

WATER SAFETY AND CONTROL OF LEGIONELLA POLICY

Document Summary

To ensure the safe storage and delivery of water services in line with requirements to all outlets in Trust occupied premises.

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POLICY AUTHOR	Professional Head of Estates

Important Note:

The Intranet version of this document is the only version that is maintained.

Any printed copies should therefore be viewed as “uncontrolled” and, as such, may not necessarily contain the latest updates and amendments.

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1 SCOPE

The policy of Cumbria Partnership NHS Foundation Trust [hereinafter referred to as “the Trust”] is to provide and maintain safe and healthy working conditions, equipment and systems of work for all staff and visitors, and to provide such resources, information, training and supervision as needed for this purpose. The Trust will manage the risk of legionellosis and *Pseudomonas aeruginosa* by following the national design, installation and maintenance guidance stipulated in HTM.04-01 including the addendum for augmented care units and ACoP L8.

This Policy covers all Trust owned, leased or informally occupied premises throughout the County, which can be solely occupied or shared with other organisations. Where properties are not fully owned by the Trust, each of the other organisations will be formally advised of the Trust’s limits of responsibility and will be provided with sufficient and reasonable advice to ensure that the building owner or head lease holder maintains compliant systems.

Because of the complexity of the property portfolio a table has been produced, see **appendix 1** detailing the relevant policies that staff must follow. If staff are unsure about which Policy applies in the area that they are working, please contact the Estates Department for clarification.

Estates Helpdesk: 01228 603131

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All the above areas are audited and monitored for statutory compliance during the formal quarterly review meetings with each service provider.

2 INTRODUCTION

The management of legionellosis risk is a continuous commitment by the Trust involving regular management progress meetings and a commitment to a risk assessment programme. These assessments will be used in the process of auditing, monitoring, inspection, record keeping, programme implementation and system condition requirements.

3 STATEMENT OF INTENT

The objective of this policy is to give clear guidance on legislative and national duties that the Trust must comply with to safely manage the risk of legionella.

The mission of the Estates Department is to achieve and maintain a high standard of quality in all aspects of its operation and to continually satisfy the expectations of Legionella management in respect of all the services offered.

The department is committed to effective Quality Management at every level within its business. To continually achieve this, all policy and procedures used by staff, will be internally audited at least on a yearly basis.

4 DEFINITIONS

CCDC:	Consultants in Communicable Disease Control
COSHH:	Control of Substances Hazardous to Health
HSE:	Health and Safety Executive
HTM 04-01:	Healthcare Technical Memorandum for Water Systems
L8:	(HSE: ACOP) The Control of Legionella Bacteria in Water Systems
SLA:	Service Level Agreement
WRC:	Water Regulation Control
WRAS:	Water Regulation Advisory Scheme

5 DUTIES

All relevant persons shall fully appreciate the actual and potential risks of legionella and the concept of risk management. Although compliance with the guidance may be delegated to staff, or undertaken by contractors, accountability cannot be delegated.

5.1 Chief Executive

The Chief Executive of the Trust has overall accountability for all aspects of the quality of water supplies

5.2 Accountable Director

The Director of Performance Improvement is the accountable director and has responsibility for ensuring that the Water Safety and Control of Legionella is deployed effectively within their area of control and agreeing the strategy and future direction of the policy.

5.3 Responsible Person

The Professional Head of Estates is the responsible person and has direct responsibility for properties under his direct control and in all other properties has a responsibility to ensure that effective controls are in place. This will require close liaison with other professionals in various organisations e.g. external contractors. SLA providers, etc.

This individual's role involves:

- Advising on the potential areas of risk and identifying where systems do not comply with the guidance;
- Advising on the necessary continuing procedures and actions for the prevention or control of legionella;
- Monitoring the implementation and efficiency of these procedures and actions;
- Approving and identifying any changes to those procedures and / or actions;
- Maintaining and co-ordinating adequate records.

The Responsible Person should appoint at least one deputy to whom delegated responsibility may be given. The deputy will act on behalf of the Responsible Person in their absence.

RESPONSIBLE PERSON [WATER]: **Professional Head of Estates**

DEPUTY RESPONSIBLE PERSON [WATER]: **Estates Electrical Manager**

DEPUTY RESPONSIBLE PERSON [WATER]: **Estates Mechanical Manager**

DEPUTY RESPONSIBLE PERSONS (WATER) CLEANING & FLUSHING:
Facilities Coordinators & Head of Facilities

5.4 Control of Infection

Microbiological expertise is provided by the North Cumbria Acute Trust Microbiologist/ Infection Control Doctor.

The Infection Control Doctor [Water] will head the Outbreak Control Team, as determined in HTM 04:01 – “Water Systems”.

5.5 Roles and Responsibilities of other staff

Estates/Engineering Professionals and Managers

Specialist professionals shall ensure that they follow the guidance laid down in this document and the relevant primary reference publications upon which this is based. They shall also ensure that they are up to date, by attending relevant awareness and training sessions. In particular, these professionals shall report any defects, suspicions or concerns regarding the design, condition, operation or performance of water systems that might increase the risk of Legionella proliferation. Records of all actions taken with respect to Legionella control shall be generated and maintained.

Building Occupiers e.g. Ward/Departmental Managers

Managers of ward/departments have control over the use of water in their department and as such shall ensure the Facilities Coordinators and Head of Facilities are

informed of all little used outlets to enable a flushing regime to be established. In particular, these managers must ensure that all areas temporarily taken out of use and also sporadically used water outlets are flushed twice weekly and these actions are recorded. They should report to Estates any defects, suspicions or concerns regarding the design, condition, operation or performance of water systems that might increase the risk of Legionella proliferation.

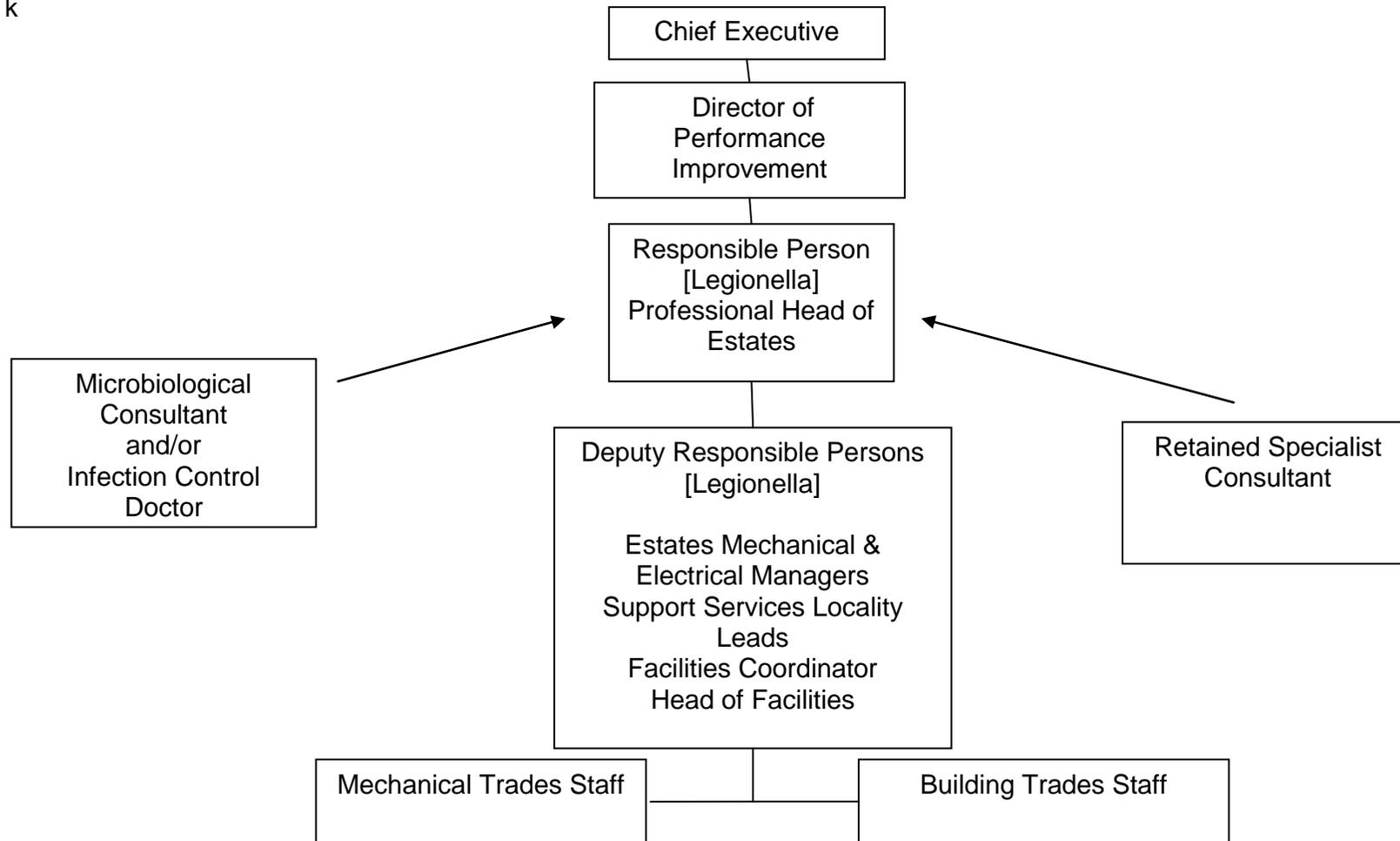
Trades staff

Trades staff, whether employed or contracted, shall conduct all of their water system related tasks in accordance with this document and the requirements of the Planned Preventative Maintenance system. In particular, trades staff members shall employ their highest standards of workmanship; use only WRAS approved materials when working on water systems; report any defects, suspicions or concerns regarding the design, condition, operation or performance of water systems that might increase the risk of Legionella proliferation; keep relevant records; and attend Legionella awareness/training sessions. Where dead-legs [i.e. blanked-off pipes that do not serve outlets] are found they should be reported to the Responsible Person.

All other relevant staff

All staff members that can affect legionellosis risk shall conduct their tasks in accordance with this guidance; report any defects, suspicions or concerns regarding the design, condition, operation or performance of water systems that might increase the risk of Legionella proliferation; keep relevant records; and attend Legionella awareness/training sessions. Where dead-legs [i.e. blanked-off pipes that do not serve outlets] are found they should be reported to the Responsible Person.

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6 DETAILS OF THE POLICY

6.1 Protection of Maintenance Personnel and Others

Contaminated Aerosols

The disinfection procedures presented for cold water storage tanks, domestic hot water vessels and water systems are designed to minimise the risk to staff and others that may come into contact with water which may have been contaminated with Legionella. In all instances of draining, water should be drained in such a way as to avoid the creation of an aerosol. This also applies for the safe purging of stagnant water e.g. from unused outlets.

Where possible, cleaning methods which create an aerosol [e.g. high pressure water jets] should be avoided. If this is not possible, the operation should be executed when the building is unoccupied, or in the case of permanently occupied building, windows in the vicinity should be closed and air inlets temporarily blanked off. As systems requiring cleaning will have high organic load the operator and others closely involved should wear suitable respiratory protective equipment.

Other Health and Safety Issues

Because water treatment chemicals, including chlorine-containing chemicals and solutions, are often toxic or corrosive they should be used cautiously to ensure that they do not endanger the users or other occupants of the building. Caustic resistant gauntlet type gloves will be required. Water treatment should be carried out by, or under the direction of, people who are suitably qualified and experienced.

The use of water treatment chemicals should be subject to a COSHH assessment and permission would be required from the water authority prior to any discharge to sewers, storm water drains and watercourses.

Scalding

With regards to scalding risks, the organisation will ensure all that is reasonably practicable will be done to follow the requirements of HTM 04-01

Competent Help

The Trust shall retain the services of competent help where required to undertake:-

- Risk assessment;
- Management audit;
- Review;
- Updating of policy and procedures;
- Training.

Risk Management

Review

During Estates SLA meetings with each service provider where quarterly legionella risk management reviews are undertaken to ascertain the effectiveness of the broad management arrangements. The review may include recommendations for improvement and forms part of the legionella risk management system. A trust wide Water Services Management Group has been established and meet 6m to monitor and discuss progress.

Risk Assessment

The Trust undertakes and reviews legionella risk assessments under the following circumstances:-

- Small domestic properties, served by individual single pipe water systems, are risk assessed by legionella risk screening, a desk based risk assessment exercise. The screen is undertaken every two years. Based on the findings, representative properties will be subject to on-site risk assessment;
- Re-assessment takes place every two years or whenever there is reason to believe the latest risk assessment may no longer be valid e.g. due to a change of building use;
- The review of risk assessments shall be based on, on-site re-assessments of risk on an annual basis for premises with highly vulnerable occupants and every two years for all other premises.

At the time of each risk assessment, schematics of hot and cold water systems are checked for accuracy and up dated if required.

The Trust shall ensure that risk assessment:-

- Is undertaken employing competent help;
- Identifies and evaluates potential sources of risk;
- Encompasses all buildings and all water systems.

6.2 Management plan

Risk Minimisation

The risk assessment shall form the basis of Risk Minimisation which will describe the particular means by which the risk from exposure to Legionella bacteria is to be controlled. The remedial actions within the Risk Minimisation assessment shall be prioritised on the basis of risk.

Procedures

The Responsible Person (Water) has procedures and standard forms which are held in separate files for use by staff and specialist contractors who have the responsibility to ensure all the necessary documentation for legionella management and control is completed, filed and kept up to date.

Training, Competence and Contractors

The Estates Department provides legionella risk management training to its staff, appropriate to the responsibilities of each staff member. For example technical and procedural training is provided to trades staff. The Responsible Person and the Deputy Responsible Persons are provided with training specific to their legionella risk management role and responsibilities. For all properties maintained by other Estate Departments or contractors via SLA's will be audited on a quarterly basis to ensure that this training is up to date.

Contractor competence/code of conduct

The roles and responsibilities of contractors shall be defined in writing in the contract documents. Any agreed deviation from the initial contract documents shall be mutually agreed and documented as part of the contract review process.

The competence of such contractors will be assessed. The minimum requirement for new contractors shall be registration with the Legionella Code of Conduct Association & the Approved Plumbers Scheme.

Design, Commissioning and Handover

All new systems shall be designed to limit the potential growth of Legionella and as such, recommendations made in HTM 04-01, L8 and current water regulations shall be followed. Systems will be fully commissioned and tested prior to handover. During handover all relevant documentation will be checked for accuracy and all documentation shall be included in the manual provided by the contractor.

6.3 Maintenance and Operation

Operation of Premises

Occupation of New Premises

This procedure is designed to prevent the risk of legionella developing in a new building / department through the interim period following construction, commissioning and hand over to occupancy.

Once the system is in use and has been cleaned and chlorinated prior to hand over, a Responsible Person shall be nominated to monitor and observe the system. This is to ensure that the system is operated in accordance with the Trust's 'Procedure for Temporary Closure' and the relevant record sheets completed.

At the point of hand over all relevant information on system performance together with as-fitted drawings and design criteria of the domestic hot water systems and cold

water services shall be submitted to the relevant Officer who will be responsible for the premises.

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

Residential Accommodation

This sub-section applies to domestic properties served by individual water systems. Where domestic properties share a common water system, the maintenance procedures for the larger premises apply.

The Trust recognises its obligations as a provider of residential accommodation. In practical terms it fulfils these by routine maintenance checks/actions immediately prior to the occupation of a domestic dwelling by a new tenant and by provision of information to the new tenant.

Maintenance Actions/Checks Prior to Occupation by a New Tenant:

- The actions as listed in the procedure file will be followed.

Procedure in the Event of Closure of Part or All of a Building

Background

Where part or all of a building is going to close for a period of greater than one week, the relevant manager must notify the Responsible Person [*Legionella*] of the details.

Period of Closure

The period of closure should be established at the earliest point in negotiations. The period for which an area is closed can play an important part on the cost implication and involvement of a closure. The Estates department will follow the correct procedure depending on the length of closure.

Re-occupation of an Indefinitely Closed Area

In the event of re-occupation of an indefinitely closed area, full negotiations must take place between the relevant manager and the Responsible Person prior to the re-occupation exercise.

The Responsible Person will require the following information: -

- The planned re-opening date;
- Any proposed changes of use of the area;
- Any areas which will not be used.

Emergency and Outbreak Actions

The contact details, both during office hours and out-of-hours, of the Responsible Person, Deputy/ies and Infection Control Doctor are kept on the main switchboard and the major incident control room.

The course of action if an outbreak of Legionnaires' disease is suspected.

An outbreak is defined by the Health Protection Agency [HPA] as 2 or more confirmed cases of legionellosis occurring in the same locality within a six month period.

The Trust will follow the guidance presented in HTM 04-01 – “Water Systems”.

If the outbreak occurs, the Infection Control Doctor will lead the Outbreak Control Team. If, however, the outbreak spreads to the community, the consultant in Communicable Disease Control will lead the Outbreak Control Team. Both will be members of the Team irrespective of team leader.

The general requirements of HTM 04-01 in response to an outbreak are:

- Investigation of all potential sources of *Legionella* infection;
- Provision, by the Responsible Person, of details of all such equipment identified above;
- The location of any medical equipment used for dental care, respiratory therapy and haemodialysis.
- Off-site information such as excavation or earth moving works, alterations to water supply and drainage;
- Provision of advice on cleaning, disinfecting, modification and long term control measures for the responsible equipment.

If any relevant legislation has been infringed then the Trust may be subject to a formal investigation by the Health and Safety Executive.

Guidelines for Investigating Single Hospital Cases of Legionnaires' disease

These guidelines have been developed from “Guidelines for investigating single cases of legionnaires' disease” published in Communicable Disease & Public Health journal Vol. 5 No. 2 June 2002. Author JV Lee and C Joseph of the Health Protection Agency [HPA].

These guidelines are produced for Consultants in Communicable Disease Control [CsCDC], microbiologists, clinicians, environmental health officers [EHOs] and other public health specialists involved in the control and prevention of legionnaires' disease. It will be the responsibility of the hospital's infection control doctor to lead the investigation into a single case in a hospital, it is essential that the local CCDC is informed as soon as possible.

Local management of the investigation:

- Local Memorandum of Understanding [MoU] – this must be agreed between all relevant agencies [HSE, CCDC, HPA laboratory, Environmental Health Departments].
- Clinical diagnosis of legionnaires' disease must be supported by confirmed or presumptive microbiological evidence.
- As soon as a laboratory diagnosis has been made by a microbiologist the case should be reported to the local CCDC and local infectious diseases clerk.
- Investigation to be commenced following the pre-defined MoU. Investigations for Legionella infections may take place outside the residential area of the patient. If this is the case the suspected / confirmed diagnosis result should be immediately sent to the public health department in whose area the patient resides, the local CCDC can commence follow up procedures.
- The CCDC to obtain the patient's movements for the two weeks prior to the onset of illness. This will include full address and postcode of place residences, place of work, travel details, accommodation details [overnight stays]. This should also include details of possible hospitals visited and other potential common sites and exposure to Legionella.
- All cases should be reported to CDSC in confidence, via telephone or encrypted fax to a named person. Once clinical, microbiological and exposure histories have been obtained for the case these should be detailed on the standard CDSC reporting form.
- Investigations specific to hospitals will require reviewing the risk assessment for controlling Legionella and maintenance records by the incident control team in conjunction with the Nominated Responsible Person.
- The review of the risk assessment & maintenance records should identify if there are any deficiencies in controls as detailed by the HSE and NHS guidance. If any such deficiencies in the control are found these should be remedied as soon as possible.
- Any precautionary disinfection of any part of the water system should only be completed after sampling. This sampling will be under the direction of the incident control team and carried out in accordance with BS7592.
- A case search for other confirmed or presumptive cases of Legionnaires' disease associated with the hospital or community should be conducted.

Domestic Hot & Cold Water Systems

These systems are operated, maintained and tested in accordance with the criteria laid out in L8 & HTM 04-01

Air Conditioning Plant

General

Air conditioning and ventilation plant and duct-work should be inspected at the access point[s] on an annual basis in order to check cleanliness and general condition. After several years of service, even a correctly filtered system may contain dirt accumulation. It may be necessary to consider cleaning of the system. However, accumulation of dirt in a relatively short period of time is indicative of either:

- Poor filter arrangement and design;
- The use of incorrect filters; or
- Failure of the filtration system.

In particularly polluted areas, it may be necessary to consider the installation of high grade final and pre-filters. The quality of filter housing design and in particular the seals is a critical factor in maintaining the efficiency of the filtration system by ensuring that air does not bypass the filter panels.

All information on condition, cleanliness etc to be recorded on back track and specialist contractors reports.

Water Conditioning

The hot water treatment method used by the Trust is that of full temperature control as advocated in HTM 04-01. Should an alternative water treatment regime be sought the onus shall be on the Trust to establish the efficiency of the system in its control of Legionella for each site, this shall be in the form of a trial to establish:

- A control level;
- The ability to achieve that control level, and;
- The assurance that the control level will be maintained.

Regular Legionella sampling will be required if biocidal treatments are used as an alternative to temperature.

Cleaning and Disinfection

Water systems will be cleaned and disinfected under the following circumstances:-

System/ Service	Circumstance Requiring Cleaning and Disinfection	Frequency
Domestic coldwater tank <i>*(Inspected on PPM Annually)</i>	New installations.	As required
	Empty tank re-commissioning.	As required
	Tank temperature exceeds 20°C.	As required
	Tank contains moderate sediment, i.e. a complete covering of the tank base.	As required
	Tank contains moderate corrosion.	As required
	Contamination of tank by vermin or vermin faeces.	As required
	Gross organic contamination e.g. large number of dead insects.	As required
	Regular programme for high risk healthcare category.	Annually
	Regular programme for medium risk healthcare category.	2 yearly
Regular programme for non-healthcare premises [excluding small tenanted residential properties].	5 yearly	
Consultant advice - interpretation of microbiological results	As required	
Domestic hot & coldwater distribution system <i>*(Inspected on PPM Annually)</i>	New installations and small modification/ additions.	As required
	Contamination of tank by vermin or vermin faeces.	As required
	Gross organic contamination e.g. large number of dead insects.	As required
	Consultant advice - interpretation of microbiological results.	As required

Domestic hot water calorifier <i>*(Inspected on PPM Annually)</i>	New installations and modifications / additions.	As required
	Calorifier falls below 45°C.	As required
	Empty calorifier re-commissioning.	As required
	Contamination of header tank by vermin or vermin faeces.	As required
	Regular programme [excluding small tenanted residential properties].	Annually

	Consultant advice - interpretation of microbiological results.	As required
Air handling unit <i>*(Inspected on PPM Annually)</i>	Contamination by vermin or vermin faeces.	As required
	Gross organic contamination e.g. large number of dead insects.	As required
	Chiller battery, drip trays and drainage pipe work.	6 monthly

6.4 Management Review

Review

Quarterly management review meetings shall be held in order to assess the progress with respect to management issues.

These progress review meetings will be held to identify progress against the action plan in order to identify any problems with the implementation of specific remedial measures.

Sampling and Monitoring

System/ Service	Task	Frequency
Domestic cold water tank	Incoming mains cold water temperature	Six monthly
	Tank water temperature	Six monthly
Domestic cold water outlets	Sentinel tap temperatures	Monthly
	Temperature at representative number of taps on a rotational basis	Annually
Domestic hot water calorifier	Flow and return temperature	Monthly
Domestic hot water outlets	Sentinel tap temperatures	Monthly
	Temperature at representative number of taps on a rotational basis	Annually
Thermostatic mixing valves	Inlet temperature	Six monthly
	Outlet temperature	Six monthly

Samples for general microbiological testing i.e. total aerobic bacterial counts at 22°C and 37°C, coliforms and E.coli are taken:-

- One week following handover of a new building or water system;
- As part of the tank cleaning and disinfection process if deemed necessary;
- In response to taste or odour or sustained discoloured water complaints if deemed necessary.

When such samples are taken, a mains supply sample should be taken as a control, to verify whether the supply could be the source of any identified problems.

Samples for Legionella testing are taken:-

- Monthly from hot water systems treated with biocides where storage and distribution temperatures are reduced from those recommended in the HSE’s ACOP/Guidance Document L8. At the time of preparation of these procedures, there are no such systems within the Trust;
- Monthly from hot water systems where control levels of the treatment regime, i.e. temperature in this case, are not consistently achieved – these samples should be taken until the system is brought back under control;
- When an outbreak is suspected or has been identified;
- Regularly where a department specialises in services for “high risk” patients.

Action Levels for Legionella in Hot and Cold Water Systems

Legionella Bacteria [cfu/litre]	Action Required
More than 100 but less than 1000	Either: If only one or two samples are positive, system should be resampled. If a similar count is found again, a review of the control measures and risk assessment should be carried out to identify any remedial actions. If the majority of samples are positive, the system may be colonised, albeit at a low level, with Legionella. Disinfection of the system should be considered but an immediate review of control measures and risk assessment should be carried out to identify any other remedial action required.
More than 1000	The system should be resampled and an immediate review of the control measures and risk assessment carried out to identify any remedial actions including possible disinfection of the system.

Additional actions following a positive Legionella count.

- Inform relevant Business/Locality managers**
- Inform Infection Control Nurse**
- Inform Risk Management and update Ulliyases**
- Inform Water Services Management Group**

Laboratory competence

Samples for Legionella shall be tested by a UKAS accredited laboratory that takes part in the United Kingdom National External Quality Assessment [UK NEQA] service for Microbiology for the isolation of Legionella from water.

Records

Retention Period

The following types of records are kept.

Record	Retention Period
This policy and procedures document	Throughout the period for which they remain current and for at least two further years.
Risk assessments	
Risk minimisation scheme and details of its implementation	
Monitoring, inspection, test and check results, including details of the state of operation of the system	At least five years

Estate Record Format Reference Table

Type of Form	Form Reference
Temporary Closure of All or Part of a Building	CA1
Indefinite Closure of All or Part of a Building	CA2
Cold Water Tank Inspection	CA3
Calorifier / TMV / Sentinel Outlet Temperatures	CA4
Incoming Mains Water Temperatures	CA5
Air Handling Unit Inspection	CA6
Incident Report	CA7
Calorifier Maintenance	CA8
Shower Head Cleaning Form	CA9
Little Used Outlet Flushing Form	CA10
Checklist for New Water System Design	CA11

Schematics

Water system schematics are produced for all hot and cold water systems, with the exception of point of use water heaters and small tenanted domestic premises served by individual single-pipe water systems. The schematics show the storage systems in plant rooms and tank rooms. Distribution schematics show sentinel outlets on block plans [where available].

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

- Origin of water supply;
- General layout of the system;
- How the system operates;

- All associated storage and header tanks;
- All standby equipment;
- Any problem areas such as dead legs;
- Regular operation and test points.

These schematics/drawings may also show:-

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

Drawings/schematics shall be checked to coincide with risk re-assessment, to ensure that they are up to date.

6.5 Dental Services Waterlines and Equipment

Risk Assessment

All dentists must identify and assess the sources of risk that are likely to encourage the organisms found in Dental Unit Water Lines to multiply and become aerosolized and prepare a scheme for preventing and controlling the risk.

- Keep records and check that what has been done is effective.

Dental Unit Waterlines

The external surfaces of air and water lines may become contaminated from splashes and aerosol material, single use protective coverings are desirable and, if used, these must be changed after each patient. External surfaces must be cleaned after each patient.

To prevent contamination by aspiration the water and air lines should be fitted with anti- retraction valves.

To reduce microbial accumulation it is necessary to run water through the water lines for 2 – 3 minutes at the start of each session and 20 – 30 seconds between every patient. Checklists are useful to ensure compliance and provide auditable evidence.

The water supply should be isolated from the mains water by using an independent bottled water system on the unit.

The bottle should be filled with freshly distilled/reverse osmosis water at the start of each day (if bottled water is used this must be from a previously unopened bottle).

At the end of the day the bottle should be disconnected, emptied, rinsed and stored inverted clean and dry overnight.

Bottles should not be filled with tap water as this will introduce opportunistic respiratory bacteria into the water line and rapidly lead to biofilm formation.

The manufacturer of the dental unit should be consulted regarding disinfection of the water lines.

A variety of products are available for the disinfection of water lines. They can be used daily according to manufacturer's instructions or continuously via automated dosing systems that deliver biocide whenever the waterline is used.

Not all products completely remove biofilm so regular dosing according to manufacturer's instructions is required to control the bacterial count.

Products containing one of the following active ingredients will produce water of a drinking water standard:

- Citric Acid (Alpron)
- Electrochemically Activated Water (Sterilox)

An effective treatment regime includes an initial purge to remove longstanding biofilm followed by a daily maintenance regime to prevent the reformation of fresh biofilm. Waterline biofilm forms rapidly so less frequently used treatments may fail.

A simple dipslide culture test allows practices to assess the effectiveness of the treatment regime. This test involves a plastic slide coated with an agar culture medium dipped into a sample of water from the dental unit and incubated in a sealed container at room temperature for a period of seven days, at which stage bacterial colonies will be visible to the naked eye. A guide on counting the bacterial colonies should be supplied with the dipslide test. A more valid method would be to have microbiological analysis of the water which would provide a more accurate representation of waterline health and would involve taking a sample of water that is transported to a laboratory for analysis who would then supply a certificate of results and advice of action upon given results.

Minor Oral Surgery

Sterile water in a separate delivery system is required for minor oral surgery procedures.

Dental Handpieces

Retrograde movement of irrigant water and saliva into the hand piece on releasing the foot pedal may cause oral bacteria to enter the waterlines. Modern hand pieces normally incorporate an anti-retraction valve, which prevents suck-back of oral microbes and hence reduces the risk of contamination from this source. If the valve is not fitted or is malfunctioning it is estimated that approximately 1 ml of fluid containing 25,000 oral bacteria could contaminate the hand piece each time the air turbine is stopped with the risk of these organisms being transmitted to subsequent patients. Otherwise further precautions should be taken such as flushing and autoclaving the hand pieces and routine maintenance of hand pieces which should also include checking the function of the anti-retraction valve.

Dental Aspirators

Aspirator Units should be connected to the mains drainage. Portable aspirators are not recommended as they are not fitted with filters or amalgam separators and they pose a health and safety risk to staff during emptying of the contents of the bottle.

Dental aspirators must be cleaned and maintained according to manufacturer's recommendations. The exterior surface should be cleaned between patient use, using detergent and water with a disposable cloth/detergent wipe. If known contamination with bodily fluids use 0.1% hypochlorite solution following cleaning. The tubing drains and spittoons should be cleaned at the end of every session with a non-foaming detergent specifically designed for the purpose and recommended by the equipment manufacturer.

Filters should be removed for cleaning or disposal (dependent on manufacturer's instructions) following cleaning of the tubing. Rinse thoroughly before replacing. Replace with new filters as specified by the manufacturer.

Spitoons

Clean outer surface first using detergent and water with a disposable cloth/detergent wipe. **If known contamination with bodily fluids use 0.1% (1000ppm) hypochlorite solution following cleaning.** Add a metered dose of non-foaming disinfectant around the inner surface and wipe evenly around the inside of the bowl. Leave for time specified by manufacturer for effective destruction of microorganisms.

Rinse with bowl flush and discard any cloths/wipes used.

Filters/traps should be removed for cleaning or disposal (dependent on manufacturer's instructions) following cleaning of the spittoon. Rinse thoroughly before replacing. Replace with new filters as specified by the manufacturer.

Back Flow/Back Siphonage

The design of some dental equipment requires a mains water supply, this means that it is possible for contaminated water to be drawn back through the waterlines to the mains water supply (backflow/back siphonage) such equipment includes dental unit, washer disinfectors, spittoons and auto filling automatic radiographic processors.

European Union Regulations state that there should be a physical gap of type A air gap separating the waterlines from the mains supply in order to prevent back flow. Compliance with these regulations can be achieved in dental unit waterlines by installing a pressurised storage tank plumbed with a regulation size type A air gap or an independent water bottle to supply water directly to the dental units waterlines and hand pieces.

DENTAL WATERLINES FLUSHING RECORDS

Biofilms form rapidly on dental waterlines. The majority of the organisms in the biofilm are harmless environmental species, but some dental units may harbour opportunistic respiratory pathogens. Biofilms form when bacteria adhere to surfaces in aqueous environments and begin to secrete a slimy substance that can anchor them to many

materials including metal and plastic. Biofilm may form on any wetted surface exposed to bacteria. Biofilms develop where the temperature is right for growth; this is between 20 - 45° and where there is stagnant water and source of nutrients. This water is not only delivered into the patient's mouth (where it can come into contact with wounds, or can be swallowed) but it is also aerosolised by hand pieces, air-water syringes and ultrasonic scales, giving a respiratory exposure to bacteria.

DENTAL WATERLINES FLUSHING RECORDS

Week beginning	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

7 TRAINING

Training required to fulfil this policy will be provided in accordance with the Trusts Training Needs Analysis. Management of training will be in accordance with the Trusts learning and development Policy.

8 MONITORING COMPLIANCE WITH THIS POLICY

The table below outlines the Trusts' monitoring arrangements for this policy/document. The Trust reserves the right to commission additional work or change the monitoring arrangements to meet organisational needs.

Aspect of compliance or effectiveness being monitored	Monitoring method for all properties including PCT and embedded sites	Individual responsible for the monitoring	Frequency of the monitoring activity	Group / committee which will receive the findings / monitoring report	Group / committee / individual responsible for ensuring that the actions are completed
Ensure that risk assessments for all water systems are reviewed annually and updated.	Estates Department Quarterly Management Meeting	Responsible Person for Legionella or Deputy	Annually	Corporate Fire Health Safety and Security Committee Water Systems Management Group	Director of Performance Improvement
Ensure that hot and cold water storage system temperatures are monitored and maintained.	Estates Department Quarterly Management Meeting	Responsible Person for Legionella or Deputy	Quarterly	Corporate Fire Health Safety and Security Committee Water Systems Management Group	Director of Performance Improvement
Ensure that Thermostatic	Estates Department	Responsible Person for	Six Monthly	Corporate Fire Health Safety and	Director of Performance

Mixing Valves are maintained to provide safe outlet temperatures for Staff or Patient use.	Quarterly Management Meeting	Legionella or Deputy		Security Committee Water Systems Management Group	Improvement
Ensure tanks are inspected, cleaned and chlorinated when required.	Estates Department Quarterly Management Meeting	Responsible Person for Legionella or Deputy	Annually	Corporate Fire Health Safety and Security Committee Water Systems Management Group	Director of Performance Improvement
Infection Control Assurance Framework	Annual Work programme / assurance framework (review and approved)	Clinical services will need to annually monitor their dental practice against this policy through audit. Audits will be collected by Locality leads and presented to the Infection Control Committee against the annual Infection Control Calendar	Annual	Clinical Governance Committee	Head of Nursing and patient safety
Adherence to the standard and enhanced procedures policy	Observation of 10 occasions of infection control in practice within clinical areas.	Head of Infection Prevention and Control	Annual	Clinical Governance Committee	Head of Nursing and patient safety

9 REFERENCES/ BIBLIOGRAPHY

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

L8: The HSE’s Approved Code of Practice and Guidance Document – “Legionnaires’ disease: the control of Legionella bacteria in water systems”

10 RELATED TRUST POLICY/PROCEDURES

POL/001/042 Infection Control Policy

Appendix 1 – Property Portfolio

	LOCATION	PROPERTY	ESTATES SERVICES PROVIDER
IF YOUR PROPERTY IS NOT LISTED BELOW YOU MUST FOLLOW THE CPFT POLICIES			
Total			
1	Alston	Ruth Lancaster James Hospital, Town Foot Road, Alston, CA9 3QX	CPFT
2	Ambleside	Ambleside Health Centre, Ambleside	NHS Property Services
3	Appleby	Appleby Medical Practice, The Riverside Building, Chapel Street,	NHS Property Services
4	Aspatria	West Street Health Centre, West Street, Aspatria, CA7 3HH	NHS Property Services
5	Barrow in Furness	102 Dalton Lane, Furness General Hospital, Barrow, LA14 4LF	UHMBFT
6	Barrow in Furness	Abbey Road Clinic, Barrow-in-Furness	UHMBFT
7	Barrow in Furness	Abbey View Day Hospital, Dalton Lane, Barrow. LA14 4LF	UHMBFT
8	Barrow in Furness	Dova Ward, Furness General Hospital, Barrow LA14 4LF	UHMBFT
9	Barrow in Furness	Ramsey, Furness General Hospital, Barrow LA14 4LF	UHMBFT
10	Barrow in Furness	Fairfield Offices, 2 - 6 Fairfield Lane, Barrow-in-Furness, LA13 9AH	NHS Property Services
11	Barrow in Furness	Gum Clinic Barrow - Birchwood	UHMBFT
12	Barrow in Furness	PCAS FGH	UHMBFT
13	Barrow in Furness	Stafford House, Abbey Road, Barrow in Furness	NHS Property Services
14	Barrow in Furness	Atkinson Health Centre, Market Street, Barrow in Furness, LA14 2LR	NHS Property Services
15	Barrow in Furness	Community Nurses FGH	UHMBFT
16	Barrow in Furness	Dental Access Centre, Unit 5, Old Fire Station, Abbey Road, Barrow - in - Furness LA14 1XH	UHMBFT

17	Barrow in Furness	Dental FGH	UHMBFT
18	Barrow in Furness	Fairfield Centre, LA14 1LF	UHMBFT
19	Barrow in Furness	Furness General Hospital (Podiatry), Dalton Lane, Barrow in Furness, LA14 4LF	UHMBFT
20	Barrow in Furness	Hoops Gym	Follow Landlords Procedures
21	Barrow in Furness	College House, Howard Street, Barrow LA14 1NB	Follow Landlords Procedures
22	Brampton	Brampton War Memorial, Tree Road, Community Hospital, Brampton, CA8 1TQ	CPFT
23	Carlisle	Capital Building, Hilltop Heights, London Road, Carlisle	CPFT
24	Carlisle	Carleton Clinic - Physio Dept	CPFT
25	Carlisle	Dental Education Centre	CPFT
26	Carlisle	Orton Lea, Orton Road, Carlisle Springboard Centre	CPFT
27	Carlisle	PCAS CIC	NCUHT
28	Cleator Moor	Cleator Moor Health Centre, Birks Road, Cleator Moor, CA25 5HP	CHP
29	Cockermouth	Cockermouth Cottage Hospital, Isel Road, Cockermouth, CA13 9HT	CHP
30	Dalton	Dalton Clinic, Dalton-in-Furness	NHS Property Services
31	Egremont	Beech House Medical Centre, St Bridget's Lane, Egremont, CA22 2BD (part only)	NHS Property Services
32	Grange over Sands	Grange Health Centre, Kent Bank Road, Grange-over-Sands, LE11 7DJ	NHS Property Services
33	Haverigg	HMP Haverigg, North Lane, Haverigg, LA14 4NA	Follow Landlords Procedures
34	Kendal	1&2 Weaver's Court, Westmorland General Hospital, Burton Road, Kendal, LA9 7RG	UHMBFT
35	Kendal	17&18 Flaxman's Court, Westmorland General Hospital, Burton Road, Kendal, LA9 7RG	UHMBFT
36	Kendal	Blackhall Unit WGH	UHMBFT
37	Kendal	Chiropody WGH	UHMBFT

38	Kendal	Dental Clinic WGH	UHMBFT
39	Kendal	Garburn House, Westmorland General Hospital, Kendal LA9 7RG	UHMBFT
40	Kendal	Kentmere Ward, Westmorland General Hospital, Kendal LA9 7RG	UHMBFT
41	Kendal	Kinta House & Annex, Helme Close. Kendal, LA9 7HY	UHMBFT
42	Kendal	Kirkstone Unit, Westmorland General Hospital, Kendal LA9 7RG	UHMBFT
43	Kendal	Murley Moss (units A1 & A2), Murley Moss Business Park, Kendal, LA9 7RL	Follow Landlords Procedures
44	Kendal	PCAS WGH	UHMBFT
45	Kendal	SUSD WGH (Langdale North and South)	UHMBFT
46	Kendal	Bridge Mill, Kendal. LA9 4UB	Follow Landlords Procedures
47	Keswick	Mary Hewitson Community Hospital, Crossthwaite Road, Keswick, CA12 5PH	CPFT
48	Kirkby Stephen	Kirkby Stephen Health Centre, Silver Street, Kirkby Stephen, CA17 4RB	NHS Property Services
49	Longtown	Longtown Medical Centre, Moor Road, Longtown	NHS Property Services
50	Maryport	Maryport Clinic, Ewanrigg Road, Maryport - viewed as one site with hospital	CPFT
51	Maryport	Victoria Cottage Hospital, Ewanrigg Road, Maryport, CA15 8EJ	CPFT
52	Millom	Millom Hospital, Lapstone Road, Millom, LA18 4BY	UHMBFT
53	Milnthorpe	1a Haverflatts Lane, Milnthorpe	Follow Landlords Procedures
54	Penrith	2 – 8 Tynefield Drive, Penrith	CPFT
55	Penrith	Penrith Community Hospital, Bridge Lane, Penrith, CA11 8HX - excludes Beacon / Lonsdale, maternity and 2a, 4, 6 & 8 Tynefield	CPFT
56	Penrith	Penrith Health Centre, Bridge Lane Penrith, CA11 8AX	CPFT
57	Sedbergh	Sedbergh Medical Centre, Station Road, Sedbergh, LA10 5DL	Follow Landlords Procedures
58	Shap	Shap Health Centre, Peggy Nut Croft, Shap	NHS Property Services

59	Silloth	Silloth Clinic, Lawn Terrace, Silloth-on-Solway, CA7 4AH	NHS Property Services
60	Ulverston	Gill Rise, Stanley Street, Ulverston	CPFT
61	Ulverston	Ulverston Community Health Centre	NHS Property Services
62	Whitehaven	Copeland Unit, Whitehaven Hospital, Hensingham, Whitehaven, CA28 8JG	NCUHT
63	Whitehaven	Flatt Walks Health Centre, 3 Castle Meadows, Catherine Street, Whitehaven, CA28 7QE	NHS Property Services
64	Whitehaven	Footsteps CDC	NCUHT
65	Whitehaven	Hillcroft , West Cumberland Hospital, CA28 8JG	NCUHT
66	Whitehaven	Diabetics & CAT Team, West Cumberland Hospital, CA28 8JG	NCUHT
67	Whitehaven	Yewdale Ward, West Cumberland Hospital, CA28 8JG	NCUHT
68	Whitehaven	PCAS , West Cumberland Hospital, Hensingham	NCUHT
69	Wigton	Brookside Centre, Birdcage Walk, Wigton. CA7 9HB	CPFT
70	Wigton	Wigton Community Hospital, Cross Lane, Wigton, CA7 9DD	CPFT
71	Wigton	Wigton Health Centre, Southend, Wigton, CA7	NHS Property Services
72	Workington	Ann Burrow Thomas Health Centre, South William Street, Workington, CA14 2ED	NHS Property Services
73	Workington	The Elms, Infirmary Road, Workington, CA14 2UG	CPFT
74	Workington	Lilliehall Business Park, Workington CA14 3BT	Follow Landlords Procedures
75	Workington	Park Lane Clinic, Park Lane, Workington, CA14 2RR	CPFT
76	Workington	Workington Community Hospital, Park Lane, Workington, CA14 2RW	Follow Landlords Procedures

UHMBFT - UNIVERSITY HOSPITAL OF MORECAMBE BAY NHS FOUNDATION TRUST

NCUHT - NORTH CUMBRIA UNIVERSITY HOSPITAL TRUST

CPFT - CUMBRIA PARTNERSHIP FOUNDATION TRUST

NHSPS - NHS PROPERTY SERVICES

CHP – COMMUNITY HEALTH PARTNERSHIP