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Target Audience:
HSE Inspectors

CONTROL OF LEGIONELLA: REVISED APPROVED CODE OF PRACTICE

This OC gives details of the revised Approved Code of Practice, *Legionnaires' disease: the control of legionella bacteria in water systems*, describing the most significant changes.

INTRODUCTION

1 The 1995 Approved Code of Practice (ACoP) (L8), *The prevention or control of legionellosis (including legionnaires' disease)* and the guidance booklet HS(G)70 *The control of legionellosis including legionnaire's disease*, have both been recently revised, and have, at the same time, been combined into a single document, with the aim of making the ACoP/guidance package easier to use. The guidance includes material from the 1998 supplement to HS(G)70 *The control of legionellosis in hot and cold water systems* (MISC 150) and has also been updated to include details of other technical developments.

2 In its new form, the document is split into 2 parts. Part 1 is the ACoP itself, which is arranged into the now standard hierarchical format of recent HSE ACoPs, comprising reference to the relevant regulations, followed by the ACoP material and lastly guidance, with the text of each clearly differentiated. The guidance given in this part is largely generic to all water systems from which there is a risk from legionella. Part 2 of the document then provides guidance specific to particular systems, namely wet cooling systems (systems incorporating cooling towers and evaporative condensers), hot and cold water systems, spa/whirlpool baths and humidifiers/air washers. In addition, a table at Appendix 1 provides a useful list of most other systems known to pose a risk, along with a summary of the main recommended control measures and the frequency of their application.

SUMMARY OF SIGNIFICANT CHANGES

3 Significant changes arising from the revision of the ACoP and guidance are summarised at [paras 4](#) and [5](#) respectively, with a fuller description given at [paras 6-14](#). However, there are also many other detailed changes and in order to familiarise themselves with the full extent of these, inspectors are advised to refer to the parts of the document relevant to the inspection activity in which they are involved.

4 The significant changes to the ACoP are:

- (1) the ACoP now addresses legal obligations under the Management of Health and Safety Regulations 1999 (MHSW Regulations);
- (2) the scope of the ACoP now applies to all hot water systems in the workplace

regardless of their capacity (ie the lower cut-off limit of 300 litres no longer applies);

(3) extra duties are placed on the suppliers of products and services; and

(4) a code of conduct for service providers which has been drawn up by the industry and professional associations to regulate standards of service is referred to in the ACoP.

5 The significant changes to the guidance are:

(1) the guidance recommends that dip slides used to monitor total microbiological activity in wet cooling systems now be carried out weekly not monthly;

(2) it is now recommended that routine sampling for legionella be included as part of a monitoring regime for wet cooling tower systems;

(3) the term 'high efficiency drift eliminator' has been replaced by 'effective drift eliminator'; and

(4) more extensive guidance is provided on the commissioning and operation of systems.

DETAIL OF SIGNIFICANT CHANGES - ACOP

Management of Health and Safety at Work Regulations 1999

6 The main duties of the ACoP are unchanged by the inclusion of provisions from the MHSW Regulations in its framework, but some aspects are given added force and there are additional points of detail. Most prominent with respect to the former are the duties under MHSW Regulations reg.7 (health and safety assistance), which are particularly relevant in relation to the role and competencies of the appointed responsible person, as well as any consultants or contractors used by an employer. Duties with respect to record keeping are now specified in accordance with MHSW Regulations regs.3 and 4.

Capacity of hot water systems

7 The scope of the ACoP previously applied only to those hot water systems which had capacities of 300 litres or over. This was a purely arbitrary limit designed to exclude domestic systems. Domestic systems can present a risk, depending on the circumstances of use, but the ACoP will only apply to systems from which the risk arises in relation to any **work activity**.

Suppliers of products and services

8 The ACoP (para 71) stipulates 2 new duties for suppliers of products and services. These are as follows:

(i) to ensure that measures intended to control the risk of exposure to legionella are so designed and implemented that they will be effective, safe and without risks to health when used at work.

(ii) *to ensure that any deficiencies or limitations which they identify in occupier's systems or written scheme to control the risk.....are, where appropriate, made known to the person upon whom the statutory duty falls or the persons appointed to take managerial responsibility.*

For the first of these, the key word is 'effective' and means that suppliers should not provide products and services, knowing that they are not suited to the purpose required of them in relation to the risk from legionella, when commercial considerations might lead them to do otherwise. The second is important in that it requires suppliers/service providers to inform on any areas of concern in relation to the risk for *legionella* which they are not contracted to deal with and may have no commercial interest in doing so.

9 The requirements for design and manufacture of both wet cooling systems and hot and cold water systems are given more prominence by listing the essential elements in the guidance directly associated with the ACoP (ie in Part 1). Further detailed guidance is then given in Part 2.

Code of conduct

10 In 1999, a code of conduct was established by the industry and professional associations to establish clear standards for those companies involved in providing services in relation to water treatment, cleaning and disinfection and risk assessment. This was set up with HSE support and as a consequence is referred to in the ACoP (paras 51 and 77).

DETAIL OF SIGNIFICANT CHANGES - GUIDANCE

Microbiological monitoring - weekly dip slide

11 The guidance now recommends that microbiological monitoring for wet cooling systems, using a dip slide, should be performed weekly instead of monthly. This is because a monthly interval was not found to be sufficient to pick up rapid changes in microbiological growth which can occur, particularly during the late spring to early autumn period, when temperature conditions are most favourable to legionella growth. For hot and cold water systems, as with the previous guidance, regular testing is not recommended as the water should generally be of potable quality. However where it is suspected (for example due to taste or odour) that the water has become contaminated, tests should be carried out.

Microbiological monitoring - legionella testing

12 The guidance now also recommends that routine testing for legionella bacteria in wet cooling systems be carried out at least quarterly, and more frequently when a system is being commissioned, or if the bacteria has been identified on a previous occasion. For hot water systems such testing is only recommended in particular circumstances, which are as follows:

(1) where water temperatures are reduced as a consequence of using alternative biocide treatments. Sampling should be done initially on a monthly basis, with the interval increased depending on the level of confidence in control measures;

(2) in systems where the control parameters (whether temperature or biocides) are not being achieved (frequency as required);

(3) when an outbreak is suspected or has been identified (frequency as required);

(4) possibly in hospital wards for immunologically suppressed patients.

Drift eliminator

13 The term 'high efficiency' drift eliminator is no longer used. This is because there is no accepted standard for defining what is meant by 'high efficiency' and with a range of types available on the market, HSE does not have firm evidence to indicate which are and which are not, without touching on areas of commercial sensitivity. Instead the term 'effective' is used and very general guidelines are given as to what these should or should not be. [OC 255/9](#), *Legionellosis: routine inspection of water systems incorporating cooling towers and evaporative condensers*, also gives guidance on this matter.

Commissioning and operation

14 More detailed requirements are specified for commissioning wet cooling systems (paras 83-84), while a new section has been introduced to cover this aspect for hot and cold water systems (paras 153-154). In addition greater detail is specified on the operation of both types of systems (paras 85-94 and 155-160 for wet cooling systems and hot and cold water systems respectively).

ACTION BY INSPECTORS

15 In connection with the advice given below inspectors should note that any enforcement action should now be informed by the Enforcement Management Model (EMM). Inspectors should refer to the relevant sections of the model when considering enforcement action. Inspectors should also refer to enforcement advice given in OC 255/9.

16 The overall approach to inspection and enforcement on legionella issues (see [OC 255/9](#)) will not change as a consequence of the revision of the ACoP. However, inspectors will need to pay heed to some particular points as indicated below.

Microbiological monitoring

17 Regard needs to be paid to the new requirements for microbiological monitoring. In general it is sufficient for inspectors to inform those employers, who have not introduced weekly dip slides, of their duties by letter. However in circumstances where there is poor control, or the system has recently been implicated in cases of infection, any enforcement notice which is issued concerning the control of risk should address the issue of the dip slide and its regularity in the schedule.

18 The new requirement for the routine testing for legionella in wet cooling systems should in most circumstances be seen as secondary to taking the weekly dip slide, as it is the latter which provides most reliable information about the state of control of the system, while there can be difficulties involved with both the testing for legionella and the interpretation of results (see ACoP para 64; guidance paras 130-131). In general therefore, inspectors should only consider enforcement on legionella testing where there are special circumstances, such as during an outbreak, when a system is being commissioned, or if the dip slide results have shown persistent problems with control of a system.

19 The requirement to test for legionella in hot and cold water systems is not universal as it

is in the case of wet cooling systems, but for those specific circumstances where it is required (see [para 12](#)), inspectors should be prepared to take a firmer enforcement line.

Water treatment companies and other service providers

20 The new duties on suppliers of products and services (see [para 8](#)), provide additional levers to enforce proper standards. This will be particularly useful in relation to services offered by water treatment companies. Inspectors should make use of these as such, but should note that this does not absolve employers of their duties in relation to the management of risk and provision of training and competencies for their own staff. Inspectors should therefore proceed carefully in assessing where the balance of responsibility lies, when considering enforcement action on this aspect.

ANNOTATION OF INSTRUCTIONS

21 OC 255/8 - **note** 'See also OC 255/11'.

22 [OC 255/9](#) - **note** 'See also OC 255/11'.

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