



KING WILLIAM'S COLLEGE



THE BUCHAN SCHOOL

**King William's College, The Buchan School and
The Buchan Nursery**

Water Quality (including Legionella): Policy Guidance

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Estates Manager - Annual Review

**King William's College and The Buchan School and the Buchan Nursery
("the School")**

Water Quality (including Legionella): Policy Guidance

1 Scope

This guidance is applicable to all employees of and contractors for the school who undertake activities associated with water services and systems. Water systems are considered to include all water plant, pumps, pipes, tanks, valves, and showers.

2 Objectives

- 2.1 To clearly identify the responsibilities of individuals as appropriate.
- 2.2 To ensure that suitable and sufficient risk assessments are in place where significant risks have been identified, in particular legionella, as follows:-
 - (a) water systems incorporating an evaporative condenser;
 - (b) hot and cold water systems;
 - (c) other plant and systems containing water which is likely to exceed 20C and which may release a spray or aerosol during operation or when being maintained.
- 2.3 To ensure that systems are managed and controlled in accordance with the COSHH Regulations and the L8-2013 Approved Code of Practice and HS(G) 274 guidance

3 Guidance

- 3.1 Day to day responsibility for monitoring and ensuring that the systems are being correctly operated, lies with the Estates Manager / Maintenance Supervisor who has attended a certificated course in water safety awareness. He/She maintains appropriate records of testing and certification.
- 3.2 The school has appointed a competent consultant / contractor to conduct a risk assessment and draft a manual which specifies control regimes. An example of the areas to be contained within a manual is included at Appendix 1.
- 3.3 In Premises where the School is deemed to be responsible, it will:-
 - (i) undertake a water quality risk assessment on all relevant water systems;
 - (ii) the assessment will be updated as appropriate, for example if new equipment is added;
 - (b) the details of any risks will be made available to those persons who may be affected;
 - (c) copies of the risk assessment will be available for inspection by persons entitled to do so;
 - (d) if the risk assessment shows that there is a reasonably foreseeable risk, the Estates Manager / Maintenance Supervisor will ensure the implementation of safety precautions and control measures. In most cases, this will require

a written Water Quality Scheme by a competent person and will involve contractors carrying out maintenance regimes on water systems;

Where school employees (eg maintenance staff) have responsibility for implementing practical control measures, an example list of duties is included at Appendix 2 to this guidance

3.5 Where a contractor is employed by the School to implement specialist control measures, an example list of duties is included at Appendix 3 to this guidance.

3.6 the records will be kept for the period for which they remain current and at least 5 years following that period.

3.7 In the event of a positive water sample, the Water Contractor /Consultant will notify the Estates Manager immediately. The notification will cover:

- Details of the sample
- The organism
- Location
- Advice on appropriate remedial measures, such as isolating the building and disinfecting the system.

The Head Master/Mistress will be informed at once, even if no one is ill, and remedial action will be taken at once. The Chairman of Governors must be notified at once if anyone becomes ill with legionella, as any outbreak of the disease must be reported to the HSE and the HPA.

Legal Requirements and Education Standards,

References:

A Handbook for the Inspection of Independent Schools: Section B, Part 3: The Regulatory Requirements of Independent Schools (www.isi.net).

B. "Legionella and landlords responsibilities" (www.hse.gov.uk)

C. "Approved Code of Practice - The Control of Legionella Bacteria in Water Systems (ACOP L8)" HSE, 2013) and HSG 274 guidance (www.hse.gov.uk)

D. "Drinking Water Inspectorate" (www.dwi.gov.uk)

E. "Guidelines for Environmental Design in Schools" DCSF Guidance, 2003(www.gov.uk/dfe)

Appendix 1: Water safety manual Contents

The manual includes schematic drawings of:

- All the hot and cold water systems, water tanks, calorifers, pipe work, taps showers, heating, ventilation, refrigeration and air conditioning plant in all the buildings
- The swimming pool.

The manual then identifies and assesses the main sources of risk in every building, taking account of:

- Water temperature
- Potential for water stagnation in long pipe runs and "dead legs" or infrequently used taps and showers
- Potential for aerosol formation, especially in showers, drinking water fountains and fire hoses
- Condition of the water throughout the premises
- The use thermostatic mixing valves (in order to avoid scalding) that potentially set a favourable outlet temperature for legionella growth
- Signs of debris in the system, such as rust, sludge or scale that could provide food for growing legionella
- Condition of the pipe work, plant, tanks etc.

Physical Preventative Measures

The water safety manual identifies a series of preventative measures to the physical structure of our buildings that have been taken or are planned in order to control the risk of legionella at the school:

- All metal cold water tanks to be replaced by covered plastic tanks, to ensure that they are free from debris or system added onto the mains.
- "Point of use" water heaters have been introduced in Common Rooms
- Redundant pipe work has been removed from the Science Building and the Laundry and will progressively be removed elsewhere, as "point of use" water heaters are introduced.
- All hot pipes and calorifers/hot water tanks have been insulated.
- Water is heated and stored in the calorifers/hot water tanks at temperatures above 60 degrees C in order to kill bacteria
- Cold water is stored below 20 degrees C, so that bacteria cannot thrive.

The manual is reviewed and updated annually, or each time that a new measure is introduced.

Appendix 2: Internal Control Measures

All Operatives in our Maintenance Department have been trained in the need for legionella prevention measures. They are tasked with carrying out the following regular water checks (all of which are recorded in the water manual) in order to maintain good water hygiene:

Taps

- Any cold tap that has not been used within a seven-day period is flushed for 2 minutes on a weekly basis (avoiding splashing so as to minimise the creation of an aerosol)
- Any hot water tap that has not been used within a seven day period is similarly flushed for models with thermostatic valves fitted: at least 5 minutes/ordinary taps: 2 minutes, or until the temperature reaches 60 degrees C on a weekly basis and before the water is used
- Quarterly temperature checks to hot water are conducted by inserting a thermometer in the outflow of each circulation system for the required period and recording the temperature.
- Quarterly temperature checks to cold water are conducted by inserting a thermometer in the outflow of each circulation system for the required period and recording the temperature.

Showers

- Any shower (whether heated directly by an instant water heater or through mains hot water that is not used within a seven-day period is flushed through for 2 minutes. Minimising the creation of an aerosol is achieved by placing a plastic sack or similar, over the shower head or by removing the shower head and placing the hose directly over drain outlet.
- Shower heads and hoses are dismantled and descaled quarterly.

Toilets

- Any toilet that is not used within a seven-day period is flushed each week, and the flushing mechanism on urinals checked.

Swimming Pool

- The water in the swimming pool is sampled monthly.
- Chlorine levels are tested every day.

Cold Water Tanks

- Temperatures are taken from the water in the tank and the water in the ball valve every six months.
- The tank is inspected visually on an annual basis.

Calorifers/ Hot Water Tanks

- The water temperature leaving and returning to the calorifers/ hot water tanks is inspected on a monthly basis.
- The calorifers/hot water tanks are inspected annually.

Drains

- Drains are disinfected monthly
- Debris is cleared from external drains monthly

Hot Water Systems

- Hot water systems that are shut off for the holidays must be heated to 60 degrees C, and then kept at that temperature for at least one hour in order to kill all bacteria.
- Staff then flush the system before use.

Cold Water Systems

- All cold water systems that are unused during the holidays are also thoroughly flushed through before use.

Appendix 3: External Control services

We employ external contractors to help us to manage water safety in the following areas:

Heating plant, Air Conditioning and Condensers

- Our air conditioning equipment and our evaporative condensers are serviced annually.
- Our boilers and heating plant are serviced annually and the system is drained.
- The calorifiers/hot water tanks are checked and descaled.
- The heating system is serviced, sludge removed
- Inhibitor chemicals are topped up

Water Sampling

- The following sampling and analysis of our water supplies:
 - Quarterly Drinking water is sampled and tested.
Plumbed water coolers and water fountains are tested.
 - Six-Monthly Waste water and effluent are sampled and tested
Swimming pool water is sampled and tested
 - Annually Water samples from the calorifiers are tested
The thermostats on taps are checked and repaired/replaced.
Point of use water heaters are checked and serviced
The swimming pool is emptied and cleaned, filters checked
Cold water tanks and pumps are inspected