

## **Appendix 4 Enforcement**

Enforcement action relating to identification and /or control of legionella risks should be informed by the Enforcement Policy Statement (EPS) [http://www.hse.gov.uk/foi/internalops/ocs/100-199/130\\_6.htm](http://www.hse.gov.uk/foi/internalops/ocs/100-199/130_6.htm) and the Enforcement Management Model (EMM) <http://www.hse.gov.uk/enforce/emm.pdf>

In outbreak situations, there is almost certain to be pressure from the public and the media to locate the source, curtail further spread and prevent further cases of disease, and to be seen to be taking decisive action. Inspectors have no vires other than in HSE - enforced premises; LAs have additional powers under public health legislation.

Inspectors should consider all potential dutyholders including water treatment companies eg cleaning contractors and suppliers.

Please note: this OG is informed by OC130/5 which addresses all health risks to those at work. However, this guidance deals only with incidental exposure to legionella bacteria where both a working and non-working population may be affected.

### **Risk of serious injury (ill health)**

If, in the inspector's opinion, there is evidence of a serious risk of infection by legionella bacteria from the installation, strong consideration should be given to serving an immediate or deferred Prohibition Notice (PN). This would be justified where there is evidence of legionella risk which is not controlled eg absence of a effective water treatment or/and cleaning/disinfection programme. In forming his or her judgement the inspector may seek advice from a specialist inspector (occupational hygiene) or their Principal Inspector.

Whether a PN is served, or the dutyholder agrees to voluntarily switching off the installation, consideration should be given to (safely) gathering any evidence necessary before shock dosing takes place.

### **Determining the risk gap**

#### a) actual risk

The measure of actual risk (where the dutyholder is) requires consideration of both the likelihood of the risk having effect and the consequences of the harm.

When considering the likelihood of risk from the system, this should only take account of the severity and extent of the control failings or omissions and the potential for these to provide conditions favouring growth of legionella in the water.

The design of wet cooling plant and the typical position at height means that failure of controls may lead to contaminated aerosol being dispersed over a wide area, exposing both employees and the general public. In urban areas, this may mean very large numbers of people. The likelihood (of actual risk) is '**probable**'. This does **not** require a judgement regarding the likelihood of disease occurring following exposure.

Legionellosis can result from inhalation of an aerosol contaminated by legionella bacteria. Some forms of the illness can be mild and others more serious. There is no certain way of predicting who, in a given community, will develop Legionnaires' disease. Some people are known to be more susceptible than others ie men, smokers, those with chronic respiratory conditions or compromised immunity. Effective treatment is available, but successful recovery depends on a number of variables, such as speed of diagnosis and the presence of underlying medical conditions. Overall, mortality rate is calculated at 10 – 15%, although this may rise significantly for immuno-compromised persons.

Therefore, when considering the potential likelihood and consequences of exposure to legionella bacteria (Table 1 EMM), the appropriate descriptor is '**serious**'. It is impossible to predict who might be affected and therefore the potential consequence is 'serious'. [NB para 55 EMM refers to health risk being determined by the likely response of the working population as a whole. In view of the potential widespread exposure of the general population, in this instance the consequence, for them, rather than the working population, is what determines the designation 'serious'.]

#### b) benchmarking

Effective management of the risk by following the guidance in L8 minimises the risk of microbial proliferation and the subsequent dispersion of contaminated aerosol. If effectively controlled the benchmark should be '**nil/negligible**'.

Legionella risks are considered to be a matter of major potential concern (mpmc) because of the potential to cause multiple fatalities or multiple cases of ill health [http://www.hse.gov.uk/foi/internalops/ocs/001-099/18\\_12.htm](http://www.hse.gov.uk/foi/internalops/ocs/001-099/18_12.htm).

Therefore, in most cases, Risk Table 2.2 should be used when determining the risk gap. In a small number of cases, use of Risk Table 2.1 may be more appropriate, for example, where cooling plant is positioned at ground level in remote locations.

#### **Initial enforcement expectation**

The key indicators set out in Table 1 (pages 10 -15 Appendix 1) are to assist inspectors in making their judgement as to overall compliance for each topic. The Table identifies a series of topics that dutyholders should properly address in order to demonstrate adequate control of legionella risks

associated with evaporative cooling towers. Each topic is broken down into its constituent parts and guidance is provided on what a good standard of compliance should look like. The relevant legal provisions or guidance are listed alongside each section of guidance. These provisions/guidance are “Compliance Standards” in EMM terms.

Where the table indicates the issue is covered by a regulation the compliance standard is “Defined”. Where it refers to guidance, the compliance standard is “Established”.

The Table also refers to published document L8 which contains both guidance and material marked as ACoP. While compliance with both types of guidance will generally be sufficient to comply with the law, due to recent legislative changes both ACoP and guidance material contained in L8 should be regarded as “Established” standards.

In complex or unusual situations specialist advice may need to be sought from SG or HID SI4.

### **Non risk-based compliance and administrative arrangements**

Some issues clearly fall under **compliance and administrative arrangements**, for example, retaining training records of personnel or notification of cooling plant to the LA. There is often a strong relationship between the control of risk and failure to address compliance issues. In cases where both risk and compliance issues exist, inspectors should decide on action principally in relation to the control of risk, and a risk gap approach is appropriate.

The following table illustrates application of the EMM to establish the Initial Enforcement Expectation for some common administrative shortcomings:

<b>Issue</b>	<b>Relevant legislation/guidance</b>	<b>Descriptor (EMM Table 5.2)</b>	<b>Compliance standard</b>	<b>Initial Enforcement Expectation</b>
Failure to notify an installation in HSE-enforced premises	Reg 3 NCTEC Regulations	Absent	Defined	Improvement Notice
Inadequate risk assessment to identify any legionella risk;	Reg 3(1) MHSW; Reg 6(1)(a) COSHH	Inadequate	Defined	Improvement Notice
No risk assessment to identify any legionella risk;	Reg 3(1) MHSW; Reg 6(1)(a) COSHH	Absent	Defined	Improvement Notice
No written scheme to control the risk, but the dutyholder is able to demonstrate effective control	Regs 6(4)(b) & 7(3), COSHH Regs 5(1) & 5(2) MHSWR	Absent	Defined	Improvement Notice

## Prosecution

It is not necessary to prove that an installation has been the source of infection or of an outbreak in order to successfully prosecute. It is sufficient to prove that the installation provided conditions that could give rise to the realisation of risk.

## SAMPLE NOTICES

**Inspectors should note: the following are sample notices and are no substitute for full and thorough analysis of the circumstances encountered (guided by the EMM) and tailored drafting to suit those circumstances. Further guidance is given in the Enforcement Guide (England & Wales) which also applies to Scotland in this respect:**

<http://www.hse.gov.uk/enforce/enforcementguide/notices/notices-types.htm>

### 1. To deal with risk of serious personal injury

The Health and Safety at Work Etc Act 1974, Sections 2 and 3

You have failed to ensure that your employees and persons not in your employment are not exposed to legionella bacteria, liable to result in fatal or debilitating disease.

The reason for my said opinion is:

You have failed to ensure that plant and equipment, including engineering controls, are maintained in an efficient state, efficient working order, in good repair and in a clean condition, in particular [name deficit here e.g. drift eliminators are broken and or missing] and thus prevent the exposure of your employees or persons not in your employment to aerosols containing legionella bacteria from [name CT or EC here].

OR

You have failed to ensure that the preventative and protective measures, to prevent or reduce exposure to legionella, are in place and effective, in particular, the [name deficit here – e.g. dosing equipment provided to deliver chlorination to the cooling water (name CT or EC here) is not operating effectively, such that high levels of legionella bacteria may be present within the system, and expose employees or persons not in your employment.

**Note:** these issues are examples only and inspectors will need to make a judgement on the deficiencies present at the time and whether they are liable to present a risk of serious personal injury. Specialist occupational hygiene

inspectors will be able to assist in reaching a decision on whether they are liable to be a risk of serious personal injury.

**Note:** You should add the means or requirement to ensure compliance with reduction in risk of serious personal injury e.g. a thorough disinfection and clean may be all that is required to reduce that risk. You should also consider which improvement notices will be required to secure long-term control.

## **2. Failure to notify a cooling tower/evaporative condenser to the Local Authority**

Health and Safety at Work etc. Act 1974, Notification of Cooling Towers and Evaporative Condensers Regulations 1992, Regulation 3

You as the person in control of premises where a notifiable device, namely [insert name of CT or EC and details], is sited have not notified the local authority, in writing, of details of cooling plant under your control.

**Note:** It may be that the breach relates to changes to a notification in which case the detail may be 'information on changes to the number, type, of device etc. as is appropriate for the circumstances encountered' or 'information on intended/actual decommissioning, dismantling and removal from use'.

## **3. Failure to carry out risk assessment**

Health and Safety at Work etc. Act 1974, Sections 2 and 3, Control of Substances Hazardous to Health Regulations 2002 (as amended) Regulation 6(1)

You have failed to carry out a suitable and sufficient assessment of the risks to health created by the operation of cooling plant [name and specific details of the CT or EC], under your control. In particular this pertains to the risk of proliferation and spread of legionella bacteria to employees and persons not in your employment.

### **SCHEDULE**

In order to comply with this notice you should:

Carry out a suitable and sufficient assessment of the health risks to employees and persons not in your employment from exposure to legionella bacteria, a substance hazardous to health, from work activities and wet systems on the premises and identify any necessary precautionary measures.

The assessment should include identification and evaluation of potential sources of risk and:

(a) the particular means by which exposure to legionella bacteria is to be prevented; or

(b) if prevention is not reasonably practicable, the particular means by which the risk from exposure to legionella bacteria is to be controlled.

Where the assessment demonstrates that there is no reasonably foreseeable risk or that risks are insignificant and unlikely to increase, no further assessment or measures are necessary. Arrangements should be put in place for periodic review, and whenever circumstances affecting the risk change.

**Note:** Dutyholder also needs to record the significant findings and any group of employees identified as being especially at risk Regulation 3 (3)]

OR

Any other equally effective measures to remedy the said contravention may be taken

NOTE you may need to issue additional notice for competency and access to competent advice. See specimen notice number 4 below.

#### **4. Failure to have effective health and safety arrangements**

Health and Safety at Work etc Act 1974, Sections 2 and 3, Management of Health and Safety at Work Regulations 1999, Regulation 5.

You have failed to make and give effect to appropriate arrangements for the planning, organisation, control, monitoring and review of the preventive and protective measures required to prevent or, where this is not reasonably practical, reduce exposure to legionella bacteria.

Schedule

In order to comply with this notice you should:

1. Appoint a person (or persons) to take managerial responsibility for the control of legionella bacteria in your [insert water cooling tower or evaporative condensers] and provide supervision for the implementation of precautions.

AND

2. Ensure that this person (or persons) has the ability, experience, instruction, information and training, as well as the authority, status and resources to enable them to carry out their task completely and safely. In particular they should be familiar with:

- (a) potential sources of legionella bacteria and the risks they present;
- (b) measures to be adopted, including precautions to be taken for the protection of people concerned, and their significance; and
- (c) measures to be taken to ensure that controls remain effective.

AND

3. Where the above expertise is not possessed by the person (or persons) appointed, help and support should be sought from outside the organisation. In such circumstances, the appointed person (or persons) should take all reasonable steps to ensure that:
- (a) those carrying out work who are not under their direct control are competent; and
  - (b) responsibilities and lines of communication are properly established and clearly laid down

AND

4. Arrangements should be in place to ensure that the management and communication procedures are periodically reviewed as appropriate.

OR

Any other equally effective measures to remedy the said contravention may be taken

#### **5. Failure to prevent or control the risks from exposure to legionella bacteria**

Health and Safety at Work etc Act 1974, Sections 2 and 3, Control of Substances Hazardous to Health Regulations 2002 (as amended) Regulation 7.

You have failed to ensure that exposure of your employees and persons not in your employment to legionella bacteria, a substance hazardous to health, from [state CT/EC...] has been prevented or, where this is not reasonably practicable, adequately controlled.

Schedule

- 1 Where it is not reasonably practicable to prevent your employees and other persons who may be affected by the work carried out by you being exposed to legionella bacteria, a substance hazardous to health, you should ensure that you provide adequate controls to reduce exposure.
- 2 The controls to reduce exposure should be set out in a written scheme which includes the measures to be taken to ensure that it remains effective. The scheme should include:
- a) an up-to-date plan showing layout of the plant or system including parts temporarily out of use;
  - b) a description of the correct and safe operation of the system;
  - c) the precautions to be taken;
  - d) the checks to be carried out to ensure the efficacy of the scheme and the frequency of such checks; and

e) the remedial action to be taken in the event that the scheme is shown not to be effective.

- 3 The protection measures should be appropriate to the activity and consistent with the risk assessment, including in order of priority:
- a. the design and use of appropriate work processes, systems and engineering controls and the provision and use of suitable work equipment and materials;
  - b. the control of exposure at source, including adequate ventilation systems and appropriate organisational measures; and
  - c. where adequate control of exposure cannot be achieved by other means, the provision of suitable personal protective equipment in addition to the measures required by sub-paragraphs (a) and (b).
  - d. The measures should include the adoption of suitable maintenance procedures.

OR

Any other equally effective measures to remedy the said contravention may be taken.

## **6. Failure to maintain and keep clean cooling towers and evaporative condensers**

Health and Safety at Work etc Act 1974, Sections 2 and 3, Control of Substances Hazardous to Health 2002, Regulation 7

You have failed to ensure that the exposure of your employees and any other persons, whether at work or not, to legionella, is either prevented or, where this is not reasonably practicable, adequately controlled, because your cooling tower has not been maintained in a clean condition.

Schedule

In order to comply with this notice you should:

**[Note:** detail the precise requirements in relation to the failure to maintain eg you should carry out a clean and disinfection of [name CT or EC here] / review and check the operation of [name dosing equipment here] / carry out a thorough clean of the pack and/or drift eliminators in [name CT or EC here] and carry out any repairs to damaged pack or drift eliminators as required depending on what is not being kept clean.]

OR

Any other equally effective measures to remedy the said contravention may be taken

## **7. Failure to carry out effective monitoring (of the preventive and protective measures)**

Health and Safety at Work etc Act 1974, Sections 2 and 3; Management of Health and Safety at Work Regulations 1999, Regulation 5.

You have failed to carry out effective monitoring and review to ensure that the preventive and protective measures are in place and adequate and in particular you have not carried out active monitoring in the form of checks on [the conditions that favour the proliferation of legionella bacteria and other micro-organisms / the maintenance of the cleanliness of the system and the water in it / the water treatment techniques]

OR

Any other equally effective measures to remedy the said contravention may be taken

## **8. Provision of adequate information instruction and training for competent persons**

**Note:** use where responsible person has been appointed without the necessary competence, and where others providing health and safety assistance in relation to legionella risks are not competent to do so.

Health and Safety at Work etc Act 1974, Sections 2 and Section 3, The Management of Health and Safety at Work Regulations 1999, Regulation 5, COSHH Regulation 12

You have failed to provide adequate information, instruction and training for your appointed responsible person to enable them to properly assist in undertaking the measures they need to take to assist you to comply with your legal requirements in relation to preventing or reducing exposure to legionella bacteria.

Schedule

In order to comply with this notice you should:

1. Provide instruction, information, training, resources etc. to enable your appointed persons to carry out their tasks completely and safely. In particular they should know:
  - (a) Potential sources of legionella bacteria and the risks presented;
  - (b) the measures to be adopted, including precautions to be taken for the protection of people and their significance.

OR

Any other equally effective measures to remedy the said contravention may be taken

**9. Failure to provide safe access to cooling tower**

Health and Safety at Work etc Act 1974, Section 2(1) & 3(1); The Work at Height Regulations 2005, Regulation 6(3)

You have failed to take suitable and sufficient measures to prevent, so far as is reasonably practicable, any person falling a distance liable to cause personal injury, whilst undertaking the routine safe control measures necessary for the safe operation of you XXX type cooling tower (designated as cooling tower XY1) with particular respect to the inspection, cleaning and maintenance of the top mounted fan, drift eliminators or other relevant parts.