



LEAFLET 19

CONTROL OF LEGIONELLA IN WATER SYSTEMS

AMENDMENT RECORD

Amd No	Date	Text Affected	Authority

REVISION NOTE:

The revision of this leaflet now complements Defence Infrastructure Organisation PG 07/10 rather than duplicating it and the roles and responsibilities have now been expanded.

HISTORICAL RECORD:

Original Leaflet created in April 2003.
Revised in Dec 07, Sep 08, Aug 2011

This policy has been equality and diversity impact assessed in accordance with Departmental policy. This resulted in a Part 1 screening only completed (no direct discrimination or adverse impact identified) This policy is due for review in August 2014

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Foreword

This leaflet is published under the authority of the Defence Occupational Health Safety and Environmental Board (OHSEB). This leaflet is for application across all areas of MOD and the Armed Forces and has been revised to reflect changes in legislation and/or MOD policy.

1. SCOPE

1.1 This leaflet provides policy and guidance for all staff (Service and civilian) involved in activities and/or who manage facilities where water is used or stored and where there is a reasonably foreseeable risk of an accumulation of Legionella bacterium.

2. INTRODUCTION

2.1 The control of Legionella is covered in Control of Substances Hazardous to Health (COSHH) Regulations and this applies in full to the MOD.

2.2 COSHH places a duty on the MOD to prepare procedures, provide information and establish warning systems to protect staff, contractors and visitors in the workplace from exposure to Legionella; it also imposes duties on staff concerning their own protection from such exposure.

2.3 Legionnaires' disease is a potentially fatal form of pneumonia which can affect anybody, but which principally affects those who are susceptible because of age, illness, immunosuppression, smoking etc. It is caused by the bacterium *Legionella Pneumophila* and related bacteria. *Legionella* bacteria can also cause less serious illnesses which are not fatal or permanently debilitating. The collective term used to cover the group of diseases caused by *Legionella* bacteria is Legionellosis.

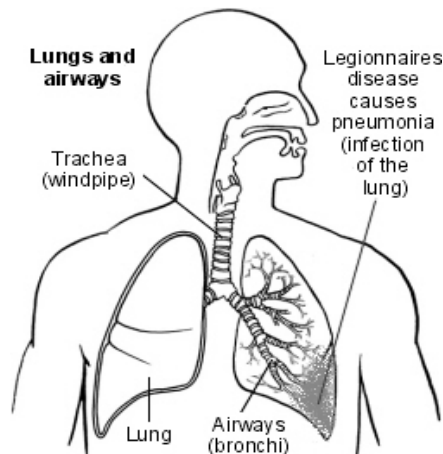


Fig.1 Exposure Pathways to *Legionella* Bacteria

2.4 Legionellosis is normally contracted by inhaling *Legionella* bacteria, either in tiny droplets of water or droplet nuclei (particles left after water has evaporated) contaminated with *Legionella* deep into the lungs. The incubation period ranges between two and ten days and usually begins with a headache, muscular pain and a general feeling of being unwell. These symptoms are followed by high fever (with temperatures often greater than 39.5°C) and shaking chills. Nausea, vomiting and diarrhoea may occur. On the second or third day dry coughing develops and is often accompanied by breathing difficulties. Effective treatment may be achieved by the use of antibiotics. There have been no reports of person to person transmission of Legionnaires' disease.

2.5 *Legionella* bacteria are common and can be found naturally in environmental water sources such as rivers, lakes and reservoirs, usually in low concentrations however the risk of inhalation of the bacteria from these sources is very low.



Fig.2 *Legionella* Bacteria

2.6 The following water systems commonly found within MOD present a potential risk for inhalation of *Legionella* bacteria (not an exhaustive list):

- cooling towers;
- evaporative condensers;
- hot and cold water services;
- showers (particularly emergency showers);
- eye wash sprays;
- sprinklers and hose reel systems;
- lathes and machine tool coolant systems;
- swimming pools;
- hydrotherapy units;
- vehicle wash systems;
- high pressure hose systems;
- fountains and water features;
- dental equipment.

3. MOD POLICY

3.1 The MOD shall implement controls that prevent the proliferation of Legionella bacteria in MOD water systems (including buildings, mobile shower units, wash down points and ships/vessels etc) and wherever possible eliminate the likelihood of human exposure to harmful levels.

3.2 A Legionella Management Plan (LMP) shall be produced and maintained for each establishment/vessel/equipment.

3.3 Water systems at risk from Legionella bacteria proliferation shall be identified and risk assessed. Any recommended actions identified in the risk assessment shall be implemented; recorded in the LMP; and brought to the attention of all contractors and/or staff who may during the course of their duties be exposed to Legionella bacteria.

4. ROLES AND RESPONSIBILITIES

4.1 Procurement or Acquisition

4.1.1 Procurement/Acquisition Teams and Local Purchase Officers shall ensure that equipment/platforms procured that incorporate water systems are engineered to minimise the risk of exposure to Legionella bacteria. Information for the safe use and maintenance of water systems shall be provided to the dutyholder.

4.2 Dutyholder

4.2.1 The role of the dutyholder (defined by the HSE as the person who has control of the premises or assets and the responsibility for the maintenance or repair) within MOD shall be undertaken by:

- MOD managed premises/estate – Commanding Officer/Head of Establishment;

- MOD managed assets (ships, water bowzers, etc.) – Commanding Officer;
- PFI managed premises/assets - Leaseholder for fixed systems.

4.2.2 The dutyholder shall ensure that an LMP (defining the management arrangements and lines of communication) is put in place to control the risks of proliferation of Legionella bacteria in water systems, and maintained/reviewed. The LMP and associated risk assessments shall be communicated to all staff, visitors and/or contractors etc. who may be exposed to the bacteria from water systems.

4.2.3 The dutyholder shall consult with staff and Trades Union and staff safety representatives on the identified risks on the exposure to Legionella bacteria and on the measures and actions taken to control the risks.

GUIDANCE

An example of a LMP is contained in Defence Infrastructure Organisation Practitioner Guide PG 07/10.

4.2.4 A competent¹ “Responsible Person” (RP)² shall be appointed by the dutyholder to provide them with advice and take day-to-day managerial responsibility for the implementation and monitoring of the LMP; and provide assurance to the dutyholder that their responsibilities are being discharged.

4.2.5 Upon notification of an incident which may/has resulted in an exposure to Legionella bacteria or persons contracting Legionellosis; the dutyholder shall inform the, Health and Safety Executive, and the Local Authority Environmental Health Officer, the Trade Union/employee safety representatives, etc. and take immediate action to identify and isolate the source if it is from a MOD premise or asset. Staff, visitors and contractors who may be at risk shall be identified and advised to be assessed by either their Medical Officer (Service personnel) or their General Practitioner (civilian staff) and an investigation undertaken in accordance with JSP 375, Volume 2, Leaflet 14.

4.3 Responsible Person (RP)

4.3.1 The RP shall be a competent person normally from within the line management chain of the dutyholder and have sufficient authority to act on their behalf. The RP shall possess sufficient knowledge of the water systems to ensure that they are operated and maintained in a safe, timely and effective manner. The RP as custodian of the LMP shall develop, maintain and bring it to the attention of all stakeholders.

4.3.2 The RP shall ensure that suitable and sufficient Control of Substances Hazardous to Health (COSHH) risk assessments (JSP 375, Vol2, Leaflet 5) and in

¹ Person who has sufficient training, experience and knowledge of the subject and is aware of their own limitations

² Normally for Regional Prime Contract sites this will be the “SETL” and DIO managed overseas sites the “FM”

accordance with HSE ACoP L8 are conducted to identify and assess the risk of exposure to Legionella, identify suitable controls and record findings in the LMP.

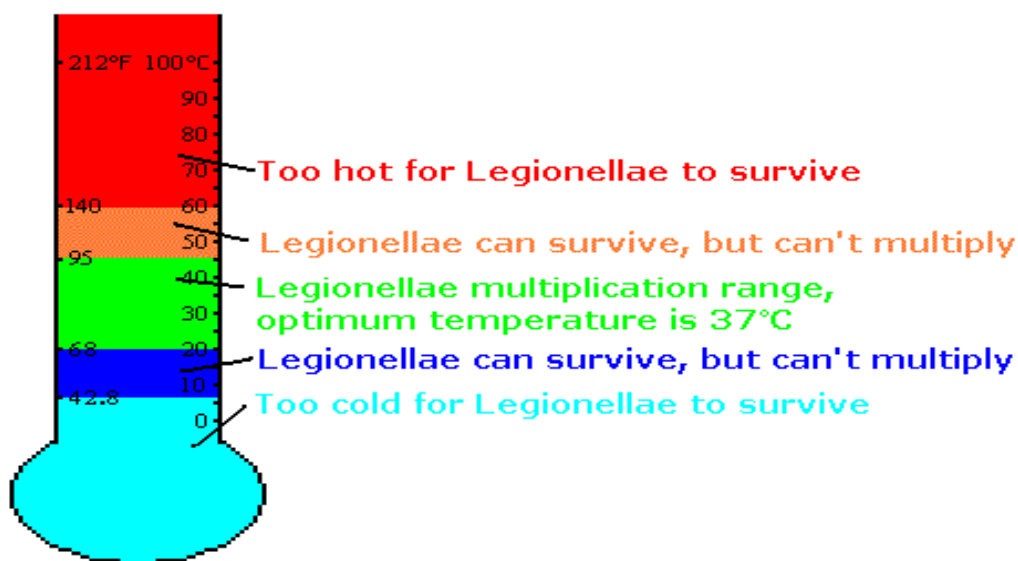
4.3.3 The RP shall ensure that all the appropriate control measures are applied (e.g. engineering controls, cleaning protocols), monitored for effectiveness, any weaknesses identified are corrected and immediate action taken to report any serious issues to the dutyholder. Regular inspections shall be undertaken to monitor the condition of the water systems and any revised actions recorded in the LMP.

GUIDANCE

The primary objective is to avoid conditions which permit Legionella bacteria to proliferate and to avoid creating a spray or aerosol which can then be inhaled.

Example of Control Measures:

- Maintenance of water temperature (avoid temperatures between 20 °C and 45 °C;
- Avoidance of water stagnation;
- Avoid use of material in the system which can harbour or provide nutrients for bacteria and other organisms.



4.3.4 Upon notification/discovery of an incident which may/has resulted in an exposure to Legionella Bacteria or persons diagnosed as having contracted Legionellosis; the RP shall immediately inform the dutyholder.

4.3.5 The employment of contractors or consultants does not absolve the dutyholder of their overall responsibility for ensuring Legionella management activities are carried out. Therefore the RP shall take reasonable steps to satisfy themselves as to the competency of contractors/consultants employed on Legionella risk management activities or for specialist advice on behalf of the dutyholder.

4.3.6 The RP shall ensure records are kept and maintained in accordance with the HSE ACoP L8 and MOD policy (JSP 375, Volume 2, Leaflet 55).

4.4 Line Manager (LM)

4.4.1 LMs shall ensure that where a risk assessment identifies within their area of responsibility, a risk of exposure to Legionella bacteria that it is brought to the attention of staff, visitors/contractor under their control and that any required control measures are implemented and monitored for effectiveness; and as appropriate that maintenance and inspection regimes are adhered to.

GUIDANCE

The presence of Legionella bacteria is often found in vehicle water reservoirs; the addition of certain types of screen wash can act as an inhibitor reducing the growth of the bacteria.

4.4.2 Adequate information, instruction and training shall be provided to staff who undertake duties for the use, management and maintenance of water supplies and protective measures where necessary are applied.

4.4.3 Suspected/confirmed cases/outbreak³ of Legionellosis (eg as confirmed by a GP or medical practitioners note) shall immediately be reported to the dutyholder and to the HSE under RIDDOR in accordance with JSP 375 Vol 2 Leaflet 14.

GUIDANCE

In Scotland, confirmed cases of Legionellosis are also notifiable under the Public Health (Notification of Infectious Disease)(Scotland) Regulations.

4.5 Staff

4.5.1 All staff shall co-operate with LMs and comply with all control measures put in place to reduce exposure to Legionella and undertake any training requirements identified for the safe implementation of those control measures.

4.5.2 Staff with specific duties for operation and maintenance of water systems shall be competent, having sufficient training, experience and knowledge; have appropriate supervision; and understand their own responsibilities. Refresher training shall be undertaken as and when required (e.g. if there is a significant change/modification to the water system or procedures).

4.5.3 Staff shall report any suspected/confirmed case of Legionella to their LM and co-operate in any investigation; staff should contact their Medical Officer (Service personnel) or their General Practitioner (civilian staff) for further advice.

³ An "outbreak" is two or more confirmed cases of Legionellosis occurring in the same locality within a six month period.

5. RETENTION OF RECORDS

5.1 The retention of records shall be as a minimum in accordance with JSP 375, Vol 2, Leaflet 55 unless a stricter requirement is specified in local procedures e.g. DIO PG 07/10 or BRd 820 Potable Water Management Chapter 6.

6. RELATED DOCUMENTS

6.1 Further information can be found in the following publications:

JSP 375 Volume 2:

- Leaflet 5 – Management of Hazardous Substances;
- Leaflet 14 – Accidents/Incident Reporting and Investigation;
- Leaflet 39 – Risk Assessment.

Other MOD Guidance:

- DIO Practitioner Guide PG 07/10:- Management Arrangements For The Control Of Legionella (Including Hot And Cold Water Systems And Cooling Towers).
- Royal Navy BRd 820: Potable Water Management.

Guidance and Legislation:

- Control Of Substances Hazardous to Health (COSHH) Regulations;
- Water Supply (Water Fittings) Regulations;
- HSE ACoP L8 - Legionnaires' disease: The Control of Legionella bacteria in water systems.
- HSE guidance note IACL27: Legionnaires' disease: A guide for employers ;
- The Chartered Institution of Building Services Engineers, Technical Memorandum TM13: Minimising the risk of Legionnaires' Disease;
- British Standard 6700;
- The Notification of Cooling Towers and Evaporative Condensers Regulations.

Legionella Risk Management Flow Chart

