated immediately from use once identified and the areas in the direct vicinity of the contamination should be isolated to all personnel i.e., lock doors to toilets or tank rooms as applicable and keep them shut until satisfactory cleaning / disinfection works have been carried out to obtain final clearance.
4. Once the system has been isolated a second sample should be taken immediately in order to confirm the result (the local authorities may request that this be undertaken by them) once this sample has been taken it will then be possible to commence the cleaning / emergency disinfections in accordance with the procedures outlined in HSE ACOP L8 and HSG274. The work will normally be conducted by a specialist water service provider as per method statements then another sample should be taken to confirm the disinfection has been successful, once this sample has been taken it will be possible to reinstate the system back into service.
5. Samples taken should be clearly labelled showing dates, time and locations.
6. Contact Water Service Provider if the result is from an independent analysis to confirm that the results are satisfactory.

Water treatment contractor and Responsible Person will review the risk assessment and control measures to identify remedial actions

## RIDDOR

The Health and Safety Executive states “ under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR), you must report any cases of legionellosis in an employee who has worked on cooling towers or hot and cold water systems that are likely to be contaminated with legionella.”

Notification is only applicable when notified by a doctor.

## COSHH

COSHH is the law that requires employers to control substances that are hazardous to health. You can prevent or reduce workers exposure to hazardous substances by:

* finding out what the health hazards are;
* deciding how to prevent harm to health (risk assessment);
* providing control measures to reduce harm to health;
* making sure they are used;
* keeping all control measures in good working order;
* providing information, instruction and training for employees and others;
* providing monitoring and health surveillance in appropriate cases;
* planning for emergencies.

Most businesses use substances, or products that are mixtures of substances. Some processes also create substances. These could also cause harm to employees, contractors and other people.

Sometimes substances are easily recognised as harmful. Common substances such as paint, bleach or dust from natural materials may also be harmful.

Safety data sheets provide information on chemical products that help users of those chemicals to make a risk assessment. They describe the hazards the chemical presents, and give information on handling, storage and emergency measures in case of an accident.

By law (see REACH, Chemical classification) suppliers of chemicals must provide an up to date safety data sheet if a substance is dangerous for supply.

A safety data sheet is not a risk assessment. You should use the information it contains to help make your own assessment.

As well as receiving chemicals you may supply them to others. If you do, you must pass on information (as safety data sheets) to those whom you supply.

All documents appertaining to the Control of Substances Hazardous to Health will be completed, located and issued as appropriate.

## Other Risk Systems

The Responsible Person will be cognisant to HSG274 Part 3. Where other risk systems exist on site - such as those detailed below - and are within NCC area of responsibility, they will ensure that control measures are put in place and are included as an addendum to the Written Scheme of Control

* Horticultural water systems should be managed in accordance with both the Water Hygiene Risk Assessment and contractual agreement for the establishment.
* Fire Hydrants and Mist Units. The release of water from hydrants or mist units will be controlled by a safe system of work to ensure the safety of NCC operatives and others within the vicinity during testing**.**

## Definitions

**Aerosol:** A suspension in a gaseous medium of solid particles or solid liquid particles having negligible falling velocity

**Bacteria:** A microscopic, unicellular (or more rarely multicellular) organism

**Calorifier:** Apparatus used to transfer heat to a vessel by indirect means, the source of heat being contained within a pipe or coil immersed in the water (also known as a cylinder)

**Cold Water Service (CWS):** Installation of plant, pipes and fitting in which cold water is stored, distributed and subsequently discharged.

**Chlorination:** A process using chlorine which destroys or irreversibly inactivates microorganisms and reduces their number to a non-hazardous level (also known as disinfection)

**Domestic Water Services:** Hot and cold water intended for personal hygiene, culinary, drinking water or other domestic purposes.

**Duty Holder** - The person with ultimate responsibility. They should appoint a person or persons in writing to take managerial responsibility and to provide supervision for the implementation of precautions. (ACOP L8, Para 39) Statutory Duty normally falls on the business owner, managing director or the person in control of premises or systems concerned. (ACOP L8, Para 23)

**Hot Water Service (HWS):** Installation of plant, pipes and fittings in which water is heated, distributed and subsequently discharged (not including cold water feed tank or cistern).

**Legionnaires Disease:** A form of pneumonia caused by Legionella bacteria.

**Legionellae:** The genus Legionella belongs to the family Legionellaceae that has over 40 species. These are ubiquitous in the environment and found in a wide spectrum of natural and artificial collections of water.

**Legionella:** Type of aerobic bacterium that is found predominantly in warm water environments. (Singular of Legionella.)

**L. pneumophila:** One of the causative organisms of Legionnaires’ disease.

**Legionellosis:** Any illness caused by exposure to Legionella.

**Legionella Outbreak:** An outbreak is defined by the Public Health Laboratory Service (PHLS) as two or more confirmed cases of legionellosis occurring in the same locality within a six-month period.

**Pontiac Fever:** a disease caused by species of Legionella; an upper respiratory illness less severe than Legionnaires’ disease.

**Responsible Person:** Responsible for the day-to-day control of identified risk areas. They should have a clear understanding of their duties and of the overall health and safety structure and policy within the organisation. They should also ensure the competence of any contractors conducting work. (ACOP L8, Para 39-41). The Responsible Person should be a manager, director or have similar status and have sufficient authority, competence and knowledge to ensure the timely and efficient implementation of precautions. (ACOP L8, Para 44)

**Risk Assessment:** Identifying and assessing the risk from Legionellosis from work activities and water systems on premises and determining any necessary precautionary measures.

**Sentinel Taps:** For hot water services - the first and last taps on a recirculation system. For cold water systems (or non-recirculation hot water systems), the nearest and furthest taps from the storage tank. The choice of sentinel taps may also include other taps which are considered to represent a particular risk.

## Related Documents

* The Health & Safety at Work etc. Act 1974
* The Management of Health and Safety at Work Regulations 1999
* HSE Approved Code of Practice and Guidance (Document ACOP L8)
* Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995
* The Control of Substances Hazardous to Health Regulations 2002
* Confined Space Regulations 1997
* Water Supply (Water Fittings) Regulations 1999
* WRAS Water Fittings and Materials Directory

\*This document is intended to complement and underpin Approved Code of Practice Document ACOP L8

##  Adults over the age of 40 and/or people with medical conditions that make them susceptible to legionellosis

Due to the wide range of people present in the sites across the portfolio, there will be instances where Adults over the age of 40 and/or people with medical conditions that make them susceptible to legionellosis will be using the water services.

NCC will structure the legionella control regime to each situation, as there is the likelihood that the users of some services will be more susceptible to legionellosis compared to the users of other services. In some cases, the regime will need to be heightened (areas where the users are at higher risk, the temperature management and system cleanliness management may need to be stricter).

Legionella Risk Assessments, which are in place for each building, will determine the legionella risk to the users. The assessments will score the risk of the water services against the users, so the regime can be tailored to the risk.