



023 - POLICY FOR THE SAFE MAINTENANCE OF WATER SYSTEMS AND THE CONTROL OF LEGIONELLA

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1. Policy Statement

NHS 24 is committed 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.

NHS 24 will ensure that the water supply, storage and distribution services within its properties are installed and operated within the terms of the following legislation:

- Health Technical and Memorandum 04-07 The Control of Legionella, Hygiene, "Safe" Hot Water, Cold Water and Drinking Water Systems
- Health and Safety at Work Act 1974
- The Management of Health and Safety at Work Regulations 1992
- Water Supply (Water Quality) Regulations 1988
- Public Health (Infectious Disease) Regulations 1988
- British Standards 6700:1997 and BS1710: 1984
- The Health and Safety Commission's (2000) Approved Code of Practice L8
- Water Supply (Water Fittings) Regulations 1999
- Control of Substances Hazardous to Health (COSHH) Regulations 2002
- ACOP L8
- HSG 274 Parts 2 and 3
- SHTM 04-01 Water Safety for Healthcare Premises

2 Introduction

- 2.1 It is imperative that the water services supply and distribution is installed and maintained to such a level that will ensure the continuity of the supply and reduce the risk of infectious conditions, which can give rise to Legionella bacteria.
- 2.2 Legionella bacteria are ubiquitous, surviving and multiplying in water. It is widespread in natural fresh water, including rivers, lakes, streams and ponds, and may also be found in wet soil. There is a strong likelihood of low concentrations of the bacteria existing in all open water systems, including those of building services.
- 2.3 Water temperatures between 20°C and 45°C is the range at which the Legionella will proliferate most rapidly, and at temperatures 60°C it will be killed within a few minutes.
- 2.4 While previously healthy people may develop legionnaires disease, there are a number of factors that increase susceptibility:
 - Increasing age, particularly above 45 years
 - Males are three times more likely to be infected than females

- Existing respiratory disease that makes the lungs more vulnerable
- Illness and conditions such as cancer, diabetes, kidney disease or alcoholism, which weaken the natural defenses
- Smoking, particularly heavy cigarette smoking because of the probability of impaired lung function
- Patients on immune-suppressant drugs that inhibit the body's defenses against infection or suffer immunity disorders

3 Scope

- 3.1 This policy will be applied and adhered to by all managers and employees of NHS 24, also tenants or other bodies using NHS 24 premises.
- 3.2 Building/engineering services, consultant engineers and contractors involved in the design, maintenance and repair of the systems and associated services will also need to adhere to the this policy and it's procedure as well as the Policy for the Control and Management of Contractors
- 3.3 The full requirements of this policy shall be implemented at all Sites where NHS 24 is the owner or the primary tenant. Where The building is managed by others the responsibility for the Designated person and deputy designated person is to ensure that the land lord and or the primary tenant can evidence controls are in place to this standard.

4. Management Responsibilities and Requirements

4.1 Chief Executive (Duty Holder)

The Chief Executive as Duty Holder has ultimate responsibility for ensuring that water services including Legionella Compliance are managed by competent People. The Chief Executive is responsible for appointing an Executive Director who is accountable for the overall management of water services and will be known as the nominated person. The Director of Finance is the designated Executive Director and Board member responsible for Corporate Assets.

4.2 Director of Finance (Nominated Person)

The Director of Finance & Logistics is the designated Executive Director and is the nominated person (Duty Holder) with responsibility for safe working for Legionella Control and is responsible for:

- Ensuring Statutory Compliance;
- Ensuring that appropriate policies and procedures are in place for the management of Legionella;

- Appointing in writing a Responsible Person with sufficient authority and knowledge of the installation to manage the necessary procedures of Legionella Control;
- Ensuring that adequate resources are available for the formulation, monitoring and recording of appropriate procedures which comply with L8;
- The duty holder is responsible for ensuring that a risk assessment is carried out to identify and assess the risk of exposure to legionella bacteria from work activities and water systems on the premises and any precautionary measures needed.
- Ensuring that adequate resources are available to provide appropriate information, instruction, training and supervision to employees identified as having a role to undertake in the implementation of legionella management procedures; this includes information, instruction and training on the significant findings of the risk assessment and the appropriate precautions and actions they need to take to safeguard themselves and others.
- Ensuring that the training is reviewed and updated whenever any significant changes are made to the type of work carried out or methods used.
- Ensuring that the responsible person will have sufficient authority, competence and knowledge of the installation to ensure that all operational procedures are carried out effectively and in a timely way
- Reviewing performance of this policy;
- Reviewing the effectiveness of this policy;
- Communicating issues and decisions regarding escalated risks through appropriate management structures;
- Ensuring a written scheme is in place for preventing or controlling the risk (Appendix 3)
- Ensuring that precautions identified are implemented, managed and monitored to ensure that they remain effective,
- Ensuring that the records of the precautions taken are maintained.

4.3 Facilities Manager (Designated Responsible Person)

The Corporate Asset and Procurement Manager (Facilities Manager Deputises) is the designated Responsible Person for the management for all aspects of Legionella control and is responsible for:

- Ensuring the Chief Executive and Management Teams are aware of and co-ordinate with this policy and are familiar with their responsibilities, duties and relevant procedures;
- Ensuring suitable arrangements are in place to identify all water systems managed by the Service and assess them for the potential risk of Legionella infection.
- Ensuring that all actions and recommendations identified within the Risk Assessment are acted upon.

- Establishing suitable arrangements to manage identified risk areas, including identification of management responsibilities, training and competence.
- Ensuring that adequate resources are available to address any needs identified in the risk assessments and that the risk assessments are acted upon.
- Ensuring the risk assessments and remedial measures are implemented annually.
- Ensure that the established procedures are brought to the attention of all persons affected by them.
- The Responsible Person shall be properly trained to a level that ensures tasks are carried out in a safe, technically competent manner; and receive regular refresher training.
- The Responsible Person shall keep records of all initial and refresher training.
- The Responsible person should have a clear understanding of their role and the overall health and safety management structure and policy within NHS24
- The Responsible person shall monitor the implementation of the written scheme for the prevention and control of the risk. (Written Scheme Requirements Appendix)
- The Responsible Person shall ensure appropriate supervision of all involved in control of legionella works.
- The Responsible Person shall there is a suitable scheme of examination and relevant control documentation
- The Responsible Person shall ensure that contact arrangements for emergency call-out personnel should be detailed and available
- Implement a written scheme for preventing or controlling the risks identified by the Risk Assessments Appendix)
- Ensuring that the design of hot and cold water systems within buildings complies with all relevant legislation;
- Ensuring that employed Contractors and in-house staff comply with the written scheme / all aspects of ACoP's L8;

4.4 SST Manager

The SST Manager as the Deputy Responsible Person shall be responsible for:

- Arranging for Risk Assessments to be carried out on water systems and plant, for each property. The Risk Assessments shall be reviewed annually and when the original assessment may no longer be valid.
- Keep permanent records of all Risk Assessments.
- Arrange for remedial work to be carried out as highlighted by the Risk Assessment.

- Keep permanent records of all the remedial work with the Risk Assessments and all records will be kept for 10 years and will be readily available for inspection.
- Arrange for water temperature monitoring, cleaning, disinfection, certification routines and non-conformance to be fully recorded.
- Manage the Written Scheme Appendix)
- Arrange for remedial work to be carried out as highlighted by water temperature non-conformance reports when the control limits are exceeded.
- Ensure that only fully qualified competent contractors are appointed.
- Identify and arrange any training requirements for estate personnel in relation to the control of legionella

4.5 Authorised Person (AP)

The FM provider will be commissioned to act as Authorised Person who will be adequately trained and provide the competent technical advice and guidance required to ensure NHS 24 meets its statutory obligations and will instruct relevant monitoring, servicing, testing and remedial works.

4.6 Consultant/Specialist Contractor

Must be accredited to The Legionella Control Association (LCA) organisation sufficient experience to advise the Responsible Person on matters relating to the control of Legionella

Must have Legionella Control Association (LCA) organisation sufficient experience to carry out survey, risk assessment, temperature testing all and any of risk reduction procedures relating to the control of Legionella

4.7 Legionella Control Team

An NHS 24 Legionella Control team will be set up consisting of the Designated Person, Deputy Designated Person, Authorised Person, Health and Safety Adviser, Infection Control lead, Clinical representatives as appropriate and chaired by the designated Executive Director. The function of the Control Team will be to coordinate the response to any incidents of Legionella contamination.

5. Site Risk Assessment

All NHS 24 premises, whether owned or leased, will have its own unique risk assessment that will serve as a working document to facilitate the implementation of a programme of recommendation(s).

It will be the duty of the Responsible / Deputy Responsible Persons to ensure that all actions and recommendations identified within the Risk Assessment are acted upon.

The Risk Assessment will be reviewed where there has been:-

1. Changes to plant, the water system or its use.
2. Changes to the use of the building.
3. New information about risk or control measures has become available.
4. Monitoring indicates that control measures are no longer effective.

6. Written Scheme

The Risk assessment will identify the risks from exposure that requires to be managed. This risk from exposure will then be controlled by measures which do not allow the proliferation of legionella bacteria in the system.

Once identified and assessed, a written control scheme will be prepared, implemented and properly managed to prevent or control legionella.

The scheme shall specify the various control measures, how to use and carry out those measures, describe the water treatment regimes and the correct operation of the water system. The scheme shall be specific and tailored to the system covered by the risk assessment. (Appendix 3)

7. Legionella Monitoring

Legionella monitoring shall be carried out 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. The risk assessment should also consider where it might also be appropriate to monitor in some high risk situations, The circumstances when monitoring for legionella will be appropriate include:

- Water systems treated with biocides where water is stored or distribution temperatures are reduced. Initial testing should be carried out monthly to provide early warning of loss of control. The frequency of testing should be reviewed and continued until such a time as there is confidence in the effectiveness of the regime;
- Water systems where the control levels of the treatment regime, e.g. temperature or disinfectant concentrations are not being consistently achieved. In addition to a thorough review of the system and treatment regimes, frequent testing, e.g. weekly, should be carried out to provide early warning of loss of control. Once the system is brought back under control as demonstrated by monitoring, the frequency of testing should be reviewed;
- water systems suspected or identified in a case or outbreak of legionellosis where it is probable the Legionella Control Team will require samples to be taken for analysis
- Where monitoring for legionella is REQUIRED in hot and cold water systems, sampling shall be carried out in accordance with BS 7592:2008 *Sampling for Legionella* organisms in water and related materials. If

Legionella is found in the water system the actions detailed in appendix 4 shall be carried out

8. Record and Data Collection

All sites will have a detailed Risk Assessment which will detail hot and cold water services indicating positions of outlet and isolation points. The risk assessments will be updated at regular intervals or as required by the Responsible Person

Drawings and recommendations will be updated and reviewed on a regular basis or when additional work is carried out

Data collection will be achieved and stored as a record of work and performance. This data will be stored for a minimum of 10 years. Detailed activity, continuity and service reports will be produced from the stored records. Data will be collected on a regular basis that will detail the performance of the hot and cold water system.

9. Contractors

All contractors working at premises either owned or leased by NHS 24 must comply with the policy Control of Contractors.

Contractors who work on or modify/install hot and cold water systems must have specific understanding of the implications of:-

- Poor hygiene on water systems
- Consequences and implications of the proliferation of the Legionella

They will also have a level of awareness on the prevention of contamination of water services

NHS 24 will expect all contractors to produce a documentation of proof of a person's ability to carry out specific tasks.

10. In the Event of Legionella Contamination

Legionnaire's disease is a RIDDOR notifiable disease under the public Health legislation in Scotland. An outbreak is defined as two or more confirmed cases of Legionella occurring in the same locality within a six-month period.

An instance of a member of staff contracting Legionellosis in connection with work must be reported to the HSE as a reportable disease by the appropriate manager.

Public Health will investigate and where there is a link to any NHS 24 premise the Legionella Control Team and Environmental Health will be notified. Public Health will set up and chair an Incident Control Team to investigate the source of Legionella infection.

The Designated Person must ensure that the Authorised Person (AP) does not instruct draining or disinfecting before samples are taken. The AP will also provide specialist information on the water supply system and indicate where samples can be taken.

NHS 24 operates a Business Continuity policy in the event of a Legionella contamination where the premises may need to be evacuated.

The Corporate Asset and Procurement Manager or deputy would instigate an investigation into the source and extent of the Legionella contamination and take all necessary steps to eradicate, re-commission the hot and cold water system and put back into use.

10. Performance standards and record keeping

Performance standard	Responsibility	Frequency	Records required
Ensure all systems susceptible to legionella are identified.	FM Provider	As necessary	Yes
Ensure sufficient information and Instructions are available.	Authorised Person	As necessary	Yes
Ensure risk assessments are carried out and reviewed.	FM Provider/DP	As necessary	Yes
Ensure measures are taken to eliminate or reduce the risk and a written scheme is prepared.	FM Provider/DP	As necessary	Yes
Ensure a responsible person is nominated to oversee the scheme and maintain the appropriate records.	Designated Person	As necessary	Yes
Ensure a strict process of auditing takes place.	Designated Person	Annually or less	Yes

11. Review

The Policy / procedure, Risk Assessment and written scheme should be reviewed regularly and particularly when there is reason to suspect that there is a change in circumstances to water systems, staff, legislation, procedures or it is no longer valid. Changes should be made as a result of the review.

Policy Review

This Policy will be reviewed by the Legionella Control Team every 3 years to ensure it remains relevant and current. Implementation and effectiveness of the Policy will be reported as required to the Area Health and Safety Committee by the Designated Person.

12. References

Part 2: The control of legionella bacteria in hot and cold water systems
Part 3: The control of legionella bacteria in hot and cold water systems
L8 Legionnaires' disease The control of legionella bacteria in water systems

Appendix 1 Matrix of NHS 24 Policies

Matrix of NHS 24 Policies and Procedures that cross reference to the Procedure for the Safe Maintenance of Water Systems and the control of Legionella
Control and Management of Contractors
Health & Safety Policy
Infection Control Policy

Appendix 2 Checklist for Legionella control on Hot and cold Water Systems

Extract from Table 2.1: Checklist for hot and cold water systems			
Service	Action To Take	Frequency	Inspection Reference
Calorifiers	Inspect calorifier internally by removing the inspection hatch or using a boroscope and clean by draining the vessel. The frequency of inspection and cleaning should be subject to the findings and increased or decreased based on conditions recorded	Annually , or as indicated by the rate of fouling	M7.1–M7.11
	Where there is no inspection hatch, purge any debris in the base of the calorifier to a suitable drain Collect the initial flush from the base of hot water heaters to inspect clarity, quantity of debris, and temperature	Annually , but may be increased as indicated by the risk assessment or result of inspection findings	M7.1–M7.11
	Check calorifier flow temperatures (thermostat settings should modulate as close to 60 °C as practicable without going below 60 °C) Check calorifier return temperatures (not below 50 °C, in healthcare premises not below 55 °C)	Monthly	H2.1-H2.9
Hot Water Services	For non-circulating systems: take temperatures at sentinel points (nearest outlet, furthest outlet and long branches to outlets) to confirm they are at a minimum of 50 °C within one minute (55 °C in healthcare premises)	Monthly	H2.1-H2.9
	For circulating systems: take temperatures at return legs of principal loops (sentinel points) to confirm they are at a minimum of 50 °C (55 °C in healthcare premises). Temperature measurements may be taken on the surface of metallic pipework	Monthly	H2.1-H2.9
	For circulating systems: take temperatures at return legs of subordinate loops, temperature measurements can be taken on the surface of pipes, but where this is not practicable, the temperature of water from the last outlet on each loop may be measured and this should be greater than 50 °C within one minute of running (55 °C in healthcare premises). If the temperature rise is slow, it should be confirmed that the outlet is on a long leg and not that the flow and return has failed in that local area	Monthly)	H2.1- H2.9
	All HWS systems: take temperatures at a representative selection of other points (intermediate outlets of single pipe systems and tertiary loops in circulating systems) to confirm they are at a minimum of 50 °C (55 °C in healthcare premises) to create a temperature profile of the whole system over a defined time period	Monthly	H2.1-H2.9
POU water heaters (no greater than 15 litres)	Check water temperatures to confirm the heater operates at 50–60 °C (55 °C in healthcare premises) or check the installation has a high turnover	Monthly	H2.1-H2.9 M26.1

Appendix 2 continued

Service	Action To Take	Frequency	Inspection Reference
Combination water heaters	Inspect the integral cold water header tanks as part of the cold water storage tank inspection regime, clean and disinfect as necessary. If evidence shows that the unit regularly overflows hot water into the integral cold water header tank, instigate a temperature monitoring regime to determine the frequency and take precautionary measures as determined by the findings of this monitoring regime	Annually	M27.1
	Check water temperatures at an outlet to confirm the heater operates at 55–60 °C	Monthly	H2.1-H2.9
Cold water tanks	Inspect cold water storage tanks and carry out remedial work where necessary	Annually	M15.1-M15.9
	Check the tank water temperature remote from the ball valve and the incoming mains temperature. Record the maximum temperatures of the stored and supply water recorded by fixed maximum/minimum thermometers where fitted	Annually	M15.1-M15.9 H2.1-H2.9
	Check temperatures at sentinel taps (typically those nearest to and furthest from the cold tank, but may also include other key locations on long branches to zones or floor levels). These outlets should be below 20 °C within two minutes of running the cold tap. To identify any local heat gain, which might not be apparent after one minute, observe the thermometer reading during flushing	Monthly	H2.1-H2.9
	Take temperatures at a representative selection of other points to confirm they are below 20 °C to create a temperature profile of the whole system over a defined time period. Peak temperatures or any temperatures that are slow to fall should be an indicator of a localised problem	Representative selection of other sentinel outlets considered on a rotational basis to ensure the whole system is reaching satisfactory temperatures for legionella control	H2.1-H2.9
	Check thermal insulation to ensure it is intact and consider weatherproofing where components are exposed to the outdoor environment	Annually	M15.3
Showers and spray taps	Dismantle, clean and descale removable parts, heads, inserts and hoses where fitted	Quarterly or as indicated by the rate of fouling or other risk factors, eg areas with high risk patients	M14.1-M14.2 H4.1
Infrequently used outlets	Consideration should be given to removing infrequently used showers, taps and any associated equipment that uses water. If removed, any redundant supply pipework should be cut back as far as possible to a common supply (eg to the recirculating pipework or the pipework supplying a more frequently used upstream fitting) but preferably by removing the feeding 'T' Infrequently used equipment within a water system (ie not used for a period equal to or greater than seven days) should be included on the flushing regime Flush the outlets until the temperature at the outlet stabilises and is comparable to supply water and purge to drain Regularly use the outlets to minimise the risk from	Weekly, or as indicated by the risk assessment	

	microbial growth in the peripheral parts of the water system, sustain and log this procedure once started For high risk populations, eg healthcare and care homes, more frequent flushing may be required as indicated by the risk assessment		
Service	Action To Take	Frequency	Inspection Reference
TMV	Risk assess whether the TMV fitting is required, and if not, remove Where needed, inspect, clean, descale and disinfect any strainers or filters associated with TMVs To maintain protection against scald risk, TMVs require regular routine maintenance carried out by competent persons in accordance with the manufacturer's instructions. There is further information in paragraphs 2.152– 2.168	Annually or on a frequency defined by the risk assessment, taking account of any manufacturer's recommendations	H5.1-H5.3 M28.1
Expansion vessels	Where practical, flush through and purge to drain	Monthly–six monthly, as indicated by the risk	M29.1

Appendix 3 Written Scheme Requirements

Appendix Legionella written control scheme Extract From L8

1. The risk from exposure will normally be controlled by measures which do not allow the proliferation of legionella bacteria in the system. Once the risk is identified and assessed, a written control scheme should be prepared, implemented and properly managed for preventing or controlling legionella.
2. The scheme should specify the various control measures, how to use and carry out those measures, describe the water treatment regimes and the correct operation of the water system. The scheme should be specific and tailored to the system covered by the risk assessment. Along with the guidance in this document, this appendix summarises the information to include in a legionella written control scheme, ie:
 - purpose;
 - scope;
 - risk assessment;
 - management structure: dutyholder;
 - responsible person(s) and communication pathways;
 - training;
 - allocation of responsibilities, ie to the dutyholder, responsible person(s) and water treatment service provider;
 - up-to-date schematic plan showing the layout of the system(s) and its location within and around the premises – this should identify
 - piping routes, storage and header tanks, calorifiers and relevant items of plant, especially water softeners, filters, strainers, pumps and all water outlets;
 - the correct and safe operation of the system;
 - precautions in place to prevent or minimise risk associated with the system;
 - analytical tests, including microbiological testing, other operational
 - checks, inspections and calibrations to be carried out, their frequency and any resulting corrective actions;
 - remedial action to be taken in the event that the scheme is shown not to be effective, including control scheme reviews and any modifications made;
 - health and safety information, including details on storage, handling, use and disposal of any chemical used in both the
 - treatment of the system and testing of the system water;
 - incident plan, which covers the following situations: major plant failure, e.g. chemical system failure;
 - very high levels or repeat positive water analyses for legionella;
 - an outbreak of legionellosis, suspected or confirmed as being centred at the site;
 - an outbreak of legionellosis, the exact source of which has yet to be confirmed, but which is believed to be centred in an area which includes the site.

Appendix 4 Action levels following legionella sampling in hot and cold water systems

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

Appendix 5 Work Instructions

1. Installation and Maintenance

1.1 Cold Water Store and Cisterns/Tanks

Annually

- Isolate and drain cistern/tank
- Remove inspection covers
- Examine and remove sludge and debris from tank
- Examine internal condition of tank inspect for damage to internal coatings and for signs of rust deposits
- Check overflow screen vents are correctly fitted and in good working order
- Check operation and service float valve
- Refill tank with fresh water
- Drain and flush tank
- Return tank into service
- Report all results and defects

1.2 Water Temperature Recording

Monthly

Temperatures to be measure from the indicated sentinel taps and branches and principal loops

Cold Water

Check that the temperature is below 20°C after running the water for up to two minutes in the sentinel taps

Hot Water

Check water temperature up to one minute to see if it has reached 50C in the Sentinel taps

1.3 Showers and Spray Nozzle Taps

Weekly

- Run showers at coldest setting until the temperature at the outlet stabilises and is comparable to supply water and purge to drain Regularly
- Run showers at hottest setting until the temperature at the outlet stabilizes and is comparable to supply water and purge to drain Regularly
- Ensure weekly shower run log is completed
- Report all defects

Quarterly

- Disinfect shower Head and shower hose.
- Immerse in a solution of hypochlorite solution level of 50 ppm, adjust as required
- Allow tank to stand for 1 hour so as to allow for disinfection
- Reassemble shower head and hose

1.4 Storage Calorifiers/Vessels

Annually

- Isolate services to calorifiers/storage vessels
- Drain down vessel

- Remove inspection plate from storage vessel or use a boroscope for an internal inspection
- Remove all sludge, scale and debris
- Refit inspection covers
- Flush vessel with clean water
- Refill calorifiers/vessel with water
- Turn on heating element/coil and bring vessel to operating temperature
- Ensure template is held for a minimum of 1 hour
- Return calorifiers/vessel into service
- Report all results and defects

1.5 Direct Hot Water Boiler (Gas)

Annually

- Drain down boiler
- Remove inspection cover and examine for scale
- Remove scale, flush with clean water and treat
- Refill boiler with water
- Ensure all gas safety checks and ventilation calculations are carried out
- Ensure service/maintenance log book is correctly completed
- Turn on boiler and bring vessel up to operating temperature
- Reinstate boiler at 60°C and return back to service

1.6 Wall Mounted Water Boilers (electric) 6-Monthly

Annually

- Remove header tank inspection cover
- Check and adjust float valve
- Remove sludge and debris from tank and treat
- Replace inspection covers and refit new gasket as required
- Examine draw off tap for a build-up of lime scale, clean as required
- Refill boiler with clean water
- Examine pipe work for leaks
- Refit outer cover and return back into service
- Report all results and defects

1.7 New Works

Minor works

Example - replace hand wash basin, replace thermostatic mixer valve, installation of water heater/wash hand basin whereby the services can be isolated locally for a short time.

- Work will be carried out in a clean and hygienic manner etc. Hands, uniforms, tools and the workplace will be kept clean and free of dirt.
- Only fittings approved by the (Water Fitting) Regulation 1999 WRAS will be used
- Preferably new fittings will be used direct from their packing. New loose or old fittings are used, they must be immersed in a solution of 5% chlorine before use
- All open pipe-work end valves and cylinders will be capped until such time that a connection is made into them, so as to prevent the ingress of dust and dirt
- On completion of works the system should be flushed through with clean water before being put into service
- All modifications shall be updated on the systems schematic drawings

New Works (major schemes)

Example - the isolation of service to an area whereby the whole system will be affected, i.e. isolating a station.

- Work shall be carried out in a clean and hygienic manner etc. Hands, uniforms, tools and the work-place should be kept clean and free of dirt.
- Only fittings approved by the (Water Fitting) Regulation 1999 WRAS will be used
- Preferably new fittings shall be used direct from their packing. If loose or old fittings are used, they shall be immersed in a solution of 5% chlorine before use
- All open pipe work end valves and cylinders shall be capped until such time that a connection is made into them, so as to prevent the ingress of dust and dirt
- Commissioning work will be undertaken as detailed in HTM 04-02 and BS6700, BSRIA Application Guide 1/2001 Pre-commission Cleaning of Pipework Systems
- All modifications shall be updated on the systems schematic drawings

Short Term Isolation of an Area **Weekly**

Example - closure of a station that is expected to reopen within a month (or loss of water supply for an extended period).

- Check wash hand basin drains are not restricted
- Open all taps and allow hot and cold water to flow for approximately 5 minutes
- Open shower valves and allow water to flow for approximately 5 minutes
- Flush all toilets
- Ensure all wall mounted boilers are isolated

Long Term Closure

- Re-commission
- Chlorinate Building HW & CW

1.8 Temporary Air-Conditioning Units (portable)

If temporary air-conditioning units (portable) are required at any site within the estate, then it is the responsibility of the Estates Department to ensure that only self evaporating units are sourced and used for the required period. It will be the responsibility of all members of staff to ensure these the units are used and maintained in accordance with the manufacturer's instructions. Failure to do so will result in the equipment being removed from service.

1.9 Temporary Humidifiers (portable)

Any member of staff using a temporary humidifiers, in particular, desk top models must use and maintain the portable equipment in accordance with the manufacturer's instructions. Failure to do so will result in the equipment being removed from service.

Appendix 7

Example Risk Assessment Template - Legionellosis Risk Assessment

Premises:

Assessment undertaken by: **Date:**

Position:

The following risk assessment is for the purpose of identifying potential sources for the existence and growth of legionella bacteria, the potential for exposure of susceptible persons to legionella bacteria, to determine if existing control measures are adequate to prevent exposure and to determine if introduction of additional control measures is required.

		Tick Box	
1. Source of Legionella Bacteria			
a) Are there any sources on site that are capable of sustaining legionella bacteria?		No <input type="checkbox"/>	Yes <input type="checkbox"/>
Sources could include: wet cooling towers, evaporative condensers, hot and cold water services, spa pools, water storage cisterns, water fountains, water features, any source of stagnant water (indicate which)			
Notes:			
b) Is the water stored or delivered at a temperature below 60°C		No <input type="checkbox"/>	Yes <input type="checkbox"/>
Notes:			
2. Delivery of Legionella Bacteria			
Is there potential for the water to be delivered in aerosol or droplet form that could be inhaled?		No <input type="checkbox"/>	Yes <input type="checkbox"/>
e.g. evaporated water, shower, extensive water splash (water fountains, jet wash, use of hose to clean down vehicles and premises etc.)			
Notes:			

3. Susceptible Persons

a) Is there potential for persons susceptible to developing legionellosis being exposed to the aerosol/droplet form legionella bacteria?

No Yes

Susceptible persons include: persons over 45 years of age, smokers, diabetics, persons with respiratory disorders, any person whose immune system is suppressed. - NB. Include maintenance personnel in assessment.

Notes:

If the response to questions 1a) & b), 2 & 3 are all negative, or if 1a) is affirmative and all other responses are negative, then the site is considered a low risk site and no further action is required, other than periodic review (annual) of the risk assessment, or review of the risk assessment if any changes to the premises are made.

If response to questions 1a) & b), 2 & 3 are all affirmative this indicates that there is a foreseeable risk of legionellosis exposure. Further action will be required to control the risk. Refer to additional questions to assist with identification of control measures required.

If response to questions 1a) & b) & 3 are all affirmative and response to question 2 is negative complete additional questions to determine level of risk and if additional controls need to be introduced.

Tick Box

4.a Is the water delivered via a cistern or other water storage device to the outlet point?

No Yes

Sources could include: wet cooling towers, evaporative condensers, hot and cold water services, spa pools, water storage cisterns, water fountains, water features, any source of stagnant water (**indicate which**)

Notes:

4.b Does the system have sustained periods of none usage or do parts of the system allow water to stagnate over sustained periods?

No Yes

Sustained periods of none usage are periods of more than 1 week duration. This could include interrupted supply or system breakdown. Parts of systems which allow water to stagnate include 'dead legs'.

Notes:

4.c Could parts of the system be maintained at a temperature between 20°C. & 45°C and contain a source of nutrients that allow the legionella bacteria to multiply?

No Yes

Sources of nutrients that encourage multiplication of legionella bacteria

include sludge, scale, rust, algae and other organic matter.
Notes:

5. **Are any measures in place to control the risk of exposure of persons to legionella bacteria with accompanying records of proof?**

No	Yes
<input type="checkbox"/>	<input type="checkbox"/>

Possible control measures include: monitoring of water quality; regular water sampling; regular system flushing/purging; regular treatment with biocides/disinfectants; regular de-scaling/de-sludging;
Details:

Result of Risk Assessment - to be reviewed as accurate by Site Service Support Manager & H&S Team					
Are the premises adequately protected against risk of exposure to legionellosis?	<table> <tr> <td>No</td> <td>Yes</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>	No	Yes	<input type="checkbox"/>	<input type="checkbox"/>
No	Yes				
<input type="checkbox"/>	<input type="checkbox"/>				
If response is negative refer the risk assessment to the Facilities Manager, who will arrange for competent persons to devise a regime in accordance with L8 Guidance and keep records of controls undertaken.					
Risk assessment reviewed as accurate by:	Site Service Support Manager				
Risk assessment reviewed as accurate by:	H&S Consultant				

Review:

This risk assessment will be reviewed by the Site Service Support Manager to confirm its continued accuracy on an annual basis or when there is any change or occurrence which could affect its validity. This process includes review following introduction of additional controls if the initial assessment indicates that existing controls are not adequate. If any additional controls are introduced or changes have been made that affect this assessments validity then a new risk assessment must be completed and attached to the original.

Annual Review (confirming continued validity of risk assessment)

Reviewed by:	.....	Date	.....
Reviewed by:	.....	Date	.....
Reviewed by:	.....	Date	.....
Reviewed by:	.....	Date	.....