Operation and inspection of hot and cold water systems

2.53 The risks from legionella should be identified and managed and paragraphs 2.53-2.79 give guidance on the operation and maintenance of hot and cold water systems. Building water systems should be routinely checked where there is a risk from legionella to ensure that:

- there is a good turnover of water;
- adequate control parameters at outlets are achieved, ie temperature and/or biocide levels, and inspected for cleanliness.

Arrangements should be in place for the key control parameters to be monitored by those with the appropriate training and expertise. Alternatively, building management systems are increasingly used to provide an automated monitoring programme, allowing for early detection of failures in maintaining the control regime.

2.54 All inspections and measurements should be recorded with the following details:

- the name of the person undertaking the survey, verified or authenticated by a signature or other appropriate means, such as electronic verification;
- the date on which it was made;
- sufficient details of the sample location so that a repeat sample can be taken at the same location, if necessary.

Supply water

2.55 The water supply to the building will be from either a public or private supply, or a combination of both. In either case, it is a requirement that the supply is wholesome and suitable for all domestic purposes as set out in the Water Industry Act 1991[27] or in Scotland, the Water (Scotland) Act 1980.[28]

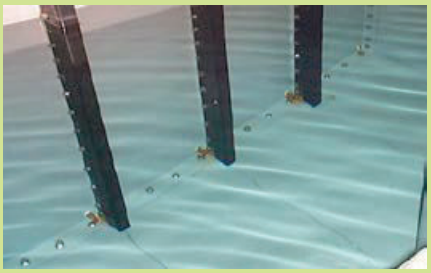
2.56 The temperature of the incoming water will depend on whether the supply originates from ground or surface water sources. The temperature of ground water in the UK is typically around 12 °C, whereas surface water temperatures can vary from 4 °C in a cold winter to 23 °C during a very hot summer. Accordingly, incoming water temperature should be well below 20 °C for most, if not all of the year. In an exceptionally hot summer, it may be necessary to review the risk assessment and take appropriate action to mitigate the risk to ensure regular water flow through tanks.

Cold water systems

2.57 An annual inspection of the cold water storage tank should be done to check its condition inside and outside, and the water within it. Figure 2.12 demonstrates the condition of cold water storage tanks and when action should be taken. The lid should be closely fitted and in good condition. The insect and vermin screen on the overflow and warning pipes and any vents should be intact and in good condition. The thermal insulation should be in good condition so that it protects from extremes of temperature. The water surface should be clean and free from any visible, significant contamination. The cold water storage tank should be cleaned,

disinfected and any faults rectified. If debris or traces of vermin are found, the inspection should be carried out more frequently.

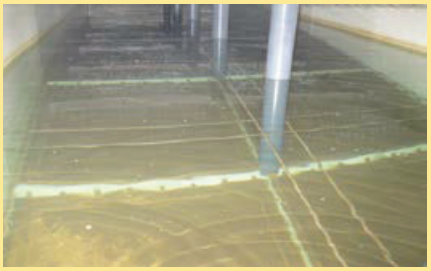
Figure 2.12 Cold water storage tank inspection



Clean tank but with slight corrosion on bolts

Light debris but corrosion to restraining bars

Moderate fouling suggesting cleaning should be conducted during the next 12 months



Slight to moderate level of debris, tank cleaning should be planned. Hollow tube supports should also no longer be used – see EFA/2013/004 at www.dhsspsni.gov.uk/efa-2013-004.pdf

Heavy debris and corrosion of internal parts that will require remedial works

Severe stagnation could indicate that the tank is oversized, or not being used

Unusually heavy scale formation requiring more than a regular clean and disinfection

Gel coat (glass reinforced plastic) failure resulting in local biological fouling (dark spots)