

Document Control

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1. Introduction

- 1.1. Water services within the Healthcare estate can harbour and support potentially infectious bacteria and other water-borne pathogens. One such bacteria is Legionella, a potentially fatal infectious bacteria that thrives in standing water sources such as domestic hot-water systems, air conditioner ducts, cooling towers, and ponds, and is usually spread as an aerosol.
- 1.2. The Trust has a responsibility to protect its staff, visitors, patients and contractors from the risk of exposure to all such water borne potential infectious bacteriological growth within its water services. In order to achieve this, the Trust will ensure that all reasonable measures are taken to prevent such exposure by ensuring that its waters services are managed safely and that effective maintenance procedure are in place to reduce this risk.

2. Purpose

Statutory requirement

- 2.1. The purpose of this document is to ensure adherence to the Health & Safety at Work Act 1974, the Water Supply (Water Quality) Regulations 2000, HSG 274, the Health and Safety Commission's Approved Code of Practice and guidance document L8, the Hospital Technical Memorandum HTM 04-01: The control of Legionella, hygiene, "safe" hot water, cold water and drinking water systems and the addendum (March 2013) Pseudomonas aeruginosa- advice for augmented care units. Additional requirements are listed in the References section 14.
- 2.2. Implementation of this policy will ensure that:
 - The risk of, and exposure to water borne potential infectious bacteriological and other water-borne pathogens within the Trust's estate is minimised
 - The Trust complies with all relevant legislation, regulations and Codes of Practice relating to the management of Legionella, hygiene, "safe" hot water, cold water and drinking water systems.
 - Staff are aware of their responsibilities

Scope of policy

- 2.3. The policy applies to all Trust staff and to all Trust premises whether part of the estate or leased for use by the Trust.
- 2.4. This policy forms part of the Trusts over-arching document The Written Scheme for the Safe Management of Water Services, which addresses the requirements necessary to fulfil the Trust's statutory duties under Health & Safety at Work Act 1974 etc.
- 2.5. This policy addresses the following:
 - A Water management strategy Roles and responsibilities

- New building specifications
- Operational and day to day management
- Upgrading of water services
- Up to date records

2.6. The over-arching document “The Written Scheme for the Safe Management of Water Services (Water Safety Plan)” also addresses:

- Training and competence
- Emergency plans (including evacuation strategies)
- Water safety audits
- Water services risk assessments
- Integrated risk management plans (IRMPs)
- Written schemes of delegation

3. Definitions

Legionella

3.1. Legionella is an infectious bacterium that thrives in standing water sources such as domestic hot-water systems, air conditioner ducts, cooling towers, ponds and hot tubs. Legionella is usually spread as an aerosol. If inhaled, it can affect those who are susceptible because of age, illness, immunosuppression, smoking etc.

3.2. Legionella bacteria are common and can be found naturally in environmental water sources such as rivers, lakes and reservoirs, usually in low numbers. Legionella bacteria can survive under a wide variety of environmental conditions and have been found in water at temperatures between 6°C and 60°C. It thrives in temperatures between 25 and 45 °C (77 and 113 °F), with an optimum around 35 °C (95 °F).

Pseudomonas Aeruginosa

3.3. This is an opportunistic pathogen that can colonise and cause infection in patients who are immuno-compromised or whose defences have been breached. In most cases, colonisation will precede infection. Some colonised patients will remain well but can act as sources for colonisation and infection of other patients. As a microorganism that is often found in water, the more frequent the direct or indirect contact between a susceptible patient and contaminated water, and the greater the microbial contamination of the water, then the higher the potential for patient colonisation or infection.

3.4. Contaminated water in a hospital setting can transmit Pseudomonas aeruginosa to patients through the following ways:

3.5. Direct contact with the water through:

- ingesting
- bathing

- contact with mucous membranes or surgical site, or through splashing from water outlets or basins (where the flow from the outlet causes splash back from the surface);
- inhalation of aerosols from respiratory equipment, devices that produce an aerosol or open suctioning of wound irrigations;
- medical devices/equipment rinsed with contaminated water;
- Indirect contact via healthcare workers' hands following washing hands in contaminated water, from surfaces contaminated with water or from contaminated equipment such as reusable wash-bowls.

Dead Leg Dead End/ Blind End

- 3.6.** A dead end/blind end is a length of pipe closed at one end through which no water passes. A dead leg is a length of water system pipework leading to a fitting through which water only passes infrequently when there is draw off from the fitting, providing the potential for stagnation.
- 3.7.** Bacteria in dead-end pipe lengths and crevices are protected from flushing and disinfection procedures and can recontaminate the piping system. 'Dead legs' can occur where bathrooms, showers, toilets, sinks, etc. are taken out of use.
- 3.8.** They are the greatest risk in supporting water borne potential infectious bacteriological and other water-borne pathogens. It will be the responsibility of the manager and user to alert the Facilities team so that measures can be put in place to reduce such risk.

4. Responsibilities

- 4.1.** The management of water services is key to reducing the risk of water borne potential infectious bacteriological and other water-borne pathogens within the Trust's estate. It is therefore imperative that all staff are aware of their role in managing this risk. In addition to allocated roles and responsibilities as identified in the guidance document HTM 04-01 The control of Legionella, hygiene, safe" hot water, cold water and drinking water systems – Part B Operational Management.
- 4.2.** To ensure that the cascade of responsibility is known to all, the Responsible Person water (RP) will ensure presentations to key groups identifying the risks that could be the result of their actions.
- 4.3.** It will be the responsibility of all staff to ensure that the level of responsibility bestowed upon them within this policy is met, to ensure the risk of Legionella from water borne pathogens arising from their actions is reduced.
- 4.4.** HTM 04-01 Addendum refers to the Water Safety Group (WSG) in this Trust this function is provided by the Infection Control Engineering Group; this is a multidisciplinary group formed to undertake the commissioning and development of the water safety plan (WSP), as collated in the Water Management Written Scheme. It also advises on the remedial action required when water systems or outlets are found to be contaminated and the risk to susceptible patients is increased.

4.5. As identified in the HTM 04-01 the key roles are as follows:

The role of the Chief Executive

4.6. The Chief Executive is the Duty holder for the Trust who is ultimately accountable for the safe operation of the Healthcare premises. The Chief Executive will nominate a Named Executive director to act as lead.

The Role of the Infection Control Officer (Infection Control Doctor)

4.7. The Infection Control Officer and Consultant Microbiologist are:

- Nominated by management to advise on infection control policy and to have responsibility for the maintenance of water quality
- Ensuring that advice is provided on infection control policy

4.8. This policy should be acceptable to the Infection Prevention & Control Team and they should agree any amendment to the Water Services Management policy.

The Role of Named Executive Director (Director of Facilities)

4.9. The named Executive Director is responsible for:

- Acting as Lead for the safe management of water services
- To provide assurance to the Trust Board and all its members that all such measures are in place to reduce the risk of water borne potential infectious bacteriological and other water-borne pathogens within the Trust's estate.
- Ensuring a Responsible Person (Water) is appointed.

The Role of the Responsible Person Water (Deputy Head of Estates)

4.10. The Responsible Person (Water) is responsible for:

- Devising and managing the necessary procedures to ensure that the quality of water in Trust premises is maintained.
- Ensuring that all operational procedures are carried out in an effective and timely manner.
- Providing the required assurance to the Named Executive Director.

4.11. The Responsible Person (Water), in association with the Infection Control Officer, Consultant Microbiologist and maintenance staff, will:

- Advise on the potential areas of risk and identify where systems do not adhere to this guidance;
- Liaise with the water undertakers and Environmental Health departments and advise on the continuing procedures necessary to ensure acceptable water quality;
- Monitor the implementation and efficacy of those procedures;
- Approve and identify any changes to those procedures;

- Ensure equipment that is to be permanently connected to the water supply is properly installed;
 - Ensure adequate operating and maintenance instructions exist and adequate records are kept.
 - Ensuring that they are fully conversant with all water services within the healthcare establishment and the control measures in place.
- 4.12.** The appointment of an engineer is appropriate in that the role can extend to the operation and maintenance of associated plant. It is recognised that the Responsible Person (Water) cannot be an expert on all matters and must be supported by specialists in specific subjects such as water treatment and microbiology, but they must undertake responsibility for calling upon and coordinating the activities of such specialists.
- 4.13.** The Authorising Engineer Water specialist is an independent professional advisor whose primary role is to assist organisations in managing the risks from exposure to legionella bacteria in water systems and also from other water-borne organisms associated with such systems as pseudomonas and stenotrophomonas. The Authorising Engineer will be highly qualified and suitably experienced to be able to give advice and direction when requested to the Responsible Person Water and provide guidance and direction to the maintenance team.
- 4.14.** The Responsible Person (Water) should be aware that manufacturers, importers, suppliers, installers and service providers have specific responsibilities that are set out in the Health and Safety Commission's (2000) Approved Code of Practice L8.
- 4.15.** The Responsible Person (Water) is responsible for the implementation of an effective Planned Preventative Maintenance Program as listed in the "Written Scheme for the Management of Water Services". This document, held and maintained by the Responsible Person Water, incorporates the preparation of fully detailed operating and maintenance documented process. This includes the filing and recording of maintenance records. The Responsible Person (Water) should appoint a deputy to whom delegated responsibilities may be given.

The Role of the Deputy Responsible Persons Water (Energy and Compliance Manager)

- 4.16.** The Deputy Responsible Persons (Water) is responsible for:
- Supporting the Responsible Person (Water) in their role
 - Acting as a deputy in times of the absence of the Responsible Person (Water).
 - Ensuring that they are fully conversant with all water services within the healthcare establishment and the control measures in place.

The Role of the Relevant accountable Groups

- 4.17.** In order to ensure key individuals within the Trust are aware and have an influence in any policy or procedural development the following lists their involvement:

- Engineering Controls Group; this group meeting quarterly with members from Facilities and Infection Prevention & Control will monitor all practical applications to meet this policy. The minutes of the Group will be presented as an agenda item at the Trust's Infection Prevention & Control Committee and COSHH group meeting.
- COSHH Group; this group as a standard agenda item will receive the minutes of the Engineering Controls Group, discussing and providing comment/feedback on any issues of concern.
- Infection Prevention and Control Committee; this committee as an overarching group will, as a standard agenda item, monitor and advise on the minutes of the Engineering Controls Group.
- Health & Safety Committee; this committee will have access to the minutes of the Engineering Controls Group and be involved in commenting on any changes or amendments to this policy document.

The Role of the Maintenance management Team

4.18. The Operations and Maintenance Manager and Other Estates Officers are responsible for:

- Ensuring they have sufficient technical knowledge and the experience necessary to manage the day to day maintenance and routine testing of the water, storage and distribution system. To ensure that all relevant Planned Preventative Maintenance (PPM) is carried out in a timely manner.

The Role of the Tradesperson

4.19. A tradesperson is someone who is appointed in writing by the Responsible Person (Water) to carry out, under the control of the maintenance supervisor, work on the water, storage and distribution system. This may be a skilled or non-skilled person but competent to the role that is bestowed upon them.

The role of the Facilities services (Referred to as the Installer in HTM 04)

4.20. This service is responsible for:

- The provision of the water, storage and distribution system.

The Role of the Contractor

4.21. The contractor is the person or organisation designated by management to be responsible for the supply, alteration, installation, validation and verification of hot and cold water services, and for the conduct of the installation checks and tests. In relation to the control of water borne potential infectious bacteriological growth and other water-borne pathogens within the Trusts estate, it is essential to ensure that potential contractors are competent and qualified. In such cases it would be desirable if all operatives had completed the water regulation course and that the company was a member of the Legionella Control Association.

The Role of the Contract Supervising Officer (Capital and minor projects)

- 4.22. The person nominated by the Trust management to witness tests and checks under the terms of contract. He/she should have specialist knowledge, training and experience of hot and cold water supply, storage and mains services.

The Role of All staff

- 4.23. Awareness of this policy among all staff is key to ensuring the risk of exposure to water borne potential infectious bacteriological growth and other water-borne pathogens within the Trusts estate is reduced. In addition to those carrying out PPM and alterations to water systems Managers and users must be aware of their local water services and the application of the service in respect to their business.
- 4.24. Dead legs and blind ends are the greatest risk to the supporting of water borne potential infectious bacteriological growth and other water-borne pathogens within the Trusts estate. Where bathrooms, showers, toilets, sinks, etc. are taken out of use it is the responsibility of the local manager and user to alert the Facilities team so that measures can be put in place to reduce the risk.

5. Operational Procedures for the Prevention or Control of water borne potential infectious bacteriological growth and other water-borne pathogens within the Trusts estate

- 5.1. The risk of water borne potential infectious bacteriological growth and other water-borne pathogens within the Trusts estate is seen as preventable. Current statutory legislation requires both management and staff to be aware of their individual and collective responsibility for the provision of wholesome, safe hot and cold water supplies. Healthcare premises are dependent upon water to maintain hygiene and a comfortable environment for patients and staff, and for clinical and surgical care.
- 5.2. The design of hot and cold water supply systems must ensure that the risk of stagnation in storage vessels and distribution systems is eliminated or minimised. Maintenance regimens must provide assurance that these design measures are maintained and operating correctly to reduce risk of contamination.

The Written Scheme for the Safe Management of Water Services (Water Safety Plan)

- 5.3. The over-arching procedural document The Written Scheme for the Safe Management of Water Services is an essential document for ensuring the Trust meets the requirements of this policy. It will contain key new-build requirements and operational management protocol for the Trust's estate.

This document will be produced and maintained up to date by the Responsible Person (Water) and approved by Infection Control along with the key technical stakeholders within Facilities. The Responsible Person (Water) will be responsible for its maintenance, upkeep and compliance to relevant legislation.

5.4. Links to the following information will be contained within the document;

- Management structure
- Policy statement
- Planned Preventative Maintenance matrix
- Tap index process
- blender check process
- Tank inspection process
- Tank cleaning process
- Shower head cleaning process
- Calorifier inspections process
- Booster set inspections process
- AHU trap inspections process
- Systems descriptions
- Drawing schedule
- Chemical/micro analysis
- Risk assessments
- Audits & projects to reduce Legionella risk
- Training Records
- Pseudomonas

5.5. This list will be added to as required to ensure full compliance with all future legislation and guidance documentation.

6. New Building Specifications and site operational management

6.1. Whether a new build or a maintenance issue that involves the alteration to an existing service, the key document to be referenced is the Trusts over-arching document The Written Scheme for the Safe Management of Water Services.

New Build Specifications

6.2. As well as complying with the recommendations outlined in this policy the design and installation of the hot and cold water services, new or extended, in any NHS premises should also comply with:

- The Water Supply (Water Fittings) Regulations 1999, recommendations of the water suppliers in the Water Regulations Advisory Scheme's (WRAS) 'Water Regulations Guide', and any other requirements of the local water undertaker;
- Approved Code of Practice, Legionnaires' disease: the control of legionella bacteria in water systems (L8). Health and Safety Executive, (Fourth edition) Published 2013, which requires that there must be a Written Scheme (Water Safety Plan) for the Safe Management of Water Services in place in respect of controlling Legionella in water systems.

- HTM 04-01 The control of Legionella, hygiene, “safe” hot water, cold water and drinking water systems –Part A Design, Installation and Testing
- HTM 04-01 The control of Legionella, hygiene, “safe” hot water, cold water and drinking water systems –Part B Operational Management
- HTM 04-01: Addendum Pseudomonas aeruginosa – advice for augmented care units
- HSG 274 parts 1,2 and 3

6.3. It is imperative that as part of any new builds or alterations they comply with the above to ensure that all such steps have been met for the prevention or control of water borne potential infectious bacteriological growth and other water-borne pathogens within the Trusts estate. In respect to the over-arching document The Written Scheme for the Safe Management of Water Services, any conflict is addressed and amended accordingly. Such modifications will be approved by the RP and seen to be part of the acceptance criteria of any works.

6.4. In addition to this all new builds will meet the requirements of Environment and sustainability Health Technical Memorandum 07-04: Water management and water efficiency – best practice advice for the healthcare sector

Operational management

6.5. The Trust will ensure that within the document “The Written Scheme for the Safe Management of Water Services (Water Safety Plan):-That it addresses practically the prevention or control water borne potential infectious bacteriological growth and other water-borne pathogens within the Trusts estate. That an operational plan is in place for each site under their control. This plan should comprise:

- Up-to-date as-fitted drawings, schematic diagrams and descriptions of all the supply, storage and distribution systems within those premises.
- Step-by-step instructions to operate, maintain, control and shut down the water supply, storage and distribution systems within those premises.
- A schedule of possible emergency incidents causing loss of the water supply from the water undertaker. Each item in the emergency incident schedule should include guidance on operational procedures to re-establish a stable wholesome water supply.
- All premises will have a water services risk assessment and an overarching Written Scheme for the Safe Management of Water Services for controlling any identified risks in accordance with the Health and Safety Commission’s (2000) Approved Code of Practice L8.

6.6. Note: As per new builds or alterations any area within maintenance that conflicts with the Written Scheme for the Safe Management of Water Services must see the scheme addressed and amended accordingly. Any such modifications will be approved by the Responsible Person (Water) and will be part of the acceptance criteria of any such works.

7. Upgrading of existing water services

Routes for upgrading work

- 7.1.** There are four possible instigation routes where there could be a need for the implementation of upgrade works:
1. Breakdown and failure of installations through call out; these are addressed through the Estates work task allocation process. Leading to remedial works
 2. The Planned Preventative Maintenance process where failure of installations is identified; dealt with as above through the Estates task allocation docket process. Leading to remedial works
 3. Condition appraisal surveys; surveys carried to evaluate existing services, their condition and ability to meet their required duty. Leading to remedial works or upgrades as identified.
 4. Through the Estate Strategy and estate development; based on alterations to the Estate to meet the requirements of the service strategy. Subsequently leading to Capital schemes and development.

Funding for upgrading existing services

- 7.2.** The process of identifying and obtaining funds for the upgrading of existing water services will be through the risk assessed backlog maintenance process employed by the Trust. Failures in the infrastructures will be costed for replacement, risk assessed using the Trust's risk matrix and placed on the Trust's Backlog Risk adjusted register for prioritising and funding. Once accepted it will be included within the definition of capital works and progressed accordingly.

8. Training & Competency

Trust Board members

- 8.1.** Although receiving assurance from the Named Executive Director (Director of Facilities). The Trust Board must be aware that by their own decision processes, in respect to investment and development of the estate. There could possibly be an influence in the resources available to reduce the risk of water borne potential infectious bacteriological growth and other water-borne pathogens within the Trusts estate. To provide awareness and further assurance the Responsible Person (Water) will prepare and present an induction presentation for the Board as appropriate.

Clinical and non-maintenance staff

- 8.2.** All staff should be aware of this policy and their part within it, this includes nurses, doctors, porters and cleaning staff. They should be aware of what actions they carry out that could compromise water quality and the safety of other users. The Responsible Person Water will conduct a series of bespoke awareness sessions for all those who in effect could compromise a water source in such a way.

Maintenance services

- 8.3.** Training is essential for all staff involved in the maintenance of the Trusts water services. It is a legal requirement under the Health and Safety at Work etc Act 1974 and the Management of Health and Safety at Work Regulations 1999 that staff are competent to carry out their duties and understand the Trust's management protocols and procedures. This is also a requirement within the NHS guidance document HTM 04-01 The control of Legionella, hygiene, "safe" hot water, cold water and drinking water systems – Part B Operational Management
- 8.4.** A programme of training identifying all those involved in the management of reducing the risk of Legionella and the level of competency forms part of the Written Scheme. This training need is implemented to ensure that those appointed to devise strategies and carry out control measures are appropriately informed, instructed and trained, and should be assessed as to their competency. It is also essential that they have an overall appreciation of the practices affecting water hygiene and safety and that they can interpret the available guidance and perform their tasks in a safe and technically competent manner.
- 8.5.** Management should review the competence of staff on a regular basis, and refresher training should be given. In receiving such training wherever required, this will be provided by an external provider and a Continuing Professional Development certificated course, records of training attendance would need to be maintained within the training section of the Written Scheme. Although training is an essential element of ensuring competence, it should be viewed within the context of experience, knowledge and other personal qualities that are needed to work safely.

9. Monitoring Compliance with and the Effectiveness of the Policy

Standards/ Key Performance Indicators

- 9.1.** Key performance indicators would normally be produced by the Infection Prevention & Control Team and comprise of:
- Incidents of healthcare acquired Legionella infection
 - Clusters of healthcare acquired Pseudomonas aeruginosa infection
- 9.2.** Any such incidents would be reported to the Public Health Director and any authoritative body the Infection Control team were so instructed to inform.

Process for Implementation and Monitoring Compliance and Effectiveness

- 9.3.** This policy will be highlighted to the relevant staff.
- 9.4.** Monitoring compliance with this policy will be the responsibility of the Facilities Governance and Assurance Lead. This will be carried out through annual

audits of all Planned Preventative Maintenance in place that relate to reducing the risk of water borne potential infectious bacteriological and other water-borne pathogens. The Responsible Person (Water) will carry out audits based on four key criteria as set by the Director of Facilities

- Stage 1: Confirm what is being requested to be done
- Stage 2: By whom and when
- Stage 3: What evidence of action being taken
- Stage 4: Evidence of outcomes raised by contractor and staff being actioned

9.5. In respect to new works and Capital development this will be audited as part of every project. Where non-compliance is identified, support and advice will be provided to improve practice.

10. Equality Impact Assessment

Table 1: Equality impact Assessment

Group	Positive Impact	Negative Impact	No Impact	Comment
Age			X	
Disability			X	
Gender			X	
Gender Reassignment			X	
Human Rights (rights to privacy, dignity, liberty and non-degrading treatment), marriage and civil partnership			X	
Pregnancy			X	
Maternity and Breastfeeding			X	
Race (ethnic origin)			X	
Religion (or belief)			X	
Sexual Orientation			X	

11. References

- HSG 274 P2 HTM 05 01 for Dental Care
- CIBSE TM 13 2013 BS1710 for colour coding pipe work
- Health and Safety at Work etc. Act 1974, Sections 2, 3 and 4 (HSW).
- Management of Health and Safety at Work Regulations 1992.
- Control of Substances Hazardous to Health Regulations 2002 (As amended), Regulation 6 (COSHH).
- The Public Health (Infectious Diseases) Regulations 1988.
- The Water Supply (Water Fittings) Regulations 1999.
- The Water Supply (Water Quality) Regulations 2000

- BS 8558: 1997 Specification for Design, installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages.
- BS 1710:1984 Specification for Identification of Pipeline Services
- BS EN 806-2:2005 Specification for installations inside buildings conveying water for human consumption
- Food Safety Act 1990.
- HTM 04-01 The control of Legionella, hygiene, “safe” hot water, cold water and drinking water systems –Part A Design, Installation and Testing
- HTM 04-01 The control of Legionella, hygiene, “safe” hot water, cold water and drinking water systems –Part B Operational Management
- HTM 04-01: Addendum Pseudomonas aeruginosa – advice for augmented care units
- HTM 03-01 Specialist Ventilation for Healthcare premises. Legionella’s disease the control of Legionella, bacteria in water systems
- ACOP L8 4th edition 2013
- HSG 274 parts 1,2 and 3 published 2013
- HTM 07-04 Environment and sustainability: Water management and water efficiency – best practice advice for the healthcare sector
- Department of Health (2005) Promoting Equality and Human Rights in the NHS - A Guide for Non-Executive Directors of NHS Boards
- Disability Discrimination Act 1995 amended 2005. London: The Stationery Office
- The Building Regulations 1992: approved document G: hygiene (1992, as amended 2000).
- The Water Act 2003.
- The Water Industry Act 1991
- Health Building Note 13 – Sterile services department. The Stationery Office, 2004.
- Health Building Note 21 – Maternity (forthcoming).
- Health Building Note 25 – Laundry. HMSO, 1997.
- Health Building Note 53 – Facilities for renal services.
- Health Technical Memorandum 64 – Sanitary assemblies.
- MES C07 – Heating, hot and cold water systems.
- MES D08 – Thermostatic mixing valves (healthcare premises).
- Water Supply (Water Fittings) Regulations 1999 guidance document relating to Schedule 1: Fluid Categories and Schedule 2: Requirements for Water Fittings [See Regulation 4(3)].
- BS 2486:1997 Recommendations for treatment of water for steam boilers and water heaters.
- BS 6920-1:2000 Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water.
- BS EN 806-2:2005 Specifications for installations inside buildings conveying water for human consumption.
- BS EN 12671:2000 Chemicals used for treatment of water intended for human consumption. Chlorine dioxide.
- Audit Commission (1993). Untapped savings: water services in the NHSBSRIA (1996). 6/96: Ionisation water treatment for hot and cold water services. BSRIA, 1996.

- BSRIA (1998). TN 2/98: Chlorine dioxide water treatment – for hot and cold water services.
- BSRIA (1990). Application Guide 1/87: Operation and maintenance manuals for building services installations.
- BSRIA (1993). Application Guide 2/93: Water treatment for building services systems..
- BSRIA (2004). Application Guide 1/2001.1: Precommission cleaning of pipework systems.
- CIBSE (2003). Commissioning Code W: Water distribution. CIBSE, 2003.
- CIBSE (1999). Guide A: Environmental design.
- Approved Code of Practice, Legionnaires' disease: the control of legionella bacteria in water systems (L8). Health and Safety Executive,(Fourth edition) Published 2013.
- Public Health Laboratory Service (1994). Hygiene for spa pools: guidelines for their safe operation. The report of a PHLS spa pools working party.
- Public Health Laboratory Service (1999). Hygiene for hydrotherapy pools. PHLS, 1999.
- Water Regulations Advisory Scheme (WRAS) (1994). Information and Guidance Note 9-04-04: Cold water storage systems – design recommendation for mains supply inlets.
- Water Regulations Advisory Scheme (WRAS) (2004) Water Regulations Guide.
- Fittings and Materials Directory. WRAS, 2005.

12. Associated Documentation

- Incident Reporting Policy
- The Risk Management Strategy
- The Risk Management Policy
- The Written Scheme for the Safe Management of Water Service

APPENDIX 1 – ACTION TO BE TAKEN IN THE EVENT OF A POSITIVE LEGIONELLA WATER SAMPLE

