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		<b>Review Date</b>	April 2023

## Legionella and water supply management guidance

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## Purpose

Legionnaires Disease can pose serious risk to human life if appropriate controls are not implemented to manage it. This document provides guidance on the management of Legionnaires in schools. Legislation places duties and responsibilities on all employers to manage legionnaires and protect your workforce and others who may be affected by Legionella. You must have a suitable procedure in place that aim to:

- Protect staff, pupils and others from exposure to legionella bacteria from water systems.
- Prevent the growth and cultivation of harmful bacteria through ensuring any water systems and assets are in good order, monitored, maintained and serviced as per required by legislation, recommendations and best practice.

The Head is responsible for the day-to-day management of Legionella in a school, but the control measures themselves, such as running unused outlets and monitoring temperatures, may be delegated to others.

## Definition and responsibilities

**Legionellosis** - a group of diseases that is usually contracted via the inhalation of aerosol droplets of water contaminated with legionella bacteria.

**Legionnaires disease** - severe form of pneumonia and can be fatal to particular groups of persons e.g. those with immunosuppressed systems, smokers and persons over 50 years of age.

### **Duty holder (Herefordshire Council)**

Herefordshire Council is the Duty Holder for maintained schools in Herefordshire, although budget and autonomy has been delegated to schools for the day-to-day management of legionella. It is understood that while Herefordshire Council is the duty holder, the following responsibilities will be undertaken by the school and board of governors.

- Assume overall responsibility for the strategy and resource allocation (within the limits of the approved budget) of financial and other resources for the control of legionella.
- Appoint in writing suitably competent Legionella Responsible Person(s) to undertake specific duties in regard to the operational management for the control of legionella.
- Provide the Responsible Person(s) with sufficient authority and support to ensure that all operational procedures are carried out in a timely and effective manner.

### **Legionella responsible person (LRP)**

The Head is responsible for ensuring schools undertake suitable and sufficient legionella risk assessments and that these are reviewed at least every two years, or more frequently if there are significant changes or high-risk areas identified. Based on the risk assessment findings you should produce and implement an effective written scheme (management plan) to control legionella bacteria in the school's hot and cold-water systems.

Appoint a competent contractor to assist with undertaking the legionella preventative maintenance, specialist remedial tasks and undertake water sampling.

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- Ensure the written scheme is brought to the attention of all stakeholders (Herefordshire Council, Governing Body, trustees etc.), is acted on and monitor the effectiveness of the plan.
- Produce an emergency plan to implement in the event of a legionella incident in the school and take a lead role in its implementation.
- Ensure that all persons annually with legionella responsibilities receive training that is appropriate to their level of responsibility.
- Undertake periodic monitoring.
- Ensure that a robust system of records relating to the management system, scheme of control and training are created and kept to date
- Consult with and interact with any electronic water log books and or monitoring systems

#### **Deputy legionella responsible person (DLRP)**

- Assist the LRP in carrying out the above duties.
- Deputise for the LRP during absence.
- Consult with and interact with any electronic water log books and or monitoring systems

#### **Directly employed maintenance staff (this may be the LRP/DLRP)**

- Undertake any tasks allocated under the legionella written scheme and ensure all results are logged.
- Advise their immediate line manager of any defects or where monitoring/test results are outside of specified parameters.
- Attend legionella training.

#### **Legionella consultant**

- Undertake legionella risk assessments complete with schematic drawings of the hot and cold-water systems on the school site and forward copies to the LRP.
- Provide expert witness and consultancy services as and when requested by the LRP / DLRP.
- As per the contract specification, undertake periodic monitoring of the legionella management system and controls and report the results to the LRP.
- Consult with and interact with any electronic water log books and or monitoring systems

#### **Legionella contractor**

- Undertake tasks allocated under the legionella written scheme (LWS) and/or the contract technical specification and ensure all results are logged.
- Ensure sufficient resources are available to perform tasks in accordance with the LWS and the contract.
- Notify the LRP/DLRP of any remedial works or test results that fall outside of established parameters, e.g. elevated temperatures or a high TVC count.
- Maintain any up to date electronic water log books and monitoring systems.

#### **Risk assessment**

It is essential that the risk of legionella in all areas of the school's water systems is considered and suitably assessed in order that effective controls can be identified and implemented. The risk assessment process will identify risks associated with legionella for all areas of the business

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where staff, contractors, visitors and members of the public have direct contact with water systems and outlets.

The school should manage the risk assessment process in the following way:

- The LRP will appoint an external consultant who has membership of the Legionella Control Association or equivalent.
- A risk assessment must be undertaken for each building, to include all water systems present and should be carried out in accordance with the requirements of the Approved Code of Practice (ACOP) L81 and British Standard BS 8580:20102
- A written scheme is produced for each building to manage the risks.
- Risk assessments should be reviewed at a maximum interval of two years and/or in the following;
  - a) Significant changes in legislation, guidance, technology and best practices.
  - b) Significant alterations to the water system(s).
  - c) Significant changes in building population or use.
  - d) Where sampling results indicate control measures are not effective
  - e) Where advised by the Legionella Consultant

## **Record keeping**

Schools should adopt a rigorous methodology for the recording of information regarding the identification and assessment of the risk from legionella bacteria and for the implementation of control measures to reduce the risk from legionella.

These records should be retained throughout the period in which they are current and for at least two years afterwards. Records of any monitoring inspection, test or check carried out, and the dates, should be retained for at least five years.

The legionella risk assessment should be kept as an electronic and hard copy format.

All legionella preventative maintenance tasks and remedial works, whether undertaken by school staff or the Legionella Contractor should be undertaken against a work order generated by the LRP.

Training records for staff e.g. care takers, site managers etc. should be held with the Legionella Written Scheme.

Certificates indicating contractor competence e.g. membership of the Legionella Control Association and records of the competency of the contractor's operatives should also be retained with the Legionella Written Scheme.

## **Training and competency**

Only competent persons (as defined in ACOP L8) will be authorised to undertake legionella works. Therefore, all directly employed persons with legionella responsibilities and duties should receive training to ensure they are competent to undertake their respective roles.

Attendance at training sessions will be recorded and retained for inspection.

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Competency and the responsibilities for third parties such as contractors and their operatives should be defined in the contract specification documents.

### **Communication**

Legionella guidance should be made available to all staff.

Where required a copy of the LMP should be issued to all relevant stakeholders - e.g. external contractors.

### **Audit and review**

On a regular basis the LRP, with the assistance of the Legionella Consultant, should undertake an independent review of all legionella documentation.

The LRP should undertake regular monitoring of the legionella control systems to ensure they are being effectively implemented.

### **Design considerations for waterways**

A primary method to prevent the growth of legionella bacteria in water systems should be that all systems are designed in accordance with all relevant and current Building Regulations, British Standards, guidelines and best practices. All systems should be designed to:

- Eliminate or minimise the production of aerosols.
- Eliminate low turnover of stored water through correctly sized storage tanks.
- Eliminate dead-legs
- Be easily drained and accessible for maintenance activities.

All materials used in the construction of water systems should comply with the requirements of the Water Supply (Water Fittings) Regulations 1993. Materials and fittings that are acceptable for use in the water system are listed in the directory published by the Water Research Centre.

### **Prevention, control and monitoring**

The risk from exposure will be controlled by measures that reduce the growth of legionella bacteria in the system and reduce exposure to water droplets and aerosols. Precautions will include the following:

- Controlling the release of aerosols;
- Avoiding water temperatures and conditions that favour the proliferation of legionella bacteria and other micro-organisms;
- Where TMVs are used to keep hot water temperatures below 43 degrees Celsius to avoid scalding, they should be as close to outlets as possible to maintain safe temperatures in the pipes.
- Avoiding water stagnation;
- Avoiding the use of materials that harbour bacteria and other microorganisms, or provide nutrients for microbial growth;

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- Maintaining the cleanliness of the system and the water in it;
- Use of water-treatment techniques if water temperatures cannot be maintained;
- Actions to ensure the correct and safe operation and maintenance of the system.

The frequency of preventative maintenance tasks will be dictated by the risk assessments and/or the recommendations of HSG274 Part 24. This document details the preventative maintenance businesses should undertake on hot and cold-water systems.

In addition to the above preventative maintenance control measures, monitoring of the water quality will be undertaken and should consist of periodic water sampling and analysis for general bacteria (e.g. total viable colony count), which provide an indication of the water quality. Sampling and testing for the presence of legionella bacteria in the water should also be undertaken.

Sampling for both microbiological quality and legionella bacteria should be undertaken by the Legionella Contractor and the frequency and location of sampling should be as per the contract specification and/or as requested by the LRP/DLRP.

Analysis of water samples for all TVC counts and legionella bacteria should be carried out by a United Kingdom Accredited Services (UKAS) registered laboratory which takes part in the Public Health Laboratory Services (PHLS) 'Water Microbiology External Quality Assessment Scheme for the Isolation of Legionella from Water'.

Samples will be taken, stored and transported to the laboratory for analysis in accordance with BS 7592:20085

## **Legionella outbreaks**

### **General**

- An outbreak is defined as two or more cases where the onset of illness is closely linked in time (weeks rather than months) and where there is epidemiological evidence of a common source of infection, with or without microbiological evidence.
- Any suspected outbreaks should be reported immediately to your local Health Protection team.
- The local authority will convene an incident/outbreak control team to investigate outbreaks, whose purpose is to protect public health and prevent further infection. If the source of the infection is suspected to have originated from the hot & cold-water systems within the school, the CCDC or Environmental Health Officer acting on their behalf may make a site visit along with representative from the Health & Safety Executive (HSE).
- Where any staff members are involved as a result of uncontrolled exposure to aerosols of water known to be harbouring the legionella bacteria, managers should arrange referral to Occupational Health for assessment and monitoring. Advise staff to seek medical advice from their GP if they are showing symptoms of legionnaire's disease – mild headaches, chills, tiredness, high temperature etc.
- If a member of staff has a positive diagnosis of Legionnaires disease, which has been contracted whilst at work, this will be notifiable under RIDDOR 2013 and should be reported to the Health & Safety team in Herefordshire Council.

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### **Notification of an outbreak**

Notification of an outbreak will be from an external agency and to undertake the management of an outbreak, the LRP / DLRP should request the assistance of one or more of the following:

- The Legionella Duty Holder
- The Legionella Consultant
- The Legionella Contractor (maybe the same person as the Legionella Consultant)
- Herefordshire Council

External investigation teams may require extensive records and documentation, including:

- Tracing of all pipework runs.
- Operational records relating to maintenance.
- Statements from staff
- Statements from the Legionella Consultant and Legionella Contractor

Also, as part of an outbreak investigation the school may be instructed by the enforcing authority to take some or all of the following actions:

- Shut down any processes that can generate and disseminate airborne water droplets, and keep them shut down until sampling procedures and any remedial has been completed.
- Before any emergency disinfection is undertaken, take water samples, as directed by the enforcing authority.
- Take water samples after chemical disinfection of infected system(s).
- Review staff health records to assess whether there have been any previous undiagnosed cases of illness that may be due to exposure to legionella bacteria; and to help prepare case histories of the persons infected.

During the outbreak investigation, the LRP / DLRP should maintain a written log of all decisions made and actions undertaken, including by whom.

The outbreak incident will only be deemed to be over when advised by the HSE.

### **Legionella Written Scheme**

Following your Legionella risk assessment, the school must complete a written scheme, which records in detail the specifics of how the risk posed by Legionella will be managed by the school. The scheme must be specific, and should record what action the school will be taking and formally allocate responsibilities on to individuals.