



## Policy No: 45. Legionella Emergency Action Plan

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<b>Coordinator</b>	<b>Executive Operations Manager</b>
<b>Review Frequency</b>	<b>Annually</b>
<b>Policy First Issued</b>	<b>2014</b>
<b>Last Reviewed</b>	<b>Autumn Term 2017</b>
<b>Date policy considered by External HR Consultant</b>	<b>N/A</b>
<b>Date policy considered by External Solicitor</b>	<b>N/A</b>
<b>Agreed by Governors and adopted on</b>	<b>Due to be approved Jan 2018</b>
<b>Does this policy need to be agreed by Governors? If yes, which committee</b>	<b>Yes, Board of Governors</b>
<b>Due for Review</b>	<b>Autumn Term 2018</b>
<b>This policy is communicated by the following means:</b>	
<b>Governors</b>	<b>Governor consultation by email when policy reviewed and agreement</b>
<b>Staff</b>	<b>Policy folders on staff shared drive and in-house training</b>
<b>Parents</b>	<b>Academy website, Parent Evenings</b>
<b>Students</b>	<b>Academy website, assemblies, in lessons</b>

## **Legionella Emergency Action Plan**

### **Action in the Event of an Incident**

In the event of a single case of legionellosis, possibly acquired in the Academy then an emergency meeting shall be set up of a group comprising:-

Responsible Person (Cluster Premises Manager)  
UTCHS Principal  
Water Quality Experts / Advisors (Thermoserv)

The escalation procedure should be followed as set out in the attached schematic (Appendix A)

During the incident the group shall meet daily as necessary, with others as appropriate, to co-ordinate investigation of the problem, and progress any necessary action. Minutes are to be kept and a log of actions taken and results of tests and inspections are to be recorded by the Cluster Premises Manager. A photographic record is to be kept where appropriate.

The group shall keep the following informed of developments:-

#### Building Users

Engineers potentially working on or around the associate systems  
Human Resource Department  
Environmental Health Officers  
Occupational Health & Safety

Immediate action may include:-

- a) Stopping access to area/site and isolating supply to prevent an accidental discharge.  
Place warning Signage in place – To be completed by UTC Technicians / Competent Sub Contractor.
- b) Transferring users to an unaffected area
- c) Sampling water from taps and showers in the area concerned prior to any disinfection or pasteurization – To be completed by UTC Competent Sub-Contractor
- d) Examination of ductwork of ventilation plant to area concerned and sampling of condensate drain water if applicable – To be Completed by UTC Competent Sub-Contractor
- e) Sampling of water from DHW calorifiers serving area prior to any disinfection or pasteurisation. – To be completed by UTCHS Competent Sub-Contractor.
- f) Testing hot and cold water temperatures at all outlets in area. – To be completed by UTC competent Sub-Contractor.
- h) Isolation of any showers. To be completed by UTCHS / Competent Sub Contractor
- g) Elevation of DHW temperatures to 55-60°C at outlets, and placing of warning notices of raised temperatures. To be completed by UTCHS / competent Sub Contractor.
- h) Inspection of maintenance records for legionella is preventive work. To be completed by UTCHS.
- j) Disinfection of water services in accordance with BS 6700 Legionnaires' disease is not a notifiable disease in England and Wales. If staff / building users acquire the disease cases may be notifiable under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR)).  
The Health and Safety Executive may be involved in the investigation of outbreaks under the Health and Safety at Work etc. Act 1974. – To be completed by UTC / BHCC H&S Safety Team.

## Monitoring for Legionella

It is recommended that this should be carried out:

- a) Where control levels of the treatment regime (temperature control) are not being consistently achieved.
- b) When an outbreak or incident is suspected or has been identified. Testing may also be required of at risk users.

Samples should be taken as follows:

- a) Cold water system, from the cold water storage tank and the furthest outlet from the tank. Samples may also be required from other areas of particular concern.
- b) Hot water systems, from the calorifier outlet or the nearest tap to the calorifier outlet plus the return supply to the calorifier or the nearest tap to that return supply. Samples should also be taken from the base of the calorifier where a drain valve has been fitted. The furthest outlet from the calorifier should also be sampled. Samples may also be required from areas of particular concern.

Analysis of water samples for legionella should be carried out by a UKAS accredited laboratory which takes parting in the PHLS Water Microbiology External Quality Assessment Scheme for the Isolation of Legionella from Water. The interpretation of any results should be carried out by an experience microbiologist.

ACOP L8 table 4 details the action required following legionella sampling in hot and cold water systems. Table 4 is included below.

Legionella bacteria (cfu/litre)	Action required
More than 100 but less than 1000	Either: A) 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 action. B) If the majority of the samples are positive, the system may be colonized, albeit at a low level, with legionella. Disinfection if 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 that 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.

## Cleaning and Disinfection.

Hot and cold water services should be cleaned and disinfected in the following situations:

- a) if routine inspection shows it necessary.

- b) if the system or part of it has been substantially altered or entered for maintenance purposes in a manner that may lead to contamination.
- c) during or following an outbreak of legionellosis

Disinfection can be carried out in two ways:

- a) by the use of suitable chemical disinfectants, e.g. by chlorination when it is necessary to disinfect the whole system including storage tanks.
- b) By thermal disinfection, i.e. by raising water temperature to a level at which legionella will not survive.

### **Chemical Disinfection.**

Prior to chemical disinfection it is essential to ensure that the system is clean, and it is important to ensure that all parts of the system are disinfected, not just those that are readily accessible. Chemical disinfection is usually carried out by chlorinating the water in the cold water storage tank to 20-50 mg/litre free residual chlorine. It is then allowed to flow to all parts of the system by successively opening the outlets in the system such as taps and showers (until there is a smell of chlorine), then closing them and leaving it to stand for an appropriate period. This depends on the chlorine concentration. The required concentration should be maintained in the header tank throughout the chlorination procedure and chlorine concentration needs to be monitored throughout disinfection to ensure there is a sufficient residual chlorine level.

The system should be thoroughly flushed following chlorination.

This treatment should not be carried out by untrained personnel and should be closely supervised.

Building occupants should be warned that the water is heavily chlorinated. If tanks and calorifiers are heavily contaminated by organic materials, the system should be chlorinated before cleaning to reduce risks to cleaning staff.

### **Thermal Disinfection.**

Thermal disinfection can be carried out by raising the temperature of the whole contents of the calorifier then circulating this water throughout the system for at least an hour. To be effective, the temperature at the calorifier should be high enough to ensure the temperature at the outlets does not fall below 60 degrees centigrade. Each tap and appliance should be run sequentially for at least five minutes at the full temperature and this should be measured.

The risk of scalding should be considered and particular care taken to ensure that water services are not used, other than by authorised personnel, until water temperatures have dropped to their normal levels.

The plan will be updated annually

Legionella Management Arrangements:

