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CONTROLLING RISK TOGETHER

Decontamination units: Control of legionella bacteria

HSENI information note

Background

Legionnaires' disease is a potentially fatal form of pneumonia caused by the inhalation of small droplets of contaminated water containing legionella bacteria. Any water system including DCUs, with the right environmental conditions, could be a source for legionella growth.

There is a reasonably foreseeable legionella risk if your water system:

- has a water temperature between 20 - 45°C
- creates or spreads breathable droplets, for example aerosol created by a shower or water outlets
- stores and / or re-circulates water
- is likely to contain a source of nutrients for the organism to grow, for example rust, sludge, scale, organic matter and biofilms

HSE guidance and information

There is a reference in the 'Licensed contractor's guide (HSG247)' regarding legionella in DCUs. It states (paragraph A8.1.3, page 171 web version) that "hot water systems should be designed to avoid 'dead-legs' where legionella bacteria could grow".

Other guidance is set out in the 'Health, Safety and Welfare Regulations ACOP and Guidance L24' paragraph 194, which states "man-made water systems are a potential source of legionella bacteria and risk from such systems should be appropriately assessed and managed".

The guidance on legionella (HSG274: Legionnaires' disease: Technical guidance part 3 - The control of legionella bacteria in other risk systems, published in 2014) provides the following information:

"3.5 Any water system that has the right environmental conditions could potentially be a source for the growth of micro-organisms, including legionella bacteria. There is a reasonably foreseeable legionella risk if the water system has a combination of the following factors:

- the presence of legionella bacteria in the system water, either introduced via the water supply and / or via external contamination
- conditions suitable for colonisation and multiplication of the bacteria, for example, the water temperature in all or some parts of the system may be between 20 - 45°C
- where water is stored or recirculated
- deposits and materials that are a source of nutrients for the organism and support bacterial growth, such as contaminants from the surroundings or process including rust, sludge, scale, organic matter and biofilms

- a means of creating and spreading breathable droplets (aerosols)
- the presence of susceptible people who may be exposed to those aerosols".

The risk increases when the water is supplied from an "in-house" water storage tank (where the water has been stagnant / unchanged for a period of time) for example stored in IBCs, and the associated stagnant water in the supply network.

Stagnant water in the tank and pipes should be avoided i.e. draining and emptying tanks and pipes when not in use. Using a water supply which has been stored on site, for example during demolition work (particularly during the summer months), may increase the risk.

The normal practice for other water systems would be regular flushing water through the system (on a weekly basis and before re-use after a period of non-use) and periodic inspections and cleaning / disinfection of tanks, pipework, shower heads etc.

If the DCU is fitted with a thermostatic mixing valve then these need regular maintenance, inspection and cleaning in accordance with the manufacturers recommendations.

Summary of actions required

1. Carry out an individual (suitable and sufficient) risk assessment of your hot and cold water systems in each of your DCUs.
2. Consider if you require specialist help to carry this out.
3. Decide if further actions are needed.
4. Carry out these actions at the appropriate time intervals including cleaning, disinfection and maintenance.
5. Maintain appropriate records.

HSENI future actions

HSENI intends to contact all licensed contractors within four months to follow up on the actions taken by each licensed contractor in this matter.

More information

- Legionnaires' disease - The control of legionella bacteria in water systems ACOP L8 (paragraph 38 onwards for information on risk assessment)
  http://www.hse.gov.uk/pubns/books/l8.htm
- Legionnaires' disease: Technical guidance part 3
  http://www.hse.gov.uk/pUbns/priced/hsg274part3.pdf
- Legionnaires' disease - A brief guide for dutyholders
  http://www.hse.gov.uk/pubns/indg458.htm
- Workplace health, safety and welfare ACOP L24
  http://www.hse.gov.uk/pubns/books/l24.htm